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ECONOMICS WITH APPLICATIONS TO AGRICULTURE

ECONOMICS

with

APPLICATIONS TO AGRICULTURE

BY

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SECOND EDITION

SIXTH IMPRESSION

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PREFACE TO THE SECOND EDITION

In this second edition the objective and the general method of treatment remain the same as in the first, but changes that have occurred since 1934 both in economic institutions and in economic thought have been incorporated. A number of chapters have been completely rewritten, and minor changes have been made throughout the text.

The chapters describing such institutions as the money and banking system and agricultural credit and the relations of government to agriculture and to business have been largely recast in order not only to bring them up to date but also to integrate effectively recent and earlier developments. Statistical tables and charts have been revised throughout to include the latest available data.

Among the recent contributions to economic theory which have been included are those relating to the individual firm approach in price analysis and to monopolistic competition, money, and the business cycle. As in the earlier edition, on subjects on which eminent authorities disagree, different points of view are presented.

The authors are particularly indebted to the following, who, in addition to persons listed in the Preface to the first edition, have given valuable constructive criticisms for the improvement of the text: E. W. Swanson and B. H. Pubols of the State College of Washington; Carl Tjerandsen, Bureau of Agricultural Economics; and O. H. Maughan, Farm Credit Administration.

EDWIN F. DUMMEIER,
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THE STATE COLLEGE OF WASHINGTON,
PULLMAN, WASHINGTON,
September, 1940.

PREFACE TO THE FIRST EDITION

Economic principles must be abundantly illustrated and effectively related to current economic problems if they are to be understood and retained by the average college student. Such principles cannot be successfully taught as mere abstractions. The above conclusions of the authors are based on the experience of a number of years in teaching economics to college classes, including special groups in the agricultural curriculum. This book is partly the result of an effort to assist in putting these generalizations into practice. Recent years have furnished large additions to our statistical and other factual information about economic affairs. They also have brought forth large increases in the social control of business activity, although the degree of permanence of much of this control is as yet uncertain. The authors have attempted in this volume to show the relation of the principles of economics to recent and current economic events in a more concrete and effective manner than has been done in earlier textbooks.

The book was begun with the object of supplying a text which would present the generally accepted principles of economics clearly, thoroughly, and comprehensively, and which also would apply these principles to the present-day problems of agriculture. It was undertaken specifically to meet the apparent need for a thorough and up-to-date text for courses which are given in many educational institutions, especially the land grant colleges, with catalogue descriptions such as "The fundamental principles of economics in application to agriculture," or "Forces and institutions of modern society with special reference to agriculture; relation of cost, supply and demand to price." That objective has been retained throughout. At the same time it has been continuously recognized that there is not one set of principles of economics applicable to agriculture and another set to other economic activities. The principles of economics are broader than any industry, and the impact of economic forces on a single industry may well illustrate to a large extent the working of these forces in general. Furthermore, the well-being of the agricultural population concerns others than those directly employed at agriculture. These facts lead the authors to hope that the book may be found suited to general courses in economics in an environment in which agriculture is important, or in situations in which the instructor wishes to develop the principles of economics through the problem method of approach. The text develops economic principles in a search for an

answer to the question: How can the economic well-being of those engaged in agriculture be best promoted without unjustifiable interference with the welfare of other parts of the population? Although this is the chief problem set for the student, the authors, incidental to furnishing the student assistance in finding the answer to the major problem considered, have attempted to give a thorough and well-balanced description and analysis of the whole economic system.

Issues on which there is much controversy, even those on which recognized economists are not in agreement, have not been shunned. On controversial issues the authors have generally, in so far as possible, stated their own conclusions, and the reasons for these conclusions; at the same time they have tried to acquaint the student with other points of view. Incidentally, an effort has been made to introduce the reader to some extent to the development of economics as a science, to call his attention to outstanding economic literature, and otherwise to broaden his knowledge.

The book is larger than most of the available introductory texts on agricultural economics. This may necessitate the omission of some entire chapters in courses for beginners in which the whole subject is covered in one quarter or in one semester with less than four class-room hours per week. Whole chapters dealing with special problems in the latter part of the book may be omitted without interfering with the unity of the treatment. If it is used in a short introductory course not all students may master certain of the more difficult points which are mentioned, but this should not be confusing. An effort has been made to present major points in strong perspective—to emphasize them so effectively, even by some conscious repetition, that they will be mastered by the ordinary college student—and at the same time to raise difficult questions in such a manner as to interest the more brilliant student. With some supplementary reading from the works recommended at the end of each chapter, or from sources selected by the instructor, the authors believe that the text will be found adapted to courses which are of an advanced nature, or which extend through more than one term or semester.

Less space is devoted to farm management and marketing than is devoted to these subjects in most texts on agricultural economics. This is for the reason that most students in the agricultural curriculum take special courses in these subjects. On the other hand, both subjects are treated briefly, and the inclusion of a special chapter on marketing devotes more attention to that important economic activity than is given to it in most general texts on principles of economics.

Though the book was written primarily for use as a college textbook, the authors hope that it may have a favorable reception by persons outside of colleges who are interested in the problem of agricultural well-being. It attempts to consider most of the important economic forces

related to agricultural welfare, rather than only a few, as is the case with many of the books which treat that problem.

As to authorship, we shall say that this is not a textbook of the kind on which appear the names of two persons, one of whom has done nearly all of the work. In thought and labor the two writers have contributed in not greatly different amounts, and the book is thoroughly a joint product. Neither of the authors could have written the volume as it is without the assistance of the other.

Among those who have read parts of the manuscript, and to whom the writers feel indebted for valuable suggestions for its improvement, are the following: O. B. Jesness of the University of Minnesota; M. N. Nelson of Oregon State College; W. P. Thomas of Utah State Agricultural College; Joseph S. Davis and Eliot Jones of Stanford University; S. J. Coon and Howard H. Preston of the University of Washington; E. T. Grether of the University of California; Erwin Graue and Harold A. Vogel of the University of Idaho; David L. Wickens, V. N. Valgren, L. H. Bean, Byron Hunter, Neil Johnson, and R. I. Nowell of the U. S. Department of Agriculture; Charles W. More of the Wenoka Credit Corporation, Seattle; and our associates, G. F. Cadisch, F. W. Clower, C. D. Jacobs, N. J. Aiken, H. M. Chambers, Rex Willard, E. F. Landerholm, C. C. Hampson, and C. R. Niswonger of The State College of Washington. To Harold A. Vogel, N. J. Aiken, and F. W. Clower we are especially grateful for using in their classes a preliminary draft of much of the material in mimeographed form, and giving us the benefit of their suggestions for improvement as a result of such use. The authors, of course, are solely responsible, "jointly and severally," for whatever defects the book may have.

EDWIN F. DUMMEIER,
RICHARD B. HEFLEBOWER.

THE STATE COLLEGE OF WASHINGTON,
PULLMAN, WASHINGTON,
August, 1934.

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ECONOMICS WITH APPLICATIONS TO AGRICULTURE

CHAPTER I

ECONOMIC PROBLEMS OF AGRICULTURE

Modern economic life is based on specialization. One way of viewing this specialization is to note the 25,000 or more occupational designations in the Federal Census index of occupations for 1930. Another way is to consider the numerous specialists involved in placing your last dinner upon the table. Not only is production, as we ordinarily use that term, broken into several steps, but transporting, communicating, and marketing agencies—specialists all—are involved in placing goods into the hands of the customer. Then all the professional, personal-service, governmental, and amusement occupations involve specialists, whose services we all use, though they are not so directly related to the supplying of the commodities we consume.

The specialists cooperate, largely unconsciously, to supply us with a list of commodities and services which is growing both in quantity and in variety. Each specialist is dependent on others for raw materials, for capital, and for labor and, in turn, is dependent on others to buy his product or service. Each specialist sells his products to others and uses his purchasing power to buy the commodities and services he wishes for producing or consuming. Thus the mutual dependence of specialists leads to unconscious cooperation. At the same time we observe that each specialist's economic welfare will be dependent on the terms according to which he buys and sells.

Agriculture Now Commercial.—Even agriculture has become commercial. It is now more than a way of living; it is a business. This means that it is an effort to obtain profits through the buying and selling of commodities and services.

Modern farmers in carrying on their productive operations must incur many expenses. About 42 per cent of the 6.8 million farm operators in the United States in 1935 were rent-paying tenants. A large part of the remainder were paying interest on borrowed money which they had invested in real estate and equipment. The total farm mortgage debt of the nation in 1939 amounted to somewhat more than 7 billion dollars,

or an average of more than $1,000 for each of the nation's farms. The value of all farm property in 1930 according to the census was about $9,000 per farm, and in 1935, after prices had declined during the depression, was about $5,700 per farm. On all their investment in real estate and equipment farmers were either paying interest or they could have secured interest by investing their funds wisely in other ways. Other important expenses which farmers must incur are for taxes; repairs and depreciation on equipment; feed, seed, and fertilizer; containers for products to be sold; and wages of hired labor. As is shown in Table 1,

TABLE 1.—GROSS INCOME FROM FARM PRODUCTION AND OPERATING EXPENDITURES OF FARM OPERATORS IN THE UNITED STATES, 1924–1935[1]

Year	Gross cash income[2] (million dollars)	Farm value of products retained for consumption[3] (million dollars)	Total gross income[4] (million dollars)	Current production expenditures and depreciation of buildings and equipment[5] (million dollars)	Wages to hired labor, interest, rent, and taxes (million dollars)	Balance available for capital, labor, and management by farm operators[6]	
						Total (million dollars)	Dollars per farm
1924	9,640	1,697	11,337	2,446	3,092	5,799	894
1929	10,417	1,524	11,941	2,870	3,402	5,669	886
1932	4,377	960	5,337	1,925	1,920	1,492	206
1935	7,201	1,307	8,508	2,070	1,900	4,538	666
1938	7,538	1,270	8,808	———	———	———	———
1939	7,711	———	———	———	———	———	———

[1] For detailed explanation of this table, see *Crops and Markets*, published by U. S. Department of Agriculture, September, 1936, pp. 328–329.

[2] Gross cash income represents the value of products sold or available for sale, exclusive of sales of products to other farmers for use in production, such as livestock and seeds. Government payments are not included. These in millions of dollars were 573 in 1935, 482 in 1938, and 807 in 1939.

[3] Farm products retained for home use on farms where produced, valued at current local prices received by farmers.

[4] Sum of gross cash income and farm value of products retained for consumption.

[5] Current production expenditures include expenses for feed, seed, and fertilizer purchased, and for twine, fire insurance, part of automobile-operating cost, etc. Costs of purchased machinery and of making permanent improvements to buildings, etc., are not included, but depreciation at 5 per cent on buildings and 21 per cent on machinery is included.

[6] Found by subtracting the two preceding columns from gross income.

Where blanks occur data are not available.

of the total gross income of the farm operators of the United States in recent years, usually more than half was spent for such costs of production as those which have just been named. Less than half ordinarily remained to cover returns to the farm operators for their own investment in land and equipment and for the labor of themselves and the members of their immediate families—that is, for living expenses or for savings. In some years less than a third remained for the latter purposes.

To meet their various costs of production and to provide money for their living expenses, farmers produce farm products to be sold. In

selling these they are at the mercy of prevailing market prices. The extent to which production on American farms is now to supply goods for sale rather than for direct use by the particular farmers who produce these goods is shown in the first three columns of Table 1, giving the total gross income, the cash income, and the value of farm products retained for consumption by the farmers, as estimated by the Department of Agriculture. During recent years, according to this table, only about 15 per cent of the value of farm products produced in the nation, excluding that fed to livestock, was consumed on the farms. About 85 per cent was for sale.

The fact that production in agriculture today is so largely for sale rather than for direct use is expressed by the saying that agriculture is commercial—that is, based upon buying and selling. It has also been expressed by the saying that today the farmer lives in a marketing economy or an exchange economy.

What are the forces that govern the prices that farmers are able to receive for the products offered for sale, and the forces that govern what they are compelled to pay for the commodities and services that they buy? How can farmers either individually or collectively—in the management of their business, in their position on political issues, or in other ways—best take advantage of prices and price-making forces and thus improve their incomes and standards of living? These questions constitute the chief economic problems of agriculture. The object of this chapter is to furnish explanations and illustrations of the kind of subject matter with which we shall be concerned in our study of economics with particular application to agriculture.

THE SUBJECT MATTER OF ECONOMICS

Basic Problems in Economics.—An economy of specialists has two basic problems: (1) the coordination of the activities of specialists in order to produce the maximum amount of commodities and services of the types desired by consumers, and (2) the division of the product among the agencies or individuals who have contributed to that production. The significance and character of these two basic problems, as well as a view of a major economic conflict, will be brought out by comparing the operation of our modern economy to that of a factory.

The typical factory involves quite minute specialization. In general the management plans this specialization and arranges for the cooperative activity so that the maximum output will result. It is to the interest of each of the workers that the entire organization be efficient in production and in its other business operations, for there must be income for the factory as a whole if he is to continue to receive income. In a like manner, each finished good in the hands of the consumer has involved the cooperation of many individuals and business units. Bread has involved

not only the merchant and the baker, but also the railroad, the miller, the manufacturers of other ingredients, the farmers, and other raw-material producers. If modern economic life is to supply our wants abundantly, all parts of this complex cooperative system must be efficient in production. The interests of every man demand that there be efficiency in production, not only in the particular occupation which he follows, but also in other occupations. It demands that there be harmony—coordination—among the specialists. For then we shall have an abundant national production which makes possible an abundant national income. Much of our study of economics will be an examination of how the activities of specialists are coordinated, and of what are the causes, effects, and remedies for a lack of coordination.

Each of us is more directly concerned with our share of the national income just as each worker in the factory is vitally interested in getting what he considers his "share" of the factory's income. Each specialist knows that an abundant national income does not assure an abundant income to him. Therefore each specialist in our economic order—whether he is laborer or owner or professional man or clerk or each group of specialists—whether it is made up of farmers or manufacturers or others—strives for a larger "cut" of the "pie" of the national income. The individual's share, his real income in terms of goods in an economy such as ours, depends upon the workings of the price system, upon prices received for commodities or services sold and the prices paid for the articles and services for use in consumption.

Definition of Economics.—Economics as a science is not easy to define. It has at times in the past been defined as the science which deals with the "activities of man which are directed to securing a living." Another definition is "the science of wealth." These and many other definitions are vague and inaccurate. They are of value in that they correctly indicate that economics deals with material things of life rather than with its spiritual, aesthetic, or other non-material phases, but they do not really limit and define the subject matter.

One recent economist, H. J. Davenport, has defined economics as "the science that treats phenomena from the standpoint of price." In support of that definition he says:

> No science is to be delimited by the nature of its subject matter. Test this by finding, for example, from the point of view of how many sciences you may discuss a stick of wood. . . . That which delimits a science is not the field of facts treated, but the purpose for which the facts are treated—the point of view or of approach as determined by the central problem under investigation. . . . The value (or price) problem is the central and unifying problem of present-day economics. Price must attend and characterize all things that are economic. . . . And more things than those which accurately are material must fall within the scope of price. Price extends its sway to the utmost limits of whatever is

property, tangible or intangible—whether material or immaterial. Property covers—and therefore price covers—debts, good will, franchises—everything that is bought or sold. Price includes also many non-property facts—human services, such as the goods for which payment is made to the actor, preacher, teacher, or singer. And all efforts or processes are economically productive for which a price is so paid, or which, directly or indirectly, enhance the price.[1]

Beyond question, most of the subject matter of economics revolves about price; such is the emphasis of the preceding section, which shows how exchange among specialists and the distribution of income are affected by price. But economics does concern itself with problems of human welfare, which may not always be readily viewed as price phenomena. In fact, there is one well-recognized group of economists who prefer to be known as *welfare* economists, in contrast to others classified as *price* economists. The distinction between these groups is mainly one of relative emphasis. The price economist is concerned with discovering or understanding the laws which govern price. The application of this knowledge to the promotion of human welfare the price economist considers to be important but in itself not the work of the economist. His attitude is similar to that of the physicist who considers it his task to discover certain laws of the universe and the task of the engineer to apply this knowledge in a practical way. The welfare economist, on the other hand, considers that the promotion of human welfare should always be the major object of the science of economics. Viewed properly, the welfare economist is without doubt right. But it is important that the welfare economist not allow his desires to affect his conclusions as to how price-making forces do work or may be made to work. The laws which govern how prices are determined, or may be determined, must be ascertained without the conclusion being influenced and biased by the wish.

The authors of this text take the view that economics does include some matters other than "phenomena of price," but that matters relating to price are the most important. They define economics as *the science which treats of those "social phenomena" which are due to the activities of man in producing, acquiring, and using material goods and services.* That it treats of social phenomena indicates that economics deals with the activities of man not as an isolated individual but in his relationships to his fellowmen. Economics is thus a social science rather than a natural or physical science such as zoology, botany, physics, or chemistry. Economic questions of welfare, as the term is generally used, are questions of group welfare—such as the welfare of a nation or the welfare of the agricultural population as a whole. Nevertheless, the term is sometimes used in a more limited way, as for example when we speak of household

[1] *The Economics of Enterprise* (Macmillan, 1925), pp. 24–26.

economics, farm economics, railway economics, government economics, and even personal economics. In all such uses economic problems are problems of efficiency in management and administration—including buying to the best advantage the products of other producers, combining the various factors of production in the most effective and economical manner, deciding what to buy and what not to buy, selling advantageously, and in general regulating advantageously one's activities involving prices and relations to one's fellowmen. The word *economics* is derived from a Greek word meaning "the management of a household." But as the foregoing discussion indicates, the modern use of the term refers to such management primarily in case the "household" is a large group, such as a nation; and it always emphasizes the relations of individuals to other individuals, but only in so far as those relations are concerned with the material things or the price phenomena of life.

Development of Economics.—A somewhat better understanding of the nature of the science *economics* may be secured by noting a few events in its development. The first great masterpiece in the literature of economics was the work of a Scottish professor, Adam Smith, which was published in 1776, under the title of *An Inquiry into the Nature and Causes of the Wealth of Nations.* In this treatise Smith attempted to set forth and demonstrate by logical proof those general policies which a nation should pursue in order that its population might have in greatest degree "all the necessaries and conveniences of life." A summary of the contents of Adam Smith's great work will assist in giving us a bird's-eye view of the kind of subject matter with which economics is concerned. He begins his book by showing the great advantages which come from the division of labor. Next he discusses the possible extent of, and the limits to, the division of labor. Some attention is given to the principles which govern the value and price of different goods. The nature, value, and use of money are well explained. The advantages of the saving, accumulation, and use of capital for productive purposes are effectively demonstrated. Desirable and undesirable systems of taxation are analyzed in such a masterful manner that his views on the subject are still quoted with approval in the best recent treatises on taxation. And most important of all, there is forcefully demonstrated the falsity of a great number of ideas on economic subjects, which had been generally held in England and Europe for a period of several hundred years and which were included in what has come to be known by the title of *mercantilism.* Among the false mercantilist ideas which he attacked are the following: (1) that gold and silver are greatly superior to other kinds of wealth; (2) that foreign commerce should be especially encouraged by government favors at the expense of agriculture and manufacturing; (3) that the government should attempt to regulate the details of all forms of human activity; (4) that the government should attempt to increase the supply of gold

and silver in the country by encouraging exports of other goods through bounties and by discouraging imports through tariffs and prohibitions. Adam Smith's demonstration of the falsity of these mercantilist doctrines was a great service to the world. *He may be said to have laid the foundation of economics as a science, in so far as economics concerns itself with the organization of our social relations—that is, our group activities—for the attainment of efficiency in the production of wealth.* He said, however, relatively little about the division of the income resulting from production.

In 1817, about forty years after the publication of *The Wealth of Nations*, an English banker and stockbroker by the name of David Ricardo laid the foundation of another aspect of the subject matter of economics. This included what are known today as the *principles of distribution*, which concern the division of income. Two of the chief problems to which Ricardo devoted himself were: (1) What determines the amount of rent which tenants are compelled to pay to landlords, and is the price of grain increased because of this rent? (2) What determines the general level of wages which prevails in a country? These were practical economic and political problems at that time. England had just emerged from the Napoleonic wars. Formerly prevailing prices had been disrupted, and the money system was in disorder. Wages were so low that bare subsistence for the laboring masses was difficult. Taxes were high. Property owners, feeling that they were being ruined, were calling upon the government to do something to save them. In his *Principles of Political Economy and Taxation*, published in 1817, Ricardo attempted to analyze and set forth, along with many other things, the principles that govern how much rent landlords are able to exact from tenants, the relation of the rent of land to the price of grain, and the factors governing the generally prevailing rates of wages. In fact, he undertook to answer for the first time in a thoroughgoing manner, this important question: What determines the proportions in which the income of a nation is divided among the various classes of people? He also went thoroughly into the question of a desirable money and banking system, international trade, the price of foreign exchange, and other problems. Answers which he gave to these questions are still generally accepted, though only in part. But from the time of Ricardo these problems have been generally recognized as belonging to a science known until about fifty years ago as *political economy* and more recently by the term, somewhat broader in scope, *economics*.

It should be recognized, of course, that there were important forerunners to Smith and Ricardo. Among these forerunners were a group of Frenchmen known as the *physiocrats*, who wrote in the quarter century preceding the publication of *The Wealth of Nations*. They were interested especially in the problems of agriculture and were the first to be

called *economists.* Moreover, among the contemporaries of Smith and Ricardo were men who made notable contributions to our understanding of economic principles and problems. Nevertheless, these two men may be looked upon as having set the pattern of what constitutes the subject matter with which economics as a science is concerned. They are also outstanding examples of what are now referred to as the *classical economists,* a term under which are included a succession of English economists, starting with Adam Smith and ending with John Stuart Mill, one of the most famous of all the classical group, who published his most noted work, *Principles of Political Economy,* in 1848.

Modern economics is not classical political economy, no more than present-day chemistry is the chemistry of the last century. But economics today is greatly indebted to the classical economists. Especially is it true that these writers, from Adam Smith to John Stuart Mill, marked out the type of subject matter with which present-day economics deals, though, as has been indicated, the term *economics* with qualifying adjectives is used in a variety of ways beyond the scope of classical political economy.

Four Aspects of Economic Life.—Production, value in exchange, distribution, and consumption are four important aspects of our economic life. They are generally regarded as the four major divisions of economics as a science. The desire for consumption or use of goods leads to production. Production leads to exchange and presents the problems of value or price. The principles of value or price give rise to a certain division of the social or group income, described as the distribution of that income. Finally, consumption, which is the object of production and exchange, may be achieved. These four aspects of our economic life require accurate definition.

The term *production,* though it has in economics the same general meaning as in everyday life, is used with more precision and includes much more than is assumed by many persons who have not given the matter careful thought. It includes the performance of all useful and desired services, even personal services such as those of the physician and teacher. It includes the performance of transportation and marketing services, which in the business world are quite generally referred to as processes of distribution. Even economists fall into the use of everyday language and speak of the production of a commodity and of its storage, transportation, or other phases of marketing as distinct operations. It is to be emphasized, however, that all rendering of useful service is production. As will be further explained later, production consists of the creation of utilities or satisfactions, not merely commodities.

Value in exchange as a phase of economics covers the principles which govern the ratios at which goods exchange, one for another. The value in exchange of a particular good expressed in terms of money is called its

price. As most goods are first exchanged for money, and this money in turn is exchanged for other goods, our study of value is usually a study of factors and conditions which govern price.

Distribution in economics has a meaning different from its most common meanings in everyday life. It has reference to the division of the social income among the various factors of production or among the individuals cooperating in the creation of that income. The facts of distribution are the facts of how much income goes to different productive agencies and individuals. By the *principles of distribution* are meant the laws or principles which govern what each of the various factors or individuals that contribute to the complex productive process receive in income from the joint product. It should be particularly noted that this is not the meaning of the word *distribution* as generally used in the business world. In ordinary business the word distribution is used with a variety of meanings, but it is most frequently applied to processes of marketing or transportation.

Principles of distribution in economics include, first of all, the principles which govern wages, not only wages in general, but particular classes of wages, one as compared with another. Moreover, *wages* in economics is used to include not only wages as that term is used in everyday life but also salaries and even the usual market rate of return for personal services to the person who employs himself. The principles of distribution cover also the laws which govern the price received for the use of capital, in the form of *interest* for capital loaned or for the use of one's own capital. Income arising from the ownership of land presents peculiar problems in distribution, involving the principles governing *rent.* Finally, *pure profit* is a fourth kind of income, including income not covered by wages, interest, and rent. The entire income received by individuals may be resolved into these four shares—wages, interest, rent, and pure profit—and they are frequently referred to as the four *distribution shares.* They are said to accrue to the four factors in production, *viz.*, labor, capital, land as a natural resource, and entrepreneurs.

The economic problems of distribution, however, do not end with determining in a general way the laws which govern wages, interest, rent, and profits. They lead us to the study of why each of these shares amounts to what it does under particular conditions. Why are wages in one country higher than those in another, or those in one industry higher than those in another? As welfare economists we are interested in knowing under what conditions and to what extent it is possible to increase wages in general, or particular wages, and how this affects others than those whose wages are changed. Why do the owners of capital and of land receive in the form of interest or rent as much of our national income as they do, and how, if at all, may the share which they receive, either in general or in particular cases, be changed? These are the kinds

of questions with which the principles or theory of distribution are concerned in economics.

The term *consumption* is used in economics as in everyday life but with a broader meaning. It refers to utilizing or making use of either material goods or personal services. Thus there may be consumption of the services of the physician or the musician, or the advantages of a park, as well as consumption of food, of housing facilities, clothing, and the like.

Agricultural Economics.—In the last quarter of a century there has come into general use the term *agricultural economics*. We shall next discuss its nature and origin. As defined by one of its founders in the United States, Dr. H. C. Taylor, "Agricultural economics treats of the selection of land, labor, and equipment for a farm, the choice of crops to be grown, the selection of enterprises to be carried on, and the whole question of the proportions in which all these agencies should be combined." This, it will be noted, covers only the managerial aspects of production on the farm, which today are more generally and accurately described as farm management. To the extent that the selection of land, labor, and equipment, the choice of crops, of enterprises to be carried on, and the proportions in which these agencies should be combined, are matters to be treated from the standpoint of price, they come within the scope of economics as we have defined it. They cover, however, but a limited phase of economics in relation to agriculture, that phase being farm management.

At the first meeting of the American Farm Management Association in 1910, the leaders in thought pertaining to the economic and social aspects of rural life formulated a statement as to the scope and limitations of the different studies related to that field. According to that statement, the rural problem is divided into four general aspects, as follows:

1. The technical aspect, including farm practice, and "agricultural science." This includes the discovery of new truths about the laws of nature and the application of these same truths to the production of plants and animals.

2. The business aspect, including "farm administration" or "farm management." This phase of the subject matter has to do with the adjustment of land, labor, and capital to one another in such a manner as to produce the largest profits per production unit.

3. The industrial aspect, or "agricultural economics." This aspect has to do with the relation of the farmer to the other elements of the industrial system, such as land tenure, means of transportation, methods of marketing, systems of taxation, credit institutions, and protective and stimulative legislation.

4. The community aspect, or "rural sociology." This has to do with the question, "How can the people who farm best utilize their industrial and social environment in the development of personal character, best cooperate for their common welfare, and so best maintain permanent institutions which are to minister to the continued improvement of the common or community life?

How is it possible to best organize the personal and community resources of the rural people for the purpose of contributing most fully to national welfare?"[1]

Since the time when this statement was formulated, the American Farm Management Association has changed its name to the American Farm Economic Association, and that organization now regards farm management as one of a number of aspects of agricultural economics. Likewise, the Bureau of Agricultural Economics, one of the several bureaus comprising the U. S. Department of Agriculture, is organized with a number of divisions, altogether about a dozen in number, one of which is the Division of Farm Management and Costs.

In this text emphasis will be given to "the industrial aspect" of agriculture, as above explained, consisting of the relations of the farmer to the other elements in the industrial system. To understand these relations requires, however, an understanding of the generally accepted basic principles of economics. Such an understanding will not be taken for granted but will be presented as we proceed. The principles of economics with special application to agriculture as an industry is the subject which will receive our attention in this book.

OCCUPATIONS AND INCOMES

Leading Occupational Groups.—As a preliminary to our study of the relations of farmers to persons otherwise employed we may well note the major occupational groups of our population, thereby becoming

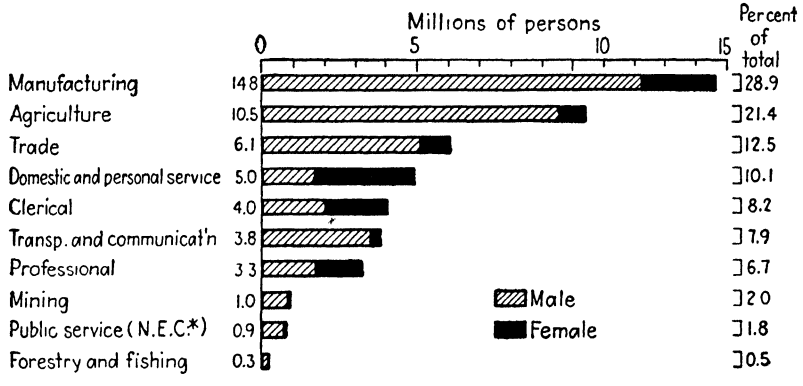

FIG. 1.—Gainfully employed persons by main industrial groups in the United States according to Census of 1930.

acquainted with the relative importance of the various occupations. The total population of the United States, according to the Census of 1930, was in round numbers 123,000,000. The population in 1940 was estimated at about 130,000,000. At the former time the number of people

[1] Quoted from P. L. Vogt, *Introduction to Rural Sociology* (Appleton, 1922), p. 16.

ten years of age and over who were reported as ordinarily engaged in gainful occupations was in round numbers 49,000,000, or 40 per cent of the total population. The distribution by major occupations for those gainfully employed is shown in Fig. 1. It will be noted that manufacturing was the leading occupational group in the United States, employing in 1930 about 30 per cent of the total or nearly one-third more than agriculture, which ranked second and accounted for 21.4 per cent of all gainfully employed. Trade excluding transportation and clerical workers occupied over 12 per cent of the gainfully employed. Under trade not only all ordinary wholesale and retail trade but banking, insurance, and real estate are included. Transportation accounted for 8 per cent of the gainfully employed, or 37 per cent as many as agriculture. Trade and transportation including their clerical workers occupied about one-fourth of all the gainfully employed. Of those engaged in transportation, about 40 per cent were occupied with railway transportation and about 60 per cent with construction and maintenance of roads and with automobile transportation, telephone and telegraph services, and other transportation and communication. The building industry was included under manufacturing but occupied more than 2½ million persons, or more than twice as many as extraction of minerals and about one-fifth as many as agriculture. The other subdivisions of the manufacturing group which employed most people were in order of importance: (1) iron and steel; (2) clothing; (3) automobiles; (4) chemicals and related industries; (5) printing and publishing. Professional service occupied about one-third as many as agriculture. In this classification are included among others those who are engaged as a profession in furnishing recreation and amusement, which made up about one-seventh of the group. "Public service not elsewhere specified," which is shown as occupying 1.8 per cent, includes only about one-third of all government employees, inasmuch as many are included under professional service and in other groups. Total government employees numbered nearly three millions, or 6.2 per cent of all persons gainfully employed. Of this total nearly one million were employees of the Federal government. Of the Federal government employees 42 per cent were in the army and navy and 47 per cent of the remainder in the postal service. About two million were employed by state and local governments, and of these about one million were school teachers. The largest subdivision under those occupied with domestic and personal service consisted of persons employed by hotels, restaurants, and boarding houses. Women occupied with housekeeping in their own homes are not listed in the Census as gainfully employed.

For more recent estimates of percentage distribution of gainfully employed, the reader is referred to Table 4, on page 16. The most significant changes between 1929 and 1939 were (1) a further rise in the

proportion employed by government and (2) the decline of the percentage employed in construction.

Our National Income.—Before we give some preliminary treatment to the question of the share of our national production which goes to those in each industry or occupation, we should note how much there is to share. In other words, we should see how effectively the activities of specialists have been coordinated in order to produce. This production is our national income, and changes in the national income, particularly when expressed on a per capita basis, show the changes in our efficiency. Furthermore, "Share-the-Wealth" proposals, minimum-wage laws, or plans such as the Townsend movement for $200 a month to the old folks cannot divide up more than is produced.

After careful research, a number of individuals and agencies, led by the National Bureau of Economic Research, have estimated the size of our national income. The estimates by this organization and others for selected years between 1909 and 1939 are reproduced in Table 2. Because the term *income* is employed with a variety of meanings, we should note that income as used here represents all cash income realized by individuals which might be used either for consumption or living purposes, or might be saved and invested, and in addition, includes in some studies rental value of homes and the value of commodities produced for direct personal or family consumption. The value of direct personal services performed by persons for themselves or their families is not included.

Income as thus defined is shown in Table 2 in both "current dollars" and in "1929 dollars." The dollar is the only common denominator we have whereby to measure the varied goods and services produced. Yet it is an unsatisfactory measure, since the dollar itself has a varying purchasing power from time to time. Though no completely adequate measure of the purchasing power of the dollar is available, it seems best to divide the income data by the Federal Reserve Bank of New York "Index of the General Price Level." The data in current dollars, divided by this index with 1929 equal to 1.00, are here called "1929 dollars." The data in this form show approximately the change in our production of commodities and services.

In Table 2 the income estimates for 1909 to 1928 are by the National Bureau of Economic Research and for 1929 to 1939 by the United States Bureau of Foreign and Domestic Commerce. The latter are on a basis which in general gives lower estimates, as is shown by the fact that the 1929 estimates are below those for 1928, although 1929 was the more prosperous year. The lower estimates by the Bureau of Foreign and Domestic Commerce arise largely from the exclusion from income of the rental value of owned homes and other owned durable goods, such as automobiles. Although changes in the basis for the estimates are

bothersome, they need not concern us seriously, for we are interested in the change from year to year, a comparison which is possible with the data at hand.

A brief examination of Table 2 shows that the national income in "1929 dollars" increased approximately 40 per cent between 1909 and 1928. It then fell by one-third by 1932 but by 1939 had risen almost to the 1929 peak. In per capita terms the income in "1929 dollars" increased by a fifth between 1909 and 1928, and by 1932 had fallen far below the 1909 level, even if ample allowance is made for the difference in the method of estimating at the two dates. That is to say, the people of the United States had available for per capita consumption one-fifth more goods and services in 1928 than in 1909, but that less per capita was available out of current production in 1932 than at any other date shown in the table. By 1939, income per capita in "1929 dollars" was still below the 1929 level, but the income per *person actually at work* was above the 1929 point.

TABLE 2.—ESTIMATED REALIZED INCOME OF THE PEOPLE OF THE CONTINENTAL UNITED STATES,[1] 1909–1939

Year	Total income		Per capita		Per person gainfully employed	
	In current dollars (millions)	In 1929 dollars (millions)	In current dollars	In 1929 dollars	In current dollars	In 1929 dollars
1909	29,605	56,987	327	629	864	1,663
1914	35,647	63,815	360	644	943	1,688
1919	65,949	68,242	628	650	1,637	1,694
1924	77,135	83,182	680	733	1,789	1,929
1928	89,419	90,956	749	762	1,920	1,953
1929	82,885	82,885	682	682	1,848	1,848
1932	40,074	54,345	320	435	1,111	1,506
1937	71,172	79,321	551	613	1,637	1,825
1939	69,378	80,686	536	623	1,597	1,857

[1] Data in "current dollars" for 1909 to 1928 are from W. I. King, *The National Income and Its Purchasing Power* (National Bureau of Economic Research, 1930), Chap. IV, and from 1929 to 1939 are from *Survey of Current Business* (United States Bureau of Foreign and Domestic Commerce). "Gainfully employed" data (1929–1938) exclude unpaid family workers, work-relief laborers, and the unemployed. Thus the "gainfully employed" are less than would be obtained by the Census method which includes these groups. Data in "1929 dollars" are data in "current dollars" divided by the Federal Reserve Bank of New York "Index of the General Price Level" on a 1929 base.

Income by Industries.—Of no less interest than the amount of the total national income is the distribution of the income by industries and by classes of recipients otherwise classified. In Tables 3 and 4 are summarized estimates of these data and, for recent years, estimates of the

percentage of gainfully employed in the different occupational groups. It should be noted in passing that the occupational classifications shown in these tables differ somewhat from those of the Census of 1930, which are shown in Fig. 1.

Significant changes in the incomes of persons in different industries between 1909 and 1930 are the decline of over 50 per cent in the percentage of the total going to agriculture, contrasted with the definite increase

TABLE 3.—PERCENTAGE OF ENTIRE REALIZED NATIONAL INCOME DRAWN BY INDIVIDUALS FROM LEADING INDUSTRIES[1]

Year	All industries	Agriculture	Manufacturing	Mines, quarries, and oil wells	Construction	Banking	Mercantile	Government	Railroads	All others
1909	100.00	16.85	18.51	2.81	5.75	1.14	12.45	5.25	5.81	31.46
1914	100.00	14.25	19.40	2.72	3.96	1.27	13.33	5.87	5.78	33.42
1919	100.00	18.47	24.40	2.84	2.80	0.98	12.16	9.30	5.61	23.44
1924	100.00	10.79	21.10	2.64	3.86	1.33	14.33	7.64	4.97	33.34
1928	100.00	9.40	20.10	2.20	4.20	1.10	15.80	8.70	5.50	33.00
1930	100.00	7.50	18.60	2.20	3.60	1.30	16.30	9.80	5.20	35.50

[1] Based on W. I. King, *The National Income and Its Purchasing Power*, except the years 1928 and 1930, which are based on M. A. Copeland, "How Large Is Our National Income," *Journal of Political Economy*, December, 1932, p. 785.

in the *share* going to mercantile occupations and to the government. These trends are of significance in showing the changing character of economic life but are open to misunderstanding unless changes in the percentages of the gainfully employed, by industrial groups, are also shown. Only in agriculture has a drastic change in the relative incomes of employed persons occurred. Whereas the share of the national income going to agriculture declined by over a half between 1909 and 1930, the percentage of gainfully employed in that industry declined by only a third.

The *current* relationship between the percentage of national income received and the percentage of gainfully employed by industries is shown in Table 4. Agricultural income as a percentage of the national income during the years shown was consistently less than half, and in 1932 less than a third of the percentage of the total gainfully employed which were in agriculture. In contrast, in light and power, transportation, finance, and government the percentage of national income received was distinctly higher than the percentage of gainfully employed. It should be pointed out, however, that even these data must be used with caution. Some industries, notably light and power, use a tremendous amount of capital, with relatively little direct labor, whereas service industries, including the professions, use relatively little capital. Also in agriculture a consider-

able quantity of goods for living, which persons in most occupations must buy, are derived directly from the farm. Though some allowance was made for such income in making the estimates reported in Tables 33 and 44, the adequacy of this allowance has been seriously questioned by careful students of this subject. A more critical discussion of the estimates of agriculture's share of the national income will be found in Chap. XXV.

TABLE 4.—PERCENTAGE DISTRIBUTION OF PERSONS EMPLOYED AND OF INCOME PAID OUT, BY INDUSTRIAL DIVISIONS[1]

Item	Percentages of total number engaged			Percentages of income paid out		
	1929	1932	1939	1929	1932	1939
Agriculture	17.6	21.3	18.6	8 9	6.1	6 7
Mining	2.3	2.0	1.9	2.2	1.2	2 0
Electric light and power and gas	0.8	0.8	0.9	1.6	2.5	2.2
Manufacturing	22.1	17.7	21.6	23.8	14.1	21.8
Construction	3.6	2.3	3.0	4.0	2.4	3.2
Transportation	7.1	6.3	5.7	8.7	9 1	7.0
Communication	1.2	1.1	0.9	1.3	1.8	1 3
Trade	14.4	14.4	13.6	13.5	13.0	13.2
Finance	3.2	3.4	2.8	10.9	12.8	8.8
Government	7.2	9.1	9.5	8.1	16.8	11.7
Service	15.7	16.4	16.8	12.0	14.2	12.5
Miscellaneous	4.8	5.2	4.7	5.0	6.0	9.6[2]
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] *Income in the United States*, 1929–37 (United States Bureau of Foreign and Domestic Commerce, 1938), pp. 17 and 34, and recent estimates obtained from the Bureau.

[2] "Miscellaneous" for 1939 includes work-relief wages and social-security contributions by employers.

One final comparison of income by industries is the degree to which each is affected by good and bad times. Mining and manufacturing received a distinctly lower proportion of the national income in depression years, such as 1932, but quickly felt the benefits of better times, as in 1939. In contrast, the share going to finance, to light and power, and to government was larger in 1932 than in 1929.

Income Produced and Income Paid Out.—The national income, as that term is usually interpreted, refers to the income produced. The income paid out by business organizations and government may be, in a given year, more or less than the income produced. The data in Table 5 would indicate that in depression years, such as 1932, income paid out exceeds income produced, whereas in more prosperous years, such as 1929, less is paid out than is produced and there are "business savings." Though these data do not accurately measure processes of saving and investment, there is a tendency during depressions to spend and consume

more as a nation than we produce, and, in contrast, during prosperity we tend to produce more than we consume.

TABLE 5.—NATIONAL INCOME PAID OUT AND PRODUCED, 1929–1939[1]

Item	1929 (million dollars)	1932 (million dollars)	1939 (million dollars)
Income paid out	78,556	49,024	68,500[2]
Business savings	2,572	−9,010	———
Income produced	81,128	40,014	68,500[2]

[1] *Income in the United States*, 1929–1937, (United States Bureau of Foreign and Domestic Commerce, 1938).

[2] *Survey of Current Business*, February, 1940, p. 3. Preliminary estimate is that income paid out equaled income produced in 1939.

CHANGING PRICES

The income of any individual or group under our present economic system depends mostly on the prices which may be received for the commodities or services supplied by that individual or group in relation to prices which must be paid for commodities and services bought. To understand the distribution of income it is necessary, therefore, to understand the forces governing prices. Preliminary to our examination of these forces in subsequent chapters we shall here note some of the changes since 1910 in prices of several classes of products sold and commodities and services bought by farmers. These are shown in Table 6 and in a summary manner in Fig. 2.

The student should not be confused by all the details shown in Table 6 but should attempt at present merely to familiarize himself with the general tendencies in price changes which it shows. The full details shown in this table are presented at this time primarily for reference at later times in our study of the economic problems of agriculture.

Farm-Product-Price Changes since 1910.—It will be noted that prices are reported in Table 6 as percentages of the average, in most cases, of prices from August, 1909, through July, 1914. A figure of 200, for example, simply means a price twice as high as during the 1909–1914 base period. Thus in "all groups" of farm products, it will be seen that during the six years from 1910 through 1915 these showed very little change. Highest prices for the six-year period prevailed in 1910, when they were 102 per cent of the average of the five years used as a base. Beginning with 1916, however, prices advanced rapidly and continued to do so until the summer of 1920. The average of both the years 1919 and 1920 was more than 200, or double the average of 1909–1914. At the same time wholesale prices of nonagricultural products, not shown in the table, had risen until they were at 250 per cent of their 1909–1914 figure.

In the latter part of 1920 and in early 1921, there occurred a severe decline. For the year 1921, prices of all farm products had declined to 125. By 1923 they recovered to 142, and for the following six years fluctuated between 139 and 156, which did not represent a high degree of change. But beginning with 1930 another great drop occurred, which

TABLE 6.—GENERAL TREND OF PRICES, WAGES, AND PURCHASING POWER OF FARM PRODUCTS[1]

(On 5-year base, August, 1909–July, 1914 = 100)

Year	Prices received by farmers for commodities sold							Prices paid by farmers for commodities bought	Ratio of prices received to prices paid	Industrial wages[2]	Farm wages	Taxes[3]
	Grains	Fruits	Cotton and cotton-seed	Meat animals	Dairy products	Poultry products	All groups					
1910	104	101	113	103	99	104	102	98	1.04	...	97	
1915	120	82	77	104	103	101	98	105	0.93	101	102	102
1920	232	191	248	174	198	223	211	201	1.05	222	242	244
1921	112	157	101	109	156	162	125	152	0.82	203	155	259
1923	113	137	216	107	159	146	142	152	0.93	214	169	266
1929	120	141	144	156	157	162	146	153	0.95	236	180	281
1932	44	82	47	63	83	82	65	107	0.61	179	96	219
1937	126	122	95	132	124	111	121	130	0.93	215	126	187
1939	72	77	73	110	104	94	93	121	0.77	211	124	
——*	——	——	——	——	——	——	——	——	——	——	——	——
——*	——	——	——	——	——	——	——	——	——	——	——	——

[1] Data shown in this table are published currently in *The Agricultural Situation* and *Crops and Markets*, both issued monthly by the U. S. Department of Agriculture. The data for 1909–1939 were taken from the department's *Agricultural Statistics*, 1938, Tables 565 and 566, and from *The Agricultural Situation*, current issues.

[2] Average weekly earnings, New York State factories, June, 1914 = 100.

[3] Index of estimate of total taxes paid on all farm property, 1914 = 100.

* The student should fill blanks with data for recent years.

brought prices of farm products by 1932 to the low point of 65 per cent of the 1910–1914 average.

Following the spring of 1933, farm prices followed an irregularly upward course until 1937, when a point of 121 per cent of the 1910–1914 average was reached. This level was only 17 per cent below 1929. Prices in 1938 and 1939 were lower again but did not approximate the low point of 1932.

A number of the particular groups of products underwent greater changes than the average of all taken together. Two of these were grains and cotton. Grain prices during 1920 averaged 232 per cent of 1909–1914 prices, whereas by 1932 they had dropped to only 44 per cent of the base period. Cotton rose even higher, standing in 1920 at 248, but in 1932 it had dropped to 47.

Commodities Bought by Farmers.—Prices of commodities bought by farmers also rose and fell. They rose nearly as high as prices of farm products, but in the period covered they did not fall nearly so low relative to the 1909–1914 base period. As shown by Table 6 and Fig. 2, prices paid by farmers for commodities used in both living and production stood in 1920 at 201 and in 1932 at 107 per cent of the 1909–1914 figure. As all groups of farm products combined stood in 1932 at 65, the ratio of prices received to prices paid by farmers, as shown in Table 6, was at that time 0.61. This indicates that in 1932 a certain number of physical units of farm products, such as bushels, pounds, or tons, were able to command from other groups in our economic system only about three-fifths as many

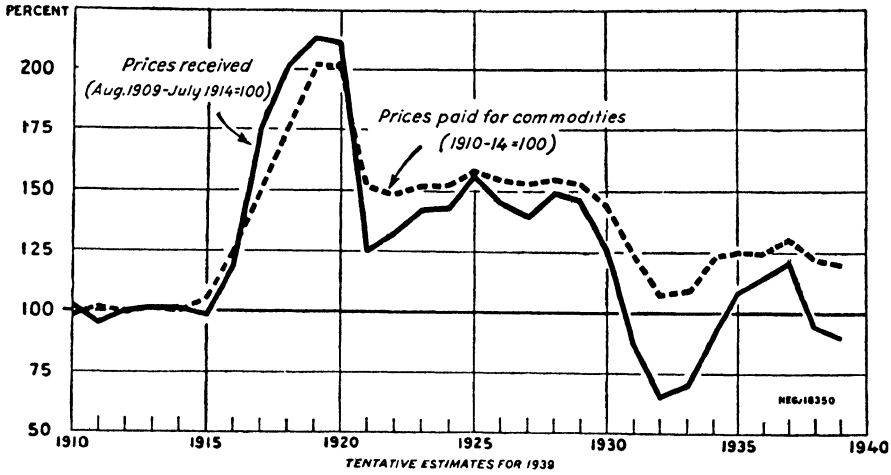

FIG. 2.—Prices received and paid by farmers, index numbers, 1910–1939.

commodities of the kinds used by farmers in living and production as they did during the 1909–1914 period, that is, 20 years previously. By 1937 the ratio of prices received to prices paid had risen to 0.93, a ratio similar to that which prevailed during the late 1920's—only to fall again in 1938 and 1939.

Wages and Taxes.—In Table 6 are shown also changes in industrial and farm wages, and in taxes on property paid by farmers. Industrial wages in this table are based on average weekly wages paid in factories in New York State. It will be noted that by 1920 these had risen to 222 per cent of the June, 1914, level. There was some decline in 1921; then an upward tendency until 1929, a year in which they rose to 236 per cent of the 1914 level, which was higher than in 1920. From 1929 through 1932 they declined, but at this low point they still were above 164 per cent of the 1914 level. By 1937 these wages had nearly reached the 1929 level. Farm wages rose in 1920 to 242 per cent of the 1909–1914 level, having increased since 1914 even more than had industrial wages. But since

that time they have declined very much more, having fallen by 1932, to 96 per cent of the 1909–1914 level. It will be noted that both industrial wages and farm wages moved upward as commodity prices moved upward, and that they moved downward as commodity prices moved downward, although they moved more slowly, or lagged, in both cases. As prices of farm products had declined much more by 1932 than prices of commodities bought by farmers, so farm wages had declined much more than industrial wages.

Taxes on farm real estate per acre showed a steady upward trend from 1914 through 1929, by which time they were more than 2¾ times the 1914 figures. There was some decline from 1929 through 1932, and on to 1937, but taxes in 1937 were still three-quarters greater than during the 1909–1914 period.

SOME POINTS OF VIEW

Our attitude and method in approaching the study of such a subject as economics are affected by our object and point of view. The student will be assisted by the following statement of points of view on several matters.

The Capitalistic Economic System.—The kind of economic system which prevails in the United States is quite generally designated as capitalistic. This term is used to distinguish it from socialistic and communistic systems, such as the one which recently has prevailed in Russia. Leading characteristics of the capitalistic system are (1) relatively little restriction on the private ownership of property, (2) relatively great individual freedom in the purchase and sale of goods at whatever prices may be agreed upon by those engaged in buying and selling, and (3) relatively little interference with individual initiative and competitive forces.[1] Under a communistic system, on the other hand, there are recognized and permitted relatively little private ownership of property, relatively little freedom in the purchase and sale of goods, and relatively great interference with individual initiative and competitive forces. Under Fascism as practiced in Germany and Italy, private ownership is still prevalent, but enterprise is free only so far as the results correspond to the wishes of those in authority. Actually, freedom of enterprise, and of purchase and sale, have been curtailed drastically. The chief characteristic of the capitalistic system is the right of the individual to own and to profit from the ownership of property used in the production of goods. The chief characteristic of a socialistic or communistic society is that the individual is denied the privilege of securing income

[1] The term *capitalistic* is also sometimes used in application to a society in which much machinery and other capital are used, especially where this is owned by relatively few, in contrast to a primitive society in which relatively little capital is used and ownership is widely diffused. In recent years, however, the term is used mostly in contrast with a communistic society, as above explained.

from the ownership of property. Supporters of socialism and communism also profess to favor control of economic matters by the masses of the people. Russia, the world's only extensive experiment in socialism or communism up to the present time, however, has found it impracticable to allow the masses to exercise real control. Actual control has been by a small group, "from the top down."

The term *property* in everyday language is used sometimes to refer simply to real estate, sometimes to all tangible objects. As a legal term, however, property implies ownership, and the ownership not only of tangible objects but of other rights to benefits. Property has been legally defined as "a bundle of rights" or "the right to benefits." As said before, the individual's right to own and to profit from the ownership of property used for productive purposes is the outstanding feature of capitalistic society, and with the individual's right to own property goes the right to dispose of that property. This of necessity gives rise to prices. But it should not be assumed that the right to property in a capitalistic economic society is absolute and without governmental restriction. There are many such restrictions, as will be brought out more fully in the pages which are to follow. Nevertheless, the general prevalence of private ownership of property used for productive purposes is the chief characteristic of such a society.

From the preceding it should be clear that the price phenomena of a capitalistic society may differ at least in some respects from those of a communistic or socialistic society. The conduct of economic life differs according to the type of economic system prevailing. Economic institutions are not entirely the same under capitalism as under feudalism or communism.

In this text we shall be mostly concerned with an analysis of economic principles as they operate in a capitalistic economic society rather than in some other kind.

Economic Problems Complex.—The economic problems of modern society are complex. In our study of them, they will have to be taken up one at a time. But they are so interrelated that a reasonably thorough understanding of one problem often requires some understanding of others. To understand the principles governing interest, for example, requires also some understanding of the principles governing wages. Accordingly, often our first conclusions must be tentative, subject to modification as other factors are introduced. It will be necessary often to note first the results of certain changes assuming that other things remain unchanged, and then later to examine the results of changes in these "other things." All of this will require care in definition of terms and care in analysis or in reasoning from point to point. Success in understanding economic phenomena requires ability and care in logical analysis as well as sustained attention. The student may often be reminded of the

statement of Alfred Marshall, the most noted English economist of the last half century, who in his *Principles of Economics*,[1] published in 1890, said:

> In this world every plain and simple doctrine as to the relation between cost of production, demand, and value is necessarily false: and the greater the appearance of lucidity which is given to it by skillful exposition, the more mischievous it is. A man is likely to be a better economist if he trusts to his common sense, and practical instincts, than if he professes to study the theory of value and is resolved to find it easy.

This statement is true not only as made, but is equally true of many other problems in economics. This, however, should not discourage the student but should merely remind him that success in economics is no more to be attained without effort than success in other lines of endeavor. Moreover, it should warn him constantly to test his conclusions by his "common sense and practical instincts."

Economic problems are the subject of much controversy. This finds expression in the platforms of political parties. It gives rise to labor unions, taxpayers' leagues, agricultural blocs in Congress, farm organizations, and legislation such as that establishing the Federal reserve banking system, the Federal land banks, the protective tariff, the Federal Farm Board, and the so-called "New Deal." Such controversy is in part due to the complexity of the problems with which economics deals. That, however, is not its sole, or probably its most important, cause. A more important cause is the fact that economics is concerned with matters in regard to which the interests of individuals and of particular groups are often in conflict with the interests of others, or with the general welfare, and which often must be decided by a general policy in which one group is favored at the expense of others. This makes difficult an unprejudiced, scientific attitude. A good illustration is found in the protective tariff. A small group gains by having a tariff placed on a certain product. That group, therefore, proceeds to convince others that they also should favor such a tariff. The results depend on the outcome of a political campaign. In the course of this campaign prejudice is appealed to, and plausible fallacies are presented in such an attractive way as to overshadow the unbiased scientific analysis. The general welfare can be best promoted only by a thoroughly unprejudiced analysis of the issues involved. In this book we shall attempt to present such an analysis.

Economic Welfare and Happiness.—Economic welfare does not guarantee human happiness, which is a very elusive thing. Nevertheless, most of the objects for which human beings struggle in this world are promoted by economic welfare. About three-quarters of a century ago the famous French artist Millet painted a picture to which he gave the

[1] Eighth edition (Macmillan, 1920), p. 368.

title, "The Man with the Hoe." In this picture a tired, ragged, unintelligent peasant is portrayed in a field, leaning upon a rude hoe. Upon viewing the picture, the American poet Edwin Markham wrote in part as follows:

> Bowed by the weight of centuries he leans
> Upon his hoe and gazes on the ground,
> The emptiness of ages in his face,
> And on his back the burden of the world.
> .....
> Stolid and stunned a brother to the ox.
> .....
> Whose breath blew out the light within that brain?
> .....
> .....What to him
> Are Plato and the swing of Pleiades?
> What the long reaches of the peaks of song,
> The rift of dawn, the reddening of the rose?

It is within the power of economics as a science to cause fewer of the dwellers on the soil, and the dwellers in the cities as well, to be duplications of the Man with the Hoe, as painted by Millet, and as described by Markham. Economic well-being cannot guarantee human happiness, but it is an essential for most of the things considered worth while in modern civilization. And economic well-being for our rural population, and other parts of the population also, can be promoted by an understanding of the principles of economics with special attention to their application to agriculture, the presentation of which is the purpose of this book.

Questions and Problems

1. Explain the statement that agriculture is now mostly commercial, and summarize the available evidence in support of the statement.

2. Compare the definition of economics given by the authors of this text with definitions of at least two other writers. In addition to writers quoted in the text, those listed under the Suggested Readings following these questions may be consulted.

3. Why does economics have so much to do with prices?

4. Is there a fundamental conflict over distribution of the cooperative product of our economic system? May this interfere with effective cooperation in production?

5. Explain rather fully the relation of Adam Smith and David Ricardo to the development of economics.

6. Compare the meanings of production and distribution as used in economics with their meanings as ordinarily used in the business world.

7. Compare various other usages of the term *agricultural economics* with the definition of the term by the American Farm Management Association in 1910.

8. What percentage of the national income has been received by agriculture during various recent years? Make a list of what you consider the five most important reasons for the changes between 1914 and 1937 in the portion of the national income received by agriculture, and save this list to see whether you would change it after having continued this study for some time.

9. For any year for which the information is shown in the tables in this chapter, name in order of importance, with percentages, the five occupational groups at which most persons were employed; also the five groups receiving the largest shares of the national income. Account to the extent that you can for the differences in the order of importance in the two lists.

10. Which groups of agricultural products have shown the greatest and which the least variation in price during the period covered by Table 6 and how great has that variation been for the groups mentioned? Trace the chief changes in prices of agricultural products as a whole since 1910.

11. What are the significant features of a capitalistic economic system? Define capitalism and communism.

12. Define property as viewed by the courts.

13. Give and explain several reasons for the fact that economic problems are the subject of much controversy.

Suggested Readings

1. Ely, *Outlines of Economics;* Garver and Hansen, *Principles of Economics;* Deibler, *Principles of Economics;* and Fairchild, Furniss, and Buck, *Elementary Economics* are standard elementary textbooks in wide use in courses in economics and may be profitably consulted for the views of other writers.

2. *Economic Trends Affecting Agriculture*, by the U. S. Department of Agriculture, 1933, is an excellent brief summary of recent economic changes affecting the welfare of those engaged in agriculture. It may be secured for five cents from the Superintendent of Documents, Washington, D. C.

3. W. I. King, *The National Income and Its Purchasing Power* (1930) is one of the most thorough general studies available on the amount and division of the national income over a period of years.

4. "Income in the United States, 1929–37," prepared by the U. S. Bureau of Foreign and Domestic Commerce, contains detailed information about the size of the national income and how it is divided among different classes of the population for the years covered. The Bureau of Foreign and Domestic Commerce releases estimates for later years from time to time, in the monthly *Survey of Current Business.*

5. O. E. Baker, Ralph Barsodi, and M. L. Wilson, *Agriculture in Modern Life* (1939), analyze a number of the basic economic problems of agriculture, with some differences of opinion expressed by the respective authors.

6. F. C. Mills, *Prices in Recession and Recovery* (1936), gives a comprehensive picture of commodity price movements including those of farm products.

7. *Agricultural Statistics*, published annually, and *Crops and Markets* and *The Agricultural Situation*, both published monthly by the U. S. Department of Agriculture, furnish recent information on prices of agricultural products and other commodities and services.

8. The National Industrial Conference Board, New York City, has published a number of reports about the national income and how it is divided. A summary of this information and of much other information about our economic life is contained in its publication, *Enterprise and Social Progress* (1939).

CHAPTER II

THE EUROPEAN BACKGROUND OF MODERN ECONOMIC LIFE

Economic life has not always been everywhere organized as it is at present in this country. Production for sale in a delicately organized market has dominated American agriculture for much less than a century. A study of the past reveals that many features of our life which we take quite for granted, and without which we find it difficult to visualize a satisfactory economic life, are relatively new. Unconsciously people often assume that the present economic order has always existed and will continue. The error in this assumption, as well as the principles of the continuity of change and the tendency of the economic system to adjust itself to a people and their mode of making a living, has been well stated by Professor H. J. Davenport, when he says:

> Little that is, in the present social and economic order, has long been as it is now, much of it has not been at all, and little of it is fundamental or sure to last. Private property, individual initiative, competition, the money system, and production for the price market are mere present adjustments, no one of which has always been, or is everywhere now, or is sure to remain. Each order becomes old and changes, and nothing in human life is certain but this process of change. . . . Institutions likewise are good or bad according to the degree of human development and the problems of the time. . . . That which is, may be right, but not in the sense that what is to come may not be better.[1]

On the other hand, many of the serious problems which have confronted agriculture in recent years, and which we regard as new experiences, will be found to have been faced before in the world's history. Our understanding of our present economic system and of its problems will be improved by a knowledge of the historical background of that system. As modern American economic life grew directly out of a European background, we shall note in this chapter some of the important steps in the development of the economic life of Europe.

EARLY ECONOMIC LIFE

Principal Economic Stages.—The advancement of man in his control over nature and in the satisfaction of his material wants is marked by his progress in the use of tools. The earliest stages in man's civilization are

[1] H. J. Davenport, *The Economics of Enterprise* (Macmillan, 1925), pp. 20–21.

described by such terms as the paleolithic, or old or rough stone age; the neolithic, or recent or polished stone age; the age of bronze; the age of iron; etc. Each of these marks the use of a new and improved type of tool. In sketching man's economic progress in the control over nature five large stages are generally distinguished: (1) the stage of direct appropriation from nature, often characterized as that of hunting and fishing; (2) the pastoral stage, characterized by the domestication of animals and herding; (3) the agricultural stage, characterized by a more settled form of life and by the growing of crops; (4) the handicraft stage, characterized by the development of specialized handicraft trades and the growth of towns; (5) the industrial stage, characterized by the use of modern power-driven machinery. These stages cannot be sharply differentiated; they overlap each other to a large extent. Furthermore, some people—for example, some among the American Indians—passed directly from the stage of direct appropriation from nature to that of a well-developed agriculture, without any intervening period in which the herding of domesticated animals played a part.

With progress in man's control over nature, there have also occurred changes in the relation of men toward each other while engaged in efforts to satisfy their material wants. Scanning the pages of history, we may distinguish a primitive communistic type of tribal life, a period of slavery, a period with a manorial or feudalistic type of economic life, a period of the guild in the towns, and an age of personal freedom and capitalism. Without doubt, present institutions governing our relations to each other will be further modified in the future. In fact, some very significant experimental changes are now in progress, though how enduring will be the different features of our economic life most recently introduced is a question which can be answered only in the years to come.

Primitive Economic Life.—Man of a primitive type has lived on the earth at least a number of tens of thousands, and perhaps several hundreds of thousands, of years. His progress before he had passed beyond the paleolithic, or rough stone, age was slow. Some 10,000 or 12,000 years ago, man of the neolithic or recent stone age had made his appearance in Europe. The culture of neolithic man was characterized by: (1) polished stone implements, particularly the stone ax, though the use of implements of unpolished stone continued; (2) the beginnings of a sort of agriculture, though hunting was still of great importance ("Neolithic man did not sit down to his agriculture. He took snatch crops. He settled later"[1]); (3) pottery and proper cooking; (4) domesticated animals ("The dog appears very early. Neolithic man had domesticated cattle, sheep, goats, and pigs. He was a huntsman, and turned herdsman of the herds he once hunted."[2]); (5) plaiting and weaving.

[1] H. G. Wells, *The Outline of History* (Garden City Publishing Co., 1929), p. 77.
[2] *Ibid.*

The size of the social and economic group of earliest primitive man is a matter of some uncertainty. By the time of neolithic man, however, living together in communities or villages was common. A communistic, or semicommunistic type of life, in which property in large part belonged to the group or tribe rather than the individual, has been generally characteristic of the more primitive people of historical times. An example may be drawn from the early barbarian tribes of Germany whom Julius Cæsar encountered as he led his Roman army across the Rhine in the first century, B.C. Of one such tribe he wrote as follows:

> It is said that they have a hundred cantons, from which they draw one thousand armed men yearly for the purpose of war outside their borders. The remainder, who have stayed at home, support themselves and the absent warriors; and again in turn are under arms the following year, while the others remain at home. By this means neither the husbandry nor the theory and practice of war is interrupted. They have no private or separate holding of land, nor are they allowed to abide more than one year in one place for their habitation. They make not much use of grain for food, but chiefly of milk and cattle, and are much engaged in hunting. They wear nothing even in the coldest localities except skins.

Economic Life of Early Civilizations.—The earliest European civilizations were those of Greece and Rome. Ancient Greece had reached nearly the height of its marvelous advancement in literature, art, architecture, and other types of culture some 400 years B.C. Rome was at the height of its achievements from about 200 B.C. until about A.D. 200. Upon what type of economic life did these early civilizations rest?

The most significant aspect of the answer to that question is that they rested upon slavery. The people performing the work of agriculture were exploited. Of ancient Sparta it is said: "Agriculture and all mechanical arts at Sparta were in the hands of the Helots (slaves), since the laws of Lycurgus prohibited the Spartans from all lucrative occupations." The Greek philosophers, such as Plato and Aristotle, have left literary masterpieces describing the ideal state in which, as in their everyday life, the work of providing the material necessities of life was considered to be the work of slaves. In early Rome agriculture by free citizens played a very important part, but in Rome during the height of its splendor at least one-third of the population consisted of slaves, who were mostly captives of war, and perhaps another third of freed men, who were former slaves, and these two groups did most of the ordinary work. A Roman essay on farming, *De Agricultura*, written in the first century B.C., is largely concerned with supervising the work of slaves. In so far as their mastery over tools was concerned, Greece and Rome were in the handicraft stage. The handicraft work, however, was largely done by slaves. The occupations which were considered more worthy of the

Greek or Roman citizen were warfare, learning, literature and the arts (including architecture), and government. Business was engaged in, particularly in Rome, but did not occupy the important place that it does in our modern life.

One of the constant problems of the Greeks and Romans was to assure an adequate supply of food. Their governments—instead of prohibiting or restricting the importation of their staple food, grain, from beyond their boundaries, as modern nations do by tariffs—used methods and devices of various kinds to insure an inflow of grain. The most harsh of these methods was the Roman system of requiring the provinces which they had captured or subdued in war to send tribute to Rome in the form of contributions of grain. This was in addition to the contributions regularly levied by the Roman armies in the field and other taxes and tribute. The free distribution of this tribute grain to Roman citizens living in the capital played no small part in Roman history. The Greeks and the Romans recognized that it was possible for the inhabitants of the city to prosper at the expense of the tillers of the soil, though it has been well claimed that this system led to vices by those in the cities who thus lived at the expense of dwellers on the soil, vices which contributed to the final downfall of their civilizations.

The Manor.—The collapse of the power of Rome in Western Europe about A.D. 400 was followed by a long period of political chaos, which lasted for six or seven hundred years and has been generally described as the Dark Ages. Preceding this, the Roman Empire had scattered the seeds of civilization over a considerable part of what is now Europe. Stimulated by the peace and protection afforded by the Roman government, trade between widely separated areas had attained considerable importance. But following the downfall of Rome at the hands of the German barbarians, there was left no strong central government to protect traders from marauders and robbers, and each small region came to rely upon itself for its consumable goods.

In the course of time the wandering tribes which overthrew the Roman government settled down to a more fixed abode. Such settlement was in villages. After a period of rather complete chaos there developed the military institution known as *feudalism*, in which the people of a region either put themselves under the protection of some local lord, frequently a bishop or other high church authority, or were forced under his control. Such a lord often had the advantage of a fortified castle. The economic life which developed in most regions was that of a self-sufficient community, known as the *vill* or *manor*. Though generally each manor was under the military protection of some lord, he did not necessarily live within the village itself. Often one lord controlled a number of manors, and where this was the case he was represented in some of them by a hired bailiff, or lesser noble. The inhabitants of each such vill or manor formed

an economic unit, producing by their own hands practically all that was consumed.

Important in each village were the manor house, or "big house" of the lord, and the church. In addition there were the outbuildings of the lord and the cottages of the villagers. These villagers were of various grades, but in general were serfs or *villeins*, a position somewhat between free men and slaves. They could not be bought and sold and yet could not leave the lord's manor and engage in production elsewhere. The majority of the villeins had small plots of ground, from which they obtained their food and materials for clothing. Others of lower state, known as *cotters*, had only a rude cottage and a garden spot, gaining what additional products they could by payment in kind for working for the holders of larger pieces of land. All classes of villeins had to work on the lord's share of the tilled ground and to give certain products for the support of the lord's household. Such work was of two kinds, *week work* and *boon work*. The week work consisted of working for the lord a certain number of days, usually two or three, each week. The boon work consisted of additional work on special occasions, as at harvest time.

The land of the manor was classified as tilled land, meadow, waste, and woodland. The location of each of these with reference to the village in which the villeins lived depended somewhat upon the topography. Usually the village would be along a small stream which supplied water and, when dammed, furnished power for the simple mill. In the surrounding lower land would be the meadows from which would be cut wild hay for winter feed. On higher ground would be the tilled lands, perhaps on both sides of the village. Wherever the land was rough or otherwise not adapted to tillage, it was set aside as woodland to be used for pasture and wood supply.

The tilled land was usually divided into two or three parts. The former was known as the *two-field* system. In most regions this gradually gave way to the *three-field* system. Under the latter one field would be planted to fall crops, a second to spring crops, and the third would be fallow. The following year the fallow land would be planted to fall crops, the land having had spring crops would be fallow, and so on.

Instead of each villein having all or most of his land together, as would modern tenants in this country, the villein's holdings were in a considerable number of narrow strips, quite commonly a dozen or more, scattered throughout the whole tilled area, the total of a villein's holdings ordinarily varying from one to thirty acres, according to his status. The original purpose of this strip system was to give each villein a share in the good land and the poor land. Such a division of fields would make production very inefficient with our modern methods but was not so poorly adapted to the primitive implements used in that period.

The rights of everyone on the manor, from the lord to the meanest cotter, were determined by custom. The lord could no more exact extra work from a villein than could the villein refuse to provide the lord's table with two chickens on the day on which it was customary for him to do so.. The land tilled for the lord and that used by the villein were determined by custom, usually recorded on the rolls of the manor court. Each villein had the right to cut a certain amount of hay in the meadow, pasture a certain number of specified kinds of livestock in the woodland, and to cut a certain amount of wood.

Not only were rights determined by custom, but so were the methods of production. By being compelled to follow custom, people's eyes of necessity were turned toward the past and they continued to use the inefficient methods of their ancestors without seriously considering the possibility of improvement. Progress could not be made until this binding influence of custom was broken.

The manor, as a whole, produced practically everything that was used. All of the agricultural products were produced on the manor's land, and those manufactured products which were not made by the serf or his family were produced by the manor's specialists or craftsmen, who were paid in kind by those for whom they worked. Usually the manor found it necessary to import some iron and salt. Occasionally merchants brought small luxuries, chiefly to the lord, for he was the only one who had a surplus of income for such expenditures.

The manorial system may be properly described as a system of rural local-community economy characterized by isolation and stagnation. We shall now trace the changes whereby the local economy was gradually replaced by the modern system.

EVOLUTION OF THE MODERN ECONOMY

The story of the decline of the distinctly local self-sufficing economy of the manor is, to a large extent, the story of the revival of trade along with the growth of towns. In northern Italy particularly, considerable trade had continued even during the chaotic period following the fall of the Roman Empire. About the eleventh century, with the establishment of more stable governments, trade spread out from the cities of northern Italy and became progressively more important in all parts of Western Europe. Towns began to grow up about this time, and either by force or by purchase these managed to secure for themselves from the local lords or kings charters granting them the right of local self-government. Such a town paid taxes to the king or overlord, but the payment was by the town as a unit not by the residents.

The Town Economy.—Economic life in the early towns was closely regulated by organizations known as *guilds*. The earliest of these to

develop in most regions was the guild of merchants, generally called the *guild merchant.* Membership in the guild was limited and was a privilege, not a right, but in general the membership consisted of residents and citizens of the town who engaged in trade. In at least the earlier days members for the most part were craftsmen who manufactured by hand the goods in which they traded. As the towns grew and the number of craftsmen increased, the separate crafts formed guilds of their own. In the course of time the importance of the merchant guild decreased, and the craft guilds increased in number and importance. The privilege of trade within each town was a monopoly reserved to members of the guilds within that town and was closely regulated by them. When and what a person might buy and sell, the way in which work must be done, the prices that might be paid or received, the time and the conditions of apprenticeship are examples of the many things in the individual's life which were subject to detailed regulation by the guilds. In their earlier stages the guilds probably served a number of useful purposes, but as time passed they interfered seriously with trade and with progress.

Town life affected the surrounding manors. The citizens of the towns were free men, not serfs. The towns have been described as islands of freedom in a sea of serfdom. A custom established itself that any serf who had escaped from his lord and lived for a year and a day within a town became a free man and might not be reduced to his former position. Trade between the towns and the surrounding manors increased. Special crafts such as tanning, shoemaking, dyeing, weaving, etc., developed and the wares were exchanged for the products of the manors. This, however, was not free trade but was all restricted and regulated by the guilds.

Trade between towns developed slowly. The most pronounced early trade between distant places in this revival was between the cities of northern Italy and the growing towns of what is now Belgium and Holland, which assumed considerable importance about 1200. During the thirteenth and fourteenth centuries a considerable trade developed among the growing towns of northern Europe, under the protection afforded against robbers and other hazards by a league of merchants known as the Hanseatic League. Originally a league of merchants, this later became a league of towns. The trade of any town with other towns was foreign trade and was regulated very stringently. Except during a fair the foreigner (person not a member of the town) was excluded from all retail trade. At all times he was burdened with fees, dues, and regulations. Tolls and charges were numerous, vexatious, and burdensome. Each important town had its own coinage, and it was a common saying that "a penny is good only where it is struck." There were money changers, but the very fact that coins from outside a town had to be changed into the coins of that town shows how complete was the isolation of the towns from each other.

Progress in Specialization and Trade.—The introduction of gunpowder in Europe soon after 1300 helped to undermine the power of the local feudal lords and chieftains and to establish government on something like a national basis. This made trade safer, and the advantages to be derived from it caused it to grow. The first instance of extreme specialization in agriculture was in the sheep industry in England. The demand for wool by the Flemish weavers of what is now northeast France and Belgium led many English lords to enclose into large fields or sheep pastures the scattered strips previously cultivated by their villeins. This was especially true immediately following the "Black Death," a pestilence which killed over half the population in many parts of England in 1348, in some regions almost wiping it out completely. The towns grew and attracted the serfs, many of whom escaped from the manors. Following the discovery of America, the addition to the supply of gold and silver brought by the Spanish conquerors from Mexico and Peru facilitated trade by furnishing a more abundant medium of exchange. Little by little, feudalism and the manorial system were undermined, and the local self-sufficing economy gave way to an economic system based to a greater extent on specialization, exchange, and trade. This, however, occurred at widely different times in different countries. It has been well summarized as follows:

> It was the collapse of feudalism before the onslaughts of central governments, the liberation of the serfs, the development of markets, and the growth of specialized farming for the market which so changed and diversified the manors that a generalized institution was no longer visible. Villeinage sharply declined in England during the fourteenth century and slowly died out afterward. The French crown serfs were all freed by about 1350. As in England, those on private estates gained their freedom by individuals or groups, or were able to rid themselves of particular servile disabilities until the last vestiges were swept away in 1789. The last German villeins were freed by decree during the Napoleonic Wars, but it was several decades before this was fully effective in fact. Those of Russia were emancipated between 1861 and 1866, though vestiges of lordly exploitation and oppression lingered on.[1]

The Domestic System.—By the fifteenth and sixteenth centuries the English guilds were losing their powers of monopolistic control of the handicraft trades, especially textiles, and were being replaced by the *domestic* or *putting-out* system. Under the domestic system the capitalist employer owned the materials and sometimes the tools, but the work continued to be done by the handicraft workmen, usually in their homes. Working at the handicraft trades in the production of articles for sale was no longer confined to the towns and was done for hire or on a piece-

[1] M. M. Knight, H. E. Barnes, and Felix Flügel, *Economic History of Europe* (Houghton Mifflin, 1928), p. 182.

work basis. Under this plan there came a fairly clear demarcation between capitalists and laborers. Important among the causes for the replacement of the guild system by the domestic system was the severity of the restrictions which the guilds attempted to impose. By overdoing regulation and restriction they encouraged competition from unorganized craftsmen outside of their numbers, and this contributed to their own downfall. It was under this domestic system that England first attained the leadership in the textile trade which she has since retained. The guild system endured on the continent of Europe much longer than in England. In France many of its features endured to the time of the French Revolution, which began in 1789. In Germany the guild system lasted well into the nineteenth century.

Mercantilism.—It was during the period of the development and widespread prevalence of the domestic system of manufacture in England for two or three centuries preceding 1770 that the system of thinking on economic subjects known as *mercantilism* became especially dominant. This system has been briefly described in the preceding chapter, in connection with Adam Smith, who in 1776 very vigorously attacked it. It had its inception in the desires of the political rulers to establish the power and glory of the nation. The minute and detailed regulation by the government of all features of the economic life of the nation which the mercantilists attempted to enforce may be viewed as simply an attempt to put into practice on a national scale the same kinds of regulations and restrictions which the guilds had previously enforced in the towns. Mercantilism was supported by practically all the rulers and the great merchants who dominated the political and economic life at that time. These leaders placed great emphasis on foreign trade, partly because that was a means of building up large navies, which they desired for fighting other nations, as battleships were not specialized ships at that time. Foreign trade also was considered a means of securing "treasure" for the nation. The desire to sell to other nations more than was bought from them and to receive payment for the excess in "treasure," and thus build up in the nation a large supply of gold and silver, may also be explained, at least in part, by the desire to have this treasure to hire soldiers to fight their neighbors. The mercantilists had very little interest in the economic welfare of the masses of the population. They wished a dense population and low wages because they believed that would make possible cheap production of goods to be sold to foreigners and to bring gold into the nation. This they considered more important than a high standard of living or an abundance of consumable goods.

The Industrial Revolution.—About 1770 there occurred in England a series of inventions which have truly revolutionized economic life by ushering in what has come to be known as the *Industrial Revolution.* It has well been said:

In the lifetime of an ordinary man (1770–1840) the whole face of England changed; the great textile towns and the black country of the coal and iron industry grew up; canals and railroads cut through the agricultural districts to connect the industries with each other and with the outside world; a social and political revolution accompanied the economic.[1]

England had begun the period of the factory system.

The most revolutionary of the immediate effects of these inventions were in the textile industry. The spinning jenny of Hargreaves, patented in 1770, enabled one spinner to make eight threads and later a hundred, instead of one. The spinning frame of Arkwright, patented in 1769, made spinning a continuous and much more rapid process and applied water power. The spinning mule of Crompton, 1779, combined the earlier inventions and made possible a finer grade of product. Later came the power loom and other inventions.

But the inventions in textile machinery were only one group of many epoch-making inventions which were developed about the same time. The first outstandingly successful canal was constructed in 1758. The steam engine was improved from a crude device to an outstanding success about 1785. The successful use of coke instead of charcoal in smelting iron dated from 1735. The puddling process of making steel was invented in 1789. Early in the next century, in 1807, followed the invention in America of Fulton's successful steamboat. The steam railway was a success after 1830. The pattern of economic life became changed first in England and later in other countries. Each invention stimulated other inventions. Especially did the invention of machines lead to mechanical power, and mechanical power in turn led to more machines.

The Industrial Revolution was not felt in France until after the French Revolution and the Napoleonic wars, lasting from 1789 to 1815. Many of the features of both the guild system and the manor continued in France up to that time; nevertheless, even at that, France was the first country on the continent of Europe other than the low countries of Belgium and Holland to experience the change. Germany did not enter into an industrialized age of power-driven machinery until after 1870, or one hundred years later than England. Japan abolished feudalism and started an industrial career in 1870 but has not developed by any means as rapidly in that direction as Germany. In Russia the change from a system in rural life much resembling the manorial system, and with very little development of urban industry, to a new and unique system in both country and town, in which it is expected that urban industry will play a large part, has been in progress for only a little more than a decade.

[1] Clive Day, *History of Commerce* (Longmans, 1923), p. 213.

The Industrial Revolution was not a sudden change which occurred and then ceased. It has in fact continued to the present time. One of its most important features, the development of the iron and steel industry, increased fourfold in England between 1740 and 1788 and again nearly doubled in the next eight years. But its really great development came after 1800. The world's yearly production of coal in 1800 was 11.6 million tons and of pig iron 0.8 million tons. In 1850 coal production was 81.4 million tons and pig iron 4.7 million tons. In 1913 coal production was 1,443 million tons and pig iron 77.4 million tons.[1] The Bessemer process, which greatly cheapened the manufacture of steel, was invented about 1850. A still further epoch-making invention was the open-hearth process in 1870. The first practical gas or gasoline engine dates from about 1870, and it was successfully applied to the automobile about twenty-five years later. The modern chemical industry and the use of electricity for light and power have grown up in the last half century. To distinguish these later developments from the earlier epoch-making changes, some writers have preferred to speak of the Industrial Revolution as extending to 1830, 1840, or 1850, and to designate the great changes which have occurred since as the *New Industrial Revolution.*

Laissez Faire.—Beginning about 1750 vigorous protests were made first in France, and later in England, against the policies known as *mercantilism.* These protests in France came mostly from that group of thinkers and writers known as the *physiocrats,* who were especially interested in the welfare of the tillers of the soil and believed that an improvement in the welfare of the agriculturally employed part of the population was an essential for increased national prosperity. The physiocrats protested against many features of mercantilism, including the very unjust and burdensome system of taxation which then prevailed in France, a system under which the peasants who owned only the poorest fifth of the land paid nearly all the taxes and received practically no services from the government in return. One of the general beliefs of the physiocrats, however, was that the government should allow individuals to a greater extent to carry on their economic affairs as they saw fit, without the ever present governmental regulation at all points, which then prevailed. They gave expression to this belief in the words *Laissez faire,* which means "leave alone." In England the idea of laissez faire was much promoted by Adam Smith's *Wealth of Nations,* which had great influence for many years after its publication in 1776. Though the doctrine of laissez faire was never fully accepted in any country, it was put into practice to a considerable degree in both England and the United States during the nineteenth century. It was partly a result of the Industrial Revolution, and its acceptance in turn promoted the revolution. One feature of the acceptance of laissez faire in England was the

[1] Clive Day, *History of Commerce* (Longmans, 1923), p. 271.

adoption of a national policy of free trade, which is more fully discussed in the following paragraphs.

The Industrial Revolution and Agriculture.—The Industrial Revolution had many indirect effects on agriculture. Important among these are that by stimulating the growth of cities it carried forward to a tremendous extent the tendency toward specialization in production as between rural and urban regions, and by the improvements in transportation it enormously widened the market in which the producers of agricultural products compete with each other for buyers. England today produces only about one-fifth of the wheat which it consumes as bread. The other four-fifths is drawn from all the principal wheat-producing regions of the world, and all of these are in competition with each other in the search for markets. Of the total employed population in England today, less than 8 per cent is engaged in agriculture and fishing combined, whereas those engaged in commerce and transportation are 2½ times as numerous. Eighty per cent of its population is classified as urban, and this does not include the small villages. This change has required England to secure much of her supply of raw products of the farm from distant regions.

In England there soon developed great controversy between the landowning classes and those interested in commerce and industry, particularly in regard to the national tariff policy on food supplies. The latter desired cheap food, which with the newly developed cheaper transportation could now be most economically secured from abroad. The former were interested in high prices for their agricultural products and wished foreign products kept out of the country by protective tariffs. Transportation had become sufficiently cheapened to cause foreign competition to be felt by English agriculture as soon as the close of the Napoleonic wars in 1815 allowed trade to be more freely resumed. In the early struggle between the landowners and those interested in industry and commerce, the landowners were successful and the importation of grain was restricted by a series of tariffs known as the *Corn Laws*. This policy, however, was changed and the English Corn Laws were repealed, the nation being thus committed to a general policy of free trade in 1846. The effects of this repeal were not severely felt until after the American Civil War. Then, with the very greatly cheapened transportation of the railway and steamship, the grain from the rich agricultural lands of the newly opened American middle western states flooded the English markets—to the advantage of the commercial and industrial classes and to the great disadvantage of the land-owners and the farmers who had contracts for the payment of high cash rents. This market for grain from the farms of America, however, kept prices to the American farmer, low as they were, from going as low as they otherwise would have gone.

On the continent France and Germany had not become sufficiently industrialized to have a problem in agricultural competition from abroad until after 1870. When it did come, they adopted a policy which differed from that followed by England. To some extent both, but especially Germany, erected tariff walls to keep out foreign farm products. It is perhaps fair to say that military reasons played a part in this. England considered that the gains from trade were sufficient to enable her to maintain a navy powerful enough to guarantee that in case of war the sea would be kept open, and that a food supply would be assured to the great industrial population which resulted from that freedom of trade. Germany, on the other hand, decided that it could not allow itself to become so fully industrialized that it could not feed itself if its food supply from abroad was cut off by war.

Since the World War of 1914–1918, there has been a marked general tendency toward a policy of national self-sufficiency by the countries of Europe, manifesting itself in tariffs and other measures to keep out food supplies from abroad. This has had a distinctly detrimental effect upon the foreign markets of the American farmer.

The Enclosure Movement in England.—It has already been mentioned that as early as the fourteenth century, when the commercial production of wool became profitable, and especially when the Black Death reduced the population on the manors, there was a movement to combine the scattered strips previously held by villeins into large estates, devoted to the commercial production of wool. A considerable resumption of this enclosure movement occurred in the seventeenth century. The tenants sometimes gave up rights in the land of their own accord to find more attractive employment in the towns or elsewhere. In other cases they were simply ejected by the lords, who were able to ride rough shod over the rights of the villeins. The movement died out in the latter part of the seventeenth century but became more active again after 1740.

In these later times the enclosures were generally by agreements in which the scattered strips of different holders were thrown together in large blocks, but anyone who was able to make out a legal claim to any of the land received either money compensation or a tract of enclosed land. After such an agreement had been reached, it was made legal by a special act of Parliament. During the latter part of the eighteenth and the early part of the nineteenth centuries, thousands of such enclosure bills were passed. By the middle of the nineteenth century the old system of scattered strips and *common lands*, or pastures with undistinguished ownership, had practically disappeared as a part of English rural life.

Since the enclosure movements the typical holdings of land in England have been large. English landlords as a rule do not operate their own farms; they lease the land to farmers or tenants in relatively large acreages and receive in return cash rents. Some small holdings have

remained, particularly in localities where the family's income might be increased by weaving or other handicraft production. The British government by a series of legislative acts between 1882 and 1908 tried to stimulate the division of these large estates into smaller holdings. The net effect of these efforts, however, was negligible.

Landholding on the Continent.—In no country on the continent of Europe has there occurred such a complete enclosure or concentration movement in landholding as in England. Northern and central France and western Germany are characterized today by small peasant holdings, frequently scattered about the community in small fields. This has made the introduction of modern agricultural machinery into those regions difficult. In parts of southern France, Italy, and Spain there prevails a system known as *métayage*. In this the land is held by large landholders and rented to tenants on a share basis, frequently half and half. This system still has some features of the old manorial system. In eastern Germany the prevalent system is large estates tilled by hired labor, the owners of the estates being known as *junkers*.

The differences in these methods of landholding have resulted in differences in agricultural practices. The French peasant with small and scattered tracts tends to cling to a self-sufficient type of economy. The large junker estate of eastern Germany tends to a much greater degree to practice commercial agriculture.

Other Agricultural Developments.—With the changes in the organization of economic life and industrial technique, there have occurred also striking changes in agricultural technique. In these England also has led the way, probably because through the enclosure movement it first was liberated from the handicaps imposed by the manorial system. The binding force of custom had to be broken and the scattered strips of land consolidated before there could be much improvement in crops, livestock, or agricultural practices. First came the introduction of new crops. In this connection there is especially famous for pioneer work the name of Charles, or "Turnip," Townshend (1674–1738), who introduced turnips and clover and thus helped in the solution of two major problems of English agriculture, that of the fallow year for land and that of a winter feed for livestock. The fallow year was not necessary when these crops were put into the rotation. Both supplied more abundant and better winter feed than meadow grass and therefore made it more feasible to carry livestock through the winter. In manorial times, with short winter feed, it was difficult to improve live stock, for in the fall all animals but the minimum of breeding stock were killed and the meat salted, and breeding stock was kept through the winter on the minimum of feed. The use of turnips and clover prepared the way for those improvements in livestock breeds associated with the names of Robert Blakewell (1725–1795) and others. England has supplied us the greatest number of our

modern breeds of highly improved or pure-bred agricultural livestock. Better varieties of plants and breeds of livestock may be considered as improved tools in agricultural production, and for them we are much indebted to the old world, especially England, though the United States during the nineteenth century was the region which led in improvement in agricultural machinery.

More recently, the countries of Europe, including England, have made many contributions to efficient scientific agriculture. One striking example is that of Liebig of Germany, who, about the middle of the last century, laid the foundation of our modern knowledge of agricultural chemistry, soil fertility, and the effective use of commercial fertilizers.

Other European Contributions.—Other features of our modern economic life of very high importance which have grown directly out of European experience are our institutions of banking, credit, and insurance, and corporate organization of business. All of these were first developed by the merchant or trading classes of the cities of northern Italy during several centuries preceding the discovery of America. Thence they spread to northern Europe, particularly England, and with modifications were introduced into this country. Their significance in present-day life and their present organization in this country will receive further attention in the pages to follow.

Europe in Early 1940.—Throughout most of the nineteenth century the tendency in European development was toward democracy and greater freedom for the individual, designated as *liberalism.* In much of Europe in the last two decades this tendency has been reversed. Three important countries, Russia, Italy, and Germany are ruled by dictators whose will is law, more absolutely than was that of the earlier kings and emperors. In these countries individual freedom of action in economic matters has been much restricted. Under their totalitarian systems, economic and political institutions have been integrated and the policy of both has been subordinated to political exigencies. The attempt to attain self-sufficiency, or autarchy, and the desire for national expansion under this neomercantilist policy have led to another war.

In a number of the more liberal European countries recent years have witnessed a large development of the consumer-cooperative movement in the production and distribution of goods. These experiments have evoked much interest in the United States. The very existence of most of the liberal countries is now threatened by the totalitarian powers. Just what the result of the outcome of this conflict will be on our own economic system no one can say, but there can be no doubt that it will have important effects.

Europe contains approximately one-fourth of the population of the world. It furnished the human stock with which the United States was settled and many of our economic institutions. It lent us capital to

build our railroads and to develop our resources and has been our chief customer in trade. It has affected our economic life in the past, is doing so at present, and will continue to do so in the future. In any thorough consideration of our economic problems we cannot ignore European influences.

Questions and Problems

1. Why should students of our present economic system study economic history?

2. A frequent method of argument concerning the proper solution of present-day problems is to quote an analogy from history and indicate what happened in that earlier period when some one of several methods of solution was attempted. To what degree is this method valid?

3. Name the chief stages into which man's economic progress is usually divided, and briefly describe each.

4. Point out striking differences between the thinking on economic subjects by the Greeks and Romans and the thinking on the same subjects in this country at the present time.

5. Compare or contrast the economic organization of the manorial economy with that of the present time. Point out the weaknesses of the manorial economy.

6. Compare or contrast the guilds with modern labor unions and with present-day merchant or trade associations.

7. Compare economic regulation under the guilds and under mercantilism with such present-day laws as the recent NRA and state "unfair practices" acts.

8. Compare the guild system and the domestic system. Place each as to time.

9. To what extent is mercantilist thinking still prevalent today?

10. Compare the Industrial Revolution and the so-called *New Industrial Revolution,* mentioning the most striking features of each.

11. How did the Industrial Revolution affect agriculture?

12. Trace the chief events in the change in landholding in England and Western Europe from the time of the manorial system to the present time.

13. Trace the chief changes in tariff policy in England and continental Europe from the time of the guild system to the present time.

14. Discuss the past and present influence of Europe on American agriculture.

Suggested Readings

1. H. G. Wells, *The Outline of History* (1929) presents an interesting brief account of the economic life of primitive man.

2. Edward P. Cheyney, *Industrial and Social History of England* (1920), Chaps. II and III, gives an excellent brief description of rural and town life during the period of the manor and the guild.

3. Clive Day, *History of Commerce* (1923) is an excellent brief sketch of the world's development in specialized production and commerce; *Economic Development in Modern Europe* (1933) is also excellent.

4. Knight, Barnes, and Flugel, *Economic History of Europe* (1928) is an excellent treatment of the subject.

5. Henri See, *Modern Capitalism* (1928) is an interesting brief account of the development of our present economic organization.

6. G. M. Modlin and F. T. deVyver, *Development of Economic Society* (1938) is both brief and readable and offers an excellent interpretation of economic history.

NOTE.—The books named above furnish abundant references for more specialized reading.

CHAPTER III

AMERICAN ECONOMIC DEVELOPMENT

The evolution of the American economy, though definitely related to European developments, has had distinctive features which are significant to the student of our present economic life. From the time of the colonists, both the rapidity and the direction of change in methods of production and in general organization of economic life have been influenced by American conditions. Outstanding among these conditions have been the physical environment, particularly the richness of resources; the transportation conditions, both inland and on the ocean; and the progressive character of the people. Among the chief results of these circumstances have been a high degree of specialization and the highest per capita income ever enjoyed by a nation.

Return to Self-sufficiency.—Upon their arrival in the New World the intrepid colonists found that they must abandon the more specialized production methods which had been developed in England by 1600 and revert to a self-sufficient economy. Particularly in the colonies north of Maryland, the distance from the Old World, the high cost of transportation, and the lack of a surplus of valuable commodities in demand abroad with which to purchase imported manufactured goods prevented reliance on England. Even in the South, self-sufficiency was the rule until the importation of manufactured goods was facilitated by the development of surpluses of tobacco, indigo, and naval stores—products of high value in relation to bulk—which were in foreign demand.

Although these older sections along the Atlantic seaboard gradually developed towns for manufacturing and trade, accompanied by some specialization by farmers in certain products, each pioneer, as the fringe of civilization moved westward following the Revolutionary War, was forced to revert to self-sufficiency. The lack of transportation facilities prevented the sale of his products in the towns of the coast and the purchase, in turn, of manufactured goods. The description contained in the following statement of equipment, production methods, and products of the pioneers of the Ohio Valley would apply almost equally well to other pioneer sections:

> From the point of view of industry, pioneer life in the central Mississippi Valley displayed three great features. First, the fewness and simplicity of the tools with which the newcomers did their great work; second, the fact that manufactures were in the true sense of the word "manufactures," fashioned

by hand; and finally, the home consumption of almost the entire product. "With no tools but an axe and an auger," wrote Judge Hall, "the settler built his cabin, with a chimney built of sticks, and a door hung on wooden hinges, and confined with a wooden latch; chairs, tables, and bedsteads were fabricated with the same unwieldly tools." "A horse, a yoke of cattle, a sheep or two, usually made up the list of their possessions, outside a few household goods of the most primitive kind. They would select the land for their future home, erect a rude log cabin, and begin the work of clearing the land of timber, ready for seed time and harvest." For household utensils, there were a few pewter dishes and spoons, knives, forks, tin cups for coffee and milk, a water pail, and a small gourd or calabash for water, with a pot and an iron Dutch oven. The hominy mortar and the hand mill added to the equipment. Farm implements were of home construction. "Yokes for oxen, and harness for horses, the carts and wagons in daily use, without tires, boxes or iron were all manufactured as occasion required by the self-taught artificers."[1]

The self-sufficiency was not always that of a family but frequently that of a community. Craftsmen, such as carpenters and smiths, soon found that there was enough demand for their skill that they might earn a living in their trade. Part or all of their pay might be in kind, since there was a shortage of money in the colonies and later in the pioneer sections to the west. Farmers or housewives produced a surplus of those particular goods in which they were unusually skilled, whether it be ox yokes or mittens, which they disposed of through barter. Surplus farm produce was bartered, if a buyer could be found. Later when there were sufficient purchase and sale of goods, whether locally produced or brought in from elsewhere, to warrant a store in a community, this institution became the center of local trade.

The trade relations of the pioneer communities with the outside were confined to such necessities as were not locally available, as iron and gunpowder, and to the few manufactured luxuries which the pioneers could afford. To pay for these goods the buyers sent those products which had the largest value in relation to bulk, such as furs or distilled liquors.

BEGINNINGS OF SPECIALIZATION

The evolution from this simple organization of a pioneer economy to a system of production for sale awaited the growth of markets for surplus farm products and the development of facilities for cheap land transportation. This market could come with the growth of near-by urban areas devoted to manufacture and trade. Again the market outlets might be opened by improving transportation, making possible profitable sale of farm goods in distant cities, even in foreign countries. The agricultural specialization consequent on the opening of consuming

[1] Isaac Lippincott, "Pioneer Industry in the West," *Journal of Political Economy*, Vol. 18, No. 4, p. 274.

areas might be only an urban-rural division of activities in which the farmer produced raw materials primarily, plus some food for his family, while the town concentrated on manufacturing and commerce. Or the specialization in agriculture might be carried to the point that each farm produced one article primarily, supplying but a very small part of the family living. Such a farming system is termed *one-crop farming* in contrast to *diversified*, or *general, farming*, in which a number of articles are grown for sale from the same farm.

Specialization in the North Atlantic Region.—When we turn to the development of commercial agriculture in the major regions of the country, we find that each section faced unique problems based on its soil and climate or its transportation facilities. In New England, for instance, where both a large town population and an export market were lacking, agriculture changed little in methods of production before 1800, nor was there much change in the general organization of economic life. More rapid urban growth in this area came during the period from 1800 to 1815, when this country was cut off from the industrial products of England by the Embargo and Non-intercourse acts and the War of 1812. The practice of manufacturing to supply not only New England but other sections of the country developed in its coast cities, and this promoted the development of New England's agricultural production for sale. But the typical New England farmer never carried specialization to the extreme to which it has been carried in the South, as noted below.

In the Middle Atlantic section rural-urban separation of activities began before the Revolutionary War and was facilitated by the preceding growth of towns. Again, as in New England, one-crop farming has never gained a firm foothold. Although the typical small farmer was still largely self-sufficient at the time of the Revolution, he had begun to produce a surplus of wheat and other cereals, livestock, dairy products, and some fruit and vegetables to be sold in the towns or to be exported to the West Indies. The navigable Mohawk, Hudson, Delaware and Schuylkill rivers furnished cheap transportation for bulky farm products from the inland areas to the coast towns.

One-crop Farming in the South.—Before 1700 Southern agriculture came to be specialized both in its dependence on urban-manufactured goods (from England) and in the development of one-crop farming. Although lacking large towns within their own boundaries, the colonists of this region were favored by the fact that their rich soil, ample moisture, and mild climate encouraged the production of commodities of high value in relation to bulk, for which there was an export market: tobacco, rice, and, later, indigo and cotton. The production of these crops also was found to be adapted to the use of negro slave labor, which contributed to the profits. Tobacco culture expanded rapidly in Virginia and Maryland, stimulated by the combined influence of natural advantages and a

monopoly of the English market. By 1671 eighty ships came annually to carry the tobacco crop to Europe, bringing with them the industrial products of England. After the Revolution the center of tobacco growing moved westward to Kentucky.

Tobacco was replaced by cotton as the "king" of the Southland's agriculture, when, following the invention of the cotton gin by Eli Whitney in 1793, the growing of short staple cotton became practicable on a large scale. By 1820 cotton production had risen to 160 million pounds, of which 78 per cent was exported. By the time of the Civil War, production was 5,387,000 bales of 500 pounds each, of which 65 per cent was exported. Today (1940) cotton continues to be the leading agricultural export of this country, with close to one-half the crop exported.

The profitable cash market for both tobacco and cotton encouraged the southern plantation owners to use most of their land in the production of one of these cash crops, even relying on the outside for much of the food. The Ohio Valley early found that the South was an excellent market for surplus wheat and meat. Thus the agriculture of the South became largely dependent for income on the price of one product, as compared to the prices of products bought, the effects of which have been summarized by one writer as follows:

> And what does cotton mean to the cotton states? It means life, health, happiness, and prosperity to them. In fact nothing else matters much. If cotton is all right, all's well in the Cotton Belt. And if cotton is sick the whole South is sick. . . . Cotton is the barometer that foretells the industrial fogs, squalls, and fair weather of the South.[1]

Another accompanying influence of one-crop farming is soil deterioration. This is not serious as long as new land may be had for the breaking, but, with the occupation of all good land, it has forced expensive programs of soil rehabilitation.

The specialization in cotton growing in the South grew not only out of the peculiar adaptability of its soil and climate to that crop but also out of the fact that negro slavery had already been introduced and supplied cheap unskilled labor for the great amount of hand work involved in cultivation and harvesting. Cotton fastened the institution of slavery on the South, until broken at the time of the Civil War. The continued production of cheap cotton depends on an abundant labor supply able to grow cotton but not able readily to shift to more profitable employment.

TRANSPORTATION AND THE WESTWARD MOVEMENT

The Interior Awaits Transportation.—The development of commercial agriculture west of the Appalachian Mountains depended on improvements in transportation which would open the markets of the Atlantic

[1] E. V. Wilcox, "The Great White Way of Cotton," *Country Gentleman*, Mar. 31, 1923.

coast and of the world for the products of this fertile area. The progress of farming in the Ohio Valley following the building of canals and railroads well illustrates this principle. To obtain even the smallest amount of manufactured products, the settlers must produce a surplus for sale. Their fertile lands solved the problem of production but not that of marketing the surplus, for transporting freight even from Pittsburgh to Philadelphia then cost $125 per ton. Trade relations with the cities of the Atlantic coast and with Europe were made difficult by the Appalachian barrier and the closing of trade down the Mississippi River by the Spanish prior to 1795. Corn could be converted into livestock, which could be driven to market, or into corn whiskey, which was sufficiently concentrated in value to be transportable for long distance by wagon or pack train, but the volume of production depending on these outlets was quite limited. Even the opening of the Mississippi by treaty with Spain in 1795 and the fact that the whole river came into the possession of the United States with the purchase of Louisiana in 1803 only partially solved the problem of transportation to markets, for the route was south, not east. At first flatboats were floated down the river loaded with livestock and grain. By 1816 the development of the steamboat allowed a return trip, bringing industrial products at lower costs than were involved in transporting these articles over the Appalachians.

The Effects of the Canals.—The completion of the Erie Canal in 1825 provided a more direct connection with the Atlantic coast and world markets. Whereas to send freight from Buffalo on Lake Erie to New York had cost $100 per ton, the rate now dropped to $15. Spurred on by the success of this canal, the new states of the Ohio Valley proceeded to build canals leading to various of the Great Lakes, so that farmers might have an all-water route to the Atlantic Ocean. Some canals even connected the Ohio and Mississippi rivers with the Great Lakes. Then settlers on these rivers and their tributaries no longer needed to send their goods by New Orleans.

Effect of the Railroads.—These canals had hardly been completed when the rapid development of railroads after 1840 forced inland water transportation into disuse. The railroad is not limited in its choice of routes by minor elevations, is not seriously affected by freezing or low water, and, above all, offers rapid transportation. The main railroad lines constructed led logically from the highly developed Atlantic coast region westward through the passes in the Appalachians. Thus the diversion of most of the surplus farm products of the upper Mississippi Valley to cities and ports of the older states was completed.

After the completion of the thirteen-mile Baltimore and Ohio Railroad in 1830, railroad construction continued steadily, so that by 1860 the nation had over 30,000 miles of road. The decade prior to this date saw the combination of many of the short lines into systems leading from the

Atlantic cost to the Ohio Valley. The two decades of 1870 to 1890 were those of most rapid building, the total mileage constructed being 167,191 by the latter date. By that time the general framework of our present railroad transportation system had been laid; later building has consisted mostly of "feeders" and crosslines, and double tracking. The total track mileage of reporting railways in 1928 was 427,750, of which 260,546 was first main track, 42,432 second or other additional track, and 124,772 yard track or siding. By 1938 the total had declined to 411,324.

The railroads made possible regional specialization in certain farm products, the type depending largely on the natural characteristics of the section. In the region north of the Ohio River, specialization has not been carried to the extreme that it has in the South; still this area has become famous for its corn and livestock industry. With the range area across the Mississippi to supply feeder cattle and lambs, and with the densely settled Atlantic coast region, and later the large cities of this same upper Mississippi region, to consume the meat including hog products, the farmers of the region north of the Ohio and Missouri rivers came to concentrate on corn production, the growing of hogs, and the fattening of beef cattle and lambs. The railroads brought feeders from the West, and through the use of the refrigerator car, invented in 1868 and coming into wide use in the eighties, the meat, not the live animals, could be shipped to all parts of Eastern United States, reaching the consumer in excellent condition. Thirty beef carcasses could be put into one car as compared to eighteen live steers. Thus the packing industry came to be concentrated near the producer, that is, in the Middle West.

By the time that pioneers were ready to cross the Mississippi in large numbers, railroads had been extended throughout the Ohio Valley and these systems crossed the river and facilitated development. After 1860 the center of wheat production tended to move west of the Mississippi. Between 1870 and 1890 the Red River Valley of the Northwest was opened by the extension of railroad lines to that area. Meanwhile settlement in Kansas, Nebraska, and other western states continued at a rapid rate. Wheat exports more than tripled between 1870 and 1880, a fact which did much to undermine the agriculture of Europe.

Still farther west were the Rocky Mountain and Pacific coast regions, awaiting the transcontinental railroads to bring settlers and provide a means of reaching distant markets. The Union Pacific-Central Pacific transcontinental span was completed in 1869, followed by parallel lines to the Pacific Northwest and to southern California in the later decades.

Not only did the railroads permit the early development of commercial agriculture in the trans-Mississippi region, but they assisted the development of much one-crop farming. Much of the Far Western region is not adapted to the general mixed farming prevailing in the upper Mississippi Valley. Some lands are adapted to wheat and wheat only, others are

suited only for grazing, and some of the irrigated regions have such outstanding advantages in fruit and vegetable growing that it is uneconomical to use them for any other purpose. As a result, wheat is grown in the Northwest and in the Pacific Northwest on large farms, which produce almost nothing else than that article for sale. Under such extreme specialization low prices in a given year for the product grown are especially burdensome, the penalty of "putting all of the eggs in one basket."

Motives for Moving West.—In the South the rapid deterioration of the soil under one-crop farming encouraged the taking up of cheap new land to the west rather than the rebuilding of the old soil. Then with the practicability of growing the short staple upland cotton, following the development of the gin and with the price supported by the enlarged demand based on the new processes for making cloth developed in England before 1800, there was a general movement to the higher inland areas. Whereas early settlement tended to follow the streams, the whole area became a feasible place for cotton production with the development of the railroads. Farther and farther west went cotton culture, until the black-soil region of Texas was found to be the best of all following the acquisition of that area in 1845. The westward movement of cotton was stopped by the arid region of the upper Rio Grande until the recent development of long-staple cotton production under irrigation as far west as California.

The settlers who occupied the area farther north were influenced by a variety of motives to undertake pioneer life. First, population was increasing in the old regions of the Atlantic coast, primarily because of the rapid natural increase of a new country and because of some immigration. Of the increase in population from 5 million in 1800 to 30 million in 1860, probably not over 5½ million were immigrants, the large remainder being natural increase. Whereas only 4,000 to 5,000 immigrants a year were reaching American shores prior to 1812, following the close of the War of 1812 immigrants came in ever increasing numbers to escape the economic burdens of the Napoleonic wars or the repression of reactionary European governments. This rapidly increasing population found its best economic opportunities in agriculture. New lands were put into use. After the Civil War came the great immigration from Northern Europe, a class who settled to a very large extent in rural regions. In the single year 1882, 788,922 immigrants came to our shores. Even this figure was surpassed in the 1905–1915 period of heavy immigration from Southern Europe, more of whom became laborers in mines and factories. In the single year 1907, 1,285,349 new residents arrived.

Second, the political and economic equality and religious liberality of the West appealed to those who resented the religious intolerance and the aristocratic control of government in New England.

Third, the publicity campaigns of land companies and land speculators through billboards, newspaper advertisements, and speeches gave glowing accounts of the economic possibilities of the new country. Large acreages had been sold to a few land companies prior to the smaller holdings policy adopted in 1796. Western lands granted to Revolutionary War soldiers by states and by the national government fell into the hands of speculators.

Fourth, the desire to profit by a rise in land values was the most influential of all the motives. The land could be obtained for little or nothing except the labor of clearing and breaking, but, as population grew and transportation facilities developed, this land would rise in value. Some pioneers moved three or four times, each time selling the land and moving farther west for more free land. Although this possibility of gain speeded settlement, it had vicious effects on agriculture. If a certain portion of the farmers are interested primarily not in the profits from their produce but in rising land values, they are willing to enter production under conditions in which the price received for produce will not cover costs. Under these conditions not only do they themselves suffer loss but, by increasing the total output of goods, they force down prices for those who are in business for the general income from the sale of their crops and livestock. This is what occurred in the settlement of the West, especially during the two decades following the Civil War.

Land Policy.—The policy for the disposal of the public domain followed by the Federal government during the period of the great westward movement was designed to encourage that movement. At first the government imitated the English policy of selling land in large blocks to colonizing companies, hoping incidentally to obtain some revenue. This plan did not prove successful, and, when in 1796 Congress provided for the sale of land on credit in units of a township but later in blocks as small as a section, actual settlers could purchase directly from the government. In 1820 the government adopted the policy of cash sales, but since it would accept the notes of western banks which in turn would lend on mortgages, this policy did not hinder settlement. The principle of preemption, whereby pioneers who settled ahead of the surveys could purchase their land at $1.25 per acre when the surveyors and civilization caught up with them, was recognized by law in 1841 and further assisted the taking up of land. The policy of encouraging settlement reached its logical end in the Homestead Law of 1862, which did away with payment for the land, requiring only five years' residence and development. Those who had served in the Civil War were permitted to count their years of service as part of their five years' residence on the land. During this whole period certain lands were being set aside for education and granted to railroads to encourage their westward expansion. This act

has since provided a large source of funds for education in those states in which the lands or the proceeds from their sale were not dissipated.

Although the liberal land policy greatly aided settlement and provided a new home for those discontented with their lot in Europe or in the eastern states, it has had its ill effects. First, cheap land encouraged "soil mining," or the practice of destroying the original fertility of the soil. Second, the Homestead Law treated all land alike, whether adapted to general farming or to range uses only. The unit which might be homesteaded remained 160 acres until altered to a limited extent after 1900. Third, land valuable for timber or mineral deposits could be taken in the same manner as agricultural land, and thereby the government allowed a large part of these resources to go into private hands for private profit. An incidental result has been the destruction of watersheds, leading to floods and a lack of that continuity of stream flow which is essential to the use of rivers for navigation, irrigation, and electric power production. The good agricultural land has all been taken, and now the public interest has turned to conservation, particularly of those timber and mineral resources remaining in public control.

Progress of the Westward Movement.—Since a minimum population was required before a territory might be admitted to the Union as a state, the dates of addition of states should indicate the progress of the westward movement. As early as 1792 Kentucky was admitted to statehood and Tennessee in 1796. The Ohio Valley was carved into states with the admission of Ohio in 1813, Indiana in 1816, Illinois in 1818, and Michigan in 1837. The population of the area comprising these states grew from 272,324 in 1810 to 6,926,884 in 1860. By the fifties, streams of settlers poured into Iowa. Missouri was already fairly well settled, and Kansas had sufficient population to carry on a bloody internal struggle over slavery. With the gold rush to California in 1849, the rapid settlement of the Pacific region began. In the following decades, the intervening territory was taken up. California became a state in 1850, Colorado in 1876, and Arizona, the newest state, in 1913.

Regional Readjustments.—Many of the developments of the Mississippi Valley caused readjustments in the agricultural system of the Atlantic seaboard states. The opening of the Erie Canal forced New England largely out of grain and, to a certain extent, out of meat production. Later, when the cheap butter of Wisconsin came to the east coast dairy markets, only those producers in the latter region who could market fluid milk at a relatively high price remained, to any large extent, in the dairy industry. The middle Atlantic states could not compete with the corn belt in supplying the growing urban population with staple foods. Farmers of this coastal region have had to turn mostly toward milk, poultry, fruit, and vegetable production. But even in these industries their position is not secure. Cream can be sent from Minnesota, eggs

from the Pacific coast, and fruit and vegetables from California. Not being able to appeal for tariff protection against other parts of the United States, the Atlantic coast farmers have been forced to change to the production of those articles in which their location or other natural factors gave them a competitive advantage.

Developments to the South and West brought additional readjustments. The fruit and vegetables of the south Atlantic states and of Texas and Louisiana, because of ripening earlier than those of states farther north, not only supply the earlier market but also supply a greater total part of the year's consumption than formerly. This is illustrated by potatoes, of which the new crop from the South invades the northern market in considerable volume as early as May, thus offering competition to the preceding year's old crop. Citrus fruit offers competition during the winter to apples, and added to this is the fact that Washington has come to produce about one-fourth of the commercial apples. The eggs from Pacific coast henneries specializing in the production of high-quality infertile eggs sell at a marked premium above the farm eggs of the Middle West. The irrigated sections of the Far West not only often produce fruits and vegetables of higher quality because of the controlled moisture conditions, but their high yields have in many instances more than offset the additional costs of irrigation and transportation and enabled these sections to offer competition on a price basis to eastern producers. Such competition has led to a demand that no new irrigated projects be undertaken, even when production can be carried on with greater efficiency on well-selected irrigated projects. Temporarily, at least, the bringing into cultivation of additional arid land through irrigation seemed to be suspended. But such projects again are receiving public aid, partly because the droughts of the middle 1930's focused attention on the value of an assured supply of moisture in farming.

Agricultural Discontent.—The period from 1870 to 1896 was one of the most trying in the history of American agriculture—a period when the discontent took the form of powerful farmer movements. The discontent arose from the low price of farm products, the wholesale prices of farm products declining about 45 per cent during this period and reaching a point 25 per cent below the prices before the Civil War. Farmers had borrowed money to improve their farms, bought equipment, and in some cases bought their land at the higher prices prevailing during the years of the Civil War and immediately after, only to find that each year their produce was of less value, a fact which made the burden of debt difficult to bear.

The decline in prices was in part only a reflection of the world-wide decline in prices of all kinds, agricultural and non-agricultural, but in addition it was the effect of the rapid increase of farm products coming from the new lands opened by the railroad extensions and improved farm

machinery of these decades. Urban industry by adopting new methods which lowered costs, and by taking advantage of increasing demand for manufactured products, was able to offset the effects of declining prices, but not so farming. Between 1870 and 1880, the production of wheat doubled, of oats nearly doubled, and of corn increased 50 per cent. Such rapidly increased output could not be marketed at expected prices, and the logical result was that discontent prevailed in the grain states of the upper Mississippi Valley.

Other events, largely economic in character, irritated the farmers. In the South the plantation system had been destroyed by the war, and the process of evolving a new farming system was painful, particularly when social and political adjustments must be made in the light of the new freedom of the negroes. All through the farming regions, the governmental favors bestowed on the railroads, the size of these corporations, their unfair business practices, and the fact that transportation costs were a large proportion of the prices received for farm products led to widespread demand for railroad regulation. A result was the Interstate Commerce Act of 1887. The rapid growth of cities, with their relatively greater prosperity and growing political strength, irritated the poverty-striken farmers. Altogether, conditions were ripe for farmer movements.

During this twenty-five-year period, farmers supported by their votes two political movements, the greenback and free-silver monetary programs, and formed two powerful organizations of their own, the Grange and the Farmers' Alliance. The Grange, founded in 1868, started primarily as a social and educational organization but soon undertook economic and political activities of interest to farmers. Remaining essentially non-partisan in politics, its members threw their support to those who would promote their program. They supported such laws as that providing for rural mail delivery to improve the desirability of rural life. They campaigned for the regulation of railroad rates to improve the farmers' economic position. The low prices of the products of the farm brought economic issues to the front. At the 1874 national meeting the members of the Grange resolved: "We propose meeting together, talking together, working together, buying together, selling together." From the early 1870's the organization supported widespread plans of cooperative buying and selling. At the peak of its power in the seventies the Grange had perhaps 700,000 members. It underwent a decline and then a revival, and, though its influence is not so spectacular at present as it was at that time, it is still a potent voice of the farmer.

The Farmers' Alliance, started in 1874, concerned itself primarily with political activity, founding the People's party, but it also supported cooperative buying and selling. After the defeat of free silver in 1896, the party ceased to exist. Although the tendency for prices to rise after 1896 destroyed the strongest incentive to farmer organization, other

organizations sprang up, particularly the American Society of Equity in 1902 and the Farmers' Union in the same year. In large part the expression of the farmers' will in political and economic matters has been less influential than it might have been, if, instead of several organizations, often at odds with each other, there had been one organization through which agriculture could have presented a united front.

The farmers of this period had no deep-seated interest in any particular monetary theory, but they did want higher prices. Therefore, when prices began to fall after the Civil War, they supported the Greenback party's argument that the amount of inconvertible greenbacks outstanding should not be decreased but increased. When that issue was lost by the provision for the return of the greenbacks to convertibility into gold in 1879, the farmer support soon turned to free silver. It was believed that if the free coinage of silver at the ratio of sixteen ounces of silver to one of gold could be restored, the mines newly discovered could put out so much silver that prices would rise to a profitable level. When the free-silver issue was lost in 1896, the farmers dropped the campaign for cheap money, not because of defeat but because at about the same time the price level turned upward as a result of marked increases in the world's production of gold.

AGRICULTURAL IMPROVEMENTS IN THE UNITED STATES

Labor Shortage and the Use of Machinery.—American farming conditions offered strong incentives to the development and use of machinery. The continued shortage of labor turned attention to labor-saving machinery as a device to lower production costs. The relatively large fields of the typical American farm offered more opportunity for the use of machines than the small holdings prevalent in much of continental Europe. The invention of the cotton gin in 1793 has been referred to. Improvements in the plow had been made by Thomas Jefferson as early as 1798, and John Deere made his steel plow in 1837. By the Civil War the corn planter and the two-horse cultivator had been added to the list of production machines.

Machine methods were applied to harvesting by the work of Manning and his mower of 1831, that of McCormick and his reaper of 1834, and finally by the introduction of the thresher about 1850. Thus the three decades prior to the Civil War constituted a period of application of machinery to agriculture, and, as these machines were improved and their practicability demonstrated, they came into widespread use. Then came the self-binder, the significance of which has been pointed out by Professor B. H. Hibbard:

> Invented in Wisconsin about 1869, it soon became a necessity in the wheat fields of the farther west. Men who had been able to raise only twenty acres

of wheat, limited as they were by the exigencies of harvest, could now grow four or five times that amount, and they did it.[1]

The fact that each of these machines has since been improved, and, as a rule, the size and capacity of the individual machine increased, has led to the use of relatively less farm labor. Sometimes two principles have been combined, as the header and the thresher into the combined harvester. Machinery has invaded types of work in which great care is required, as in milking cows and in preparing and preserving fruits and vegetables. For the harvesting of some few crops requiring large amounts of hand labor, such as fruit and cotton, no adequate machinery has yet been developed.

With the introduction of the internal-combustion engine, a new machine age has come to agriculture. Mechanical power has replaced human muscles in performing many of the heavy duties of the farm, such as pumping water and cutting feed. The tractor and truck seem to have revolutionized farm motive power, and the recent introduction of the Diesel engine promises to have further far-reaching effects. The tractors numbering 246,083 in 1920, and 920,021 in 1930, call for improved and frequently larger other machinery. Farmers had 139,169 motor trucks in 1920 and 900,385 in 1930. Trucks provide more rapid and better transportation to market.

The whole farming system has felt the effect of the gas engine. In some cases larger farms are now more profitable. More costs, such as that for gasoline, involve cash outlays. The absolute decline in the number of horses and mules since 1921 has released from the production of feed for these animals about thirty million acres, or over 8 per cent of the land in crops, and has made this land available for the production of human foods. In the opinion of some people, most of the present problems of agricultural readjustment grow out of the gas engine and the larger machines and units which go with it—affecting the growing of corn, hay, oats, and wheat in particular.

Crop Improvement.—New agricultural machinery has been only one aspect of agricultural improvement, for improvement has come in the care of the soil, type and care of crops, and in breeding and feeding livestock. When the first richness of new soil passed, farmers became aware that the maintenance of soil fertility required study and attention. At the same time, the possibilities offered by improved varieties of crops became evident. Although there was interest in these topics at an earlier date, rapid progress did not come until the advent of governmental agencies into agricultural research in the fourth quarter of the last century.

Government Aid in Research.—Beginning with a $1,000 appropriation in 1838 for the collection of agricultural statistics and for other

[1] B. H. Hibbard, *Marketing Agricultural Products* (Appleton, 1921), p. 194.

agricultural purposes, the Federal appropriation for the research, extension, and regulative activities of the Department of Agriculture reached the large sum of $76,478,236 for 1933. Federal aid for the establishment of state agricultural colleges was provided in the Morrill Act of 1862—a momentous step. There followed laws providing Federal aid to state experimental work: the Hatch Act of 1887, the Adams Act of 1906, the Purnell Act of 1925, and the Bankhead-Jones Act of 1935. The spreading of agricultural knowledge was facilitated by Federal aid through the Smith-Lever Act of 1914, granting funds for extension work in agriculture and home economics. Millions of dollars have been appropriated by states, in part to match Federal funds but also to carry on additional research and education in agriculture.

From the awakened interest and liberal appropriations to further agricultural improvement, particularly in technical problems of production, have come remarkable results. New varieties of crops have been developed which are more productive, disease resistant, or adapted to peculiar needs of various soils and climates. A composite index of acre yields shows that yields were 20 per cent higher on the average from 1905 to 1909 as compared with 1890–1894, remaining at the 1905–1909 level to date. Though new methods for conquering many diseases and pests have been found, and though improved strains of field and horticultural crops have been developed, these influences seem to have been offset by the bringing of poor lands into cultivation and by soil deterioration. In contrast, livestock breeds have been developed so that each pound of food brings more milk, meat, or other products. In 1930 there were only 9 per cent more animal units on farms than in 1897–1901, but during the same period meat, milk, and egg production increased 55 per cent.

Conclusions on Improvement.—The changes which have occurred in modern agriculture are more revolutionary than those of the so-called *Agricultural Revolution* in England. The most outstanding fact is that man's control over nature has grown by leaps and bounds; the output per man engaged in agriculture increased 33 per cent between 1900 and 1920. The fear of a world food shortage is not a present worry. On the contrary, with rapid improvement at a time of a declining birth rate, restricted immigration, and lost foreign markets, have come severe problems of excessive farm production. The new methods of production in no small part lie at the root of the bitter post-war adjustment period in agriculture.

URBAN INDUSTRIAL DEVELOPMENT

As in England, industrialization in America started with the textiles. Samuel Slater's cotton mill of 1790 at Pawtucket was the first factory in the modern sense. The real beginning of the factory system occurred during the period from 1800 to 1815, when domestic producers were

spared the competition of goods from the established plants of Great Britain. At first, American factories concentrated on the making of the more bulky, cheaper, or coarser grades of products, since the transportation costs from Europe formed a relatively larger part of the total value of such goods. Coarse solid-color cloth, rolled metal sheets, and nails were typical products. But with the increased demand for machines for manufacturing and transportation, the metal industries began to put out more refined products: locomotives, textile machinery, and steam engines, and eventually typewriters, watches, and other such fine mechanisms.

Growth of Manufacturing.—The rapid industrial growth of this country has taken place since the Civil War. The data in Table 7,

TABLE 7.—GROWTH OF MANUFACTURES, 1849–1937[1]

Year	Number of establishments	Average number of wage earners	Capital (000 omitted)	Wages (000 omitted)	Value of product (000 omitted)
(I)	(II)	(III)	(IV)	(V)	(VI)
1849	123,025	957,059	$ 533,245	$ 236,755	$ 1,019,107
1869	252,148	2,053,996	1,694,567	620,467	3,385,860
1889	355,405	4,251,535	6,525,051	1,891,220	9,372,379
1899	512,191	5,306,143	9,813,834	2,320,938	13,000,149
1899[2]	207,514	4,712,763	8,975,256	2,008,361	11,406,927
1909[2]	268,491	6,615,046	18,428,270	3,427,038	20,672,052
1919	214,383	8,990,000	44,466,594	10,453,000	61,737,000
1929[2]	210,959	8,822,000	[3]	11,607,000	69,961,000
1937	166,794	8,569,231	[3]	10,112,883	60,712,872

[1] From *U. S. Census of Manufactures*, 1930 and 1937.
[2] Includes only establishments having a value of products of $5,000 or more.
[3] Not given.

Column VI, depict this growth, showing that by 1899 the value of manufactured goods was $13,000,149,000, or thirteen times that of 1849. By 1929 this figure had increased to $69,961,000,000, which, even if allowance is made for the fact that wholesale prices were higher in 1929, shows a volume of products more than twenty times as great as in 1849. Although the years following 1929 were ones of deep depression, the number of employees, the wages paid, and the value of product had by 1937 recovered almost to the 1929 level.

The data on "Number of wage earners" employed and "Number of establishments" (Columns III and II) emphasize the changes in the methods of production more than does the volume. The data on number of plants prior to 1899 are not comparable with those after that date, since in the earlier period hand and neighborhood industries were included. Yet a comparison of the data for the beginning and end of each of these

periods will show that neither the number of plants nor the number of employees was increasing so rapidly as the output. The former fact illustrates the concentration of manufacturing into larger plants. The latter fact, combined with the rapid growth in capital investment (Column IV), points to the introduction of more and larger machinery, that is, an increasing proportion of the work was done by machines.

The relative rank of the chief manufacturing industries has changed, in general in the direction of more emphasis on iron and its manufactures and less output of goods based on the raw materials of the farm. Whereas flour and meal, cotton goods, and boots and shoes ranked one, two, and four, respectively, in value of product in 1860, the first three industries, in total value of output were in 1929 in the following order: textiles and their products; machinery, not including transportation equipment; transportation equipment, air, land, and water.

In the last three decades, American manufacturing has come to produce more finished and intricate articles, particularly those adapted to large-scale machine production. The introduction of the standardized, replaceable part, carried to particularly high development in the automobile, has assisted in large-scale production and in the building of mechanical equipment for the consumer. Accompanying the standardized part has been the enormous factory, with minute specialization by labor, typified by Henry Ford's River Rouge plant.

The majority of the manufacturing in this country is concentrated in a strip running east from the Chicago area through Ohio, including much of Pennsylvania and New York, and extending into southern New England. Within this region the tendency has been for manufacturing to move westward. The east North Central states have passed the middle Atlantic section in value added in manufacture. The South has enjoyed a substantial growth of manufacturing in the last two decades, particularly in textiles.

Aside from the general movement of manufacturing to the West and, to some extent to the South, another recent tendency has been toward the location of plants outside of the largest cities. High taxes, high building costs, and generally higher wages in the largest cities have encouraged some factory owners to locate in suburbs, or even at some distance from large cities. The development of adequate transportation facilities and the use of the electric motor for power have made this geographical decentralization possible. In this tendency some people see an opportunity to increase the security of labor through a plan of subsistence homesteads. Under this plan each laborer would have a small piece of land upon which he might live and produce at least a part of his food during spare time. He then would not be solely dependent on his wage income. A somewhat similar consequence would be the opportunity for small farmers to supplement the farm income through

wages earned in factories. The movement as a plan to provide greater economic security to labor has received such attention that provision was made in the National Industrial Recovery Act of 1933 for the encouragement of the movement. It is interesting to note that similar "small holding" schemes have been tried in England at various times since 1880, without marked success.

Growth of the Urban Market.—Commercial agriculture depends on an urban market, whether domestic or foreign. The growth of cities in this country, in turn, has rested on the progress of the Industrial Revolution. Although our industries received a certain stimulus while we were isolated from Europe between 1800 and 1815, our rapid growth of urban industries is a post-Civil War phenomenon. According to the data in Table 8, only 12.5 per cent of our people lived in cities of over 8,000 population in 1850. This percentage had increased to 20.9 in

TABLE 8.—DISTRIBUTION OF THE POPULATION OF THE UNITED STATES BETWEEN URBAN AND RURAL REGIONS, 1790 TO 1930[1]

Census year	Towns over 8,000, per cent	Census year	Towns over 8,000, per cent	Towns over 2,500, per cent	Rural, per cent[2]
1790	3.3	1880	22.7	28.6	71.4
1810	4.9	1890	29.0	35.4	64.6
1830	6 7	1900	32.9	40.0	60.0
1850	12.5	1910	38.7	45.8	54.2
1870	20.9	1920	43 8	51 4	48.6
		1930	49.1	56.2	43.8

[1] *The Fifteenth Census of the United States*, Vol. I, Table 3.
[2] Refers to people living outside of towns and in towns of less than 2,500 population.

1870; the urbanization increased only slightly in the following decade of rapid settlement of the West but began with new vigor in the decade of the eighties and has continued to 1930. In the latter year, half of our population lived in cities of over 8,000. Following the Census Bureau's more recent policy of classifying as urban all people living in towns of 2,500 or more, the Census of 1920 was the first in which more of our population was urban than rural. By 1930, 56.2 per cent was urban compared with 43.8 per cent rural.

Until 1910 the increasing proportion of the population classified as urban did not represent an actual reduction in rural population but rather indicated that an increasing proportion of the immigrants were entering industry as opposed to agriculture, and that part of the natural increase of rural population was migrating to the cities. The situation was one of relative growth, the cities growing the more rapidly. But after 1910 the number of people living on farms began actually to decrease, though the total population of the nation continued to increase at from about

a million and a half to two million per year, a fact pointing to an increasing migration to the cities due to the attractive life and income of city residents. In 1920 the Census listed separately those actually living on farms, who comprised at that time 30 per cent of the total, or 31,614,269 people. By 1930 only 30,169,000, or 24.5 per cent of the population, were living on farms. Thus a decreasing proportion of our population is supplying the increasing remainder with the raw materials of the farm and at the same time is providing an exportable surplus. As a result of the business depression, farm population had increased to 31,693,000 by January, 1933, and was still at about that level in 1938, according to

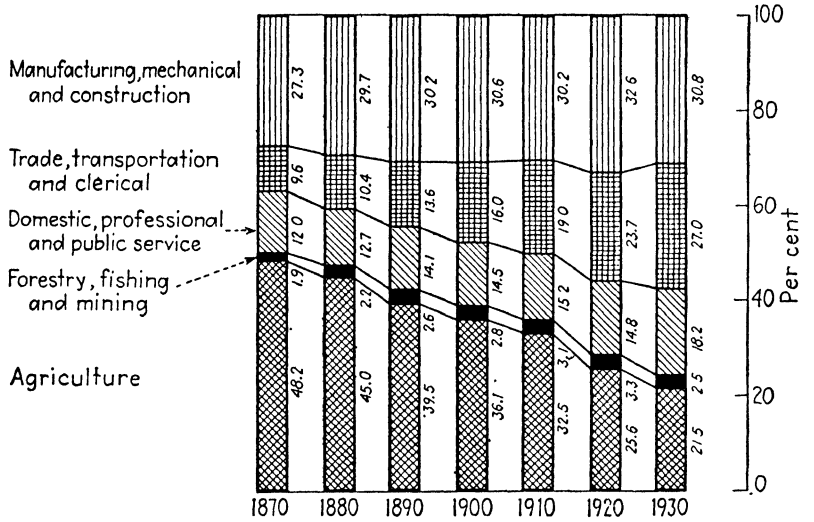

FIG. 3.—The percentage distribution of the gainfully employed in the United States, by major industrial groups, 1870–1930.

the estimates of the U. S. Department of Agriculture. It is not probable, however, that this increase represents a permanent reversal of the movement of population to the cities.

In Fig. 3 are summarized the major changes since 1870 in the way in which the American people make their living. The sharp and consistent decline of the percentage employed in agriculture from 48.2 in 1870 to 21.5 in 1930 emphasizes the relative rise of urban occupations. It is significant that the percentage engaged in manufacturing remained about constant even though the total value added in manufacture grew more than twenty times. The marked increase in the trade, transportation, and clerical occupations from 9.6 per cent in 1870 to 27.0 per cent in 1930 shows the shift to non-form-changing activities. In later chapters interpretations of these and other changes in the character of our economic activities will be presented.

The Foreign Market.—Starting with the export of surplus grain and meat from the Middle Atlantic colonies to the West Indies, and of South-

ern Colonial tobacco to England, the total volume of agricultural exports from this country enjoyed a rather consistent growth until the close of the World War. The chief articles exported have been cotton, tobacco, wheat, and meat and meat products, joined in more recent years by fruit and other special products. These agricultural exports furnished the purchasing power to pay for imported manufactured goods prior to our industrial development and then assisted in paying off the debts incurred by our excess of imports over exports during the period of the building of our industries, particularly the railroads. In spite of reduced buying power abroad and the competition of newer areas in the European market, our exports of farm products were still at the large sum of $1,495,164,000 for the fiscal year 1929–1930, or 32.4 per cent of our total exports. By 1932–1933, however, these exports had dropped to $590,000,000 but had recovered to $891,000,000 by 1937–1938.

The significance of the volume of exports lies not only in this outlet for goods and these goods as a source of purchasing power for imports but also in the fact that the producers of the staples of which we have an exportable surplus are thereby placed in a world market. Therefore these farmers must think in terms of world demand and supply. They are affected by political and economic conditions abroad, by the springing up of new producing areas, and by the tariff policies of foreign countries. Such events have had very significant effects on American agriculture during recent years. These events will receive further consideration in later chapters.

The Growth of Organized Labor.—Organized labor in the United States made little progress until after the Civil War. As stated by Professor H. U. Faulkner:

> Our economic history from the earliest colonial days has been characterized by a "labor problem"; but a "labor movement"—that is, an organized continued effort on the part of wage earners to better their standard of living—necessarily waited upon conditions arising from the growth in population, the rapid increase in manufacturing, and the concentration of population in cities. These effects of the Industrial Revolution were delayed in this country, owing to many causes—scarcity of labor, lack of liquid capital, abundance of rich unoccupied farming land—all tending to direct the energies of the people into rural occupations and delay the era of manufacturing and urban life.[1]

The Noble Order of the Knights of Labor, founded in 1869 as a secret society and later changed to an open organization for laborers of all kinds, became the first really significant national labor organization. Filled with idealism, however, the leaders wasted the powers of the union on unsuccessful efforts at cooperative manufacturing plants and on attempts to make the stronger skilled-labor groups fight the battles of the unskilled. After 1886 this organization waned, as the American

[1] *American Economic History* (Harper, 1924), p. 584.

Federation of Labor, founded in 1881, grew in strength to become the spokesman for the organized labor of the country. Since 1935, however, the leadership of the A.F. of L. has been challenged by the aggressive Congress of Industrial Organizations.

The American labor movement, although interested primarily in the improvement of labor's condition, vacillated from one method to another as the means of accomplishing this end. Some pre-Civil War groups were interested primarily in the obtaining of free land and public education as means of self-help. Some groups at this time, and after the war, concentrated on building up cooperatively owned producing agencies, looking forward to the eventual labor control of industry. Under the leadership of the A.F. of L., the labor movement concentrated on one tool, that of collective bargaining with their employers to obtain desired wages, hours, and working conditions. Aside from certain more radical unions, the American labor organizations are capitalistic in their viewpoint—interested in the improvement of labor's condition through the tools of economic pressure on its employers. These tools are negotiations, the strike, the picket, and the boycott. The C.I.O. has, however, been inclined toward political means on occasion.

The strength of unionized labor varies from time to time, being weak in periods of depression and growing with prosperity, but the trend has been toward the strengthening of the union movement. The early labor movements were entirely wiped out by such depressions as those of 1837 and 1857 and had to begin over again. In more recent depression periods the unions were only weakened, losing some membership and bargaining strength but maintaining their fundamental organization. Union membership and bargaining strength grow again with the upturn of business. Aside from such temporary setbacks, union membership has grown rather consistently—from 868,500 in 1900 to 5,110,800 in 1919, then dropping back to 3,780,000 in 1933. Following 1933, the organization of labor went ahead rapidly, facilitated by the restrictions on employer interference under the National Industrial Recovery Act of 1933 and the Wagner Labor Relations Act of 1935. By 1937 the A.F. of L. claimed a membership of 2,208,088 and the C.I.O. announced that it had 3,253,000 members. To these should be added the 586,000 members of the Railroad Brotherhoods and other independent unions. This phenomenal growth of organized labor plus the aggressive action of unions to obtain higher wages and bargaining advantages was one of the economic highlights of the 1930's. More will be said of this new strength of organized labor in Chap. XV.

THE INSTITUTION OF PRIVATE PROPERTY

The legal basis of the present economic system is the institution of private property. It should be reemphasized that the concern here is

with the idea of property as ownership—not as the thing owned. Because our political and social institutions are an offshoot of those of Europe, particularly of England, the history of the right of private property must carry us back to the Old World for a moment.

The Development of Property in Land.—Even the very primitive peoples seem to have had private property in such personal items as clothing and weapons. But land as an object of ownership did not become significant until man had taken a fixed habitation during the agricultural stage. From this period on, Professor N. S. B. Gras distinguishes four stages in land ownership.

First, the allodial stage, in which a family as a group owned certain pieces of land, free from services to any lord but owing support to the state. This property was passed on by inheritance within the group and could be sold as provided by family custom. This system existed prior to feudal days but continued to apply to some land even through the Middle Ages.

Second, manorial-feudal tenure was the system in which title technically resided in the king, but, aside from some contributions by the nobles to that sovereign, the real control of the property resided in the feudal lords. Even the villeins enjoyed some rights, for they could not be ejected where their rights had been defined by custom.

Third, the semimanorial stage was reached, according to Gras, when the villein was no longer obligated to perform service on the lord's land. The obligation to make payments in kind was quite generally commuted to money form, known as *quit-rents*. To quote from Gras:

> Such a system might be called a quit-rent system, if it were not for the fact that such a term is ambiguous. Nevertheless, rents were paid to be quit, or free, of one or more incidents. A tenant paid a rent to be quit of some objectionable service. He paid a penny, for example, to be free from the necessity of plowing the lord's land, a penny for each day of plowing due. . . . [1]

The fourth stage is that of free ownership. Such a position had been enjoyed by favored landholders in ancient Rome and was the position of occasional persons even throughout the Middle Ages. The revival and widespread application of the idea of free land ownership came with the complete breaking away from the feudal dues of all kinds. At the time of the enclosure movement in England, those tenants who could establish the right to their land through the rolls of the manor court came to be known as *copyholders* and enjoyed a position similar to free men. The enclosing lords could not infringe on their rights, although some feudal payments still had to be met. Not until 1926 did England provide for the holding of all land in fee simple, a system in which no one other than the state has a claim on the land except the owner. Previously,

[1] N. S. B. Gras, *A History of Agriculture* (Crofts, 1925), p. 258.

about 1800, free proprietorship had been established in France and Germany.

Property in the United States.—Aside from New England, the American colonial property system was in the semimanorial stage. Quit-rents were exacted by those to whom the land had been granted, not as a sign of a feudal position of the settlers but as a source of private revenue. The payments were not so much a burden on the colonists as a source of irritation, and there was a general tendency to disregard the dues.

At the time of the Revolution, the various state legislatures abolished all quit-rents and established free proprietorship. In disposing of the publicly owned land, the government has not adopted a feudal attitude, but from the time of the Northwest Ordinance of 1787, providing for the government of the territory north of the Ohio and east of the Mississippi, the plan has been to dispose of the land to freeholders.

Changing Property Rights.—During the development of constitutional law in the United States, two significant changes have occurred in the property rights:

First, the right has been broadened by court decisions to include, not only the right to the benefits of tangible objects, but also certain intangible rights, such as the employer's right to access to a market for labor or for goods and the laborer's right to contract to work for the wages and hours which he sees fit. To a large extent the application of the property concept to intangible rights has arisen in the United States as part of the Supreme Court's interpretation of the Fifth and Fourteenth amendments to the United States Constitution. The former restrains the Federal government and the latter, the state governments from depriving any person (or corporation) of his property without due process of law. In applying these sections of the Constitution, the courts have declared unconstitutional any laws or regulations which would force the returns on such property—railroads, for example—to such a low point as to destroy the value of the property; laws which would restrict men from working over eight hours a day; and laws which compel the arbitration of industrial labor disputes. Until about 1935, the inclusion of these intangible rights in the property concept restricted the growth of legislation governing wages, hours, and working conditions of labor and limited the regulation of railroads and power companies. In other words, under the provisions of the Constitution that no one shall be deprived of his property without due process of law, the government had been restrained in its attempts to restrict. Furthermore the court had held that among the liberties protected by the above-mentioned amendments is the freedom of contract, and that to deprive an owner without fair compensation of the opportunity to secure benefits from his property was in fact to deprive him of his property without due process of law.

Second, in spite of the broad interpretation given to the property concept by the courts, an increasing number of restrictions have been placed on the manner in which an owner may use his property in those cases in which the public interest is involved. The basis of such social interference is the principle that property is a privilege conferred by society, and that this privilege may be modified by society whenever it thinks that such changes are for the welfare of the group as a whole. Thus the restriction of the hours for women had long been held to be socially desirable and constitutional. At the time of the establishment of the national government in this country, the social restriction of the owner of property was negligible. Since that time, society has curtailed more and more the freedom with which an individual may use his property. In some states the farmer who does not remove certain noxious weeds from his premises may be fined, or the state may kill the weeds and assess the costs against the property owner. In fruit-growing states the grower must spray his trees to control pests, or the state will spray the trees and compel the owner to pay the costs. Processors of farm products must observe certain rules of cleanliness. Manufacturers must provide certain working conditions for laborers and sometimes are restricted in the hours which they can work their laborers.

In a series of decisions following 1935 the Supreme Court has removed many of the older interpretations of property rights, and now the regulation of wages and hours is constitutional. With this continual broadening of the concept of social welfare and of those things which will contribute to that welfare, it is to be expected that property rights will be further restricted in the interests of society. The general provision of constitutional law under which the state limits the property right, as above mentioned, is the *police power*, under which the state may restrict the individual in the interest of the public health, the public safety, the public morals, and to a not definitely determined extent, the public welfare. The exact line which the Supreme Court will draw between the "due process" provisions of the Constitution and the exercise of the police power is indefinite, particularly at the present time.

THE DIRECTION OF ECONOMIC EVOLUTION

The economic evolution outlined in the last two chapters has two points of similarity with the development of modes of land transportation: the increase of productivity or speed, and the change from simplicity to complexity. The only mode of land transportation available to primitive man was human locomotion—a slow method, but one based on self-reliance. The domestication of animals and the invention of the wheel improved the speed of transportation and facilitated the transference of heavy objects but did not introduce complicated mechanisms or principles of operation foreign to the everyday observation of man.

Similarly, the methods and organization of production in the local economy were ineffective when judged by our standards. But the responsibility for the failure of the system to function was either in the realm of natural factors or could be placed on someone in the local group or upon this small group itself. There was no problem of understanding the economic system; it was obvious to everybody.

The application of the internal-combustion engine to transportation has increased speed many fold, but at the expense of simplicity. The automobile is made in a distant city, burns gasoline refined in another state, and operates on scientific principles but little understood by the mass of the motor users. It is a complicated mechanism, and the proper functioning of each part is necessary to the operation of the machine as a whole. In a similar manner the money economy is made of many parts, of parts which do not always function properly. When that occurs, the smooth flow of goods and of incomes is interfered with and even the whole economic system may be disrupted. In such cases the location of responsibility is difficult, a fact that leads the ordinary individual to place the blame on someone other than himself: on the corporations, the government, the merchants, or the bankers.

The early automobiles were not reliable, but the engineers have so improved their construction that a car owner is surprised when his automobile fails. The task confronting the engineers was relatively simple, for the automobile operates on principles of the natural sciences which may be studied by the exact methods of the laboratory and applied with a high degree of accuracy. In contrast, the economic system is influenced by a multitude of forces, many of them unmeasurable and none of them controllable as in the laboratory—a fact which impedes progress in bringing about a smoothly functioning economic world. Despite these handicaps progress is being made, although we are somewhat disillusioned by such periods of distress as that which began in the fall of 1929.

Questions and Problems

1. Compare the agriculture of the New England colonies, the Middle Atlantic colonies, and the Southern colonies as to (*a*) degree of specialization and (*b*) market outlets. Account for differences in degree of specialization.

2. What factors explain the specialization in cotton growing in the South? What are the effects of such specialization?

3. What factors outside of agriculture have facilitated specialization in farming?

4. Compare the attitude of our Federal government toward the opening of new land within the country which might compete with older areas and the attitude of various European governments toward agricultural competition from the New World.

5. Was the opening of new lands beneficial or detrimental to the farmers of the older sections? Explain, giving consideration to both short-run and long-run effects.

6. What present-day problems find their root, in part at least, in our earlier land policy?

7. What factors gave rise to the agricultural discontent from 1870 to 1896? Do you note any similarities or differences between the discontent of this period and that of the years following 1920, as to either the causes or the nature of the farmer agitation?

8. What are some (*a*) of the benefits and (*b*) of the difficulties brought about by improvements in agricultural technique?

9. What would you expect to be the effects on agriculture of a marked tendency of factories to move from the large cities to smaller towns?

10. Summarize population changes as a whole and as between country and city since 1860.

11. Why did not a strong labor movement develop in the United States until the latter part of the last century?

12. What have been the major developments in the labor movement since 1900?

13. Summarize recent developments in statute and court interpretations of the property right.

Suggested Readings

1. T. N. Carver, *Rural Economics* (1911) contains an interesting short sketch of the history of American agriculture.

2. L. B. Schmidt and E. D. Ross, *Readings in the Economic History of American Agriculture* (1925) contains a more complete treatment of many phases of the economic history of American agriculture.

3. B. H. Hibbard, *History of the Public Land Policies* (1924) thoroughly and critically surveys the land policies of the Federal Government; *Marketing Agricultural Products* (1921) furnishes an excellent history of farmers' organizations.

4. Selig Perlman, *History of Trade Unionism in the United States* (1923) is a thorough analysis of the development of the labor movement in this country.

5. Edward C. Kirkland, *History of American Economic Life* (1932) covers the whole subject excellently.

6. N. S. B. Gras, *History of Agriculture in Europe and America* (1925).

7. Two reports by the National Resources Board, *Our Cities, Their Rôle in the National Economy* (1937) and *The Problems of a Changing Population*, Parts I to III (1938), show urbanization of this country and some problems arising therefrom.

CHAPTER IV

PRODUCTION AND BUSINESS ORGANIZATION

The study of production begins our analysis of the operation of the economic system in which we live. In other words, this chapter introduces us to economic principles. Therefore attention is here called to several prerequisites to a scientific analysis of our economic system. One of these is that the investigator must not be blinded by the multitudinous mass of detailed facts which come under his observation, but he must search behind these facts for the fundamental governing principles. The scientific method calls for an analysis of the relation of facts, one to another—a process of abstraction or the separation of a principle from many details. Details need to be noted, but a knowledge of details without a knowledge of underlying principles and relationships is of little value.

Next, a scientific approach requires that in determining whether a given principle is true or false, the investigator's ideas of right and wrong —of what ought to be—must not influence his conclusions of how the forces examined actually work. This does not mean that he should not be critical and interested in reform. The economist may properly be critical of our present economic society, and, in fact, many economists are very critical of it. But reform must be based on knowledge. He who would improve the machinery of an automobile must first understand the principles governing its operation. Likewise, he who would improve our economic system, and particularly agricultural welfare, needs to know the principles governing the working of that system and must proceed in accordance with those principles, whether they are as he would like to have them or not. The scientific approach in any science requires freedom from prejudice, and in no science is this more important than in economics.

Third, in economics as in other sciences, there is required a specialized technical vocabulary, with an understanding of certain basic concepts. Words must be used with a precision which they by no means always have in everyday life. Economics resembles physics in that it has taken many terms used in daily life with a variety of rather vague meanings and used them in its technical vocabulary with limited specific meanings. Some of its concepts, as *utility* for example, may at first seem to be irrelevant. But these simple concepts are necessary to an accurate understanding of major principles of economics. Moreover, writers in economics

often use words both with the technical meanings assigned to them in economics and with their usual meanings in everyday life, and the reader must be on his guard to ascertain from the context the meaning with which a word is used in any particular case.

We shall now proceed to the discussion of certain elementary concepts in economics, after which the remainder of this chapter will be devoted to a discussion of types or kinds of organizations for productive and business purposes, including further discussion of the language of business and economics.

ECONOMIC CONCEPTS

Goods and Utility.—The objective of all economic activity is the satisfaction of the desires of human beings. The variety of commodities or services which human beings desire seems unlimited. All those physical objects and those personal and other services which human beings use are classified under the term *goods*, the leading characteristic of which is their *utility*, by which is meant their power to satisfy human wants. Some goods exist in such large quantities that the utility or satisfaction to be gained from particular units may be had without cost, and such goods are known as *free goods*. No farmer would pay anything for a cubic foot of air, but in certain large buildings in cities air ceases to be a free good, for it must be supplied artificially. Economics deals primarily with those goods which do not exist in sufficient quantity to satisfy all human desires for them, and these are known as *economic goods*. Consumers economize in the use of such goods and are willing to pay money or other economic goods for them. The scarcity of economic goods may arise either from the limited supply which nature has provided or from the fact that effort must be made in their production. The total quantity of iron ore cannot be increased, and, since the known quantities of high-grade iron ore are not sufficient for all the needs for iron, that material is an economic good. Beef is never a free good, for the quantity available is limited by the cost of production. These two characteristics of economic goods—namely, utility and scarcity—typify the two opposing forces that are the basis of most of economic activity. In addition to possessing utility and scarcity, however, goods to be economic goods must also be under human control. For some people moonlight may be characterized by both scarcity and utility. Nevertheless, it is not an economic good because it is not under human control.

The concept of utility in economics does not carry with it any idea of virtue from a moral point of view. If a good satisfies a human want, as exemplified by the fact that someone is willing to put forth effort or money to obtain it, that good has utility in the economic sense, even though it may impair the health or moral fiber of the consumer. This does not mean that economists approve of all goods which people con-

sume; it means only that what a person should or should not consume is a matter so difficult to determine in any particular case, and the answer to the question must always be so much a matter of opinion, that the economist does not undertake to settle this question with all goods for all people. His problem is to explain the principles governing the production and distribution of the goods that people want rather than to decide what goods they ought to want.

Wealth.—The wealth of an individual is the sum total of valuable objects which he possesses. Only objects which command a price in the market are included in wealth. These objects may be valuable themselves, as is true of land, or in some cases they may only be valuable papers or claims to physical property, money, or income. What is wealth to the individual is not necessarily wealth to the community. Thus a government bond to the individual who owns it is wealth, because it gives him a legal right to a certain income and a certain amount of money payable at some future date. But for the government it is a debt, and so for the entire body of people constituting that government it cannot be considered wealth.

Two further characteristics of individual wealth should be noted. First, wealth consists of external objects, not of the individual himself or any of his characteristics. The skill of the violinist is not part of the violinist's wealth, although it may enable him to earn a large income. Second, wealth refers to the valuable objects possessed at a particular time. It is a fund of valuable objects at a particular time, as opposed to a flow of goods and services over a period of time.

In considering wealth from the standpoint of society as a whole, care must be exercised. To add together the value of the physical property and other assets of a corporation and the value of stocks and bonds which represent the ownership of, or debts against, that property would be double counting, as would also be true if the value of a farm and of the mortgage on the farm were added in computing social wealth. Yet certain claims are obviously wealth from the social point of view. Stocks and bonds of foreign corporations owned by residents of the United States represent claims on property in foreign nations and are part of the social wealth of the United States. The social wealth of a nation may be considered to include all the tangible material goods of that nation, plus the claims of the people of that nation against property in foreign countries, minus claims of foreigners against property in that country. A quotation from a report of the National Industrial Conference Board is to the point:

> From the objective point of view of the nation rather than the individual, all internal claims and counterclaims to wealth must be ruled out; only the sum total of physical assets can be regarded as national wealth. For statistical purposes national wealth must consist of actual physical things. Any meta-

physical use of the term wealth must be excluded. There are many things that in the careless use of the word are frequently designated as wealth which are entirely extraneous to the matter. No one is disposed to controvert the familiar saying that "health is wealth," yet logically it is completely false. Whatever else health may be it is not wealth, not a physical thing capable of being passed from one owner to another.[1]

Wealth in the United States.—The Bureau of the Census has at various times estimated the total wealth of the United States, the last complete estimate being made for 1922. These estimates are summarized in Table 9. It will be noted that from 1900 to 1912 the dollar value of the wealth of the nation more than doubled, and that from 1912 to 1922 it again nearly doubled. A considerable part of this increase resulted from placing higher values on the same goods, especially land and other real estate.

TABLE 9.—TOTAL AND PER CAPITA WEALTH, 1850–1922[1]
(Source: Bureau of the Census)

Year	Wealth (thousands of dollars)			Per capita (dollars)		
	Total	Taxable	Exempt	Total	Taxable	Exempt
1850	7,135,779	7,135,779	.....	308	308	
1870	16,159,616	16,159,616	.....	514	514	
1900	88,517,307	82,304,518	6,212,789	1,165	1,083	82
1912	186,299,664	173,986,144	12,313,520	1,950	1,820	129
1922	320,803,862	300,298,043	20,505,819	2,918	2,731	186

[1] *Enterprise and Economic Progress* (The National Industrial Conference Board, 1939), p. 66.

Estimates of wealth expressed in dollars change, both because of changes in the amount of wealth and because of changes in the purchasing power of the dollar. To overcome this difficulty, wealth data in dollars should be adjusted for changes in the purchasing power of dollars whenever possible.

The National Industrial Conference Board has modified the Census estimate of 320 billion dollars for 1922 to 307 billions. The board has made estimates on a comparable basis, expressed both in 1926 dollars and in current dollars, for each of the years from 1922 to 1937. In current dollars the high point was 354 billion dollars in 1929. This had declined to 287 billions for 1934, after which it again increased. Expressed in dollars of constant purchasing power the estimates of the board show a slight decline in total wealth from 1922 to 1925, a continuous increase from 1925 to 1932, again a decline from 1932 to 1936, and an increase thereafter.

[1] *Bulletin* 62, National Industrial Conference Board, 1932.

TABLE 10.—CLASSIFICATION OF WEALTH IN THE UNITED STATES, 1922 AND 1937[1]

Form of wealth	Millions of dollars	
	1922	1937
Total	306,764	321,792
Land and improvements	182,983	170,890
Productive assets (except utilities and land and improvements):		
Livestock and farm machinery	7,528	6,555
Manufacturing equipment	12,944	11,500
Motor vehicles	4,794	6,141
Total	*25,266*	*24,196*
Public utilities:		
Railroads and their equipment	19,812	23,595
Other utilities	12,777	23,021
Total	*32,589*	*46,616*
Stocks of goods:		
In hands of producers	12,504	15,081
In hands of dealers	9,488	10,562
In hands of consumers	39,816	41,528
Gold and silver coin and bullion	4,118	12,919
Total	*65,926*	*80,090*

[1] Adapted from *Studies in Enterprise and Social Progress* (National Industrial Conference Board, 1939), Table 2, page 60.

It will be noted that in Table 10 there are enumerated only tangible material goods and that the values assigned are of necessity "imputed values," as the sum total of all wealth does not change hands in a sales transaction at one time. The total of 322 billion dollars in 1937 amounted to about $2,300 per capita of population. More than half the total wealth consisted of real estate, including 26 billion dollars' worth not taxed because of being publicly owned or used for religious or educational purposes. The railroads and their equipment were valued at about 24 billions and other transportation and transmission enterprises at about 23 billions, utilities thus representing about 15 per cent of the wealth of the country. Manufacturing machinery, tools, etc., were valued at less than 12 billions, or 4 per cent of the wealth of the country, but this did not include buildings specially designed for particular manufacturing uses, as these were included under real estate; nor did it include power stations, which were included under utilities. Total stocks of goods in dealers' and producers' hands were about 26 billions, which exceeded the 18 billions of equipment other than motor

vehicles in manufacturing plants and on farms. Significant changes in the composition of the national wealth between 1922 and 1937 were (*a*) some decline in land values, (*b*) an approximate doubling of wealth represented by utilities other than railroads, (*c*) a 4 billion increase in railroads, (*d*) a sharp increase in motor vehicles, and (*e*) a 200 per cent increase in gold.

The wide changes which occur in the dollar value placed upon essentially the same wealth are well illustrated by changes in the market value of stocks listed on the New York Stock Exchange. Multiplying the quoted values at which sales were made for each of the stocks listed by the number of shares of stock of the corporation outstanding, and adding the totals, gave on Jan. 1, 1928, a total value of 50 billion dollars to the

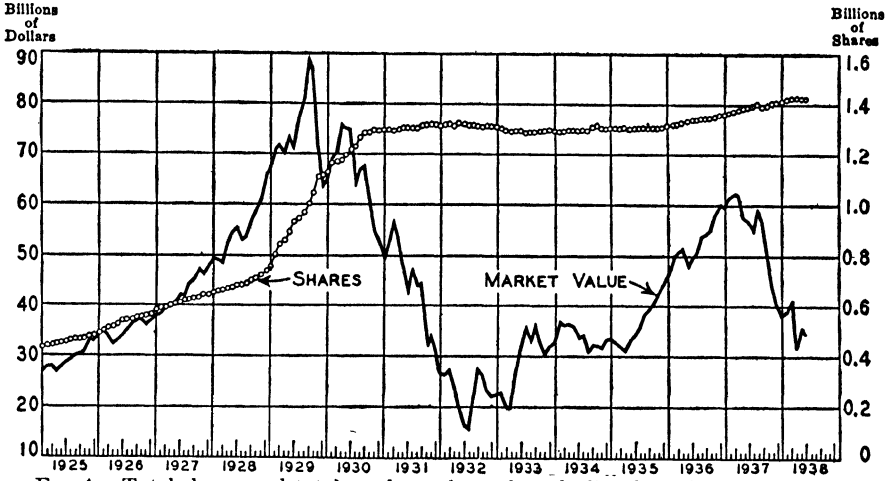

FIG. 4.—Total shares and total market values of stocks listed on the New York Stock Exchange, 1925–1938. (*Reproduced from Monthly Bulletin of the New York Stock Exchange, June*, 1938.)

corporation stocks listed on that exchange. By Sept. 1 of the next year this had risen to 90 billions, and by Dec. 1 it had fallen again to less than 65 billions. On July 1, 1932, it had declined to less than 16 billions, but by Jan. 1, 1937 it had risen again to more than 60 billions—only to decline again later in 1937 and in 1938. These changes in market values are shown graphically in Fig. 4.

A variation not quite so extreme, but nevertheless exceedingly striking, has occurred in the valuation of farm property in the United States. According to the Census, the average per acre value of farm lands more than doubled from 1900 to 1910. It again practically doubled from 1910 to 1920. But from 1920 to 1935 the value of all farm lands and buildings declined 50 per cent, from 66 billion to 33 billion dollars.

The United States has far more wealth than any other nation of the earth, both in total wealth and on a per capita basis. Estimates of these

differences, however, are not available for any recent date, and all such estimates need to be interpreted with caution because of the different values placed on some goods, such as land, in different countries.

Income.—Income is a flow of goods over a period of time, which is in contrast to wealth as a fund of goods possessed at a particular time. To the individual in the money economy, income may seem to be a flow of money rather than goods, although the money is used to command goods in the market. In reality the individual's money income is the means

TABLE 11.—THE PER CAPITA INCOMES OF VARIOUS COUNTRIES IN DOLLARS AND IN PERCENTAGES OF THE UNITED STATES PER CAPITA INCOME, 1936[1]

Country	Income (dollars per capita)	Percentage of United States 1936 income	Percentage of country's own 1929 income
United States	508	100	82
British Empire:			
United Kingdom	457	90	113
Dominions:			
Australia	409	81	81
Canada	343	68	70
Chile	69	14	54
Denmark	249	49	94
Finland	125	25	98
France	276	54	120
Germany	389	77	145
Hungary	138	27	125
Japan	54	11	69
Norway	200	39	98
U.S.S.R. (Russia)	120	24	288

[1] *Economic Record* (National Industrial Conference Board), Vol. I, No. 4, Table 6.

of directing a flow of goods. The money income is obtained by some activity, either changing the form, place, time, or ownership of tangible goods or rendering other services, and thus represents the volume of goods including services which this individual is able to secure in exchange for his money income.

In computing social or national income, precautions similar to those explained in relation to social wealth must be noted. Double counting where it exists must be avoided. Adjustment should be made for income paid by American government units and industries to foreign investors, and income received by residents of the United States on their investments abroad should be added to incomes earned within the United States.

The income of a nation for a particular year may be thought of as the money value of the goods, including services, which are produced either to be consumed or to be saved. The income of the United States

has grown rapidly, not only in total but on a per capita basis, as has already been brought out in Chap. I. Per capita income in this country also is distinctly greater than in any other country of the world, as is brought out in Table 11, in which are presented the best and latest estimates of per capita incomes in the most important countries for which data are available. Tremendous differences are evident, per capita incomes varying from $54 in Japan and $120 in European Russia to $508 in the United States. The per capita income in Japan is only 10 per cent of that in the United States. Even if allowance is made for incomplete information, for differences in methods in making the different estimates, for imperfect adjustment of domestic price level changes to recent fluctuations in foreign exchange rates, and for differences in prices of goods, due to other causes, the contrasts are striking. Note should also be taken of the per capita income in each country compared to 1929. European countries preparing for war were enjoying a boom in 1936. Russia's controlled economy was going ahead. Most non-European countries had incomes below the 1929 level—usually because of either unemployment or very low prices for their products.

Consumption Goods and Production Goods.—Economic goods which are ready for human consumption are designated *consumption goods.* Other economic goods are designated *production goods.* The latter class includes all forms of manufacturing plants, machinery, transportation facilities, stocks of raw materials, in fact all economic goods not yet ready for human consumption.

Production goods have been said to "ripen" into consumption goods. The ripening process is ordinarily not automatic but is brought about by the application of human labor. But, in this process, production goods are gradually "converted" into consumption goods, the word *converted* not being used in an exactly literal sense. Raw materials are truly converted into consumption goods. But machinery also in a way ripens into consumption goods, as in the productive process it depreciates or wears out, and in so doing declines in value, a value which tends to be added to the consumption goods.

PRODUCTION

The Nature of Production.—Human effort or ingenuity cannot create matter. Production of tangible goods is not creation in the sense that something new is made out of nothing but is the process of so changing or controlling commodities and services that they will have increased power to satisfy human wants. Production is the creation of utility. From the statement that utility is created, it should not be inferred that utility arises from the productive effort, for utility must come ultimately from human desire. But production is the process of so changing or controlling commodities or services that they will better fit the desires of

consumers, and therefore the utility of the goods is increased. The producer does not know whether his efforts have resulted in increased power to satisfy wants until he has sold his goods, as purchase by the consumer in general reflects the consumer's approval of the productive process.

In 1848 John Stuart Mill pointed out that, in general, man's part in the production of commodities merely consisted in moving things about. More recent writers have attempted to distinguish the creation of four different kinds of utility, *viz., form utility, time utility, place utility,* and *possession utility.* When the farmer sows wheat and produces a crop, he has produced nothing new but only brought together seed, soil, moisture, plant food, and climate and supervised the change of form of these various factors so that wheat results. The miller takes the wheat and so changes its form that flour results. All activities which change the physical form of goods so that they have increased power to satisfy human wants are said to have created form utility. Most of the farmer's effort is spent in producing *form utility.*

The transportation company moves the flour from the mill to the baker, wholesale grocer, or chain-store warehouse. The flour now has increased capacity to satisfy human wants because it is nearer where consumers want it. The delivery truck which delivers processed farm products to the city consumer's door completes the work of producing place utility. All transportation agencies are said to produce *place utility.*

The warehouse operator and the merchant store the flour until it is to be made into bread or sold to the housewife. The flour is stored until the time that the consumer wants it, which gives the flour increased capacity to satisfy human wants. Consumers are willing to pay a higher price for canned peaches in April than in October. Many consumers are willing to pay higher prices for goods to merchants who carry a wide variety of goods and hence have a particular good at the time the consumer wants it. Those who provide storage services create *time utility.*

Possession utility is a fourth type of utility recognized by some writers, though not by all who recognize the three other kinds. Possession utility is said to result from an increase in capacity of goods to satisfy wants from a mere change in ownership. Since production is defined as the *creation of utility,* the real estate broker who brings into contact with each other the owner of a house and the prospective buyer to whom this house has greater utility than it had to the previous owner is said to create possession utility and thus performs a productive function, even though he changes neither the form, place, nor time of the goods; in fact, he may never see or handle them physically.

This classification of kinds of utility is helpful in understanding the nature of production but should not be carried too far. The retailer,

for example, has been said to create possession utility by placing goods in the hands of consumers. In fact, he creates utilities of all the four kinds named. He changes the form of some commodities, he creates utilities resulting from changes in the place of commodities, and also creates utilities from changes in time and in possession. Furthermore, it is often difficult to classify under any of these four classes certain services which unquestionably create utilities. The important thing is that productive effort creates or adds to utility for the consumer.

Earlier and Modern Production Compared.—Production in the times of the manor and of the early pioneer was for the most part for personal or group use rather than for the market. There was no great problem of estimating whether the market demanded this product or that and no problem of price fluctuation, as but few articles were bought and sold. The producer's thoughts were on producing goods for use, rather than on securing a money income with which to acquire goods.

Under modern specialized production the creation of place, time, and possession utilities has assumed an importance it did not have in the economy practiced on the medieval manor or by the pioneer settler. The creation of form utility has been so facilitated by the modern machine and improved technology in manufacturing and farming that the cost of the form-changing operations for most goods has been lowered. Since these economies usually lead to regional specialization, the lower costs are offset in part by the necessity of transporting the goods to consumers over a wider area. Contributing to increased costs of creating time utility is the fact that the consumer demands a wider variety of goods and demands that they be at hand when he wants them. Consumers are no longer content to have fresh fruit and vegetables through a relatively few weeks of the summer and fall, or to have eggs and butter only during the spring and summer. They are willing to pay for the creation of time utility by the various storage agencies which have become increasingly important to agriculture in the last few decades. Possession utility has grown in significance concurrently with the spread of the exchange economy. Transportation and trade as specialized occupations, accordingly, are becoming relatively more important and agriculture and manufacturing relatively less important. Between 1920 and 1930 the percentage of the gainfully employed population of the United States engaged in transportation and trade, as reported in the Census, increased from 17.6 to 24.5 per cent of all persons gainfully employed.

Productive and Nonproductive Activities.—The fact that production includes much more than the everyday use of this term indicates, raises the question as to whether all human activity is productive. To this our answer must be in the negative. Clearly, thieves and robbers are not socially productive. They do not create anything which society

wants. Their activities are properly described as parasitic and predatory, in contrast to productive. Such predatory activities are not peculiar to modern life, as primitive man engaged in warfare for the sake of plundering and despoiling his fellowman. Nevertheless, the organization of modern life has given us many new problems of predatory and parasitic, in contrast to productive, activities. This has been stated forcefully, though seemingly with some distortion of the true situation, by a gifted critic of modern economic society, Thorstein Veblen, in the following language:

> The business man's place in the economy of nature is to make money, not to produce goods. The production of goods is a mechanical process, incidental to the making of money; whereas the making of money is a pecuniary operation, carried on by bargain and sale, not by mechanical appliances and powers. The business men make use of the mechanical appliances of the industrial system, but they make a pecuniary use of them. And in point of fact the less use a business man can make of the mechanical appliances under his charge, and the smaller product he can contrive to turn out for a given return in terms of price, the better it suits his purpose. The highest achievement in business is the nearest approach to getting something for nothing. The less any given business concern can contrive to give for what it gets, the more profitable its own traffic will be. Business success means "getting the best of the bargain." Sabotage is indispensable to any large success in industrial business. The private gain which the business concerns come in for by this management entails a loss on the rest of the community, and the loss suffered by the rest of the community is necessarily larger than the total gains which these manœuvres bring to the business concerns.[1]

Adam Smith, in contrast to Veblen, believed that the desire of the individual to make money led him to do the very things that society desired and was willing to pay for, and that, therefore, the desire for private profit led to social service. He says:

> Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage indeed, and not that of society which he has in view. But the study of his own advantage naturally, or rather necessarily, leads him to prefer that employment which is most advantageous to the society.[2]

Modern business does not appear to be either as predatory as pictured by Veblen or as beneficial, if left to its own devices, as represented by Smith. In general, it is productive as that term is used in economics. But intermingled with its productive activities there are many swindles of a predatory character, many efforts to obtain profits by scheming against the general welfare rather than by rendering genuinely productive

[1] *The Vested Interests* (Huebsch, 1920), p. 92.
[2] *Wealth of Nations*, Book IV, Chap. II, p. 2.

services. It is one of the functions of modern government to minimize the possibilities of such predatory activities, and to promote income going to him who renders most genuinely productive services.

The Factors of Production.—Land, labor, capital, and entrepreneurship have already been mentioned as the four *factors* of production. These will now be more carefully defined.

Land as generally used in the technical language of economics refers to all natural resources. It includes all things freely provided by nature, such as soil, location, fertility, topography, climate and precipitated moisture. It is to be noted that land in the above explained sense differs from real estate, which includes permanent improvements. *Labor* refers to all human activity other than that undertaken for recreation or sport. The term is, therefore, broader than its use in ordinary business, in that it includes mental as well as physical activity and applies to the services of the salaried office worker and the one who is employed on some other basis, as well as to the daily-wage worker. *Capital* in its most general use in economics, and as here defined, refers to productive instruments made by man. It, therefore, excludes land or natural resources. The term is, however, used with a variety of meanings, as will be later indicated, and the student needs to be careful to ascertain from the context the meaning with which it is used in any particular case. In fact, in this very chapter it is used with two meanings distinctly different from that just given. Some economists prefer to regard land as above defined as only a particular kind of capital, thus following more closely the language of ordinary business. The fourth factor in production is *entrepreneurship*. The entrepreneur is the owner and director of the business who assumes its risks and uncertainties in the hope of a profit. He hopes to receive more than the normal rate of rent for land, interest on capital, and wages for labor, though obviously many times he fails in this.

As a rule, in agriculture the entrepreneur both actively manages the enterprise and assumes its risks with the hope of profit. In large corporate industrial organizations, the relationship between ownership and management is less marked. A large percentage of the thousands of stockholders owning such a corporation have practically nothing to do with its management. In some cases only a limited number of stockholders have the right to vote, and where all have this right a large part do not avail themselves of it. Active management is by hired employees.

The Key Position of the Entrepreneur.—The entrepreneur is at once the organizer of the productive process and distributor of the income which will purchase industry's products. The amount which the entrepreneur must pay to other productive agencies constitutes, in general, the cost of production. On the other hand, the amount which is paid out by entrepreneurs to other agencies is the income by means of which those

who rent land to others, those who lend money, and those who work for wages will buy the products of entrepreneurs in general.

In modern production the entrepreneur is working in the hope of a profit, and is interested in the production of utilities only in so far as their production is necessary in order to acquire profits. Modern society is acquisitive in the sense that the primary object of economic activity for most individuals is to acquire income rather than to render genuine, socially productive services. If this income can be acquired through interference with the operation of competition or through the rendering of poor services, or the selling of inferior products, the entrepreneur may follow these sources of profit. Undoubtedly, some farmers do not have a conscious desire for profit when they undertake to operate their farms. They may have a desire for independence or social position in the community, or other returns which are not in the form of financial profit. Yet, after these men have once become entrepreneurs, their reaction to economic situations will ordinarily be guided by the profit motive. The exceptions to the fundamental assumption that entrepreneurs are seeking profits are not sufficiently numerous to invalidate this as an important general principle.

Division of Labor.—The division of labor, of which we shall describe three types, has been a fundamental force in increasing production. It is almost synonymous with specialization and as such has led to trade and exchange. In medieval times specialization among men in particular types of work was rare. But with the growth of the town economy, men came to specialize in particular lines of work. The result was one type of *division* of labor, that *into crafts*. Some men remained farmers, and those who moved into town became smiths, spinners, weavers, carpenters, or merchants, or entered any one of a long list of crafts.

As men entered crafts they became more productive primarily for three reasons: (1) the continued application at one type of work developed greater skill; (2) men could apply themselves to the particular work in which they had special ability and interest; (3) the tools and machines necessary for certain work could be used more continuously. If a man were engaged in several types of work, a large part of his investment in tools would be idle at all times. This point may be viewed from another direction by stating that, when a man specializes and uses his tools consistently, he can afford to invest in more specialized and highly developed tools, the use of which should increase his output.

The specialization into crafts proved to be only a step in further specialization in many industries. The crafts were split up into several specialized types of work and, finally, with the Industrial Revolution, into the minute processes which characterize the modern factory. This minute division of crafts is known as the *technological* division of labor. It carries with it not only the advantages of the division into crafts but

emphasizes these advantages and adds others. Sufficient skill to perform adequately many of the tasks in the modern factory may be acquired in a day or two. Where the work is highly specialized and the machine is used constantly, the entrepreneur finds it profitable to supply his laborers with very advanced and expensive machines of great productive capacity. In addition to the advantages listed above, the following apply to the technological division of labor: (1) The laborer does not waste time in changing from one operation to another. He may work the whole day putting heels on shoes with a very elaborate machine. (2) Work may be adjusted more completely to the capabilities of the laborers. Occupations which do not require great strength may be performed by women or even children, and even cripples may be used at some tasks. Persons of low mentality are well adapted to certain work. (3) When the production of an article is divided into many steps, some of the steps are reduced to operations which are automatic and do not require judgment. In such cases machines may be substituted for men. Whenever a process is automatic, a machine may perform it better and more rapidly than a human being. The technological division of labor has gone hand in hand with the development of modern machine industry.

The third type of the division of labor is the *separation* of the whole productive process *into stages*. The range owner produces feeder steers which are sold to the Corn Belt farmer for fattening. The latter sells the finished steers privately or through a commission house to the packer. The packer, in turn, sells the carcass to the retailers either directly or through wholesalers, and finally the retailer sells the meat in cuts desired by the housewife. This division of production into stages is based upon the efficiency of specialization; each entrepreneur may concentrate upon that part of the whole productive process about which he knows the most. Farmers know little about milling and merchandising, and those engaged in the latter occupations know little about farming. Out of this type of division of labor may arise another advantage, that of large-scale production, which does not seem to apply to agriculture to a marked extent. In manufacturing, however, those who concentrate on one stage of production often carry on their operations on a very large scale and find that their costs are lowered thereby.

Integration.—In the last half century there has occurred in business organization a large development of integration, by which is meant bringing under one general management business activities previously separately managed. Such integration is of two kinds, horizontal and vertical. Where many plants or business units performing the same activities are brought under one management, as in the case of the individual units in a chain-store system, or of many local power plants owned and operated by one management, the integration is said to be horizontal. On the other hand, where successive operations previously

conducted as separate businesses are brought under one ownership and general management, as jobbing and retailing in the case of the chain store, or the mining of ore and coal, operating ships, making steel and fabricating it into machinery, as in the steel industry, this integration is said to be vertical. Integration is the opposite of specialization in so far as general management is concerned but not in so far as the technical processes are concerned.

The Division of Labor in Agriculture.—The extent to which each of the above types of the division of labor has taken place in agriculture is varied.

First, the division of labor into major types of work has now taken place so universally in advanced countries that the farmer has been included. Farming has become an occupation so distinct from such a trade as carpentering that, though the typical farmer may repair his own buildings and some of his own machinery, he rarely would attempt to build a house without at least the supervision of a trained carpenter. Few farmers are prepared to make more than minor repairs on their tractors. As a rule, farmers profit more by concentrating their thought and attention on farming rather than by attempting to be highly skilled in a very wide variety of trades; they can better afford to hire trained craftsmen, even at fairly high wages, than to attempt to do too wide a range of work themselves. Still the successful farmer is usually one who has the knack or skill of doing well a wide range of things.

Second, the technological division of labor belongs peculiarly to the field of manufacturing and has made little progress in agriculture. In fact, the division of work on a farm into many highly specialized branches can come only with very large scale farming, which thus far has been successful only under unusual conditions.

Third, the division of labor into stages in the productive process has been traced in Chaps. II and III in so far as agriculture is concerned. The farmer has become a producer of raw materials. The processing or preserving of these raw materials preparatory to sending them on the road of distribution to the consumer has come to be increasingly performed largely by packers, butter manufacturers, and so on. Through cooperative organizations farmers may control these processing and preserving agencies, but this work is quite independent of the farm. Farmers have found, as the final consumer has come to live at a greater distance from the farm, that they tended to gain by concentrating their efforts on growing crops and livestock and allowing specialized agencies to perform most of the processes of marketing. In recent years farmers have been reaching out to control, through cooperative efforts, the marketing of their products in at least the first stages on the route to the consumer. Still cooperative marketing is carried on quite independently of the individual farmers; hired managers supervise the cooperatives'

operations, the farmers having little to do with anything but the major policies of the cooperatives.

ENTREPRENEUR ORGANIZATION

Individual Proprietorship.—When a business enterprise is to be undertaken, it may be organized by the entrepreneur or entrepreneurs in one of three ways, *viz.*, (1) an individual proprietorship, (2) a partnership, or (3) a corporation. If organized as an individual proprietorship, the individual owner assumes all responsibility for the success or failure of the enterprise and risks not only the funds which he invests in the enterprise, but, in case of failure with debts in excess of assets in this particular enterprise, any other assets which he owns may be seized for the satisfaction of these debts. Offsetting advantages are that the individual proprietor, by being able to manage his enterprise without the interference of other people, retains a freedom and decisiveness of action which cannot be gained where more than one person is involved, and that he is not subject to certain expenses connected with the corporate form of organization. The predominant form of entrepreneur organization in agriculture today is the individual proprietorship.

Partnership.—When one individual does not possess sufficient funds to purchase the enterprise in which he wishes to embark, he may enter into partnership with one or more other persons, and a larger enterprise may be undertaken. There are, however, four important objections to the partnership form of organization for most kinds of business. First, any one of the partners may within the scope of the business bind the partnership to a contract. Therefore it is necessary that the partners know each other well and understand each other's moral habits and business ability. Second, in case the partnership fails, any of the partners may be held liable for all the debts of the partnership. In case one partner has considerable assets outside of the partnership, he is risking these assets as well as those invested in the partnership. Third, if one of the partners dies or wishes to sell his interest, the whole partnership must be dissolved and a new partnership formed with those who acquire the interest of the retiring or deceased partner. Fourth, disagreement between the partners as to business policy may easily arise and lead to slowness of action, which is in sharp contrast to the freedom and decisiveness of action in the individual proprietorship.

The Corporation.—The third form of entrepreneur organization is the corporation. The corporation has been defined as a legal person artificially created by law and possessing some, though not necessarily all, of the rights, privileges, and obligations of a natural person. It may sue and be sued, and may acquire, own, and sell property. Where more capital is demanded in an enterprise than that which can be supplied by one individual, the corporate form of business is in very general use, and,

because of certain qualities which have been given it by law, it is being increasingly employed, especially in business of a hazardous character, even when most of the capital is supplied by one individual. Its advantages are:

(1) *Limited Liability.*—A person who buys the stock of a corporation risks ordinarily only the amount of money which he originally invests in it, except that in case of stock with a stated par value the full par value of the shares must have been paid in.

(2) *Ease in Transferring Ownership.*—The shares of ownership, known as shares of stock, may be bought and sold freely without disturbing the organization of the corporation and ordinarily without the consent of the other owners.

(3) *Ease in Combining Assets.*—The factors of limited liability in case of insolvency and the ease of transferability of ownership make it possible to bring together a large volume of capital in one enterprise. Therefore it is especially suited to large businesses.

(4) *Permanence.*—The corporation may have a permanence and stability not possible with the other forms of business organization. Although incorporation involves certain legal details and the payment of certain license and other fees to the state, as well as additional taxes in some cases, the costs involved are minor compared with the advantages obtained by this form of organization when a large supply of capital is required to be supplied by many individuals.

When a single person supplies most of the capital of a business, the usual reason for incorporation (if resorted to) is to take advantage of the feature of limited liability. The advantage of that feature is sometimes overestimated. If a corporation is in a weak financial condition it cannot borrow without the endorsement of its notes by interested stockholders. Furthermore, the taxes and fees applicable to a corporation but not to an individual proprietorship in some cases are considerable in amount.

A corporation comes into existence by being granted a charter, that is, by having its articles of incorporation approved by the state. In the early history of the country, charters could be secured only by special legislative acts. At present, most corporations are organized under general corporation laws, under which the charter is issued by the secretary of state as a matter of course after certain formalities have been complied with.

Sources of Capital.—Any form of business enterprise derives its capital from two sources: the contributions of the owners and loans from creditors. Owners' equities in corporations are represented by shares of stock, which represent partial ownership in the corporation as a unit and not ownership of specific property of the corporation. Stock is of two general types, *preferred* and *common*. Preferred stock has usually some preferences or rights over the common stock, though the mere designation

preferred stock conveys but little meaning, unless its particular preferences are known. It may be preferred as to assets, dividends, or voting power. If preferred as to assets, it is entitled in case of liquidation to specified payments before anything is secured by holders of common stock. If preferred as to dividends it is entitled to dividends of a specified amount before any dividends are paid to holders of common stock. Preference as to voting power is less common, and, where provided for, it usually exists only when dividends have not been paid, or the corporation is threatened with insolvency. In many corporations the preferred stock has no voting power. Preferred stock may be *cumulative* or *noncumulative*. If cumulative, the dividends which are not paid currently accrue and must be fully paid before any dividends may be paid on the common stock. Sometimes preferred stock is *participating*, in which case it shares with the common stock to a specified degree in dividends which are paid on common above a specified limited amount. A corporation may have different classes of preferred stock with widely different preferences. In any particular case it is necessary to consult the charter and by-laws of the corporation, and the contract under which the stock was issued, to ascertain the exact nature of the preferences of a particular issue. There are issues of so-called preferred stock which have no preferences whatever over the common stock.

Common stock represents the residual ownership, or claims to assets and earnings after all prior claims have been satisfied. Usually all common stock has equal voting power on a per share basis, and equal rights to earnings, but to this there are some exceptions. Sometimes corporations issue several classes of stock known as Class A, Class B, etc., a frequent difference between such classes being in voting power. Agricultural cooperative marketing associations or corporations quite commonly have provisions that each individual owner of stock shall have but one vote regardless of the number of shares he owns. If a business is prosperous, the common stock may be very valuable and receive large dividends, but, if the business is barely struggling along, it may become of very little value because it represents the last claim on assets and earnings.

In contrast to stocks, bonds represent claims of creditors against a corporation. A *bond* has been defined as *a subdivided interest-bearing contract for the future payment of money*. Such subdivided contracts when running for relatively short periods of time, ordinarily less than five years, are, however, more generally known as *notes*, the term *bond* being generally limited to those maturing after longer periods. In the issue of private corporation bonds there are three important parties, *viz.*, the borrowing corporation, the bondholders, and the *trustee*. The last mentioned is usually a trust company or a bank. The full contract under which the bonds are issued is known as the *trust agreement* and is

entered into between the borrowing corporation and the trustee representing the bondholders. Important parts though usually not all of this contract are recited on the bonds themselves, which are the subdivided parts, issued most commonly in $1,000 units, though also in smaller and larger denominations. Bonds are of many kinds, varying as to kind of security, interest rates, time for which they are to run, manner in which interest and the bonds themselves are to be paid, and other features. On the basis of kind of security the most important type is the *mortgage bond*, secured by a mortgage on specific property. For railroads especially, there are many classes of mortgage bonds, such as first, second, and third on particular properties, first consolidated, etc. Another general type is the *collateral trust bond*, secured by certain valuable securities, ordinarily stocks or bonds of other corporations, deposited with the trustee. Another type is the *debenture bond*. This term is used loosely in a variety of ways but usually refers to a bond secured only by the general credit of the corporation, rather than by the pledge of specific assets.

In general, the interest on corporation bonds must be paid, or the corporation may be thrown into a receivership or bankruptcy. One important exception to this is in the case of income bonds, on which interest needs to be paid only if earned, and they, therefore, somewhat resemble preferred stocks.

Bonds and notes other than those running for but a very short time are generally referred to as the *funded debt* of the corporation. The word *bond* to most people suggests a high degree of security. No instrument of indebtedness, however, is valuable unless the borrower has assets or earnings, and corporation assets disappear rapidly if there are no earnings. Present and prospective earnings are the basis of the value of all corporation bonds and stocks.

Corporate Management.—The management of a corporation is vested ultimately in the voting stockholders. Practically, however, the individual stockholder's part in management is essentially limited to the selection of a board of directors and the approval of changes in the articles of incorporation and by-laws. To participate in electing directors, which is done in the annual meeting, and to receive information about the affairs of the corporation are the stockholder's most important rights. His privilege is to hope for dividends. The directors in turn entrust the actual management of the business to a hired managerial staff, which in the case of our large corporations ordinarily owns but a small part of the stock. In most corporations stockholders may cast their votes at the annual meeting either in person or by proxy. In the very large corporation, however, scattered stockholders with small holdings exert but little influence, and a relatively small group of people, often those in high managerial positions, dominate the policy of the

corporation. In such cases ownership and control are divorced, and it is possible that the controlling group will not conduct the corporation for the benefit of the stockholders. Furthermore, since the owners have always been responsible to society for the way in which property was used, this new condition of somewhat irresponsible management raises grave social questions.[1]

Importance of the Corporation.—The importance of corporations in our economic life may be partly grasped from the figures given earlier in this chapter as to the market values of stocks listed on the New York Stock Exchange (see Fig. 4, page 71). The corporations whose stocks are listed on the New York Stock Exchange, however, include only large corporations. By far the greater part of all our productive business activities other than agriculture is carried on under the corporate form of organization. Millions of people own corporation stocks, and all are indirectly affected by their policies. Professors A. A. Berle, Jr., and Gardiner C. Means find that the assets of the two hundred largest nonfinancial corporations comprise half of the corporate wealth of this country and almost one fourth of the total wealth.[2]

FINANCIAL STATEMENTS

No real understanding of corporate or other business affairs is possible without an understanding of financial statements. The most important of these are the balance sheet and the profit and loss, or income, statement. These will be briefly explained.

The Balance Sheet.—The balance sheet represents the condition of a business at a particular time. It consists of two separate lists, one designated assets and the other liabilities. Under assets there are listed by class all the properties owned by the individual, partnership, or corporation, including cash and sums due from debtors, with the value of each class, as determined by the accountant. The liabilities side of the balance sheet consists of two parts, the true liabilities or obligations to creditors and the net worth or proprietorship. True liabilities are sums which are owed to others. Subtracting the true liabilities from the value of the total assets gives the net *book value* or *net worth* of the property of the owners. In the case of a corporation, the total net worth divided by the number of shares outstanding gives the net worth or book value per share. On page 86 is reproduced in condensed form the consolidated balance sheet of Swift & Co., meat packers, for Oct. 29, 1938.

This is a very simple balance sheet, and only a few of the items should require further explanations. On the asset side, it will be noted that

[1] See A. A. Berle, Jr., and G. C. Means, *The Modern Corporation and Private Property* (Commerce Clearing House, 1933), particularly Book I, Chap. V, and Book IV, Chap. IV.

[2] *Ibid.*, p. 360.

Land, Buildings, and Equipment is listed after depreciation reserves, or estimated depreciation from cost, has been deducted. The value given for this item, therefore, is the net value. On the liabilities side, Reserves is a sum earmarked to care for possible future losses or the possibility that some other item on the asset side may not have an actual value as great as listed. Capital stock is the amount presumably paid in by stockholders, or the par value of the stock issued. As the par value of stock per share for this company at the time of this statement was $100, it is obvious that the number of shares outstanding was 1,500,000. After subtracting all true liabilities and the par value of all the capital stock from the assets, there was still an excess of $78,318,310.56 of assets. This is considered Surplus, or what the stockholders own in excess of the

Assets		Liabilities	
Cash	$ 27,832,516.51	Accounts Payable	$ 6,804,092.27
Accounts and Notes Receivable	38,265,408.34	Accrued Interest, Taxes, and other Unpaid Expenses	6,496,826.79
Inventories	86,233,159.77	3¾% First Mortgage Bonds due May 15, 1950	37,000,000.00
Stocks and Bonds Owned	43,475,121.62	Miscellaneous Liabilities	1,115,474.65
Land, Buildings, and Equipment (after deducting depreciation reserves)	101,050,083.51	Reserves for Fire, Inventory, Price Decline, and Other Special Purposes	26,719,816.47
Prepaid Expenses and Miscellaneous Assets	9,598,230.99	Capital stock $150,000,000 00	
		Surplus 78,318,310 56	
		Total Stockholders' Investment (net worth)	228,318,310 56
	$306,454,520.74		$306,454,520.74

par value of stock outstanding. The sum of the capital stock and surplus constitutes the net worth. Surplus generally arises from earnings which were not paid out in dividends, but were invested in items which appear on the asset side of the balance sheet. Cash and such items as Accounts Receivable and Inventories, which it is assumed will be converted into cash in a relatively short period of time, are called *current assets.* Debts payable in a relatively short time, such as Accounts Payable and Short-time Notes Payable, are called *current liabilities.* Assets not expected soon to be converted into cash and liabilities which are not payable at any relatively early date are called *fixed assets* and *fixed liabilities,* respectively.

The Profit and Loss Statement.—The statement of profit and loss is also referred to as the *income statement* or as the *operating statement* and gives the result of operations for a fixed period of time. Every properly conducted business compiles such a statement annually, and many do so quarterly or monthly. In the typical profit and loss statement the first item is the "gross income from sales" or "sales." Next appears "cost of goods sold," or "cost of sales." The latter subtracted from the former gives the "gross profit." Next are listed the "operating expenses." Although there is some variation in accounting practice, these usually include such items as wages, rent, property taxes, and

depreciation, but not interest, income taxes, or any return on invested capital. The operating expenses subtracted from the gross profit gives the operating profit. To the operating profit is added income from investments, etc., and from the resulting sum are subtracted other expenses, including usually interest on borrowed money and always income taxes. The result gives the "net profit." This is available to be paid out in dividends or added to the surplus of the business. Taxes and interest on funded debt are generally referred to as *fixed charges.* Below is reproduced in condensed form the income or operating statement of a small business. The data are presented for two years to enable comparisons to be made.

	1938	1939
Sales	$163,921.40	$177,498.61
Cost of sales (or of merchandise sold)	122,288.30	129,659.28
Gross profit	41,633.10	47,839.33
Ratio of gross profit to sales	25.40%	26.95%
Operating expenses	36,095.67	38,767.60
Ratio of expenses to sales	22 02%	21.84%
Operating profit	5,537.43	9,071.73
Other income	3,694 65	3,598.19
Gross income	9,232.08	12,669.92
Other deductions	720.80	1,179.40
Net income or net profit	8,511.28	11,490.52
Shares of stock outstanding	1,000	1,000
Net earnings or profit per share	8.51	11.49

The accounting terminology explained in the preceding section is applied in general to all business undertakings, though there is no absolute uniformity in practice. The most rigid terminology is that applied to railroad accounts, as the precise manner in which each term shall be used is prescribed in detail by the Interstate Commerce Commission. The necessity of calculating Federal income taxes in a particular way has contributed much to uniformity in accounting in recent years.

Farm-management Statements.—In accounting in farm management, a special terminology has been devised to supplement general accounting terminology and give precision to certain concepts. The need for a precise terminology has become especially apparent in farm-management studies by experiment stations. In the use of the terms which have been adopted, as in general accounting terminology, there is some variation. The following are, however, the most usual meanings assigned to important terms used in analyzing a farmer's business operations for a particular year. The first of the terms is *receipts,* which is used to refer to the receipts from the production of a particular year, excluding receipts from goods produced and held over from previous years. It includes, there-

fore, (1) the amounts received for goods produced during the year and sold, (2) the estimated value of goods produced for sale during the year and still held for sale, and (3) the amount by which the value of livestock and the feed supply have been increased within the year from production. In calculating receipts, the value of the use of the farm dwelling and of the food and fuel produced on the farm and used by the farm family is not included.

The next important term is *expenses*, which includes value or cost of all labor except that of the operator; cost of any seed or feed that is purchased; twine, sacks, and the like; crop and building insurance; upkeep and depreciation on machinery and buildings; taxes; and other costs assignable to farming operation rather than to living. It also includes the net decrease, if any, in livestock and feed and supplies. The deduction of expenses from receipts leaves *farm income*. This is the amount, in addition to the use of house and food and fuel supplied by the farm, which the farmer received for his services and as interest on the investment in the farm and equipment. Subtracting a fixed percentage as interest allowed on investment in real estate and equipment (commonly 5 or 6 per cent) from the farm income leaves a sum termed *labor income*, which represents what is left to pay the operator for his services, again excluding contributions to living received directly from the farm. *Family living from the farm* is estimated by placing a moderate rental value on the house and adding to this the farm value of food and other contributions to the living furnished by the farm. *Operator's earnings* are then calculated by adding together the *labor income* and the *family living from the farm*. It would, of course, be possible to add to expenses an arbitrary estimated value of the labor supplied by the operator and then to calculate the percentage which the total remaining net income would amount to on invested "capital." This would be following more nearly the practices of accounting in other lines of business undertakings and actually is the practice followed in farm cost accounting by some state experiment stations. Some experiment station investigators calculate both the labor income after making a definite charge for the use of capital, and the percentage earned on capital after making a definite charge for the operator's labor. *Labor income* as ordinarily calculated may be increased by placing a low value on the farm real estate and equipment or using a low rate of imputed interest, and it may be decreased by placing a high value on the farm property or using a high rate of interest. Unless it is known how farm labor income was calculated, the term does not have a very definite meaning.

PROFITS, COST, AND PRICES

Business Profit Concepts.—In the preceding discussion the term *profits* has been frequently used. This is a term employed with such a

wide range of meanings that it is essential in any discussion that there shall be an understanding of the exact sense in which the word is used. If we refer again to the typical profit and loss statement of a business, there will be noted (1) *gross profit*, which is the difference between the cost of purchased goods sold, including freight and drayage, and the receipts from sales. Out of the gross profit there must come all costs of doing business before there can be any net profit, yet gross profit is often spoken of simply as profit without apparent appreciation of this fact. Next there is (2) *operating profit*. In arriving at this, most of the costs of doing business have been deducted from gross profit, yet such important items as interest on borrowed money, in most cases, and income taxes have not yet been deducted. Inability to provide for the interest on borrowed funds may force a business into bankruptcy, even though it has an operating profit. Proceeding, we come to (3) *net profit*, which is what the business man most often has in mind when he speaks of profit. It is to be carefully noted, however, that this is in the nature of a return on "capital," as that term is used in business language. Net profit refers to the income of the business which remains after all expenses have been deducted, including a bookkeeping charge for depreciation of fixed assets. It is the "profit" received by the owners of the business as a return on their investment.

Referring again to the profit and loss statement on page 87, we observe that in 1938 the net profit amounted to $8.51 per share of stock and in 1939 to $11.49 per share of stock. Assuming that the shares of stock were $100 each, paid in, and that there was no surplus, the "profits" of the business amounted to 8.51 per cent and 11.49 per cent for the two years, respectively, on invested capital. However, this is not at all likely to have been the case. Usually a successful business is one that has grown. In early years, if it earned a moderate return on invested capital, it probably paid no dividends but left these earnings in surplus. Assuming now that the business whose profit and loss statement we have been examining had in addition to $100,000 paid-in capital, also $100,000 surplus retained in the business instead of being paid in dividends from profits of previous years, then the net profits for the two years shown amounted to $8.51 and $11.49, respectively, for each $200 of invested capital, which would be 4.26 per cent and 5.75 per cent, respectively, for these years on the stockholders' total investment in the business, or on the net worth of the corporation.

The points just explained may be further illustrated by reference to Swift & Co., whose balance sheet was shown on page 86. According to the consolidated income statement of that company its operations for the year ending on Oct. 29, 1938, for which date the balance sheet is shown, resulted not in a profit, but in a loss, after charges for depreciation of plant and equipment. During the year ending October, 1936, however, the

company made a net profit of $13,340,552. Its capital stock at that time was $150,000,000, and its surplus approximately $78,000,000. The net worth or book value per $100 share was, therefore, $152. The net profit amounted to $8.89 for each of the 1,500,000 shares of $100 par value but to only 5.85 per cent on the stockholders' total investment in the business of $152 per share as represented by both capital stock and surplus.

Pure Profit.—A fourth concept of profit is that of a return to the entrepreneur, or risk bearer, distinct from returns to labor, land, and capital as the three other factors in production. This concept of profit is frequently designated as *pure profit*, and it is what the economist has in mind when he speaks of profit along with wages, rent, and interest, as the returns received by the four factors of production. Wages include obviously expenditures for hired workers when workers are hired. But to arrive at pure profit the operator of a business who has invested his own capital in the business and who has paid himself no wages must have been allowed the going rate of payment for personal services of the kind which he has rendered. Likewise, interest obviously must be paid on money which is borrowed. But to arrive at pure profit, not only has interest paid on borrowed money been deducted as an expense, but the owner of the business is assumed to have received the "going rate" of interest on his own investment of "capital."

The business man thinks of capital in terms of money, and he does not differentiate between land and capital as two distinct factors in production. We shall later discuss fully the nature of the difference between them. For the present we shall simply state that something is paid for the use of land in the sense of natural resources supplied originally by nature without cost, and that such payment is considered *economic rent*, or merely rent, in discussions of returns to the four factors of production. The going rate of rent must be allowed to the owner for the use of land owned by himself before there can be pure profit. Interest also will be more fully discussed later, but here we shall note first that interest, as the word is used in the business world, is paid at least for the most part to secure the use of other material goods rather than the money for the temporary possession of which it superficially paid. These material goods include land, and interest as the term is used in business includes a return for the use of land. But when capital and land are considered separate factors of production, and interest is considered the return which goes to capital, payments for the use of land as above defined are excluded. Interest, therefore, as one of the four distributive shares is not exactly the same as interest in ordinary business language. Specifically, it is what is paid for, or assignable to, the use of capital goods—considered as material goods used in production, excluding land as above defined. This is true both when it is paid indirectly by being superficially paid to the lender of borrowed money, and when it accrues to the owner of such

capital goods because he makes use of his owned capital, instead of selling it and "lending the money" received for it.

From the above it should be clear that *net profit* as used in business includes interest on the entrepreneur's owned capital and usually also some degree of economic rent as that term has just been explained. In fact, business men are in the habit of thinking of their profits in terms of percentage on the investment. *Pure profit*, or merely profit, as the share of the entrepreneur, in contrast, is something going to the owner of the business in excess of (1) the share of all labor, including the going rate of wages for himself; (2) interest, including the normal going rate of interest on his owned "capital"; and (3) economic rent, including a return at the prevailing market rate for his own use in his business of natural resources owned by him.

Nature of Costs.—Pure profit has been explained as the excess of selling price above cost, including remuneration for the entrepreneur's own capital, land, and labor. Ultimately all costs may be resolved into the *distributive shares*. Taxes, for example, are finally paid as wages to government employees, as economic rent for natural resources, as interest on government borrowings of money which are contracted in order to obtain the use of tangible capital, etc. Cost necessarily includes a charge for deterioration or depreciation in the tangible capital used in production, but depreciation charges are to reimburse those who provided funds which originally were paid out in costs for items constituting the distributive shares. Risk is sometimes referred to as a cost. But the cost elements in risk, like all other costs, may be broken up into compensation for personal services (wages), compensation for the use of natural resources (rent), and compensation in excess of depreciation for the use of capital (interest).

Another way of looking at costs is as the amounts of money which must be realized by representative producers if production is to be continued. There are always some producers who have losses. With continued losses any producer will be forced either to cease production or to pay less for those items which constitute his costs. Always, as some entrepreneurs are forced out of business, others enter or expand their operations. If too many entrepreneurs have losses rather than profits, they will bid less vigorously against each other for the factors of production, and wages, economic rent, or interest will decline.

Profit and Prices.—Obviously, pure profit does not everywhere abound. It is probable that total pure profit in the aggregate is more than offset by total business losses. Competition among entrepreneurs for the use of labor, capital, and land results in prices for these factors sufficiently high that pure profits are not easily and certainly attained. The possibility of obtaining pure profits is the lure which tempts entrepreneurs to engage labor and pay rent and interest, rather than to work

for wages (or salary) or receive interest and rent. But hopes are far from always realized. Profits in the sense of pure profits are received only by the unusually capable or unusually fortunate business man. If he selects his enterprise with intelligence, coordinates his labor, land, and the different kinds of equipment in proper proportions, and sees to it that, day to day, operations are carefully supervised, he should be able to get more product from the use of a given amount of cost factors than do his less able competitors. To the degree that the entrepreneur accurately anticipates prices and the volume which can be sold and produces those goods which may be sold at relatively higher prices, he improves his chances of profit. Yet the most carefully laid plans will go amiss, and the low costs of efficient production may be offset by unforeseen variations either in the prices of the goods and services which need to be bought or in the prices or volume of things sold. In this way profits come to be in a large part fortuitous, for the individual entrepreneur cannot arbitrarily control price variations, nor can he always anticipate them.

The entrepreneur, as the guide of production and the source of income of the distributive shares, finds that his profit margin in a considerable part depends on the existence of a margin between two types of prices: cost prices and selling prices. Favorable price changes may bring large profit; opposite price changes may lead to bankruptcy. Under these circumstances the study of prices of all types becomes the central part of the study of the operation of the economic system.

CONTROL OF PRODUCTION

From what force or agency does this economic system receive its guidance and control? No person or board has been empowered to determine what portion of the land, capital, or labor shall be devoted to the production of a particular good. Nor does any such authority determine the quality of goods to be produced, the technology under which they shall be produced, or the prices which shall be paid for the services of the factors of production.

In so far as production is carried on under competition, without effective governmental or other social control, the direction of economic activity comes through the *price system.* If consumers desire more of a good, their increased purchasing leads to higher price and profit-seeking entrepreneurs expand production. On the other hand, if the output is excessive, prices fall below cost to many and this results in a decrease in output. Therefore, prices as they affect entrepreneurs' profits determine the apportioning of the productive factors among the various fields of production. Thus are determined not only what goods shall be produced, but also the quality of the goods, and the demand for, and the prices paid to, the factors of production.

However, recent years have witnessed an increased scope of activity in which monopoly or social action, either governmental or that of voluntary groups such as labor unions and trade associations, determines, or at least influences, the volume of output. Railroads, power companies, and that whole group of industries known as public utilities are under quite minute governmental regulation. Labor unions, by successfully bargaining for high wages in certain industries and limiting the labor performed to what can be used at these wages, affect the use of the various productive factors. Trade associations decidedly influence output in many manufacturing industries. Even in agricultural production, historically one of the most competitive of all industries, a large measure of government control of production has been attempted under the Agricultural Adjustment and Soil Conservation programs. There seems to be a clear tendency at present to enlarge the sphere of social control of production and decrease the degree of control exercised by the price system. In later chapters this tendency will be further discussed with some consideration of the question of whether it is desirable.

Questions and Problems

1. Compare the use of the word *production* in economics with its usage in everyday speech.
2. What is the final test of whether human effort is productive?
3. What kinds of utility are supplied by the retail merchant?
4. What changes in national wealth and national income expressed in dollars' worth have taken place since 1929? What factors explain these changes? For parts of the answer to this question refer to Chap. I.
5. Compare the purpose and organization of production today with manorial times.
6. What are the forces or agencies guiding economic activity in the capitalistic system of today?
7. Would agriculture benefit from further division of labor?
8. Compare the three forms of entrepreneur organization given here as to (*a*) adaptability to large-scale production; (*b*) liability of owners; (*c*) permanence of organization; (*d*) management.
9. What are recent tendencies in corporate organization and management?
10. Define stocks and bonds, and distinguish accurately several kinds of each.
11. Compare or contrast at least four different accounting and economic uses of the word *profit*. What are some factors determining pure profit?
12. Explain how lack of *profits* may reduce wages and interest.
13. From Moody's *Manual*, or some other source, reproduce in condensed form the balance sheet and profit and loss statements of two large corporations engaged in the same business. Compare the corporations in the following respects: (1) percentage of assets represented by funded debt; (2) percentage of assets represented by net worth; (3) book value of capital stock; (4) annual net earnings per share of stock; (5) annual net earnings as a percentage of net worth. Of which stock should the market value be the greater, and why? Give descriptions of two bond issues listed in Moody's *Manual* or elsewhere, and state which you consider the safer investment, and why?

Suggested Readings

1. E. H. Spengler and Jacob Klein, *Introduction to Business* (1939) provides a survey of promotional and marketing problems of business as well as the organization, management, and financing of a business concern.

2. R. N. Owen, *Business Organization and Combination* (1938) contains a more complete presentation of business organization.

3. Eliot Jones, *Principles of Railroad Transportation* (1924), Chaps. II and III, contains a very clear description of many features of corporate organization.

4. A. A. Berle, Jr., and G. C. Means, *The Modern Corporation and Private Property* (1932) is an interesting and up-to-date study of the corporation and its economic and social significance. The general theme of this book is contained in Book I, Chap. I.

5. S. H. Slichter, *Modern Economic Society* (1928), Chap. I, treats more thoroughly the nature and efficiency of production control under capitalism.

6. Barbara Wootton, *Plan or No Plan* (1935), Chap. I, contains a lucid and complete statement of the functioning of the price system in controlling production.

CHAPTER V

THE LAW OF DIMINISHING RETURNS

The plane of living of a nation's people rests upon the quantity of goods produced by that people and the degree of equality with which the national income is divided or distributed among the population. Here we shall note some of the factors which influence efficiency in production and therefore affect the total national income. The question of division or distribution of the national income will receive attention in later chapters.

TABLE 12.—APPROXIMATE EXPENDITURE REQUIRED TO SUPPORT VARIOUS AMERICAN STANDARDS OF LIVING UNDER URBAN CONDITIONS[1]
(Costs and values as of 1929)

Standards of living	Individual	Man and wife	One child	Two children	Three children
Bare subsistence	$ 600	$ 900	$1,200	$1,500	$ 1,800
Minimum for health and efficiency	800	1,200	1,500	1,800	2,100
Minimum comfort (decency level)	1,000	1,500	1,800	2,100	2,400
Comfort	1,200	1,800	2,200	2,600	3,000
Moderately well-to-do	1,800	2,700	3,200	3,700	4,200
Well-to-do	3,000	4,500	5,500	6,500	7,500
Liberal	5,000	7,500	8,700	10,000	12,000

[1] Roland S. Vaile and Helen G. Canoyer, *Income and Consumption* (Holt, 1938), p. 125.

During the years of economic tribulation since 1929, the opinion has been expressed frequently even by men in high positions that we were suffering from overproduction. At the same time very severe criticism was directed by writers on social subjects against our economic system, because average incomes of workers in particular industries did not reach sums reported as the necessary minimum for maintaining the health and efficiency or the comfort of a family. It is interesting to consider these opinions in light of the data presented in Chap. I, Table 2, concerning the size of the national income and the data given below concerning family budgets. In the very prosperous year of 1929, the income produced *per person gainfully employed* was only $1,809. Thus, if the national income were divided equally among the gainfully employed it would not have been enough for minimum health and efficiency budgets for a family of five, or $2,100, as is shown in the last column of Table 12. A minimum comfort budget would have required a family income of $2,400. In 1932,

if the national income had been divided equally among all those normally employed (excluding housewives) each such person would have received in money or goods less than $1,000. In 1936 if the national income had been div ded equally among all the family units of the nation—families and mature individuals living alone—each would have received about $1,500.[1]

Some reformers have held that the problem of production has been solved; that there remains only the problem of income distribution. That opinion is not supported by the best available statistical information, although some improvement in the standard of living of those in most unfortunate circumstances is possible by a changed and improved distribution of our national income. Nevertheless, if the plane of living of the great mass of our population is to be appreciably raised, it can come only through an increased production of goods.

Efficiency in production depends on many factors, no complete enumeration of which is here possible. Among these are: (1) an abundance of natural resources in relation to population numbers; (2) knowledge of, and skill in, the technology of production of particular goods; (3) organization of production in such a way as to take the maximum advantage of items 1 and 2. It is in the attainment of the third of these essentials that economics as a science is most directly related to production efficiency.

In this chapter we shall be concerned with a principle which first attracted widespread attention in relation to an abundance or scarcity of natural resources, but which also is of high importance in organization for efficiency in production. This principle as first enunciated was designated the *law of diminishing returns* and is still generally so known.

The original statement of the law of diminishing returns, however, has been modified and broadened by some more recent writers, and this broader statement covers essentially the same principles as are explained by other writers as the *law of proportions* or the *principle of substitution*. We shall consider first the earlier and then the more recent statements of the law.

SOCIAL ASPECTS OF DIMINISHING RETURNS

Law of Diminishing Returns.—The law of diminishing returns has both its social and its individual aspects. Early writers related the law to such social problems as tariffs and land returns and the pressing population problem. Modern economists also use the principle in explaining prices and the division of the national income. The individual aspects of diminishing returns have to do primarily with the entrepreneur's task of determining the most economic proportions in which to combine land, labor, and capital into a producing unit. The first clear statement

[1] *The Consumer Spends His Income* (National Resources Committee, 1939), p. 4.

by English economists of the law of diminishing returns occurred about the time of the close of the Napoleonic wars. Its origin has been summarized by F. L. Patton[1] as follows:

Committees had been appointed by both Houses of Parliament to investigate the wisdom of retaining the high duties which had been levied on the importation of grain. Those committees represented only the land-owning classes, and "they naturally recommended the retention of the duties, for landowners were anxious to retain the large rents which the high grain prices arising out of the war had made it possible for them to secure. In their reports, however, the committees gravely stated that their only reason for recommending the retention of the duties was their conviction that only this would make it possible for England to keep the recognized advantages of intensive agriculture."

The reasoning of the committees was soon denounced (in 1815) by a number of the men who have since become famous as economists of that period, the first carefully worded statement probably being that of Edward West. He maintained that "in the progress of improvement [*i.e.*, intensification] of cultivation the raising of rude produce becomes progressively more expensive." In other words, intensive agriculture was, in West's opinion, relatively unproductive agriculture, and England would be better off without it. He believed, however, that intensive agriculture could not be put off indefinitely, for the population was growing and increased population would necessarily require an increased food supply and this could be secured only by intensive agriculture. Thus, the natural growth of population necessitates more intensive agriculture, and, as a consequence, "the whole of the work bestowed on agriculture in the progress of improvement [more intensive cultivation] yields an actually diminished proportionate return."

In 1890 Alfred Marshall in his monumental work on *Principles of Economics* began his discussion of the law of diminishing returns by saying that the law of or tendency to diminishing returns might be "provisionally" worded thus:

> An increase in the capital and labour applied to the cultivation of land causes *in general* a less than proportionate increase in the amount of produce raised, unless it happens to coincide with an improvement in the arts of agriculture.
>
> We learn from history and by observation that every agriculturist in every age and clime desires to have the use of a good deal of land; and that, when he cannot get it freely, he will pay for it, if he has the means. If he thought that he would get as good results by applying all his capital and labour to a very small piece, he would not pay for any but a very small piece.
>
> When land that requires no clearing is to be had for nothing, everyone uses just that quantity which he thinks will give his capital and labour the largest return. His cultivation is "extensive," not "intensive." He does not aim

[1] *Diminishing Returns in Agriculture* (Columbia University Press, 1926), pp. 9–10.

at getting many bushels of corn from any one acre, for then he would cultivate only a few acres. His purpose is to get as large a total crop as possible with a given expenditure of seed and labour; and therefore he sows as many acres as he can manage to bring under a light cultivation. Of course he may go too far: he may spread his work over so large an area that he would gain by concentrating his capital and labour on a smaller space; and under these circumstances, if he could get command over more capital and labour so as to apply more to each acre, the land would give him an *Increasing Return;* that is, an extra return larger in proportion than it gives to his present expenditure. But if he has made his calculations rightly, he is using just so much ground as will give him the highest return; and he would lose by concentrating his capital and labour on a smaller area. If he had command over more capital and labour and were to apply more to his present land, he would gain less than he would by taking up more land; he would get a *Diminishing Return*, that is, an extra return smaller in proportion than he gets for the last applications of capital and labour that he now makes, provided of course, that there is meanwhile no perceptible improvement in his agricultural skill. As his sons grow up, they will have more capital and labour to apply to land; and in order to avoid obtaining a diminishing return, they will want to cultivate more land. But perhaps by this time all the neighbouring land is already taken up, and in order to get more they must buy it or pay a rent for the use of it, or migrate where they can get it for nothing.

. . . Were it not for this tendency every farmer could save nearly the whole of his rent by giving up all but a small piece of his land, and bestowing all his capital and labour on that. If all the capital and labour, which he would in that case apply to it, gave as good a return in proportion as that which he now applies to it, he would get from that plot as large a produce as he now gets from his whole farm; and he would make a net gain of all his rent save that of the little plot that he retained.[1]

Marshall points out three conditions which may delay the operation of diminishing returns in agriculture, *viz.*: (1) improvements in the arts of agriculture, (2) such inadequate previous applications of labor and capital to land that more than a proportionate return would have been realized from increased applications, and (3) increase in skill of the individual cultivator. He concludes, however, that

whatever may be the future developments of the arts of agriculture, a continued increase in the application of capital and labour to land must ultimately result in a diminution of the extra produce which can be obtained by a given extra amount of capital and labour.

The Malthusian Theory of Population.—The early economists were especially interested in diminishing returns from land, because they considered the supply of land incapable of such increase as might occur in the supply of capital and labor. They, therefore, felt that because of three reasons—*viz.*, (1) the limited supply of land, (2) diminishing returns from land, and (3) the tendency for population to increase

[1] Eighth edition, 1920, pp. 150–151.

rapidly—the human race was everywhere facing decreasing rather than increasing levels of living. This found expression in the *Malthusian theory of population*, presented by Thomas R. Malthus in 1798. Though this date preceded the time when the law of diminishing returns was first carefully stated, that law was really one of the bases upon which the Malthusian theory rested.

When Malthus wrote, the living conditions of the working classes in England were deplorable. A subject of much discussion was whether it would be at all possible for the plane of living of the working masses to rise above mere subsistence on a diet of dry bread. Population had increased and was increasing very rapidly. All the good land in the British Isles was under cultivation, and the developments in transportation which were to cause the New World to supply England with cheap grain were yet to come. Meanwhile England was suffering from the unemployment accompanying the readjustment to the beginning of the modern factory age. Many families were supported by charity. Men were wondering whether nature had not played a bitter joke on mankind by enabling the population to grow more rapidly than the requisite food supply could be increased.

Out of this dark environment appeared in 1798 Malthus' *Essay on the Principle of Population*, which, as it was altered through successive editions, came to state the general principle of population as follows: Population tends to outrun food supply, unless checked. Population cannot outrun food supply for any considerable time, for surplus people will starve; but it is always threatening to exceed the available food, and thus poverty and misery for a large part of the population are unavoidable. This theory of population is built on two theoretical pillars or principles. First, the biological urge, which tends to bring about a rapid increase of population. Second, the increasing population will not be able to produce a corresponding increase in food. The available good land in England was all taken, and, according to Malthus, emigration to new lands offered only temporary relief, for such emigration would soon be offset by population increases in the home country. To farm old lands more intensively would not afford relief, for it brought the law of diminishing returns into play. The plane of living of the masses would tend to be at the bare subsistence level, for, if population should at any time exceed food supply, the positive check of starvation would operate, or, if food supply should at any time exceed population, an increase in the birth rate would use up the surplus food.

Two factors might prevent population from pressing on food supply. First, the operation of such positive checks as war and pestilence might raise the death rate to the point that it more than offset the birth rate. Such relief from surplus population is hardly to be desired. Second, the preventive check of late marriages and small families might prevent

the pressure of population on food supply. Malthus did not seem to feel that the preventive check was of sufficient strength to support an optimistic view of the future of society. Conditions, when he wrote, were such as to give support to his views.

The Malthusian Theory and Present Conditions.—The law of diminishing returns, in its application to the population problem and other problems, earned for economics the name *the dismal science.* No principle ever developed in economics has been more bitterly attacked than the Malthusian theory. Some critics have gone so far as to say that the theory is wholly inapplicable today. It is true that in many parts of the world today people are enjoying more consumable goods than at any time in history and that the chief problem of agriculture as an industry in this country at present does not seem to be that of producing more, but rather that of selling more or else producing less. Thus it seems necessary to reexamine Malthus' doctrine in the light of more modern developments.

TABLE 13.—BIRTHS PER 1,000 OF POPULATION IN SPECIFIED COUNTRIES, AVERAGE IN 1908–1912,[1] 1927–1928,[1] AND IN 1938[2]

Country	1908–1912			1927–1928			1938		
	Birth rate	Death rate	Natural increase	Birth rate	Death rate	Natural increase	Birth rate	Death rate	Natural increase
England and Wales	25.2	14.2	11.0	16.7	12.0	4.7	15.1	11.6	3 5
France	19.4	18.5	0.9	18.2	16.6	1.6	14.6	15.4	0 8
Germany	30.0	16.9	13.1	18.5	11.8	6.7	19.7	11.7	7.0
Italy	32.7	20.8	11.9	26.6	15.7	10.9	23.6	13.9	9.7
United States	....	....	....	20.2	11.8	8.4	17.9	10.7	7.2

[1] W. S. Thompson, *Population Problems* (McGraw-Hill, 1930), Tables 23, 47, and 94.
[2] *Statistical Yearbook* (League of Nations, 1938–1939), Table 8.

First: Is there a biological urge to reproduce? Modern analysis seems to show that there is a biological urge for sexual relations, but that this urge is not an urge to reproduce. This conclusion leads to the second point: Is not the preventive check far more significant than Malthus realized? The size of the family has been reduced among some classes by birth control. The usual motive which leads to the reduction in the size of families is the desire of the parents to provide for themselves and their offspring greater opportunites for a pleasurable life than that enjoyed by their ancestors, although no doubt in cases of many married people the desire to escape the responsibilities and cares of parenthood is the basis for having few or no children. The significant fact is that the growth of population is being controlled by human beings and, furthermore, that the major purpose of this control is to increase the amount of

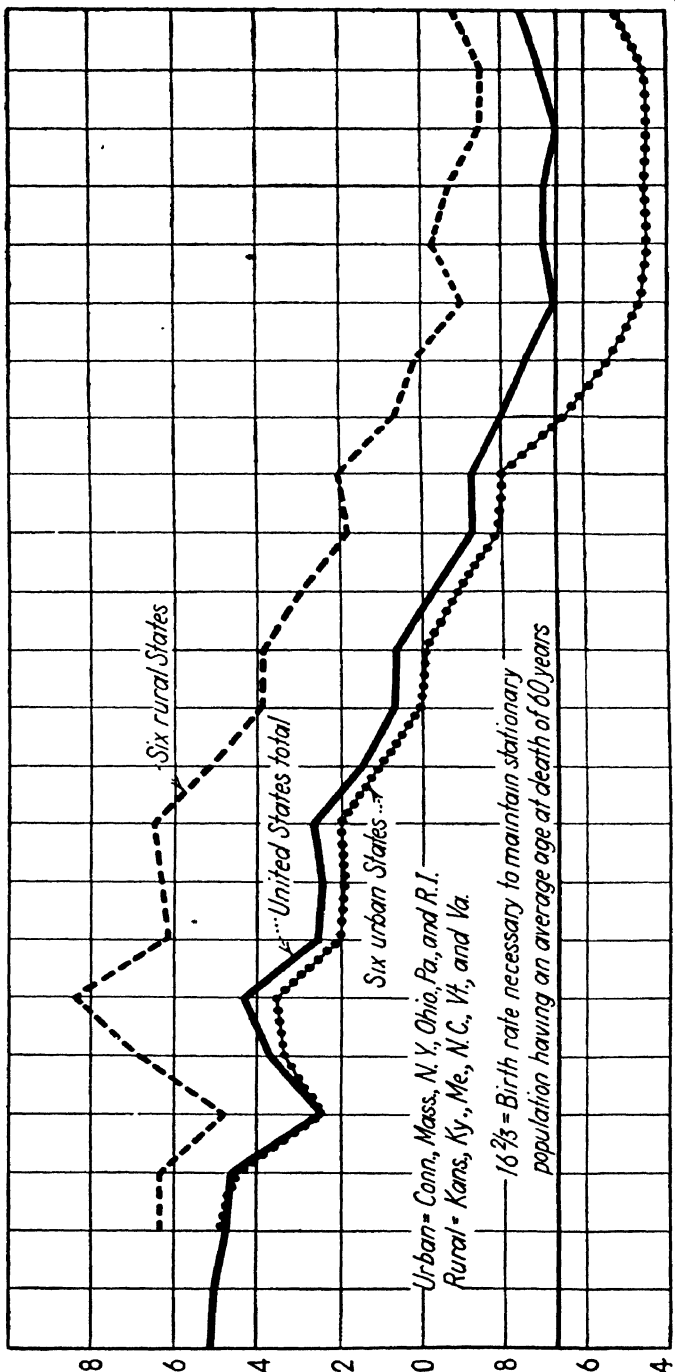

FIG. 5.—Birth rate per 1,000 population, registration area of United States, 1915–1938 and six urban and six rural states, 1917–1938. (*U.S. Department of Agriculture, Bureau of Agricultural Economics and Department of Commerce, Bureau of the Census.*)

consumable goods available per person. Thus the threat of starvation is being removed.

Significant declines in the birth rates of leading countries have taken place with their industrialization, particularly when one compares the years preceding and following the World War. Even though the various countries listed in Table 13 have also shown declines in death rates, the net effect was for the rate of natural increase to be less in 1938 than in the earlier years shown, except for a slight recent increase in Germany. Other data for the United States indicate that while the rate of natural increase was larger in the early 1920's than before the war, it began to decline about 1925 and soon fell below the prewar level. Already enrollment in the lower grades of the public schools is tending to decline. The birth rate has declined quite steadily since 1924.

The changes in the birth and death rates in the United States are graphically portrayed in Fig. 5, which shows clearly that the birth rate for the nation has fallen about to the minimum necessary to maintain population. In the United States the average age at death is now about 60 years. With this as the average length of life and a normal distribution of people as to age, a birth rate of about 16.6 per 1,000 population is required to maintain a stationary population. In 1938 the birth rate had dropped to 17.6 per 1,000 population. Students of population tendencies predict that population in the United States will be stationary or declining by 1960 or earlier.[1]

The second factor which has done much to offset the working of the law of diminishing returns has been improvement in the technique of agricultural production. Although Malthus wrote at the time that great strides were being taken in the application of machinery to manufacturing processes, relatively little progress was being made in agricultural production. Beginning about 1830 improvements have been made in all types of farm implements from the plow to harvesting machinery. Livestock breeds have been improved so that the same animal food brings forth more meat, butter, or working capacity. Not only has machinery replaced much human labor and the efficiency of livestock in terms of feed consumed increased, but great progress has also been made in the yield of field and horticultural crops. These facts are summarized in Fig. 6, of which more will be said in a moment.

A third factor, and the one most significant from the European point of view, has been the effect of improvements in transportation and communication, which have made it possible for Europe to draw on the products of the rich new lands of distant continents. To be sure, forest lands have been cleared and swamps drained in the British Isles and on

[1] See The National Resources Board report "The Problems of a Changing Population," May, 1938, Part I, for an analysis of the prospects for population growth in this country.

the continent of Europe, but the threat of starvation in Western Europe was not removed until the development of rail transportation on land and the application of steam and refrigeration to ocean transportation brought the cheap products of new lands to the markets of Europe.

In explaining the increase of agricultural production, one should not overlook the irrigation of highly productive lands previously lacking moisture and the development of economical methods of farming lands with little rainfall. To this add land made productive by drainage, and the possibilities of supporting a large population are greatly expanded. In fact, in the United States during the period following the World War, the cry has been that of excess production of agricultural products rather than of a shortage.

The Outlook for Population Growth.—The description of the relation of birth rate and the supply of agricultural products available for the people of the United States, Western Europe, Australia, and parts of Africa should not lead to the conclusion that the working of the Malthusian principle has been offset in most parts of the world. The restrictions on the birth rate described above have been largely inoperative in Asia, Southeastern and Eastern Europe, and much of Africa. In those regions marriage is at an early age, and birth control is not much practiced. It is in these same areas that modern agricultural methods have made little progress. Drought or flood in these parts of the world brings famine, for the masses living at the point of bare subsistence have no surplus stored up. On such occasions the surplus products of the advanced parts of the world can be of little assistance, partly because inland transportation is so poorly developed that surplus goods of the areas not suffering from famine cannot reach those affected, but to a more important extent because in this age of acquisitive economic organization, when goods are supplied usually only for something in exchange, these backward peoples lack the purchasing power to import goods. In some cases this is offset in part by the charity of the wealthier nations. The reality of the pressure on population is emphasized when one considers an annual birth rate of from 40 to 50 per 1,000 in China and 37 per 1,000 in India compared to less than 20 per 1,000 in the United States in 1931, whereas the per capita income in about 1928 in India was estimated at but $37 compared with $749 in the United States.

The present applicability of the Malthusian principle in India is emphasized in the following statement:

> If one follows the occurrence of famines and plagues, one finds that they are so common in India that what seems to be the unusual and catastrophic to the Westerner is really quite customary in India, and scarcely a decade goes by without several outbreaks of disease and some local famines which carry off millions of people. In other words, famines and epidemic diseases are chronic causes of a high death rate in India. If for a few years the country is compara-

tively free from them, as in the decade 1881–90, the death rate (27.44) falls and there is a large increase of population. But, with this increase to be supported on lands already taxed almost to capacity, the following decade or two is likely to see a large increase in deaths.[1]

The operation of the Malthusian principle in these backward regions of the world will probably become less marked as these people adopt the civilization of Western Europe and America, for the advance of civilization has usually meant a decline in the birth rate. Those individuals of Asia and backward parts of Europe who have come into intimate contact with Western civilization have usually had smaller families. The adoption of advanced methods of production is being promoted by the Soviet government in its vast area. Education, both general and technical, is slowly permeating India. Japan's advance in industrial methods has been more marked than in agricultural technique, yet the progressive leadership of that nation is not overlooking farming methods. China will no doubt soon shake the lethargy of the ages and make rapid economic progress.

Even in Western Europe and the United States many classes still have a high birth rate. It has been declared by careful students that Europe did not miss the millions of its lower economic classes who emigrated to America. Their places were quickly taken by others, since the relief of the pressure on food supply increased the birth rate or decreased the death rate according to the Malthusian theory. Yet taking these nations as a whole, the modern population problem in the United States and Western Europe is not one of the total birth rate but of the character of the population increase. The greatest decline in birth rate has come in the case of those highest in the scale of incomes. In so far as income represents inherited ability and opportunity to develop native capabilities, serious social problems of the future leadership of modern civilization are raised.

Whether the outlook for any given people is pessimistic in true Malthusian tone, or has the optimistic tone of Western civilization, depends on the "race between population and improvement" in the production methods of that people. In the Orient and Africa, there is sad need for both a decline in the birth rate and an improvement in technology. In the United States—with the less than 25 per cent of the population who are agriculturally employed supplying the remaining 75 per cent with the raw food and clothing materials in superabundance, and with the slow rate of natural increase which points to the maximum population about 1960, with a decrease in numbers thereafter—there seems little basis for worry. The problem confronting us throughout the field of production, not in agriculture alone, is to obtain such great

[1] W. S. Thompson, *Danger Spots in World Population* (Knopf, 1930), pp. 143–144.

efficiency that the plane of living may be raised materially above a health-and-comfort minimum.

INCREASING EFFICIENCY IN PRODUCTION

Increased Production and Improved Standards of Living.—In the race between population and improvement in nearly all parts of the world in recent years, production has increased more rapidly than population. The marked increase in production is shown in Table 14, which gives

TABLE 14.—ESTIMATED PRODUCTION OF LEADING BASIC COMMODITIES IN THE UNITED STATES AND IN THE WORLD, 1900–1936
(1900 = 100)[1]

Year	United States	World total (exclusive of United States)
1900	100	100
1910	140	132
1920	179	146
1929	221	194
1932	138	143
1938	188*	203

[1] Indexes for 1900–1929 from G. F. Warren and F. A. Pearson, "The Physical Volume of Production in the United States," *Cornell Memoir* 144, Tables 1 and 3. Recent data from Professor Pearson and from the League of Nations, *Statistical Yearbook*, 1938–9, Table 107.

* Estimated.

data on production of leading basic commodities for all the countries of the world for selected years from 1900 to 1938, using the production of 1900 as a base of 100. The data show the decline in 1932 due to the widespread business depression and indicate that even by 1938 the 1929 level had not been regained. The most significant things shown by the figures are (1) that between 1900 and 1929 production of basic commodities approximately doubled, and (2) that between 1900 and 1938 the rate of increase in production was greater in the other countries of the world combined than in the United States.

The relative growth of total production and trade, of crop production, and of population from 1900 to 1938 is depicted in Fig. 6. Total production and trade approximately doubled in the first thirty years of the century, whereas population grew by only 50 per cent. At the same time crop production just about kept pace with population. Since 1930 neither total production and trade nor crop production has kept pace with population; per capita production has declined.

In spite of this remarkable growth in physical production, both in the United States and in the remainder of the world, the probabilities are that the actual increase in want-satisfying goods has been still greater. Of necessity, the indexes of production overemphasize raw-material produc-

tion and undermeasure or omit the finer and finer processing which is a characteristic of improvement. The lack of standardization of many finished goods makes the measurement of their volume difficult. Furthermore, improvement in the quality of a good, such as an automobile, cannot be measured very well.[1]

Agricultural Production.—Stimulated at least until 1920 by a growing labor supply and expanding domestic and foreign markets, the total agricultural production of the United States has grown quite steadily, varying somewhat from year to year in accordance with yields. Since 1900, crop production has hardly kept pace with population; it had

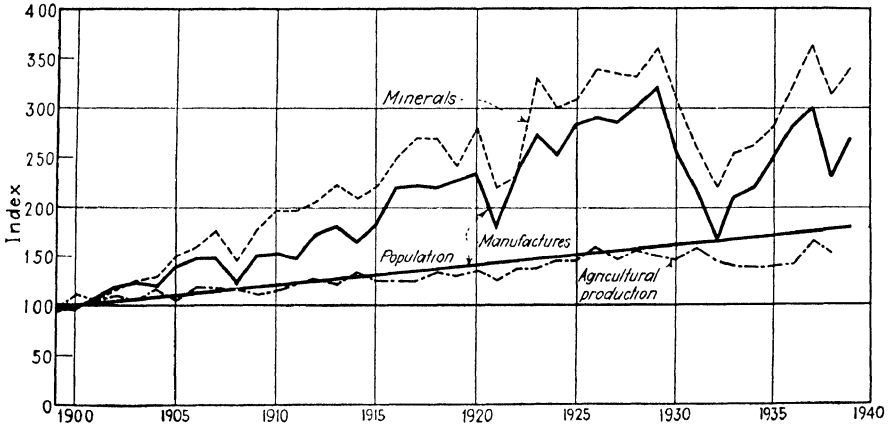

FIG. 6.—Production of minerals and manufactures (1899–1901 = 100) compared with total agricultural production (1897–1901 = 100) and total population (1900 = 100), United States, 1889–1939. (*Data from Fifteenth Census of the United States* (1930), *Vol.* I, *p.* 6; *The Review of Economic Statistics, Aug.* 15, 1933, *p.* 155; *Bureau of Agricultural Economics; and Indexes of Minerals and of Manufactures since* 1932, *from the Federal Reserve Bulletin.*)

grown twice as fast as population from 1875 to 1900. If we turn to make a broader comparison by including livestock output, we find that there is no index covering the period prior to 1897. The index of total agricultural production in Fig. 6 shows that farm production increased about 13 per cent between 1899–1901 and 1909–1911, whereas total population increased from 76 millions to 92 millions, or by about 21 per cent; accordingly, there was a 7 per cent decline in per capita production (Table 14, Column II). Between 1899–1901 and 1928–1930, agricultural production increased 49 per cent, whereas total population grew 61 per cent; in other words, during this longer period agricultural output per capita of total population declined. Between 1909–1911 and 1928–1930 the agricultural production per capita of population remained unchanged, but by 1935–1937 declined sharply because of severe drought.

[1] For a full discussion of the limitations of measures of growth of production see A. F. Burns, *Production Trends in the United States since* 1870 (National Bureau of Economic Research, 1934), pp. 17–27 and 258–259.

Nonagricultural Production.—Production of mineral and manufactured goods grew more rapidly between 1899–1901 and 1928–1930 than the output of agricultural products (Fig. 6). In fact, the output of manufactures almost tripled and that of minerals grew 3⅓ times, whereas agricultural production increased by only one-half. The effect of the deep depression on mineral and manufacturing production and the effect of the droughts of 1934 and 1935 on agricultural production can be seen clearly.

TABLE 15.—INDEXES OF PRODUCTION OF AGRICULTURAL, MANUFACTURED, AND MINERAL PRODUCTS IN THE UNITED STATES PER CAPITA OF TOTAL POPULATION, 1899–1901 TO 1936–1938[1]

Period	General production and trade (I)	Agriculture (II)	Manufacturing (III)	Mineral (IV)
1899–1901	100	100	100	100
1909–1911	125	93	124	155
1919–1921	130	90	153	176
1928–1930	150	93	180	206
1936–1938	119	96	158	195

[1] The respective indexes presented in Fig. 6 divided by an index of population in which 1900 equals 100.

When these data are put on a per capita basis, the significance of increased output is more clearly seen. In Table 15 the data are put on a per capita basis by dividing the proper index of production by an index of population. As is shown in the table, per capita production of manufactured goods increased by 80 per cent during the three decades beginning with 1900, a fact reflecting the increasing emphasis on manufacturing as opposed to agriculture in this country. During the same period farm output failed by 7 per cent of keeping pace with total population. Mineral production grew even more rapidly than manufacturing, the per capita production of minerals doubling during the thirty-year period under study. That mineral production should grow more rapidly than manufacturing reflects the growing importance of minerals, especially, iron, copper, and petroleum. The fact that the per capita production of manufactures and minerals in the semi-recovery years of 1936–1938 was below 1928–1930 indicates the extent to which the difficulties of the 1930's affected adversely these phases of our economic life. We had not only not been growing but had not even been holding our own.

Agricultural Production after 1920.—The decade following 1920, particularly the first half, was one of rapid growth in nearly all fields of production, including most phases of agriculture. Total agricultural production increased 18 per cent in the decade of the twenties, compared

with 11 per cent in the preceding ten-year period. Unfortunately, this growth occurred at a time when we were meeting new competition in the export market. From the viewpoint of production efficiency, the increase took place in spite of a 2 per cent decrease in the gainfully employed in agriculture.

Upon what grounds may the rapid increase in production be explained particularly when the low prices prevailing were not such as to make an increase profitable to those agriculturally employed?

Two-thirds of the increase in production in the years since the World War was explained by three changes in the livestock industries. First, the introduction of the tractor, truck, and automobile have released about 40 million acres formerly used for the growing of feed for horses and mules, to produce feed for meat and milk animals or for the production of human food directly. Second, there has been a shift from beef cattle and sheep toward dairy cattle and hogs, which are more efficient in the use of feed. Third, meat and milk animals, with the probable exception of beef cattle, have become more efficient in the use of feed than were the same types of animals prior to 1920.

Leaving the livestock industries, we find that the increased production of the crops not fed to livestock in the post-war years was due to shifts from the less productive to the more productive crops per acre. This point is well summarized by O. E. Baker:

> The shift from the less productive toward more productive crops has been a more important factor in increasing agricultural production since the World War than the shift from the less productive toward more productive livestock. Comparing the period 1917–1921 with the period 1922–1926, it appears that this factor accounts for about two-thirds of the total increase in production of the crops not fed to farm animals, or fully one-fifth of the total increase in agricultural production. The principal changes have been toward less wheat and more corn in the Corn Belt and Central Great Plains, less corn and more cotton in the South, and the rapid expansion of fruit and vegetable production in California and Florida, especially, sometimes at the expense of other crops and even of pasture and forest.[1]

Finally, the per acre yields of crops grown for human food increased in the years since the war. This factor accounted for about 10 per cent of the increase in agricultural production during this period.

Output per Laborer.—During the depression years, 1930–1933, the topic of productive efficiency attracted wide public interest—not through concern over inefficiency but rather through fear of efficiency. The opinion was widely held that the increased output per man, particularly as made possible by machines, had brought the depression. This opinion

[1] In an address before the Agricultural Extension Conference at St. Paul in 1928 on "Do We Need More Farm Land?" Much of the factual material in this section was presented in that address.

was given the appearance of accuracy by the widely publicized statements of the *technocrats*. The latter, advertised as a group of engineers, based their statements on an "energy survey of America." Technocrats staggered the public with cases: a new machine which increases the output of electric bulbs per man by 10,000 times; an electric shovel that can move as much earth in 24 hours as can 15,000 laborers in a ten-hour day; and so on. They went on to argue that so many new machines to replace men were ready that full employment could not be obtained under capitalism even with reviving business.

The technocratic data in large part were fantastically exaggerated and inaccurate, and in so far as their references were accurate, they have been long known to economists. The tendency of the technocrats and others to overemphasize the rate of increase in output per man has been criticized excellently by Professors G. F. Warren and F. A. Pearson:

> Division of labor leads to erroneous conclusions as to increases in efficiency, because only a part of the process is visible. A farmer with a tractor, tractor equipment, a combine, and a truck is able to grow and harvest much more wheat than was formerly grown per farmer. The increase in efficiency is far less than is assumed, because there has been a change in the residence of those whose time is required to produce the wheat. Many invisible persons are involved in the production of machinery and fuel that the farmer uses.
>
> Statements are commonly made of the spectacular increase in the output of shoes per worker in the shoe factory. These are misleading. The labor on a pair of shoes includes a part of the time of the persons growing cattle and handling and marketing and skinning them, labor involved in the handling, shipping, and tanning of hides, and labor involved in the handling and shipping of leather. Some workers must make the machinery used in these industries, others must make the buildings and the building materials involved in this endless process. Still others must finance the business. Back of these, there is the mining of coal, the building of railroads and of electrical lines and electrical equipment, and the production of cotton and tanning materials. To complete the process, the shoes must be shipped and sold at retail. This involves the time of more bank clerks, railroad employees, traveling salesmen, retail salesmen, delivery boys, store builders, and paper-box manufacturers, and further fuel and light. It is not probable that any sudden decrease in the time required has occurred in the complete process. We have no indication of any sudden increase in total production of all commodities per capita. There are sudden decreases, such as occurred in 1921 and 1931 when millions of workers were unemployed.[1]

Changes in the efficiency of agriculture should be indicated in general by changes in the output per laborer employed. From the point of view of the population problem centering around the Malthusian theory, changes in per acre yields should indicate whether improvement in farming methods is offsetting the tendency for returns to diminish as the

[1] G. F. Warren and F. A. Pearson, *The Physical Volume of Production in the United States*, Cornell University *Memoir* 144, 1932, pp. 24–25.

demand for farm products, represented by population growth, expands. The index of agricultural production per person agriculturally employed as presented in Table 16 shows that output per man was 46 per cent

TABLE 16.—INDEXES OF OUTPUT PER MAN EMPLOYED IN AGRICULTURAL, MANUFACTURING, AND MINERAL INDUSTRIES, 1899–1901 TO 1928–1930[1]
(1899–1901 = 100)

Period	Agriculture	Manufacturing	Mineral
1899–1901	100	100	100
1909–1911	93	98	109
1919–1921	121	115	127
1929–1931	146	167	190

[1] Constructed by dividing indexes presented in Fig. 6 by an index of gainfully employed in each type of occupation. Comparable data for the gainfully employed for the years since 1929 are not available.

higher in 1928–1930 than in 1899–1901. So effective has been improvement that, according to one careful student, 15 per cent of the population using the most improved methods could supply the remaining 85 per cent with food and clothing materials. Another specialist has said that without export markets we need only 60 per cent of our present farmers. It should be remembered, however, that one reason for the increase in output per man directly employed in farming is that in a sense a Peoria farm-machinery factory employee is engaged in agriculture.

DIMINISHING RETURNS FURTHER ANALYZED

The early economists were concerned with the law of diminishing returns because of their interest in broad social policies. They regarded land as fixed, permanently limited, or scarce; and capital and labor as capable of considerable increase with the growth of population. They, therefore, considered the law of diminishing returns only in connection with the diminishing returns from land for additional applications of labor and capital.

To the individual entrepreneur the combining of different factors of production is a different problem from what it is to the nation. To him, land and capital are both bought for a price, and he quite generally looks upon land as only a form of capital. Since he must purchase land, capital, and labor alike, no single factor to him is any more fixed than any other. With this situation in mind there has been a tendency among recent economists to state the law of diminishing returns in such a way as to be applicable when any one of the factors is fixed in amount while the others are variable. Before the operation of the law in this broader way is stated, an illustration of its operation in considerable detail will be given, land being used again as the fixed factor and labor and

capital as variable factors. Any factor is considered as *fixed* which is taken as not varying in amount during the analysis. A *variable* factor is one which is changed in quantity during the analysis.

A Hypothetical Case.—Suppose John Jones has 1,000 acres of tillable ground, including the space for farm buildings, yards, etc. In practice, few farmers would attempt to farm so much land alone, but in order to clarify the idea of the returns from different degrees of intensity of culture, let us assume that Farmer Jones by himself and with but very ordinary equipment undertakes to farm the whole 1,000 acres. He would so scatter his labor and the use of his equipment that his yield of wheat would be very low. He could not properly prepare the seed bed and at harvest time some of the grain would get too ripe before he could harvest it. Waste and loss would result. Under such circumstances, the hiring of one laborer and the doubling of the amount of equipment might not only increase the production but more than double the production. In this case the land is yielding increasing returns. The seed bed could be better prepared and at harvest time there would be less grain lost through shattering and less risk of loss through inclement weather.

Increasing returns in the use of farm lands is not in the realm of reality except where the farmer makes a bad calculation, for land is generally used more intensively than assumed in the preceding paragraph. The farmer's experience would indicate that, under all ordinary conditions, application of additional units of labor and capital to the same piece of land would not bring increasing or even proportionate, but decreasing, returns.

This general contention will be supported if the intensity of culture on Jones' farm is further increased. Suppose a third unit of labor and capital is added. The capital need not be of the same type; thus he might not get another plow but add some machine to work the seed bed better, or in case of other crops he might add fertilizer. Jones may find that this third unit increases the total production of the farm, but not by as much as the previous unit. Perhaps the product of this third unit of labor and capital may not be less than the first unit, though smaller than the second unit. If that be true, the average product per unit of labor and capital will still be increasing. Adding a fourth unit of labor and capital may not only add less product than that added by the third unit but will lead to decreasing average product for all the units of labor and capital now employed.

In Table 17 the above example is presented in figures. The fixed factor is entitled *F* and the variable factors *V*. The returns for the various combinations of *F*'s and *V*'s are in bushels. Combination 1, consisting of 1,000 acres and one laborer (the farmer), and one unit of capital, produces only 4,000 bushels. This is a yield of 4 bushels per acre, but 4,000 bushels per unit of *V*'s (see Column VI). The combina-

TABLE 17.—AN ASSUMED CASE, ILLUSTRATING THE LAW OF DIMINISHING RETURNS WITH LAND AS THE FIXED FACTOR

Combination	Number of units of *F*'s	Number of units of *V*'s	Product in bushels		
			Total	Per added *V*	Average per *V*
(I)	(II)	(III)	(IV)	(V)	(VI)
1	1,000	1	4,000	4,000	4,000
2	1,000	2	12,000	8,000	6,000
3	1,000	3	18,000	6,000	6,000
4	1,000	4	21,000	3,000	5,250
5	1,000	5	23,000	2,000	4,600
6	1,000	6	24,500	1,500	4,084
7	1,000	7	25,250	750	3,608
100	1,000	100	.....	−1,000	

tion in which two laborers and two units of capital are applied to the same 1,000 acres brings a total production of 12,000 bushels, which is three times as great as with combination 1. This is an instance of increasing returns, and production is said to be in the stage of increasing returns. Combination 3 brings a total production of 18,000 bushels, which is an increase over combination 2 of only 6,000 bushels (see Column V), whereas combination 2 brought forth 8,000 bushels more than combination 1. Inasmuch as the "marginal" or additional returns were not so large as in combination 2, this farmer has reached the *point of diminishing marginal returns*, generally known simply as the *point of diminishing returns*. Production has now entered the second stage, that of diminishing returns, which is the stage of intensity in which production is normally carried on.

Since the amount of product added by the third unit of *V*, 6,000 bushels, is 50 per cent greater than the product of 4,000, when only one unit of *V* was used, the average return per *V* does not decrease in combination 3, as is shown by Column VI in the table. But in combination 4, the average return per *V* declines, determining this as the point of diminishing average returns. Adding more labor and capital continues to decrease the average production per *V* but to increase the total production until combination 100. In the latter combination the total production is less than in combination 7, or some combination between 7 and 100, determining this as the point of diminishing total returns. No intelligent entrepreneur would purposely carry the intensity of the use of land to this point. This stage of decreasing total returns is presented in order to emphasize that the point of diminishing returns, when that term is not qualified, refers to *decreasing marginal returns*, not to diminishing total returns.

The marginal returns per added unit of *V*, the average returns for *V*, and the total returns are summarized in Fig. 7. Line *A* representing returns per added unit of *V* increases from combination 1 to combination 2, then decreases until it becomes a negative quantity in combination 100. Line *B*, representing average returns per *V*, increases from combination 1 to 2, remains constant through 3, and then declines. Line *C*, representing total returns, increases to combination 7 and then drops supposedly at combination 100. Increasing and diminishing returns as these terms are ordinarily used refer to whether line *A* rises or declines.

Diminishing Returns from Other Factors.—It is obvious that the individual entrepreneur may hold constant the amount employed of any one factor of production and may combine therewith increasing amounts of the other factors. Thus labor may be held at one man, and the land

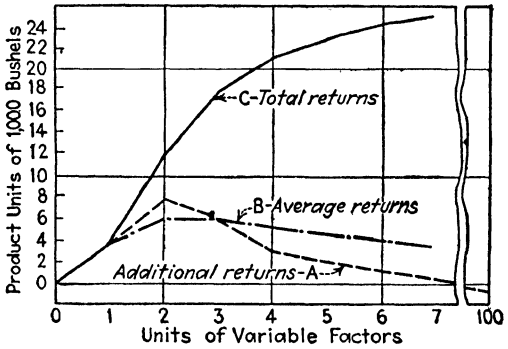

FIG. 7.—Additional, average, and total returns with varying amounts of labor and capital on a fixed amount of land (hypothetical).

and capital with which this man's labor is combined may be increased indefinitely by increasing land first from 50 to 100 acres and then adding additional 100-acre units indefinitely, and increasing the capital to be used by this same one worker in like manner. Obviously, the tenth 100 acres combined with the one man's labor would not add so much to the product as would the second 100 acres, nor would the twentieth 100 acres added or combined with this same man's labor add as much to the product as would the tenth. The same is true of additional applications or combinations of capital, at least beyond a certain point, with the capacity of one man.

Accordingly, it is possible to state the law of diminishing returns as follows: *Assuming the methods of production unchanged, in the application of additional units of variable factors of production to a fixed factor, a point is reached after which additional applications of the variable factors will not bring forth proportional increases in output.*

The law thus stated is applicable not only if one factor is held constant and all the others are varied, but if all except one are held constant

and that one is varied. It may be applied, for example, by increasing the amount of machinery in general, or of a particular kind of machinery, in combination with a fixed amount of land and labor. Unquestionably, beyond a certain point an additional machine would not increase the output to the same degree as did the last previously added machine.

THE LAW OF PROPORTIONS

In the consideration of further combinations of the factors of production, it should be emphasized that the law of diminishing returns is a physical law. It deals with inputs in physical units—acres, machines, or labor energy—and with outputs in pounds or bushels. But we live in an exchange economy in which productive factors are bought and output sold. Will not the relative cheapness of land, labor, or capital affect the desirable intensity of their use? And will not the price of the product likewise influence the desirable combination?

As an introduction to the problem of the proportioning of the factors of production which will be most profitable, we may well quote from Professor Davenport:

> The ultimate principle underlying what is commonly known as the law of diminishing returns, and underlying this law in all its different applications, is, when stated in its more general form, an almost self-evident truth, namely, that *disadvantage attends any excess or defect in the supply of productive factors relatively one to another.* This large general law we shall term the *Law of Proportion of Factors.* It affirms nothing more than the disadvantage from bad combination in all production and in all business undertakings. As is generally true with economic principles, this law has its social and its competitive aspects. In its purely private and competitive form it means not much more than that in economic activities, as mostly elsewhere outside of the nursery, the asylum, and the poorhouse, "fools get the worst of it." In its social aspect the law runs in terms more courteous. . . .
>
> In a society competitively organized the private and competitive value aspects of the Law of Proportions press insistently for hearing. In its most general and inclusive statement the competitive law runs in substantial parallel with the general social law: *Disadvantage in price return accrues to the individual from any excess or defect in the relative proportions of his factors of production.* This is the competitive and individual aspect of the law of the bad combination of factors.
>
> The explanations for this badness of combination may be various. In one way or another the entrepreneur has unskillfully gone about his undertaking, has attempted to get on with too much or too little land, has oversupplied or undersupplied himself with machinery or with seed or with fertilizers, has hired too few or too many laborers or laborers of the wrong sorts or grades, or has not correctly proportioned the different grades to one another.
>
> . . . The law may refer to purely technological considerations, to the fact, *e.g.*, that in market gardening or in grain production there must be seed to go with the land, or that labor must stand in some sort of proportion to machinery,

no matter how high the wage or how cheap the machinery; but, for ordinary competitive purposes, it is evident that a wise combination of factors must depend mainly upon the relative hires or costs at which these factors are to be had. This follows from the fact that all competitive enterpreneur computations, both of cost and of product, run in terms of price outlay as over against price product. No one combination of factors, therefore, can be asserted to be the best for purposes of the entrepreneur, and to be diverged from only with disadvantage, unless upon the assumption of an established relation of prices among the various factors employed. With each change in relative prices a new combination comes to be the best combination. It is, in fact, only by this dependence of the amount of the employed factor upon the price of that factor that the constant redistributions and substitutions of factors become possible. If wages are high, the pressure is strong toward the introduction of machinery; in countries of low wages, machinery is little called for; if land commands high rent, it pays to increase the proportions of laborers or of fertilizers or of implements. . . .

The dependence of one factor of production upon another, the impossibility of indefinite substitution, requires, that, in the competitive price process in which the factors are employed, the entrepreneur combine wisely the different factors. But precisely because the entrepreneurs are different one from another, both in abilities and in financial resources, each different entrepreneur must have his one best, and different, method and proportion for the combining of the factors. Even if all farmers are equally skillful, this would neither require nor permit that they hire or buy the same quantity or kind of land, or manage their enterprises in precisely the same way.[1]

The Least-cost Combination.—Our understanding of the problem which the entrepreneur must solve will be promoted by an examination of the effect of diminishing returns and of the price of the fixed and variable factors of production on his average costs. In Table 18 are presented the production and cost data for a hypothetical 50-acre sugar-beet enterprise. Land is taken as fixed, which is approximately true of this factor at a given time. For simplicity, labor is presented as the only variable, although in practice the increasing of labor without some increase in equipment might be unwise.

In the first part of Table 18, land use, including taxes, water assessments, etc., is taken at a cost of \$15 per acre and labor at \$3 per day. Because the farm is 50 acres, the total fixed cost is \$15 × 50, or \$750, in all combinations. Note that the per ton fixed costs fall as the output increases. The number of days of labor employed per year varies from 400 to 1,200. Note that the variable costs per ton fall with additional inputs of labor to the low point of \$3.91 when 600 days of labor are used, which is the point of highest output per day of labor. *The least-cost combination will be that at which the sum of the falling fixed costs per ton and the low or rising variable costs per ton are least.* With the costs

[1] H. J. Davenport, *The Economics of Enterprise* (Macmillan, 1925), pp. 423–428.

of factors assumed here, the least-cost point is found when 700 days of labor are used, the point at which the cost of producing beets per ton is $5.42. In this illustration, increments of labor have been taken as 100 days' labor, whereas a farmer actually would add labor in smaller amounts. It is therefore possible that some other combination using somewhere between 600 and 700 or 700 and 800 days of labor would be still more economical. That this least-cost point is beyond the point where diminishing returns begin is evident from the column headed "additional" production. The maximum additional output of 140 tons per additional 100 days' labor is reached in combination 2.

In the second part of Table 18, land use is taken at $25 per acre cost, and labor again at $3 per day. In this case it is desirable to use the

TABLE 18.—THE LOCATION OF THE LEAST-COST COMBINATION OF FACTORS WITH DIFFERENT SETS OF COST DATA

Combination	Inputs		Production in tons		Per ton cost (first set of cost data)		
	Fixed (land in acres)	Variable (labor days per year)	Total	Additional	Land at $15 an acre	Labor at $3 per day	Average total
1	50	400	200	...	$3.75	$6.00	$9.75
2	50	500	340	140	2.21	4.41	6.62
3	50	600	460	120	1.63	3.91	5.54
4	50	700	525	65	1.42.	4.00	**5.42**
5	50	800	575	50	1.31	4.17	5.48
6	50	900	615	40	1.22	4.39	5.61
7	50	1,000	645	30	1.16	4.65	5.81
8	50	1,100	665	20	1.14	4.96	6.10
9	50	1,200	675	10	1.11	5.33	6.44

Per ton cost (second set of cost data)			Per ton cost (third set of cost data)		
Land at $25 an acre	Labor at $3 per day	Average total	Land at $10 an acre	Labor at $4 per day	Average total
$6.25	$6.00	$12.25	$2.50	$8.00	$10.50
3.68	4.41	8.09	1.47	5.88	7.35
2.72	3.91	6.63	1.08	5.22	6.30
2.38	4.00	6.38	0.95	5.33	**6.28**
2.18	4.17	**6.35**	0.86	5.57	6.43
2.03	4.39	6.42	0.82	5.85	6.67
1.94	4.65	6.59	0.78	6.20	6.98
1.88	4.96	6.84	0.75	6.62	7.37
1.85	5.33	7.18	0.74	7.11	7.85

land more intensively, to use more of the relatively less expensive factor, labor. Another way of stating the same point is to indicate that by producing more tons of beets, the per ton cost for the fixed factor, land, will be reduced. The significance of the higher land cost per acre in the second part of the table is shown by the fact that the least-cost point is reached in this case when 800 days of labor are applied to the 50 acres.

In the third part of Table 18, land use is taken at a low cost of $10 per acre, but labor is assumed to cost more, *viz.*, $4 per day. Now labor should be economized, and each day's labor should be scattered over more land. On the basis of this statement, it is seen that the average costs are about the same when 600 and when 700 days of labor are used on the 50 acres, whereas when land cost $15 and labor $3, the combination of using 700 days of labor was distinctly the more advantageous.

The principle of the least-cost combination of the factors of production is valuable for two reasons. First, it explains why producers in various regions of the world use different proportions of the factors in producing the same goods. The Argentine wheat farmer uses land plentifully and the United States wheat farmer almost as plentifully; but the European or Oriental farmer must economize in the use of land. The European or Oriental farmer, on the other hand, uses labor abundantly and land and capital sparsely. Costly labor encourages the American farmer to use machinery, though this statement requires qualification which it will receive later (see pages 350–352). Second, the least-cost principle shows how the efficient farmer will change the proportioning of the factors on his farm with changes in the relative cost of the factors. Thus, high post-war wages encouraged the substitution of machinery for labor.

If at any time in agriculture, manufacturing, mining, transportation, or commercial enterprises the least-cost combination is not being used, it is entirely possible that increased output can be brought forth at lower costs per unit of output. If a factory is used only 8 hours a day, the total costs will not be tripled if it is used 24 hours a day, since such costs as insurance, taxes, interest, and some management expenses will increase little, if any. A farmer who has an expensive dairy barn, milking machine, and other equipment will find that his costs per pound of butterfat will be less if he has enough cows to utilize his equipment fully, than if he has only half that many cows. If in any industry the least-cost point has not been reached, entrepreneurs will seek so to adjust the proportioning of the factors in their enterprises and the volume of output as to reduce unit costs.

Marginal Costs, the Intensive Margin, and the Highest Profit Combination.—Thus far in the analysis of the combination of the factors two aspects of the problem have been considered—diminishing returns and the cost of the fixed and the variable factors. By using data on physical

production and the costs at various rates of output it has been possible to locate the least-cost combination. This might appear to be the most desirable combination of factors. More careful thought, however, will show that the *most profitable* combination depends not merely on costs per unit of product but in part on the price to be received for the product.

As long as by more intensive use of a fixed factor *additional* product can be got and sold for more than the *additional* costs, the *total* profits of the enterprise will be increased or total losses reduced. What must be compared is additional or *marginal* revenue from sales with the additional or *marginal* costs of production. Here we need to explain the much-used term *marginal.* The marginal unit of anything is the "last" or "final" unit. Accordingly, when additional units are produced, the last of these is the final unit or marginal unit, and *"marginal costs" are the total added costs of producing certain additional units of product.*

When analyzing changes in an individual firm's cost with changing volumes of output, we make our problem in some ways more like actual problems in the business world if we consider adding variable factors in sizable units. Therefore, in the hypothetical case used here, the variable factor (labor) is assumed to change in units of 100 days of labor, which at $3 a day represents the cost for this marginal labor input as $300. In Table 19 are presented the marginal costs of producing each increment of beets, when land costs $15 an acre and labor $3 a day. In this hypothetical case the only additional costs for obtaining additional output are for labor. *In fact, additional or marginal costs are always only for additional variable factors.* Because the case considers increments of 100 days of labor, the marginal outlay in each case is $300. When

TABLE 19.—THE COMPUTATION OF MARGINAL COSTS

Combination	Production, tons	Costs for the enterprise			Marginal cost	Marginal output, tons	Average cost per ton of marginal group of units
		Fixed	Variable	Total			
1	200	$750	$1,200	$1,950			
2	340	750	1,500	2,250	$300	140	$2.14
3	460	750	1,800	2,550	300	120	2.50
4	525	750	2,100	2,850	300	65	4.61
5	575	750	2,400	3,150	300	50	6.00
6	615	750	2,700	3,450	300	40	7.50
7	645	750	3,000	3,750	300	30	10.00
8	665	750	3,300	4,050	300	20	15.00
9	675	750	3,600	4,350	300	10	30.00

this has been divided by the marginal outputs, the quotients are the average costs of producing the marginal units.

The marginal costs from Table 19, as well as the fixed, variable, and total per ton costs are presented graphically in Fig. 8. Quantity or output is measured from the line *OY* to the right. Price is measured from the line *OX* upward. By the distance from the base to the line *FC* fixed costs per ton are shown for different outputs. By the distance from the base to *VC*, variable costs are shown for the same outputs, and by the distance from the base to *TC*, total costs per ton, or the sum of the fixed and variable costs (also called *average total costs*), are shown for these outputs. Marginal costs for different outputs are shown by

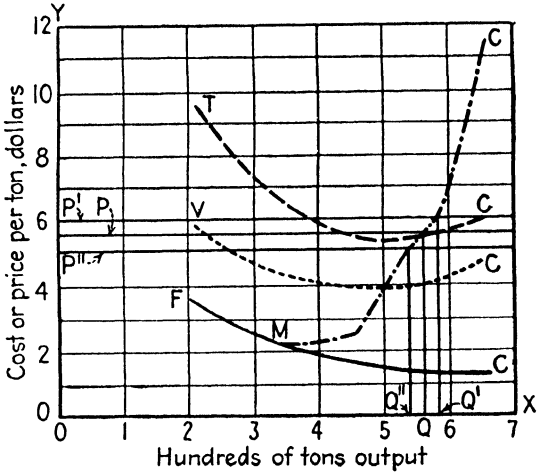

FIG. 8.—A comparison of marginal costs and of various prices for the product.

MC. Thus, when production is at the rate of 340 tons, the average fixed cost per ton as shown by *FC* is $2.21; the variable cost, shown by *VC*, is $4.41; and the total cost, shown by *TC*, is $6.60 per ton; the average added or marginal cost per ton, for the last block of units, shown by *MC* is $2.14.

By the use of this chart, representing the data in Table 19, it is possible to compare the various types of costs for different scales of output with the prices of the product. Clearly, as long as the revenue added to the total income by producing the additional output exceeds the additional costs, the total profits of the enterprise are growing. Therefore, the enterpriser should increase output until his marginal costs equal the amount added to his total income by adding these additional, or marginal units. The *addition made to his total income* by the marginal units we shall call his *marginal revenue* from these units. When the product is sold in a large and thoroughly competitive market, so

that the amount sold by a single enterpriser is such a small part of the total supply that it does not appreciably affect the market price, the marginal revenue is the same as the price of the marginal units.

Let us first assume that the price is $5.50 per ton. This is represented by the distance from the base of the chart to the line *P*. According to the chart the price of $5.50 per ton would call for the production of about 560 tons, because for about 560 tons the *marginal cost* as shown by *MC* and the *marginal revenue* (in this case the price as shown by the distance from the base to the *P* line) are equal. A perpendicular dropped from the intersection of the *MC* curve and the *P* line cuts the horizontal axis along which the output is measured at the point *Q*. Marginal cost equals marginal revenue (in this case price) for the quantity *OQ*. The point in intensity of use of variable factors at which marginal costs and marginal revenue are equal is known as the *intensive margin*. It is the point of intensity to which the addition of variable factors in combination with a group of fixed factors should be pushed. This combination of the factors of production has also been called the *highest profit combination*.

Reference to Fig. 8, it is interesting to observe, also shows what intensity of use of this 50-acre enterprise would be desirable at other prices than the price shown by the line *P*. It is always the amount for which *marginal cost MC* and *marginal revenue*, in this case price, are equal. At $6.25 a ton, (shown on the chart by the distance the line *P'* is above the base) about 580 tons (shown by *OQ*) should be produced, which, according to Table 18 would require over 800 days of labor. In contrast, if the price were only $5.00 (the distance the line *P''* is above the base), it would be less than the average total cost per ton at any possible output. What should the enterprise do? Here our marginal analysis helps us. He should produce that amount for which marginal cost equals marginal revenue. If he produces *OQ''*, or about 535 tons, *his losses will be less* than at any other quantity he could produce, even though he does not cover total costs. Therefore, that is the most profitable (losses least) volume, and the less intensive use of his land, requiring about 740 days of labor, as shown in Table 18, is the most desirable.

Farmers and the Proportioning of the Factors.—Farmers do not have necessarily the proper proportion of factors on their farms at a particular time, but there is an underlying tendency to change farm plans toward the proper combination and financial success depends very largely upon doing so. If a larger acreage or more labor would be more profitable, farmers will gradually readjust their plans along that line, and those who do so will be the ones who will be the most likely to have pure profits or a satisfactory labor income. With tractor power and the combined harvester, large wheat farms are more economical than small ones and the tendency is to increase the size of wheat farms.

Furthermore, farmers will adjust the intensity of culture with changes in the prices of their products. In post-war years many fruit farmers have come to expend less on cultivation and care of their trees; the lower prices do not justify intensive culture. Again, with the collapse of farm prices in 1930–1933 farmers hired less labor, used less equipment and in general farmed less intensively. In particular cases the improvement of quality of product may be so necessary in times of low prices in order to command any considerable price, that enterprising farmers will exercise still more care. Faced by years of low prices, some grape growers of California have spent large sums in developing quality. But, if all farmers specialized in this high quality, prices for the quality fruit would decline, and, since they had increased their costs, the industry would be in a worse condition.

Thus far, all units of each factor were assumed to be of equal effectiveness in production. In a later chapter the effect on farm organization of the well-known differences in the managing ability of farmers, in the fertility of land, and the productive ability of other factors will be discussed.

Other Applications of Diminishing Returns.—The law of diminishing returns with its corollary, the law of proportions or principle of substitution, has several significant applications which should be further examined. In the first place, it is fundamental in explaining the organization of the farm or any other producing unit. Second, it assists greatly in analyzing the determination of prices of particular goods. Finally, it is the starting point in analyzing the distribution of the national income among the productive agencies. These applications will be noted in the chapters to follow.

Questions and Problems

1. Explain the conditions under which the law of diminishing returns was first carefully formulated.

2. How do you account for the upward tendency of living standards of this country when you consider the application of the law of diminishing returns?

3. What changes have taken place in the natural increase (birth rate minus death rate) in the United States and in several other countries since 1920?

4. Distinguish marginal returns, average returns, and total returns.

5. Distinguish marginal costs and average costs. Which of the two ideas of per unit cost is the more valuable in economic analysis?

6. What is meant by the statement that "the law of diminishing returns is a physical law"?

7. What is the relation of the law of diminishing returns to the law of proportions? What are the essential differences between the two laws?

8. How did the 1932 production in this country in the three major industries discussed in this chapter compare on a per capita basis with that of 1900 and that of 1929? How did the output per worker in them in 1930 compare with that of 1900?

9. Should a farmer apply additional labor and capital to his land after the point of diminishing returns has been reached? Explain accurately and fully.

10. Why is the least-cost combination not necessarily the highest-profit combination?

11. Mention some conditions under which high wages will tend to result in direct human labor being replaced by machines. Mention some specific instances in which this has happened.

12. Suppose the price of apples declines relative to other prices for a period of three years, what readjustments would you expect apple orchardists to make in their production organization? Suppose apple prices had risen, what would entrepreneurs do and why?

Suggested Readings

1. J. D. and A. G. Black, *Production Organization* (1929), Chaps. V and VI, contains a detailed discussion of the proportioning of the factors of production under a variety of circumstances.

2. B. W. Knight and N. S. Smith, *Economics* (1929), Vol. I, Chaps. XIII–XV, explains well the law of diminishing returns and its various applications.

3. H. R. Tolley, J. D. Black, and M. J. B. Ezekiel, "Input as Related to Output in Farm Organization and Cost of Production Studies," U. S. Department of Agriculture *Bulletin* 1277, is recommended on the subject indicated by its title.

4. J. M. Cassels, "On the Law of Variable Proportions," in *Explorations in Economics* (Essays in honor of F. W. Taussig), is a discriminating treatment of the subject.

5. National Resources Board, *The Problems of A Changing Population* (May, 1938), analyzes various aspects of population change and the outlook for the future as to population within the United States.

6. F. W. Taussig, *Principles of Economics* (1939), Vol. I, Chap. 16 (for which assistance from J. M. Cassells is acknowledged), furnishes a clear and simple explanation of the relationship between marginal costs and highest profits.

CHAPTER VI

SOME PRINCIPLES OF TRADE AND PRODUCTION

We have noted the great extent to which all production in the United States at present is for the market rather than for personal use. This raises a fundamental question: Why do people produce for the market rather than for use? Otherwise expressed the question is: Why do people so largely specialize in production and exchange their products through trade, rather than produce more nearly all the things which they consume?

The answer to this question may seem obvious, and it may appear that it has already been given in the preceding pages, as indeed to a certain extent it has; but there is involved one principle of paramount importance which has not yet been mentioned. It is known as the *law of comparative costs* or *principle of comparative advantage.* We shall attempt to explain that law in this chapter, but before we do so it will be necessary to explain several other important principles of trade which must be understood if there is to be a clear comprehension of the law of comparative costs.

In most textbooks on economics the law of comparative costs is explained in connection with foreign trade, and for this there is at least one good reason. It is in connection with foreign trade that the principles underlying the advantages of trade in general are least understood and most often denied. The advantages of a certain degree of specialization and trade among the people within a local community, or nation, are usually taken for granted by most people. But, when it comes to trading with foreign nations, a different kind of thinking prevails. Leading newspapers and men in high positions in business and public life assert with great conviction that a high standard of living cannot be maintained by the people of this country if we import goods produced in countries where wages are low, or where a low standard of living prevails. They assert that this will result in our standard of living coming to the same low level that prevails in the countries where the goods which we import are produced. They assert that we must keep our money at home to develop home industries and give employment to our own people.

Ordinarily such persons are not opposed to the *selling* of goods outside of the community or nation. It is only the practice of *buying* from foreign countries or from other communities which is opposed. Particular emphasis is placed on the contention that we should keep the

money at home. The first principle, therefore, of which we need to have a correct conception is the nature of money and the part which it plays in trade.

ECONOMIC FUNCTIONS OF MONEY

Money Primarily a Medium of Exchange.—The most important function of money is merely to serve as a medium of exchange. Very few people keep for any great length of time the money which they receive, for the very good reason that it would be poor personal economics, or business, for them to do so. In popular language, they generally spend it, invest it, or lend it. If a man's gross income is greater than his expenditures for costs of doing business and expenses of living, he normally invests the balance. He may buy with it land or machinery, stocks or bonds, or life insurance, or he may place it in a bank. If he does the last mentioned, the bank will lend or invest most of it so that goods will be bought with it. How rapidly *money* circulates may be judged from the fact that the business transactions carried on in the United States in 1939 were estimated at 600 billion dollars, although the total supply of monetary gold in the country at the time was only about 18 billions, the total supply of all of what is ordinarily called money which was outside the Federal reserve banks and the Treasury was only about 7.5 billions, and the total bank deposits subject to check were about 30 billions.

Incidental to being a medium of exchange, money serves other functions. It is a standard of value, by which is meant that it serves as a means of comparing values of different kinds of goods, one with another. It is a temporary store of value, by which is meant that the value of any good sold is temporarily put into the form of money. And it has some other such incidental functions. But people have use for money only because with the money they are able to secure the control of goods other than money, and most of the money which comes into any one's possession ordinarily remains in his possession for but a few days, or weeks at the most.

Money a Small Part of Wealth or Capital.—Money is wealth, but it is only one form of wealth. From the individual point of view, all forms of money are wealth. From the national point of view, only the metallic forms of money, principally gold and silver, are wealth. The precious metals are the only forms of money which the people of other nations will receive in settlement of international trade balances. Gold may be viewed as the only international money. Paper money is used within a nation partly because it is more convenient and, if wisely used, it has been found a satisfactory supplement to metallic money. From both the individual and national points of view, money is capital, because a certain amount of it is necessary to carry on production and business activities in an exchange economy. Money, however, is but a small part of

the total capital either of the nation or of an individual or a business organization.

When it is said that Henry Ford is worth so many millions, or that Mr. Smith has so many thousands of dollars invested in his business, there is a tendency to think of such a person or business as actually having possession of that much money. In fact, these expressions are only an indication of the money value placed upon all the property owned by these people, and of this property but a small part is in the form of money.

Money the Means of Exchanging Goods.—This is repeating a statement already made in order to emphasize that all trade in the final analysis is an exchange of goods for goods. Few persons would deny this statement abstractly, but many people generally considered well informed do deny it when the trade is trade between nations, and to some extent when it is between communities. They overlook the fact that goods sent out of a nation or community can be paid for in general only by goods being sent in. To be sure, they can be paid for with money, but this could neither long continue nor would it be desirable if long continued. In international trade the only money generally received in payment for an excess of sales is gold. The world's total stock of monetary gold in 1939 was about 26 billion dollars. In the past any nation which did not have a part of this stock somewhat in proportion to its business activities, has had difficulty in maintaining a stable monetary system. Each nation should keep a certain part of the world's monetary metals, for confusion and disorders in business and production result if any nation has either too much or too little in comparison with other nations. During the 1920's the monetary gold stock of the United States was about 4 billion dollars (with the former gold content), which is all that it should have been with the world's total supply not greater than it was. In contrast to this amount of gold, the world's total international trade in commodities, both exports and imports, for the year 1929 was about 69 and for the depression year of 1932 was about 27 billion dollars. The export trade of the world in 1932 amounted in round numbers to 13 billion dollars, which was in contrast to 1929 exports of 33 billion dollars.[1] The exports of merchandise from the United States alone in 1939 were in excess of 3.2 billion dollars and during a number of years have been in excess of 4 billion dollars per year. Obviously, any nation which demands payment in gold for any large part of its commodity exports will soon have to cease to export, as other nations cannot supply the gold. And, as will be shown in later chapters, in which we study money more in detail, for any nation to get too large a part of the world's gold is likely to be a disadvantage rather than an advantage to that nation as well as to others.

[1] Data from *Review of World Trade*, 1938 (League of Nations).

Likewise, a local community cannot carry on trade with other communities on a one-direction basis. When goods are sold from a community to other communities, presumably money is received for what is sold. But as a result of such sales, money does not to any appreciable extent flow into a community and stay there. Communities from which very heavy sales are made to other communities have at the end of a year only about as much money as they had at the beginning. The goods shipped out have simply been the means of bringing in other goods. Individuals sell to get money with which to buy. If they cannot use their money to buy, it is of no use to them. In like manner the goods which are shipped out of a community are the means by which that community is able to bring other goods in, and, unless sooner or later other goods are brought in, the community is no richer because of having shipped these goods out. The persons who shipped goods out may receive their pay in commodities or services in some country or community other than that in which the goods were produced, but that is only another way of taking payment in goods. In the final analysis, all payments for goods are in goods other than money, with but very negligible exceptions. When goods are shipped from a community to some other community, sellers are under the impression that they receive money for them from that community, but actually only very insignificant amounts of *money* are ever shipped. The transactions are handled through our banking and credit machinery in such a manner that the goods sent from the community simply pay for the goods brought in.

Of course, a community in which the chief industry is the mining of gold will ship out more gold than it ships in. Likewise, communities in which production and business operations are rapidly expanding will receive slightly more money than they ship out. These results, however, will occur without any special effort to bring them about. In fact they are quite inevitable and can neither be much stimulated nor prevented.

A more detailed description and analysis of the nature of money and the banking system, including the financial operations of domestic and foreign exchange, must be reserved for later chapters. For the present it is important to realize that for an individual, a community, and a nation alike, money is only a part of the machinery for obtaining other goods; that in its final analysis income consists of goods other than money; and that the attainment of a maximum of either wealth or income is brought about by those conditions which supply a maximum of goods other than money.

SAY'S LAW

Meaning of the Law.—A second important principle which may seem obvious but which in the practical affairs of daily life is often vigorously denied by persons of high general intelligence is that known as *Say's law*,

being so called because it was first clearly explained by J. B. Say, a French economist, more than a century ago. Say called this principle the *law of markets*. The essential feature of the law is that in the last analysis all goods sold constitute the purchasing power and demand for other goods. All people demand other goods to the full amount of the value of the goods they sell, and the demand for other goods in the long run arises solely from goods sold on the market. Perhaps the principle may be better understood if it is expressed by saying that each individual buys goods with all the money he gets for everything he sells, though that does not fully cover the principle involved.

The meaning of this law will be made clearer by illustrations of opinions commonly held which are in conflict with it. One such opinion is that a catastrophe such as a fire is "a good thing" because it creates a demand for goods for the purpose of rebuilding the destroyed property. The impression is that the fire creates work. The point overlooked in such an assumption is that the people whose property was destroyed would have demanded goods of some kind anyway with all their purchasing power. The fire merely diverted money from being spent for one thing to being spent for something else. This is true even if, except for the fire, the money would have been put into a bank, as the bank would have lent it to someone to be used to make purchases of goods either to be directly consumed or for the purpose of carrying on productive or business operations. The person whose property was destroyed by fire may have intended to buy an automobile. Now having to replace his destroyed property, he is unable to buy the automobile. More labor is employed in rebuilding the destroyed property but less is employed in constructing and supplying automobiles. Or, if the loss falls entirely on an insurance company, either the insurance rates will have to be raised or the company must pay its stockholders less dividends. Therefore the people who have to pay higher insurance rates, or who receive less dividends on insurance company stocks have less money to spend and will spend less. In short, the money which is spent to replace the destroyed property cannot be spent for something else for which it would otherwise have been spent. The fire has not created an added demand for goods. Either the person whose property was destroyed or someone else, as well as society as a whole, is poorer by the amount of the property destroyed. There has been a net loss, not a gain.

Another erroneous view in conflict with Say's law is that goods made by prison labor should not be permitted to be sold, because that reduces the possibility of finding markets for all the products of free labor. Let it be proposed, for example, that the inmates of a penitentiary shall be put to work to make shirts and that these shall be sold. To this there will immediately be great objections by those who declare themselves to be the friends of the laboring man. It will be argued that to permit prison-

made shirts to be sold takes away the possibility of selling shirts made by free labor, and that therefore free men who would otherwise be able to make shirts will be without jobs and will not be able to buy the goods produced by workers in other industries, and thus other men will be without jobs. Therefore it is held that everybody would be better off if the prisoners were supported in idleness, though usually it is regarded as advantageous for them to produce agricultural products, as for some reason those who hold these views do not appear to be much interested in agricultural laborers. Also there is less objection to prisoners producing goods for their own use than to their producing them for sale. The fallacy in the reasoning just presented is that it overlooks the effects of the manner in which the prisoners would have to be supported if they did not produce goods either for use or for the market. Let us suppose that they are supported in idleness. They need shirts, shoes, and other means of living. These will now have to be paid for by money raised by taxation. The taxpayer who pays $1 in taxes to support the prisoners will have $1 less with which to buy other goods and will buy fewer other goods. The net result of keeping the prisoners in idleness will be that fewer, not more, goods of various kinds will be able to be sold. If shirts are made by the prisoners and sold, all the money received for them will be used to buy other goods to support the prisoners, the same as if the taxpayer had supplied the means of supporting them. But the taxpayer will still have his money and he also will buy goods to the amount of the money which he would have to pay in taxes to support the prisoners if they did not also produce goods. Those who object to the sale of prison-made goods but who do not object to the production by prisoners of goods for their own use apparently overlook the fact that when such goods are sold other goods of equal value are bought, whereas if the prisoners support themselves the result is the same, because fewer goods are bought by an amount equal to the fewer goods sold.

Say's Law Stated.—We are now ready to state Say's law in a more formal and accurate manner:

In the last analysis the demand for goods on the market consists entirely of other goods produced for the market, so that to the extent that producers direct their production in true accord with each others' wants, the total demand for goods must in the long run coincide with the total supply or output of goods produced for the market.

The Overproduction Fallacy.—If this law is true, as in fact it is, there can be no such thing as a general overproduction of goods. Each one's goods buy other goods. There may be so many potatoes in comparison with automobiles that potatoes may be very low in price compared with automobiles, but this means simply that some persons should change from producing potatoes to producing automobiles. But there cannot be too

much of everything until people have had more than they care for of all kinds of goods that are produced and all kinds that may be produced. There can be no general overproduction, though there may be wrongly distributed or unbalanced production.

It may be of interest to inquire why such erroneous notions as those just presented are as widely prevalent as they are. It is probably because they originate with persons who wish to find a market for some particular kind of good and therefore desire a scarcity of that particular thing. If my business is growing potatoes, it is to my interest that there shall be few potatoes, that everybody else's potato crop shall fail, provided there is not also a failure in the production of things other than potatoes. If all other production also fails, people will have nothing else to give me in exchange for my potatoes. The fallacious notions discussed in the preceding paragraphs result from the attention of people being directed too exclusively to the advantages which each as a potato grower gets from the failure of other men's potato crops and not enough attention being devoted to the advantage which each potato grower gains from the success of production in everything except potatoes.

Maladjusted Production.—A most difficult problem under a complex exchange economy is that of attaining a properly balanced production, that is, of avoiding maladjustments in production. Because each person (or class) producing a particular good sees that it would be to his advantage that there be a scarcity of the one good which he produces, many efforts are made to keep others from producing that good and thus competing with him. It is truly to the advantage of each person that others do not produce the same goods which he produces, provided that they produce other goods. This coupled with the fact that some goods—potatoes, for example—may be so abundant in relation to other goods that they have practically no market value whatever leads to the opinion that there is general overproduction. The trouble is merely that there are too many goods of some kinds in proportion to other kinds and that, accordingly, prices for other commodities and services are too high in relation to prices of these commodities and services. It may require too many carloads of potatoes to buy one bath tub; too many carloads of lumber to pay for the transportation of one carload of lumber; too many days' labor in a cotton mill to pay for one hour's labor in a shoe factory; too many days of milking cows to pay for one hour for the services of a dentist, automobile mechanic, or bricklayer. The remedy is not to reduce production in general but to shift people to producing that which is relatively high in price and bring prices into balance again. But to this, those who have special advantages object, and all too frequently everybody else is made to suffer in order that they may retain their special advantages.

If exchange in a simply organized community could be made only directly without the use of money, and producers were permitted to

change freely to the production of whatever might be in greatest demand, the maker of shoes would not be going without lumber, which he badly wanted, the producer of lumber without shoes, which he badly wanted, and persons engaged in transporting and exchanging these goods from the one to the other without both shoes and lumber, which they badly wanted, because there existed overproduction, caused by mass-production methods of all three: shoes, lumber, and transportation and exchanging services. No more does such general overproduction exist when money is used. But one or more groups among the many who must exchange goods, including services, may and often do demand proportionately too much of other goods in exchange for what they offer and refuse either to produce goods or services themselves except at a price so high that their goods cannot be used, or to let others work at that activity, and the producing and exchanging machinery stops in a deadlock. To eliminate such deadlocks is a baffling problem, but the solution of that problem is not promoted by the false theory that the trouble is general overproduction.

In deadlocks such as those just mentioned our social production machine breaks down by quarrels over how the results of production shall be divided. The question of the division or distribution of the product will receive our attention in later chapters. On that subject we wish here merely to remark that Say's law does not deny that a more equal division of the social income may be desirable. In the interest of the general welfare, however, the struggle over the division of the social income should and can be solved without uneconomic curtailment of production. It is, of course, to be remembered that production is not an end in itself but is carried on only for the sake of consumption, and that, accordingly, both less production and less consumption may be preferable to too much work—that is, to unduly long working hours. The point we wish to emphasize at present is that such seeming excess production as prevailed during the depression of the 1930's is in fact not due to general overproduction but to maladjusted or improperly balanced production and to the resulting improper relation of prices, one to another, of different goods.

Say's Law a Long-run Principle.—Though the principle that the supply of economic goods constitutes the demand for other economic goods is of great importance, the fact that this is true only in the long run, and that even in the long run it is subject to some qualifications, has significant results. Economic goods exchange nowadays not only for goods, or money which can immediately command goods, but also for promises to pay in the future. Generally speaking, these promises are kept, although there are innumerable bankruptcies because they are not. As a further example, it will be recalled that during and following the first World War, the American people sent hundreds of

shiploads of food, clothing, munitions, and other items to European nations in exchange for their promises to repay us later. For various reasons, including our own unwillingness to accept goods in repayment, these promises were about all that we received in return. Contrary, therefore, to the simple statement of Say's law given above, goods may exchange not only for other goods but also for I.O.U.'s which may later turn out to be worthless.

An even more significant application of this point is that temporarily people may buy on credit before they have the means with which to buy, or they may hoard money received without either spending or investing it as promptly as they did at a former time. Furthermore, through the banking and credit system, *purchasing power* may be added or subtracted. Therefore, within a relatively short period of time, individuals may purchase goods of either more or less value than the value of the goods which they sell on the market. This in no way affects the validity of our previous conclusions, but it does have important effects in contributing to changes in business activity, including the recurrent periods of depression. Though a general consideration of the business cycle and business depressions must be postponed until a later chapter, this particular contributing factor will at present be briefly pointed out by means of an illustration.

Let it be supposed that in the boom period of the summer of 1929 Mr. Jones, a farmer, wished both to build himself a new house and to buy himself a new automobile, the house to cost, let us say, $3,000 and the automobile $1,000. Mr. Jones sold enough other products to care for his other expenses and in addition sold 2,000 bushels of wheat at $1 per bushel, bringing him $2,000. This he spent as part of the cost of the house and automobile, but, as he needed another $2,000, he borrowed that at a bank. This borrowing occurred at a prosperous time; banks were making loans in excess of the genuine savings deposited with them. This is done by *creating* deposits,[1] and we shall assume that Jones's $2,000 loan, given to him as a demand deposit, is a result of this credit creation. The net effect was that Mr. Jones spent for his house and automobile not only money representing the value of the wheat he produced and sold but an additional $2,000 created by the banking system and representing the value of wheat which he expected to produce in future years. If many people were doing the same thing as Mr. Jones and many banks the same as Mr. Jones's bank—to the extent that there resulted a large addition to the supply of money and credit of the country—there would follow a stimulation to the boom period of business activity, because people were demanding goods not only to the value

[1] The point will be made in Chap. XIII that deposits are created by lending, not by the individual bank, but when banks generally are increasing their loans and investments.

of the goods they sold but to the value of other goods which they expected to produce in the future. Therefore persons who supplied such goods as houses and automobiles were able to sell them to such people as Mr. Jones, not only to the extent of what they paid to persons like Mr. Jones for goods such as wheat bought from them, but also to the added extent of the purchasing power created by the increased lending by banks of funds created as just explained. Because of this they were able to keep the prices of their goods, including personal services, unduly high and were still able to sell them.

A year later, in 1930, Mr. Jones had another wheat crop of 2,000 bushels. The bank informed him that it wished his note at least partly repaid. He sold his wheat, receiving only 50 cents per bushel, or a total of $1,000, which he paid to the bank. In the meantime business activity had declined; new loans by banks were far less than the old loans being paid off. The bank did not replace Jones's $1,000 payment on his note with another $1,000 advance of credit to another borrower. Therefore the 2,000 bushels of wheat produced and sold by Mr. Jones in 1930 resulted in no purchasing of other goods in the market in 1930. Say's law worked out in the long run; the events of 1930 offset those of 1929.

The increase in bank credit in 1929 enabled prices of such goods as lumber, carpenters' services, automobiles, etc., to be higher in 1929 than they could otherwise have been and still be sold. In contrast, the fact that Mr. Jones's wheat could buy no other goods in 1930 required that other purchasing power—let us say, the money received for other wheat—must buy more goods, or in other words that prices of some goods must be lower, or all goods could not be sold. The producers of many kinds of goods, such as carpenters, those supplying government services, and makers of automobiles, however, said, "we will not reduce our prices." With the smaller purchasing power, the result of such unwillingness to adjust price was that less of some goods were sold and unemployment prevailed. Such unemployment was not caused by too much of all goods but by improper price relations of goods, including personal services, one to another, of which more will be said in our discussion of the business cycle.

Any addition to the money supply or credit adds to purchasing power and enables more goods to be sold at previous prices, or the same quantity of goods at higher prices. Any reduction of the money supply or credit reduces purchasing power and ordinarily requires either that prices must be reduced or less goods must be sold. As to many nonagricultural commodities and personal services those who have them for sale prefer not to sell them at all rather than to reduce the price. A general curtailment of credit, therefore, quite generally results in reduced production of many kinds of goods, with accompanying

unemployment and widespread business depression, and the economic system takes on the appearance of overproduction. The trouble is caused not by general overproduction but by maladjustments in prices, as may be seen from the foregoing analysis, which should show that all these appearances would be equally prevalent if our total production of goods were only 10 per cent as great as it is. Further proof to the same effect is furnished by the fact that during the recent depression apparent general overproduction has been just as truly prevalent in Japan as in this country, though total production per capita is only about one-tenth as great in Japan as in this country.

One further respect in which Say's law is somewhat modified in the short run, and in such a manner as to add to business depressions, should be mentioned. This is that money which is saved and invested in production goods at other times may be simply hoarded temporarily during periods when people become afraid that if they invest their money they will lose it, that is, when the prospect of receiving interest if they invest becomes negative rather than positive. Or the cause may be that prospective returns on investments are so low that capitalists prefer to hold their funds in liquid form—that is, as idle bank deposits. During prosperous times the money income of the capitalist class is spent just as truly as that of the working class. If the income of a capitalist is invested in such a way as to build a factory, a hotel, or a railroad, or to develop a mine, it is used to pay labor and it finds its way back into the market to buy consumption goods just as truly as if the capitalist had spent it for consumption goods for himself. During prosperous times very little hoarding of money occurs, for the very good reason that it is very poor business to hoard. In contrast, during periods of panic and lack of faith in the future, an appreciable amount of hoarding, in the sense of holding on to money instead of either spending or investing it, occurs, and this intensifies periods of depression. To this subject we shall return in Chap. XXVIII, which deals with business cycles and depressions. The manner in which this modifies the working of Say's law, however, does not interfere with its importance and significance, especially with respect to the operation of the law of comparative costs, to which we shall turn in a moment.

THE PRINCIPLE OF RECIPROCITY

The Principle Explained.—The principle of reciprocity has already been mentioned in discussing the nature and functions of money and Say's law. It remains only to state it somewhat more precisely. The essence of it is that each person buys from other persons, each community buys from other communities, and each nation buys from other nations to almost the exact amount in value as that person, community, or nation

sells. The thief, of course, may buy not to the amount of the value of the goods which he sells, but to the amount of the value of the money which he steals; and the person whose money has been stolen will buy less than the value of the goods which he sold, to the extent that his money has been stolen from him. Moreover, there may be a few misers who even in normal times keep their money, in the manner of George Eliot's famous character Silas Marner. In the aggregate, however, such exceptions are negligible.

It is to be noted also that the purchases and sales which balance are those of all goods, not simply commodities. All goods, it should be remembered, include personal services, such as those of the barber, the physician, and the entertainer. In international trade, therefore, a nation's purchases and sales with other nations approximately balance each year, but these purchases and sales include more than merely those of material commodities and merchandise. A nation may continue year after year to export more merchandise than it imports, because it must export merchandise not only to pay for merchandise imported but to pay for the services of ships owned by foreigners and interest on capital borrowed from foreigners. Furthermore, a nation may sell more than it buys if its people are lending to other nations by buying foreign securities, or investing in foreign countries, sufficiently to make up the balance, and there are other *invisible items,* as those are called On the other hand, a nation that is collecting interest on money lent, or that has previously made loans to foreigners which are being repaid, may to that amount import more goods than it exports. In fact, no nation is able to collect from other nations in the aggregate any substantial repayment of loans or interest on loans except in goods. The making and repayment of loans, along with other invisible items, need to be considered, but this makes recognition of the fundamental principle all the more important.

Statement of Principle.—To be sure, nobody needs to buy from exactly the same customers to whom he sells, nor do the imports of a nation from any particular nation have to equal its exports to that nation. *A* may sell to *B*, *B* to *C*, and *C* to *A*. But after all these qualifications have been made, we come back to the very important general principle known as the *law of reciprocity*, which may be worded as follows:

Exchange between communities and nations, as between individuals, is necessarily reciprocal; and, broadly speaking, the total of goods (not including money) sold by any community or nation to other communities or nations must in the long run substantially equal the goods (not including money) bought by such a community or nation from all others, except that communities or nations producing standard money metal will have some excess of imports of other goods, and growing communities or nations not producing standard money metal will have a slight excess of exports of other goods.

THE LAW OF COMPARATIVE COSTS

We are now ready to illustrate, explain, and state the *law of comparative costs.* An explanation of this will show more fully than we have heretofore shown, why people specialize and trade, and why there is an advantage in trade. Before the law is either illustrated or explained, we wish to reiterate, however, that a high standard of living for an individual, a community, or a nation must rest upon an abundance of income in goods other than money. It cannot result from scarcity.

First Illustration of Gain.—First let us suppose that Farmer *A* and Farmer *B* own adjoining farms. Let us suppose that Farmer *A* has a much better farm than Farmer *B*, but that its superiority is much greater for the production of certain crops than for others. Let us suppose that they live in a secluded region, somewhat after the manner of the early pioneers. Let us suppose that each desires as a year's supply for himself and his family 40 bushels of corn and 40 bushels of wheat. Let us further suppose that, because *A* has an especially fertile farm, he can produce both corn and wheat with less labor than can *B*. Let us suppose that *A* can produce corn at the rate of 8 bushels for each day's work and wheat at the rate of 4 bushels for each day's work. Farmer *B*, in contrast, has such a poor farm that he can produce corn at the rate of only 1 bushel for each day's work, but because his land is different in character from that of his neighbor he can produce wheat at the rate of 2 bushels for each day's work. Now let us inquire, first, how much work each one will have to do if each produces all his own requirements of both corn and wheat; and, second, how much each one will have to do in case he specializes on that in which he has a *comparative* advantage and trades with his neighbor.

First, with each producing everything for himself, the result would be as shown below.

Commodity	Farmer *A*		Farmer *B*	
	Bushels per day	Days to produce 40 bu.	Bushels per day	Days to produce 40 bu.
Corn	8	5	1	40
Wheat	4	10	2	20
Both (40 bu. of each)	..	15	..	60

Now let us suppose that they specialize and trade. Farmer *A* can produce either corn or wheat with less labor than *B*. But he can produce corn with only one-eighth as much labor as *B*, whereas he can produce wheat with half the labor of *B*. Obviously, his greatest advantage is in corn. Farmer *B* is inferior with both corn and wheat, but he is less

inferior with wheat. Therefore, let us suppose that A produces not only the corn desired for his own requirements but also an additional 40 bushels which he trades to B for 40 bushels of wheat. Farmer B, on the other hand, produces only wheat, 40 bushels for his own use and 40 bushels for A in exchange for 40 bushels of corn. What would be the results?

Results for Farmer A

Days required to produce 40 bu. corn for own use	5
Days required to produce 40 bu. corn to trade for 40 bu. wheat	5
Days required to get 40 bu. of each	10

Results for Farmer B

Days required to produce 40 bu. wheat for own use	20
Days required to produce 40 bu. wheat to trade for 40 bu. corn	20
Days required to get 40 bu. of each	40

By specializing and trading, A now gets for 10 days of labor the same goods which would have required 15 days of labor had he produced them all himself, and B gets for 40 days of labor the same goods which would have required 60 days had he produced them all himself. Farmer A has saved 5 days in which he may produce other goods than corn and wheat and thus maintain a higher level of living. Farmer B in either case can not have so high a level of living as can A. But by trading he secures in 40 days the same goods which would have required 60 days to produce if he had not specialized and traded, and, therefore, he has gained 20 days in which he may produce something else and so also raise his level of living.

Let it be noted that the advantage of specialization and trade does not arise from the fact that A is more effective or less effective than Farmer B in either corn or wheat, but from the fact that *as compared with B the superiority of A is greater with corn than with wheat,* and that for B the gain comes because, though inferior with both corn and wheat, *as compared with A, his inferiority is less with wheat.* Specialization and trade are profitable because the ratio of efficiency of A to B in the production of corn is different from that in the production of wheat.

The student should test for himself the possibility of a gain through trade when these ratios are the same. Let it be supposed that A produces at the rates shown in the illustration just given, but that B produces 2 bushels of corn per day and 1 bushel of wheat per day. Farmer A will be able to produce twice as many bushels of corn per day as of wheat and so will B. Farmer A will be four times as effective as B in corn and also four times as effective in wheat. Under such conditions there will be no gain from trade. They might trade on the basis of 2 bushels of corn for 1 of wheat, but neither would be any better off than if he had produced all his requirements himself.

Second Illustration of Gain.—To illustrate that the possibilities of benefit from specialization and trade result from different ratios of efficiency in the production of the things traded, let us take a second example, in which, however, the computations of benefits will be slightly more complicated. Let us assume that *A*'s effectiveness in production is as in the illustrations already given, but that *B* can produce with one day's work 4 bushels of corn or 1 bushel of wheat. Let it be noted that, in this case, *A* is still more effective than *B* in both corn and wheat, and that both *A* and *B* can produce more corn with one day's work than they can

Commodity	Farmer *A*		Farmer *B*	
	Bushels per day	Days to produce 40 bu.	Bushels per day	Days to produce 40 bu.
Corn	8	5	4	10
Wheat	4	10	1	40
Both (40 bu. of each)	..	15	..	50

wheat. However, *A*'s ratio of corn to wheat is 8:4, whereas *B*'s is 4:1. Therefore the ratio of result in product as between corn and wheat with *A* is different from that with *B*. Accordingly, there will be gain from specialization and trade. If each produced all his own requirements, the time required would be as shown in the table above.

If they are to specialize and trade, *A* will specialize in wheat, because he can produce four times as much wheat as *B* with a day's work, though only twice as much corn. His ratio of advantage over *B* is greater in wheat than in corn. Let it be supposed that they agree to trade on the basis of 2½ bushels of corn for 1 of wheat. In that case the following result for *A* would follow.

Days required to produce 40 bu. wheat for own use	10
Days required to produce enough wheat to secure 40 bu. corn by trading 1 bu. wheat for 2½ bu. corn (16 bu. wheat will secure 40 bu. corn on this basis)	4
Days required to get 40 bu. each	14

For *B* the following would be the result:

Days required to produce 40 bu. of corn for own use	10
Days required to produce enough corn to secure 40 bu. wheat by trading 2½ bu. corn for 1 bu. wheat (100 bu. of corn will secure 40 bu. wheat on this basis)	25
Days required to get 40 bu. each	35

Farmer *A* has gained one day by trading and *B* 15 days.

It may be noted that in this case, if the trading is to be limited to *A* and *B*, they cannot exactly produce and trade the quantities which will give each exactly 40 bushels of each. Either, one will have to take more than 40 bushels of corn, or the other will have to get along with less than 40 bushels of wheat. This difficulty results from the fact that the illustration has been put entirely in terms of barter and limited to just two persons. Such difficulty would not exist if there were also other persons with whom these two could trade. Farmer *B* may be supposed, for example, to trade only 40 bushels of corn to *A* for 16 bushels of wheat, and to trade the other 60 bushels to some other neighbor for his other 24 bushels of wheat. In that way the difficulty of things not coming out even is obviated, and the advantage of trade is equally effectively demonstrated.

Gains Expressed in Money.—Trade in the actual world is carried on almost entirely through the medium of money, but the effects are the same as though it were carried on by barter. In the illustration first given, *A* will benefit by selling corn and buying wheat as long as prices for these two products are such, one to the other, that wheat is less than double the price of corn, and *B* will benefit with any set of prices such that corn is less than double the price of wheat. If the prices of the two products are assumed to be the same per bushel, let us say $1 per bushel for both corn and wheat, the result will be exactly as in the supposed case of simple barter, bushel for bushel. If wheat were $1 per bushel and corn 75 cents per bushel, *A* could produce $6 worth of corn in a day and only $4 worth of wheat, and *B* could produce $2.00 worth of wheat and only 75 cents worth of corn. It would pay *A* to specialize in corn and *B* in wheat, but, relatively, *B* would get the greater percentage of gain from trade. As long as their ratios of efficiency in the two products are different, and there is no appreciable cost in making the exchange, both are likely to gain under any prices likely to prevail, but the relative degree of advantage will depend on the prices prevailing.

With the relative degrees of effectiveness shown in the second example of profitable trade, supposing the price of wheat to be $1 per bushel and also supposing that it is possible to exchange products without cost, *A* will gain by selling wheat and buying corn if corn sells at any price less than 50 cents per bushel; and *B* will gain by selling corn and buying wheat if corn sells at any price more than 25 cents per bushel. In the example, as assumed, with 2½ bushels of corn trading for 1 of wheat, corn will be 40 cents if wheat is $1, and, of course, both will gain.

In the actual world the advantages of trading are, of course, partly offset by the cost of making the exchanges, including transportation, dealers' costs of doing business, and the like. To these necessary costs governments often add for international trade the artificially created costs of tariffs. The gains from trade must be sufficiently great under

the law of comparative costs to offset all these costs of exchange before trade will normally occur.

Statement of Law.—We are now ready to state the law of comparative costs as a general principle, as follows:

Whenever production of two or more commodities is carried on by different producers (individuals, communities, or countries) under such conditions that they have different ratios of effectiveness in the production of these commodities, one to the other, there is gain in specialization and in trade, and specialization and trade will ordinarily occur except in so far as the possibility of gain is removed by necessary or artificially created expenses of exchange.

The examples showing the gains and the statement of the principle have been put in terms of results from days of labor rather than in differences in money costs of production, because putting them in terms of goods secured from days of labor gets more thoroughly at the root of the matter. The amount of capital used, of course, would also have to be considered. All production is to secure goods, and that method of organizing production which gives the most goods for a given amount of human effort for a people results in most wealth, most income, and the highest standard of living. Where gains result from specialization and trade because of differences in ratios of efficiency in the production of different commodities by different producers, the natural result is for prices so to adjust themselves that trade will occur. But in some cases to use money costs obscures the essential features or extent of the advantage. This may be the case, for example, where the prices of the cost factors have been influenced by a tariff policy.

Some Fallacious Doctrines Contradicted by the Law.—The mercantilists, to whom we have already referred, seemed to think that what one party gained in a trade the other party lost. One point which the illustrations given should have brought out is that in the normal course of trade both parties gain. There may be cases in which trade occurs in which one party loses. The usual cause of this, however, is not that the thing acquired through trade is acquired with a greater expenditure of effort than if it had been produced by the one who acquired it by trade, but that the thing acquired is something which the one who acquired it might better have done without, or that it would have been better for him to have acquired something else. In some cases, also, people buy things which they might have produced in time which they wasted. Such cases unquestionably are of some importance, but they are of minor importance compared with the great benefits which arise in the aggregate from specialization and taking advantage of the law of comparative costs.

Another fallacious notion in connection with international trade should have been disposed of by the examples above given. This is the

view often expressed that as a nation we cannot afford to trade with a people which has a lower standard of living than we have. The standard of living of the person or nation with whom one trades has nothing whatever to do with the advantage derived from that trade. The sole question is: Do we get the most goods from a given expenditure of effort by producing everything ourselves, or by specializing in production and trading? Farmer *A* in our illustration could have a higher standard of living than *B* regardless of whether specialization and trade occurred, but *B*'s lower standard of living did not prevent trade with him from being profitable to *A*.

Causes of Comparative Advantage.—The causes which give rise to gains under the law of comparative costs are in general the same as those already pointed out in connection with the advantages arising from the division of labor. The following groups of such causes may be here mentioned: (1) differences in natural resources; (2) differences in the quantity of labor available, or wage costs; (3) differences arising from the possibilities of using machinery; (4) differences in skill of workers. A few illustrations of division of labor arising from each of these causes will be given.

The farm lands of Iowa will produce more wheat with a given amount of labor than will the semiarid lands in many regions where wheat is grown. Yet Iowa produces relatively little wheat. The wheat produced is produced to a considerable extent to secure the by-product straw and to use the growing wheat as a nurse crop in which hay crops are seeded and started to grow. Iowa's failure to grow more wheat is not because she cannot grow it as well as many regions which grow almost nothing else than wheat, but because she has a greater advantage over other regions in the production of corn. On the other hand, wheat is very largely grown in regions of very light summer rainfall, not because it grows better there than in regions of somewhat more rainfall, but because its *comparative disadvantage* is less than that of other crops.

Sugar cane can be produced in Cuba with much less labor than in the United States. It is a tropical plant of such a character that in Cuba and other countries to which it is well adapted a dozen crops can be grown from one planting, as it comes up from the stubble and produces abundant crops. In the parts of the United States where it is grown, however, it is damaged by frost to the extent that it must ordinarily be replanted after producing two crops. This requires 4 to 5 tons of cane per acre from a crop of 12 to 15 tons for the propagation of the next crop. Accordingly, in this country the crop requires much more labor per acre, and moreover, the yields per acre in Cuba are considerably heavier. If Cuba also had an equal advantage in all other kinds of production, the people of Cuba would have a much higher standard of living than the people of the United States. However, the people of the United States

do have the highest standard of living of any country of the earth for the reason that they produce the most goods per capita. Yet this nation places a tariff on sugar and by that means supports an inefficient sugar-cane and sugar-beet industry in a few states. By that procedure this country as a whole loses rather than gains. The government by tariff legislation refuses to let its people take advantage of the law of comparative costs.

In considering the relation of quantity of labor to the law of comparative costs, both China and the countries of Western Europe are good examples. These countries specialize in the production of goods which require much labor and relatively little land or natural resources and are willing to sell to us certain of their products—for example, silk, hand-made laces, fine grades of cloth, and scientific instruments—on terms which are attractive to our consumers. This country in contrast has tended to specialize in the production of products in which machine methods have been able to take the place of labor. In many instances this is not because foreigners are more efficient in the production of the things which they sell to us then we are, but because under the law of comparative costs our superior efficiency is relatively greater in something else. We can produce many things with less labor than is required to produce them in countries from which we shall import them unless they are excluded by a tariff or other artificial restriction. The explanation is that we have a greater comparative advantage in something else. Our poultrymen do produce eggs more efficiently than the people of China, yet China is willing to sell us eggs to some extent cheaper than we can produce them in order that with her eggs she may purchase our wheat, because she is relatively less efficient in the production of wheat than of eggs. The explanation of the willingness of foreigners to sell to us at prices which our consumers consider attractive is that the abundance of the foreign labor supply, and relative scarceness of natural resources, result in these foreigners having relatively the least disadvantage in the production of those commodities requiring relatively a large amount of labor.

The possibilities of using machinery affect comparative costs in numerous ways. An example may be found in the automobile industry. Because the productiveness of each worker in manufacturing automobiles is much greater if elaborate machinery can be used, the result is that the plant which can produce many automobiles has a lower cost per car. Hence concentration comes about in the industry, and a few large plants take the place of many small ones. If a typical argument heard in relation to foreign trade—to the effect that we must put on goods produced in foreign countries a tariff equal to the difference in cost of production in this country and abroad—were applied as between parts of this country, each other state would exclude by a tariff the automobiles

made in Michigan, for the very reason that they can be made more cheaply, that is, with less labor, in Michigan. But, fortunately, the constitution of the United States prohibits tariffs between states, and this provision has not been sufficiently evaded to prevent different communities developing industries with comparative advantages. This gives us economical production by developing machinery capable of being used advantageously only where large-scale production can be practiced.

Gains under the principle of comparative advantage due to differences in skill everywhere abound. The famous surgeon does not mow his own lawn, darn his own socks, repair his own shoes, or do many other things toward directly supplying his own wants, not because he cannot do these things as well as those whom he hires to do them, but because it is more profitable for him to concentrate his energies on that in which he has the greatest advantage, namely, surgery. The highly capable lawyer will delegate to a stenographer or a clerk many things which he could do better than those whom he employs to do them, for the reason that he has a greater advantage in efficiency in some other activity. An architect may be a better draftsman than those whom he employs, but he has a greater advantage of skill in something else. It is obvious that no individual of more than average ability does for himself everything that he can do better than those whom he employs to do them. Yet when specialization among nations tends to occur for the same reasons, persons in high positions assert that we should produce for ourselves not only those things in which we have comparatively the greatest advantage but also those in which we have comparatively a great disadvantage.

In the relation of skill to specialization and to the gain from production under the principle of comparative advantage, it should be emphasized again that skill itself is largely the result of specialization. No man can be expert in all things. Wherever it is possible, therefore, to organize productive activity on mass-production lines with a high degree of specialization by individual workers, these workers generally develop a higher degree of efficiency in the particular things which they do than they would in any one activity if they attempted to perform a great variety of activities.

On the individual farm there is not an opportunity for a high degree of specialization by individual workers, nor is it always wise for the farmer to specialize on too narrow a range of farm enterprises. Nevertheless, there are specialization and gain from comparative differences in skill in agriculture as in other kinds of productive activity. Many a farmer finds it profitable to entrust to a hired hand things which he can do better than the hired hand, for the reason that it is more profitable to apply his own energies to something else. Also a certain degree of specialization results in more skill. The farmer who to a certain degree specializes in dairy farming is likely to be more skilled in the feeding

of dairy cattle and is likely to get more pounds of butter fat from a given amount of feed than is the farmer with whom the care of a few cows is incidental to looking after a great number of other activities. The specialized fruit farmer knows more about spraying and pest control than does the farmer who has a small orchard but whose time is devoted mostly to other things.

Specialization under Comparative Advantage Highly Important in This Country.—No absolute rule can be laid down as to the degree to which an individual, a community, or a nation should specialize in production. The proper degree in one case will not be the best degree in another. But this much is unquestionable, that specialization in order to take advantage of the law of comparative costs has played a tremendous part in bringing about the high production of goods per capita which now prevails in the United States and which is the basis of our high standard of living. We have abundant resources of land, timber, and minerals. But these could not have been effectively utilized without a high degree of specialization and trade under the principle of comparative advantage. We have a highly skilled and intelligent population. But skill in effectiveness of production could never have been so great as it is without specialization and taking advantage of the principle of comparative advantage. In international matters we have professed a doctrine of isolation and prevented trade by a high protective tariff. Nevertheless, no nation is a better illustration than is the United States of the gains which come from specialization and trade; no other group of over 130 million people so highly skilled and educated and possessing a wide diversity of natural resources has the same degree of freedom of trade and the same range of opportunities to take advantage of the law of comparative costs. And the people of the United States have taken advantage of this opportunity in domestic trade and have profited by it. The international aspects of trade will receive further consideration in later chapters, especially Chap. XIX.

Questions and Problems

1. Name and describe the chief functions of money.

2. What weaknesses are there in the argument that we should all buy only home-produced goods and thus keep our money at home?

3. How would you answer the person who argues that an earthquake which destroyed many houses was "a good thing" because it created work? Explain fully.

4. Abraham Lincoln has been credited with the following statement, though there is no evidence that he ever made it, or any statement resembling it: "I do not know much about the tariff, but I know this much, when we buy manufactured goods abroad, we get the goods and the foreigner gets the money. When we buy manufactured goods at home, we get both the goods and the money." Point out the fallacies in the reasoning involved in the statement.

5. Why is the opinion that general curtailment of production would result in general prosperity so widely prevalent?

6. Explain how and why Say's law is less true in the short run than in the long run.

7. Show by example that, because of the law of comparative costs, trade may be profitable to both parties in the trade.

8. Show by example that a nation with a high standard of living may raise its standard by buying from a nation with a lower standard.

9. Name four principal causes of differences in comparative advantages, and give an effective illustration of each.

10. Mention a number of effective illustrations of the gains realized by the people of this country from taking advantage of the law of comparative costs.

11. It has been said that the law of comparative costs means simply that every person and every nation should produce that which it can produce more cheaply than others. Show the inadequacy and inaccuracy of this statement, and state the law correctly.

Suggested Readings

1. F. M. Taylor, *Principles of Economics* (1925), Chaps. XIV, XV, XVI, and XVII, is one of the most interesting and complete explanations of the material covered in this chapter.

2. Harry Gunnison Brown, *Principles of Commerce* (1917) covers this subject matter in a more technical manner.

3. F. W. Taussig, *Principles of Economics* (1939), Vol. I, Chaps. 34 and 35, contains an excellent discussion of the principle of comparative advantage.

CHAPTER VII

FARM ORGANIZATION

Consideration of the organization and administration of the operations of an individual farm constitutes the central part of the subject matter of farm management. That is a special subject for study, and no attempt will be made to treat it comprehensively in this book, in which we are concerned with the relations of farmers to other parts of our economic system. Nevertheless, a few aspects of farm management, or more specifically farm organization, will be briefly considered in this chapter.

Chinese Farm Economy.—Our appreciation of methods and principles of farm organization in this country may be increased by a sketch of conditions in a country as different and far removed from us as China. In a recent book by J. L. Buck, entitled *Chinese Farm Economy*,[1] there are presented the results of a study of 2,866 Chinese farms, utilizing in the aggregate 21,000 acres and supporting directly 17,000 persons. The following is a brief summarization of that study by F. A. Pearson. All money values therein stated are in Mexican dollars, which are one of the several kinds of money in use in China and which at the time to which the data refer (about 1929 and the immediately preceding years) had a value of about half that of American dollars. To make a rough comparison with American conditions, therefore, the reader should divide all money values by two.

Today Chinese agriculture is a system of unfenced, widely-scattered plots of land, which corresponds to the archaic strip system of Europe. The usual farm has 8.5 non-contiguous plots each less than an acre in size and the farthest average nearly two miles from the farmstead.

The average farm capital is $1,769 (Mexican dollars), three-fourths of which is invested in land. The mortgaged land makes up only 1.2 per cent of the capital. Trees are bought and sold separately from the land, and on the average are worth $38 per farm.

Livestock plays an unimportant rôle in Chinese agriculture, representing only 3.7 per cent of the capital; and livestock and its products represent only 8.1 per cent of the annual income. The average farm has 0.5 oxen, 0.4 donkeys, 0.1 mules, 6.5 chickens, 2.3 sheep, 0.2 goats, 0.9 hogs. Labor animals are much more important than productive animals. Three-fourths of the farmer's cash receipts, $322 per year, are derived from the sale of crops.

[1] Published by the University of Chicago Press, 1930.

After deducting expenses, Buck finds that the returns to the family for its labor are $181 per farm [about $90 American money, with an average of about six persons per family, which includes quite commonly relatives other than parents and children]. Only 39 of the 2,866 farm families had returns of more than $350. These returns are closely associated with size of farm, crop yields, efficiency of labor, soils, and the like.

China is no exception to the rest of the world. They have the tenancy problem. In North China, three-fourths of the farmers own the land they operate; and in East Central China, less than one-half. The most important method of paying rent is in the form of a definite amount of grain, the "half and half" system being most common. The percentage of the total receipts that go to the landlord varies from 25 to 67 per cent. Landlords' returns on capital vary from 2.6 to 17.8 per cent. Interest rates on loans are rarely less than 20 to 30 per cent. This study indicates the importance of the problem of "fair rent payments," which is now receiving the attention of the national government in China.

On account of the small amount of livestock, hay and pasture play an unimportant rôle in Chinese agriculture. The crops are primarily grain, fibre, and leaf products, for direct human utilization. The by-products, straw, stalks, and fodder, are used for farm and city fuel, building, and work animals. Since relatively little of these by-products is plowed under or returned to the soil in the form of animal manure, the human feces and urine are carefully conserved. Because of the long growing season, double cropping, which is comparatively unknown in the United States, is widespread. About one-half of the total crop area is double cropped.

The student of prices will be interested in the wide variations in the prices of the same commodity for the same year in different communities and the wide variations in prices of the same commodity in the same community for different years. These differences are due largely to lack of transportation. There is a surprising similarity in price relationships in eastern China and in the United States. In China, the price of wheat is 1.45 times the price of corn (maize), and in the United States, 1.49.

Water, wind, or mechanical power are used only in irrigated areas. The muscles of man and beast are the sole source of farm power. In China, 663 hours of human labor are required to produce a hectare of corn, as compared with 47 in the United States; wheat 600 and 26; and cotton 1,620 and 289 man-hours, respectively. In China, human labor is cheap and animal labor is expensive. . . .

The standard of living must of necessity be low because of the meager income. Every time the Chinese farm family spends $1, the American farm family spends $17. Few farmers can read and three-fourths of the farmers' children have never attended school. Fuel represents 12.3 per cent of the value of goods consumed, compared with 5 per cent in the United States. The cause is clear; "what is put under the kettle is worth more than what is put inside."[1]

The reader will be left to draw his own conclusions as to what features of difference in the organization of economic life in this country and in

[1] Review by F. A. Pearson, *American Economic Review*, June, 1932, p. 295.

China have been most important in giving to us a higher standard of living than prevails in China, and also to what extent the Malthusian principle of population explains the conditions of economic life in China. For the remainder of this chapter we shall consider a few aspects of farm organization in relation to farm efficiency which are of importance in understanding cost of production and differences in costs among producers. The aspects of farm organization to be most especially considered are: (1) the farmer's selection of the grades of the factors of production; (2) the planning of the farm to make the best use of labor and equipment; (3) the adjustment of farm enterprises in order to meet changes in prices of the different farm commodities.

SELECTION OF THE GRADES OF FACTORS OF PRODUCTION

In attempting to arrive at the lowest cost per unit and the highest-profit combination of the factors of production, the farmer is confronted with the fact that different areas of land, different kinds of machinery, different dairy cows, and different workmen are quite different in their ability to produce. This raises the question, should the farmer hire the best labor, obtain the best land, and secure the highest producing cows, or will he find the second-grade units of these factors of production more profitable? The effort to answer that question, as well as an understanding of other aspects of highest-profit combinations, will be promoted by an understanding of three concepts, *viz.*, capacity, efficiency, and productivity, and the relation of these to net returns.

Capacity.—In current speech, *capacity* is said to be the maximum output possible, as, for example, the capacity of a fruit cannery is 2,000 cases a day, or the capacity of an elevator is 500,000 bushels. More accurately the word *capacity* has almost an opposite meaning. It refers not to output but to input, or the reception by this factor of other factors of production. The more of other factors of production which may be profitably combined with a given factor, the greater the capacity of the given factor. Fertile, well-watered land near a city has great capacity, because a large amount of labor and considerable capital may be profitably spent on that land in raising truck crops, producing fluid milk, and the like. Less fertile soil in the same locality will have lower capacity, though perhaps higher than somewhat richer soil at a great distance from markets, for the latter, being limited in profitable use to crops which can be shipped great distances, may not be profitably combined with as much labor and capital.

Let us consider the other factors. A strong, mentally alert laborer can be successfully used with more acres of land or more equipment than a man with opposite characteristics. As an example of the capacity of livestock and equipment, we find that some cows can profitably be fed more feed than others. Some types of machinery, such as combined harvesters,

can under certain circumstances be economically used with more land than other harvesting machinery. Farmer entrepreneurs of keen foresight, progressive methods, and ability as day-to-day managers can successfully manage more land, labor, and capital than less effective competitors. In other words, the economical size of the producing unit is affected by the capacity of the entrepreneurs.

We are now ready for a concise statement of capacity, using the words of Dr. C. L. Holmes:

> The capacity of any productive factor such as labor, land, equipment, or management, may now be defined as the relative amount of the other factors which, under a given set of economical and technical conditions, can be combined with it in productive processes to result in maximum profit to the proprietor.[1]

The preceding discussion has noted the significance of all parts of this definition except the section referring to "a given set of economical and technical conditions." A given set of economical conditions refers to a given set of prices for cost factors and for the resulting product. Obviously, if wages rise when there is no corresponding rise in the price of the product, it will not be profitable to use as much labor as formerly on a given piece of land. This represents a change in the capacity of the land for labor, due to a change in the economical conditions. Conversely, if the price of the product rose so that the value of the output increased, it would be profitable to use more labor on the same land (wages constant) which again is a change in capacity with the new "economical conditions."

The "given set of technical conditions" refers to the methods of production and condition of weather, soil, and so on. In the growing of corn, the amount of cultivation which will be the most profitable varies with the type of soil and amount of rainfall. The introduction of a labor-saving machine may reduce the amount of labor but increase the amount of capital which may be profitably combined with the land. This would represent a change in the capacity of the land due to a change in "technical conditions."

Applications of Capacity.—The efficient farmer will use each acre, laborer, and piece of equipment as nearly as possible to its maximum capacity. It is not easy to determine objectively what is this maximum capacity. To illustrate, the amount of cultivation which should be applied to a given crop to yield the maximum profit to the proprietor will vary according to weather conditions, the costs of the labor, and other factors which are to be applied, and, also, according to the price of the product. Furthermore, not only the amount of cultivation, but

[1] *Economics of Farm Organization and Management* (D. C. Heath & Co., 1928), p. 227.

the timeliness with which it is applied is of high importance. Some farmers get twice as much result from the same amount of cultivation as others, because they do it at exactly the right time. Nevertheless, he who does succeed in using each factor of production—in other words, each element of cost—most nearly to its capacity will be most likely to have profits at the end of the year.

The efficient farmer will not have any avoidable *idle overhead*, by which is meant outlay for land, labor, equipment, or materials not being used to full capacity, for its presence indicates that the maximum profits are not being made. To put a good-sized combined harvester on a 100-acre wheat enterprise means that this large investment in equipment will not be used sufficiently unless the farmer does custom work. To farm land that is very high priced on account of its desirability for urban uses means that the interest on its value cannot ordinarily be earned in agricultural uses. To have a truck on a farm that has relatively little hauling to do may be less profitable than to hire trucking services. Wherever there is *idle overhead* or *unused capacity* in the words of Professor J. M. Clark,[1] there is opportunity to profit by using the investment more fully by applying more of other factors to the one in which the unused capacity is present. Unused capacity involves always expenses for interest and taxes, and usually also for repairs, depreciation, and obsolescence, of which the last three items are often of tremendous significance. In planning ahead, the purpose should be to provide such a balance in the productive organization that there will be no unnecessary idle overhead.

Economic Efficiency.—Capacity refers only to the best ability of a given factor to combine with other factors; it tells us nothing about the profitableness of such a combination. Thus a cow may be more profitable if fed a large amount of feed than a smaller amount (have a high capacity); yet another cow, eating less, may be even more profitable. Efficiency is the test of the effectiveness of a given factor in using other factors, and as such it has a meaning quite similar to that of everyday speech but may be more precisely defined as follows: Efficiency is the ratio of value of output to value of input, or cost of other factors, when the productive factor whose efficiency we are studying is being used to capacity. It must be expressed in money, since money is the only common denominator by which costs and product may be compared. It is perhaps best defined as the value in dollars of the product for each dollar's worth of cost for other things than the factor being studied.

Efficiency, Capacity, and Net Returns.—From the above it should be clear that neither capacity nor efficiency alone determines net profit, but that this depends on a combination of the two. That is only another way of saying that business profits depend as much on the volume of the

[1] J. M. Clark, *Studies in the Economics of Overhead Costs* (The University of Chicago Press, 1923).

business as on the profit per unit of business done.[1] A small net profit from each dollar of sales on a large volume of sales may be more profitable than a large profit per unit on a small volume of sales. But both the volume and the profit per unit are important.

What Grades of the Factors Should Be Used.—Dr. H. C. Taylor[2] contends that high-grade units (efficient) of any factor should be combined with high-grade units of the other factors for maximum profits. A studied statement of this principle, with some qualifications, has been made by Dr. L. C. Gray as follows:

> Let us consider this problem concretely. In the first place we may ask whether we should use good seed with good land or poor seed with poor land. It is true, of course, that to use poor seed with high-quality land and labor does result in greater loss than to use it with poor-quality land and labor. However, there is no particular reason for employing poor seed at all, for it is not generally cheaper than good seed, and it is principally a question of knowing how to determine the quality.
>
> Should good managers be used on good land and poor managers on poor land? In the long run it is probable that the values of land and labor will be so adjusted that good managers can afford to pay more for good land than poor managers could pay and still make larger profits than they could make on poor land. However, it is entirely possible that what makes land poor is lack of some element that would be supplied by proper management, and the good manager, knowing how to overcome the difficulty and being able to get the land relatively cheap because the inefficient managers do not know how to make it productive, can sometimes make a larger profit on the poor land than on the more valuable land. Similarly, a good manager may sometimes be able to employ low-grade labor more effectively than poor managers can and, if the low-grade labor is comparatively cheap, may be able to make larger profits than they could by employing the more efficient but higher priced labor.
>
> When one has a high quality of live stock, it is probable that it is usually economical to employ a higher quality of labor than one could afford to employ for poor quality live stock. Generally it pays to put good improvements on good land rather than on poor land. In all cases, however, values of the high-grade and low-grade factors have to be considered. If the low-grade factor is valued relatively cheaper to its quality than the high-grade factor, it may frequently pay to employ it in association with other factors of high quality.
>
> It must be recognized also that there is a certain degree of interchangeability between quality and quantity of factors employed. Not infrequently quality is a substitute for quantity. This is especially the case where quality takes the form of a larger amount of accomplishment. For instance, a laborer who can plow two acres a day is much more than equivalent to two men each of whom can plow one acre a day; for not only will he accomplish the same result as the two

[1] For further discussion of capacity, efficiency, and productivity, and their relation to net returns, the reader is referred to H. C. Taylor, *Agricultural Economics*, and Black and Black, *Production Economics*.

[2] *Outlines of Agricultural Economics* (Macmillan, 1928), Chap. XI.

men, but he will accomplish it with one team and plow rather than two. Sometimes the high quality of one factor economizes the quantity required of another factor. For instance, a good machine is less likely to break than poor machinery and therefore will require less labor for repairs and for delays incident to breakdowns than is necessary in the case of machinery of poor quality.[1]

The grades of the factors which a farmer should employ depend usually on the prices which he will have to pay for them. Good cows are under almost all conditions so much more profitable than poor cows that it rarely pays to keep a poor cow. Nevertheless, the best cow may cost so much more than one not quite so good that the second best may be the most profitable at the prices prevailing. The same principle applies to land, machinery, and all the other factors of production. As has already been emphasized in our discussion of the highest profit combination under the law of proportions, it is not an easy matter to decide in any particular case which is absolutely the best, in the sense of most profitable. Nevertheless, some farmers will come close to it and for that reason make profits, whereas others will go far astray and for that reason have losses.

THE SIZE OF THE FARM OR FARM BUSINESS

Methods of Measuring Size.—The most widely used basis of indicating the size of a farm is the number of acres. Sometimes the reference is to the number of acres owned by one person in a plot, but more generally the reference is to the number of acres actively supervised by one man and operated as a coordinated unit, whether the land be owned or leased.

Yet the acreage basis of indicating the size of farms may be very misleading as to the capital investment, number of laborers, and value of product, particularly when comparing intensive and extensive farming. A 20-acre orange orchard in southern California valued at $3,000 per acre represents an investment in land and improvements totaling $60,000, which is equal to 1,200 acres of wheat land valued at $50 per acre. Similarly, a grape vineyard may yield a per acre product selling for $400 to $600, whereas a wheat farm with average yields of 30 bushels per acre selling at 90 cents brings only $27 per acre gross receipts. Again, intensive agriculture, such as that involved in fruit and vegetable production, generally requires the employment of many times the amount of labor per acre used on grain farming.

The acreage basis is itself misleading as to area, first, because the proportion of the land cropped varies from farm to farm. Fortunately, since 1925 the Census has reported cropped land separately, and the data show that there was a tendency for cropped land per farm to increase

[1] L. C. Gray, *Introduction to Agricultural Economics* (Macmillan, 1924), pp. 156–159.

from 1925 to 1930, but to decrease again by 1935 (Table 20). Second, the Census usage of the word *farm* does not always correspond with the area thought of as a farm when considering the economical size for operation. If one man owns several pieces of land separated somewhat from one another and yet exercises general supervision over them, but the detailed management is in the hands of a hired person or perhaps a tenant whose lease leaves large powers of management to the owner, the Census reports all of these pieces of land together as one farm, though for most purposes they are operated as separate units, or farms.

TABLE 20.—AREA IN FARMS AND AVERAGE SIZE OF FARMS IN THE UNITED STATES 1900 TO 1930[1]
(In acres)

Census year	Farmed area	Average size of farms	Improved land	Improved land per farm	Cropped area	Cropped land per farm
1900	838,591,774	146.2	414,498,487	72.2		
1910	878,798,325	138.1	478,451,750	75.2		
1920	955,883,715	148.2	503,073,007	78.6		
1925	924,319,352	145.1	.....	....	291,459,902	61.4
1930	986,771,016	156.9	.....	....	413,235,890	65.7
1935	1,054,515,111	154.8	.....	....	415,335,000	61.0

[1] From the United States Census of the various years.

With these limitations in mind the reader is referred to the Census data on farm area and size of the average farm presented in Table 20. These figures do not indicate any tendency for the average size of farms to change radically, although there has been an average increase in area of almost 20 acres per farm since 1910.

Factors Affecting the Size of Farms.—In setting up the original farms in this country, the land policy of the government was a potent factor influencing the area brought into one unit. Throughout the region settled after the Homestead Law of 1862, the provision in that law for homesteading 160-acre tracts materially influenced the size of the unit upon which farm buildings were built and which was organized into an independent producing unit.

Such original influences as the government's land policy will not be permanent if a different size of farm proves to be more economical. When one compares the size of farms in different parts of the country, he will immediately notice the tendency for the size to vary with the type of production, in general being larger where extensive agriculture is practiced and smaller in the dairy, fruit, and truck-gardening regions. This may be illustrated in the state of Washington by three counties, Whitman, Franklin, and Whatcom. Whitman County is in the region best adapted to wheat production. The land is very fertile, though

rolling, and has a moderate amount of rainfall. The average size of farms in 1935 was 482 acres, having increased since 1925 from 413 acres. Franklin County is in a region where the soil is lighter and more level, and there is less rainfall. Whereas about 85 per cent of crop land is in wheat in Whitman County, over 95 per cent of crop land is in wheat in Franklin County. In Franklin County the average size of the farm in 1935 was 1,406 acres, as compared with 1,120 acres in 1925. Whatcom County is in a region devoted almost entirely to dairying and the production of eggs and poultry and small fruit. In this county the average farm in 1935 contained 42 acres, and this represented a decrease from an average size in 1925 of 47.8. The average Whitman County farmer had invested in 1935 in land and buildings $20,415, which was an average of $42 per acre; the average Franklin County farmer $13,574, which was an average of about $10 per acre; and the average Whatcom County farmer $4,678, which was an average of $112 per acre. The investment in buildings was about one-eighth of the investment in land for Whitman County farmers and about one-half for Whatcom County farmers.

Farming in general has not yet shown itself to be adapted to large-scale operation in the sense of being conducted in large operating units employing a great number of hired workers. There are some successful farms thus conducted, but they are rare, and most of the efforts at farming in that manner have thus far proved failures. At least one contributing factor to this is that agricultural work cannot be easily standardized and supervised. The variations in weather as affecting soil, crops, and livestock call for the constant attention of the farmer to adapt his plans for cultivation, feeding, etc., to new conditions. The fact that laborers are not in one building but scattered over the farm increases the problem of supervision. Successful farming usually involves the doing of many little odd jobs and tasks not in a regular schedule, which an operator is more likely to look after than hired laborers. The person with unusual ability to organize and direct the labor of hired employees has in general had a better opportunity to make profits in other kinds of business undertakings. In general, the successful farm has tended to conform to a family-sized farm, employing perhaps one or a few hired laborers. Conditions which have changed the size in acres of such a family farm have been mostly changes in the technique of farming, especially in the use of machinery. The replacement of horses and mules by tractors was an important cause of the increase in the size of the average farm in Whitman and Franklin counties, Washington, between 1925 and 1935.

The Size of the Individual Farm.—From the point of view of the business success of the individual entrepreneur, what is the best sized farm? To this no answer which applies universally can be given in terms either of acres, or of capital invested, or workers employed. This

much, however, can be said, that studies of costs and profits of farming show that in general the most profitable farms have been of more than average size for the type of farming which they represent. Not all large farms succeed, nor all small farms fail, but in any given type of farming the proportion of successes to failures is always greater on the larger farms.

Some persons are disposed to become poetical about "a little farm well tilled." But G. F. Warren, one of the founders of the science of farm management, has well said that "there is less poetry but a better living in a large farm well managed." About twenty years ago considerable attention was attracted by a book presenting the joys and possibilities of the small farm under the title of *Three Acres and Liberty*. A specialist in farm management who had given considerable study to the financial results of very small as compared with larger farms suggested that a more appropriate title might have been "Three Acres and Poverty."

The causes of the greater success of the farm of more than average size are well illustrated in the results of an economic study of irrigated farming in Twin Falls County, Idaho. The sizes of the farms most frequently operated were 40 and 80 acres. The study covered four years, and the net returns on the invested capital after allowing wages to the operator for his labor were considerably more than twice as great for the 80-acre farms as for the 40-acre farms in every year. Typically for 1922, after allowing the operators $712 for their labor on the 40-acre farms and $861 on the 80-acre farms, there remained as a return to capital an average of $1,253, or 5.8 per cent, on the investment for the 80-acre farms and only $296, or 2.4 per cent, on the investment for the 40-acre farms. The value of the output per acre was greater each year on the 40-acre farms, typical results being in 1922, when there was an output having a value of $54 per acre for the 40-acre farms and $48 per acre for the 80-acre farms. But expenses per unit of output were greater also for the 40-acre farms. This is well illustrated merely by the number of horses per farm and the crop acres handled per work horse and per month of man labor. In 1922 the 40-acre farms averaged 4 horses per farm and the 80-acre farms 4.4 horses per farm. On the 40-acre farms 10 crop acres were handled per work horse, and on the 80-acre farms 16 crop acres. On the 40-acre farms 2.6 crop acres were handled per month of man labor, and on the 80-acre farms 4.2 crop acres. Similar advantages for the 80-acre farms prevailed in all other years.

The difficulty of getting the nearest possible to *capacity* utilization of horse power on a very small farm, as above shown, is equally present in the case of machinery. The operator of a very small farm is likely either to be so lacking in the proper kind of equipment that his labor costs per unit of product are too high, or his equipment will lack so much of being

used to capacity that expenses for interest, taxes, and depreciation on equipment become excessive per unit of product.

The greater cost of labor for the results secured on the very small farm should be further emphasized. In a survey of 578 farms in Livingston County, New York, it was found that small farms of 30 acres or less in size were able to farm only 4.4 acres with every $100 spent for labor, whereas with every $100 spent for labor on farms of over 200 acres 21.8 acres were farmed. Although part of this difference was due to different kinds of farming, part of it was due to more effective use of labor on the larger farms. Every farmer knows that there are many jobs around a farm which can be performed to better advantage by using at least two men. The farm which, because of its size, keeps two or more men busy the year round capitalizes on these short cuts in labor and thus gains an advantage over the man laboring alone. Small farms generally mean small fields, which are always extravagant in the use of labor. In plowing, more time is wasted in turning. The direct saving in human labor in such matters is important, as well as the fact that one man can often keep all the horse power or tractor power employed while the other does the odd jobs, thus holding down the overhead.

Among the most important factors affecting the size of an individual farm are the following:

(1) *Type of Farming.* Grain production calls for larger farms from the point of view of either acres or total investment than does commercial poultry production.

(2) *The Financial Resources of the Operator.* Many a young farmer starts with a farm smaller than he knows to be of the most economic size for the reason that he has not the financial means to secure and operate a larger farm, and expects by industry and frugal living to acquire the means and secure a larger farm in the future.

(3) *Managerial Ability and Mental Attitude of the Operator.* Some farmers have greater capacity to organize and direct operations involving relatively large expenditures for land, equipment, or labor than have others. Those especially so gifted tend to operate larger farms than those who are less effective in such managerial ability, including the direction of the work of others.

Small farms are often the result of persons looking upon farming as a way of living, rather than as a business, and preferring to take a small return for their labor and the use of their capital and be their own employers rather than to work under the direction of some one else, even for a greater financial return.

THE COORDINATION OF FARM ENTERPRISES

A question in connection with farm management which is much debated is that of specialized *versus* diversified farming. Specialized

farming may be defined as a system of farming devoted entirely, or almost entirely, to the production of one crop or type of product. Diversified farming may be defined as a system devoted to the production of a wide variety of products. The difference between specialized and diversified farming is, of course, all a matter of degree. One-crop farming has been especially criticized. Its principal weaknesses have been pointed out as follows: (1) In the case of crop production it tends to exhaust soil fertility more than does diversified farming. (2) It increases the risks assumed by the farmer, both because one crop is more likely to fail than all of a wide variety of crops, or types of production, and because prices for one product are more likely to be unusually low than prices for all of a variety of products. (3) It is uneconomic in the use of labor and equipment. In considering the degree of validity of such charges, especially the third, we shall first define a few terms.

Farm Enterprise.—This term is used in the language of farm management to refer not to the farm or the farm business as a whole but to a particular kind of production carried on. Thus, dairying and apple production on the same farm would be two distinct farm enterprises.

Competitive and Supplementary Enterprises.—Farm enterprises which demand the use of productive factors at the same time are *competitive.* Enterprises which make demands for labor and equipment at such times as not seriously to conflict are called *supplementary.* The nature of competitive and supplementary enterprises is well illustrated in Fig. 9, which shows the time distribution of man labor in the growing of 10 acres each of six different crops, according to actual records on six farms in Clinton County, Illinois.

In the spring of the year the first crop demanding attention is oats, for which the ground is prepared and the crop seeded in early April, or as early in the spring as the ground may be worked. The next crop to demand attention is corn. There is a certain amount of competition between oats and corn, because the seeding of oats is not fully completed before the plowing and preparation of the land for corn begin. The competition of the two crops for time, however, is not very serious. While the cultivation of the corn still makes great demands for time, however, the harvesting of alfalfa and clover hay demands attention. These make truly competitive demands. There is also some competition between the cultivation of corn and the harvesting of wheat. The harvesting of oats, however, does not conflict appreciably with any of the five other crops. Oats, in demand both for planting and for harvesting, may be regarded as supplementary to all the other crops. Corn harvesting for silage conflicts with preparing the land for wheat, but corn may be regarded as supplementary to oats, alfalfa, and clover. Corn husking conflicts with no other labor on crops. In general, the crops

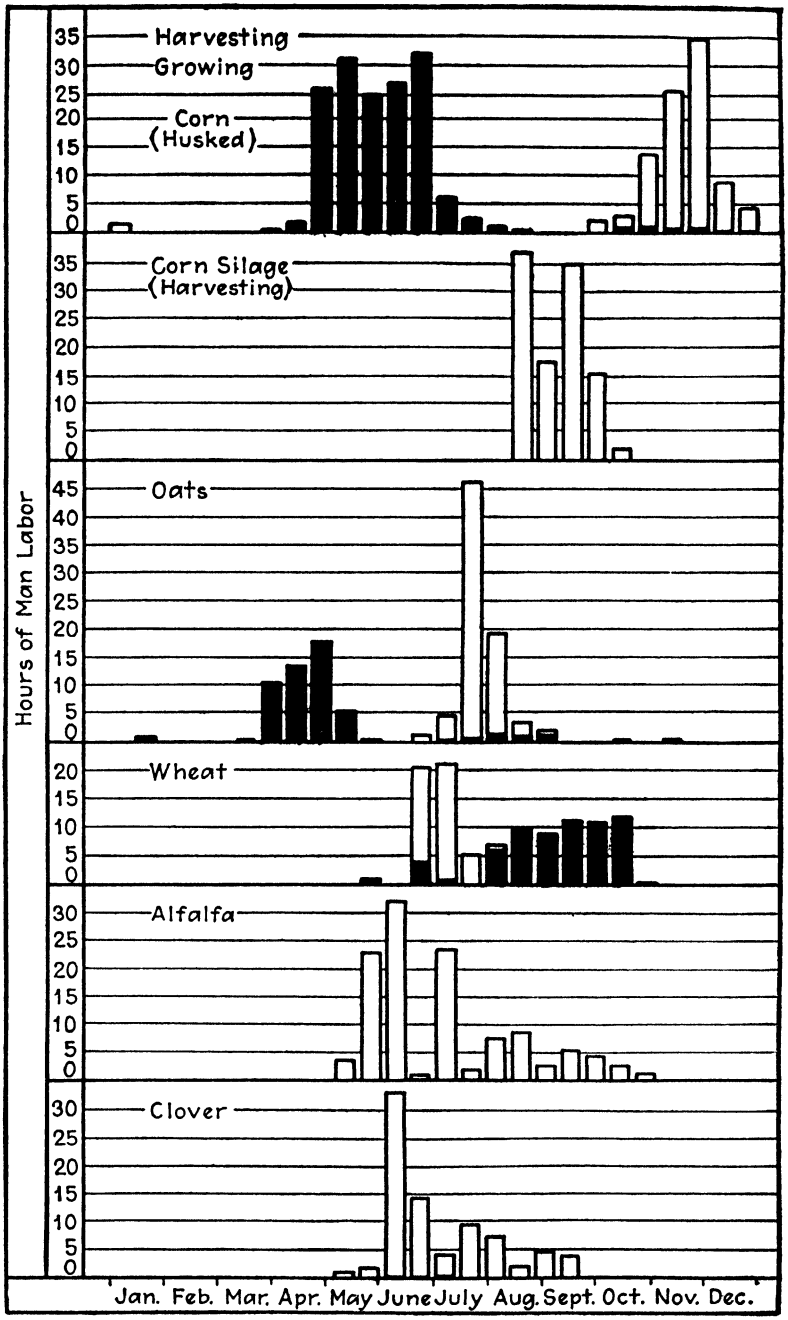

FIG. 9.—Distribution of man labor in growing and harvesting 10 acres of 6 different crops. The time of year when a crop demands labor, as well as the amount of labor it requires, needs to be carefully considered when choosing the crop to include in a rotation. This graph is based on data from six Clinton county farms in 1926, 1927, and 1928. (*Ill. Agr. Exp. Sta. Bull.* 374, *p.* 442.)

shown in the figure are not seriously competitive except during the period of hay harvest. They are for the most part supplementary.

Livestock also may be supplementary to crops. The winter feeding of cattle in the Corn Belt is a good example of such an enterprise. Dairy cows, on the other hand, are competitive with crop production during the busy months, in spite of the fact that they do not demand so much attention during that time as during the winter months.

Complementary Enterprises.—Enterprises such that one definitely makes a contribution to the other are *complementary*. Feed crops and livestock are mutually complementary. The crops furnish feed to the livestock, and the livestock furnishes fertility to the crops. Legume crops, such as clover and alfalfa, are complementary to most other crops in that they build up the soil. Other crops in turn may be complementary to them in that they may furnish a nurse crop to these in their early stages of growth.

A system of complementary enterprises used with profit in the Palouse region of eastern Washington and northern Idaho involves spring wheat, sweet clover and sheep, and winter wheat, used in a three-year rotation. In the first year clover is seeded with spring wheat. The clover is used as a pasture for sheep, occupying the second year, but is plowed up and the land seeded to winter wheat, the third year crop, which then again is followed by spring wheat, with sweet clover. The sweet clover and sheep enterprises are complementary to each other, and they jointly are complementary to wheat for the reason that the clover is introduced into the rotation largely in order to restore and maintain the fertility of the soil.

Balanced Farming.—The expression *diversified farming* is an unfortunate one. It is intended to be applied to a combination of farm enterprises, which, if the enterprises are properly selected, represents highly desirable farming practice. But it has come to be used in a manner such as often to convey the impression that there is merit in diversification of farming operations and activities of any sort, which is not good farming practice. A much more fitting expression for the desirable farming practice, though perhaps one lacking in popular appeal, would be *balanced farming*.

Such a combination of supplementary and complementary farm enterprises as will reduce to a minimum unemployed labor, land, and equipment, and will maintain soil fertility, is highly desirable. In some sections of the country successful farming is hardly possible unless a considerable variety of enterprises is operated. Peculiar soil, climatic, or market conditions adapt other areas to more specialized farming. Though in the great majority of all cases some improvement in the balancing of farming enterprises is possible, it is also true that there are cases where too much diversification which is mere diversification is being

practiced. The farmer who has a few ducks, a few geese, a few guineas, and a few turkeys, a few Plymouth Rock chickens and a few white Leghorns, and "swaps" eggs with a neighbor who has some other breed, while also he has a few goats and a few sheep and a few hound dogs, may be practicing diversified farming, but it is not likely to be very profitable diversified farming.

Especially with specialized orchard crops and livestock, the highest degree of success demands an amount of technical information about spraying, pruning, feeding, and the like which is not likely to be attained without some degree of specialization. Furthermore, a certain amount of community specialization is desirable. A community in which dairying is important will prosper most, and the individual farmers will prosper most, if instead of each farmer keeping a different breed of dairy cattle, the farmers will determine which breed is best adapted to their conditions, and then all as far as possible will keep that breed. This is true for three reasons:

1. A higher degree of skill in producing and handling the product is developed, because more people are working on the same problem and more valuable points of skill and knowledge are acquired and passed on from the first discoverer to others.

2. There is greater economy in production. An individual living in a community where all have the same breed of cattle can secure the use of a high-grade sire more cheaply than where he alone has a particular breed. Where all produce market milk or cream, the hauling costs and other expenses can be reduced.

3. Better prices are secured for products of equal quality, because it is possible to have a large volume of uniformly standardized products, which attracts buyers, both middlemen and consumers, and holds marketing costs to a minimum.

A greater degree of diversification is justified for that part of the production which is for home consumption than for the part which is being produced for sale. Many a highly specialized farm does not have a family garden when such a garden would be highly profitable. Many a farm which could economically produce its own supply of milk and pork or a part thereof does not do so. Production of as large a part of the feed supply to be fed on the farm as possible is a practice which should generally be encouraged. But when it comes to the production of crops or livestock products for sale, a different problem is presented. Too much diversification both increases production costs and makes more difficult and costly the matter of marketing.

The practice which appears to offer greatest possibilities for profit under most circumstances is for each farmer to select one or a limited number of enterprises as the central feature or features of his farming system and then select his other activities as supplementary and com-

plementary to such leading enterprises, rather than to practice diversification for the sake of diversification.

PRICE OUTLOOK, BUDGETING, AND COST RECORDS

Farmers and Price Changes.—Do farmers change their plans in response to changes in the prices of certain farm products? Wheat farmers in the major wheat-producing sections continue production regardless of most price changes. The same applies to those producers of cotton, corn, and other staple products who are located in the region best adapted for their product. But comprehensive data demonstrate that producers as a whole do change to the more profitable from the less profitable enterprises, even when the current price of the product is used as the only indicator of profitableness. Changes in the potato acreage can be anticipated quite accurately by considering the potato price of the preceding and of the second preceding season. Without government control the same can be done for cotton acreage. Changes in hog production can be forecast by a consideration of hog and corn prices in the recent past. Illustrations might be multiplied.[1]

The change in production is made by those producers who are on the margin of changing to some alternative enterprise, which the price changes promise to make more profitable.

The fundamental difficulty with the changes in farm enterprises as they are now made is that they are based on a consideration of prices of the present and immediate past, instead of the probable future prices. In the typical situation the adjustment of enterprises on this basis is not profitable. By the time the farmer has left bean production to enter potato production, he finds that so many other farmers have done likewise that the potato price is low. Changes in farm plans should be based on future prices, not present prices. How can farmers know future prices with sufficient accuracy to form the basis of their farm plans?

Price Information.—Obviously farmers cannot themselves anticipate prices accurately. They do not have the necessary information on supply-and-demand changes at hand nor do they have the necessary technical training for the interpretation of such information. The collection, interpretation, and dissemination of price information are the function of governmental agencies and farmers' organizations. The Bureau of Agricultural Economics and some state experiment stations have pioneered in this work. Since 1924 the Bureau of Agricultural Economics has published information on farmers' "intentions to plant." These data are now available in preliminary form in January, and a more complete form in March. Data are also gathered on intentions to farrow sows. In recent years the bureau has held annual *outlook conferences* at which representatives of the agricultural colleges meet with the bureau to

[1] See pp. 227 to 232 for a further discussion of this point.

consider the price outlook for various farm products. The conclusions of these conferences have been given wide publicity in the press and through the extension service. Experiment stations have done additional work on the problems of their respective states.

Is this information reliable? Not in all cases. Sometimes the investigational work has been inadequate. Sometimes unforeseen developments have taken place. In general, the "batting average" in price forecasting has improved except during times when the whole price system is disrupted, as following 1929. In some cases the forecasts were surprisingly accurate, notably in anticipating the large potato

TABLE 21.—INTENDED AND ACTUAL PLANTINGS OF POTATOES IN THE UNITED STATES, 1924–1939[1]

Year	Intentions to plant (million acres)	Actual planting (million acres)	Per cent "intentions" were above or below actual plantings
1924	4,311	3,327	+29.6
1925	3,132	3,092	+ 1.3
1926	3,168	3,222	− 1.7
1927	3,525	3,476	+ 1.4
1928	3,823	3,825	
1929	3,420	3,370	+ 1.5
1930	3,485	3,394	+ 2.7
1931	3,363	3,382	− 0.6
1932	3,439	3,411	+ 0.8
1933	3,185	3,184	
1934	3,417	3,312	+ 3.0
1935	3,272	3,593	− 8.9
1936	3,160	3,191	− 1.0
1937	3,232	3,216	+ 0.5
1938	3,102	3,069	+ 1.1
1939	3,076	3,032	+ 1.4

[1] From *Crops and Markets*, U. S. Department of Agriculture.

crops of 1927 and 1928. The important fact is that these forecasts are more valid than the guesses of farmers, which are based primarily on past and present prices.

In Table 21 are presented the figures on March intentions to plant and actual plantings of potatoes during 1924–1939. If one compares the intentions to plant with the actual plantings of the preceding year, he will see that the intentions to plant showed accurately, except in 1924 and 1935, whether the acreage would increase or decrease and the approximate acreage which would actually be planted. Of course, this does not foretell the exact production, for production depends not only on plantings but on yields as well, and yields vary, but obviously to know

what plantings will be is a better basis for adjusting farm plans than for the individual to change acreage directly with the prices received for the present year's crop. The government intentions-to-plant reports probably indicate more accurately what actual plantings will be in the case of potatoes than for most other crops.

Farm Budgeting.—The individual farmer in reaching a decision on what is likely to be his most profitable program of production will be assisted by the process known as *budgeting*. This involves balancing the probable costs of the various enterprises against the probable output and prices of the products in order to determine what enterprise or enterprises will enable him to obtain the highest net return from the farm. More exactly, budgeting calls for a consideration of the yields which can be expected from the various enterprises on this particular farm in relation to the costs involved and the probable prices of products. Incidentally, the farm owner must consider a system which will maintain the fertility of his soil. He must base his comparison on the average yields which he and his neighbors have experienced, since he has no accurate method of anticipating yields for the coming year. He must anticipate the prices of the cost factors which, however, rarely change greatly from year to year except at times of radical changes in the general level of all prices. Knowing average yields and the costs involved in the various enterprises, the farmer must compare these with probable prices and then decide on the combination of enterprises which will be most likely to be profitable.

Only unusually large price changes will encourage farmers to change from a product to which their farm is well adapted. Except in the face of unusually low prices, the typical Iowa farmer will continue to grow corn, although he should study the relation of corn to hog prices, of which more will be said in a later chapter, and in that way intelligently decide whether it will be more profitable to raise hogs or to sell his corn. Likewise, the Texas farmer of the black soil belt will not change his cotton acreage much when its price falls, nor will the dairyman of southern Wisconsin cease to produce market milk when its price changes slightly. It is the marginal farmer, the one on the verge of producing one article or another, who will adjust his production plans with price changes.

A Typical Budget.—The procedure in farm budgeting may be illustrated by the results of research carried on in the Twin Falls section of Idaho. Two possible farming systems, neither involving livestock enterprises, of the many systems practiced in this diversified area, are presented in Table 22. Under the average yields obtained from 1922 to 1929 and with the prices for product and the costs which prevailed for the same period, System *A* brought in $140 the greater labor income (Table 22). Part of the disadvantage of System *B* seems to come from the fact that the enterprises are not supplementary to so great a degree,

for this system requires 1,126 hours of hired labor compared to 945 for System *A*.

Since the two systems have an equal area planted to potatoes and beans, changes in the respective prices of these products would not change the advantage of System *A*. But, as is indicated in Table 23, if a drop in the price of wheat from $1.74 per hundredweight to $1 is anticipated, the labor income of System *A* would be reduced to a point $133 below System *B*. On the other hand, if wheat grown only in System *A* is expected to rise to $2.25 per hundredweight, whereas alfalfa hay, of which System *B* grows one-third more, will probably fall to $8 per ton, both anticipated price changes operate to increase the probable advantage of System *A*, which would then have $421 the greater labor income.

TABLE 22.—ORGANIZATION OF AN 80-ACRE "DEEP-SOIL" FARM, SOUTHSIDE TWIN FALLS IRRIGATION PROJECT, IDAHO, WHEN OPERATED BY ONE MAN WITH FOUR HORSES UNDER DIFFERENT FARMING SYSTEMS, 1922–1929

Item	System *A*	System *B*
Farm acreage:		
Farmstead, garden, roads, ditches, fences, etc.	6.5 acres	6.5 acres
Permanent pastures	1.5	1.5
Crop rotation and crop acreages	Wheat[1] 12	Alfalfa[2] 12
	Alfalfa 12	Alfalfa 12
	Alfalfa 12	Alfalfa 12
	Potatoes 12	Potatoes 12
	Beans 12	Beans[3] 12
	Beans 12	Beans 12
	Total 72	Total 72
Livestock:		
Work horses	4	4
Family cows	1	1
Family hens	30	30
Hired labor for crop production (hours)	945	1,126

[1] Alfalfa is seeded with the grain.
[2] Alfalfa is seeded alone.
[3] Rye is planted in September as soon as the beans are harvested, the rye to be used as green manure.

In a similar manner, the budget for any farm may be prepared. Obviously, where the growing of fruit trees or the building up of a herd of beef cattle is involved, the difficulty of looking ahead many years complicates the budget making. Even in these cases the same general procedure applies.

Farm Cost Records.—Budgeting necessitates that the farmer must know something about the time and costs involved in the production of different crops and in carrying on of different farm enterprises which are

being considered. To do this fairly accurately requires that the farmer must keep some sort of operating records. Of necessity such records to be practicable must be simple and not require too much time to keep. The advantage in keeping records is that it encourages the farmer to analyze his business and compare actual results with what might have been accomplished. Budgeting carries the matter of analysis of costs forward to the point of comparing in the greatest detail economically possible the probable results from various alternative methods of organizing the farm. It provides a definite plan and sets up goals with which actual results may be compared. In working out budgets, farmers will find of assistance the typical budgets for different farming areas, worked out by the investigators of the U. S. Department of Agriculture and the state experiment stations. They will also find it useful to take advantage

TABLE 23.—EFFECT OF PRICE CHANGES ON NET RETURNS FROM TWO SYSTEMS OF FARM ENTERPRISES IN THE TWIN FALLS SECTION OF IDAHO

Commodity	Receipts with					
	Prices average 1922–1929[1]		Prices average, except wheat at $1		Prices average, except wheat at $2.25 and alfalfa at $8	
	System *A*	System *B*	System *A*	System *B*	System *A*	System *B*
Wheat	$ 635	.....	$ 362	.....	$ 819	.....
Alfalfa hay	889	$1,374	889	$ 1,374	711	$1,099
Potatoes	2,926	2,926	2,926	2,926	2,926	2,926
Beans	2,186	2,186	2,186	2,186	2,186	2,186
Total receipts	6,636	6,486	6,363	6,486	6,642	6,211
Expenses	2,981	2,978	2,981	2,978	2,981	2,978
Farm income	3,655	3,508	3,382	3,508	3,661	3,233
Interest on capital	1,469	1,462	1,469	1,462	1,469	1,462
Labor income	2,186	2,046	1,913	2,046	2,192	1,771

[1] Average prices for 1922–1929 were as follows: beans, $5.18 per hundredweight; potatoes, U. S. No. 1, $1.50 per hundredweight; wheat, $1.74 per hundredweight; alfalfa hay, $10.10 per ton.

of the experience of other farmers with crops or enterprises with which their own experience is limited. In working out farm budgets, farmers will find it profitable to study the outlook information for different farm products which is now being supplied annually or at more frequent intervals by the U. S. Department of Agriculture, and which is further supplemented by the different state experiment stations.

THE EFFICIENCY OF THE FARMER

The test of the efficiency of the farmer is the effectiveness of his planning and operation of the farm as measured by the ratio of input (including his own physical labor) to output. Another way of stating efficiency would be the rate of return earned on funds involved in investment in land, improvements, equipment, materials, labor hire, and foregone earnings for his own labor. In this chapter there have been considered several factors which affect this rate of return, causing it to vary widely from farmer to farmer and from year to year for the same farmer.

From the viewpoint of internal management we have noted, first, that there must be proper proportioning of the factors of production so as to avoid idle overhead which affects cost. Second, the selection of the grades for the various factors, considering their cost and their productivity, must be such as will prove most profitable under the circumstances facing the individual farmer. Third, as a particular application of the principles already mentioned, the farm business itself must be of a size which will permit proper proportioning of the factors and the avoidance of unnecessary overhead and labor. Fourth, the enterprises selected for the farm must be supplementary and complementary to such a degree as to contribute to the same result. Fifth, the farmer must plan his operations with consideration of the price outlook, and in such planning and in the executing of the plans he will be assisted by budgeting and keeping cost records.

To carry out the foregoing principles is not easy, nor will doing so alone assure success. There must also be knowledge of the technique of farming, which it will be impossible to present in this volume. And, when all that has been attended to, there are still other factors which will tremendously influence the profitableness of the farmer's operations. A great number of these are involved in his relations to the other parts of the economic system. To influence these relations to their advantage most effectively, farmers must act in some collective manner. But to do that intelligently, they must understand the forces with which they are dealing. To contribute to a better understanding of those forces is the primary purpose of the pages to follow.

Questions and Problems

1. Are dairy-testing-association records primarily records of the efficiency or of the capacity of individual cows? Explain.

2. Give examples from your own observation of farms on which a factor of production was not being used to capacity.

3. What should be the size of the individual farm? Discuss.

4. What are the trends of the size of farms in the major sections of your state? Refer to the Census for information if necessary. Why are these changes taking place?

5. Distinguish between complementary and supplementary farm enterprises.

6. Give an example of a farm organized to include distinctly competing enterprises. Suggest changes which would be advisable in the organization of this farm.

7. Name and discuss the advantages and disadvantages of specialized farming as compared with diversified farming.

8. Give the best illustrations you can of conditions under which each of the two (specialized or diversified farming) is most profitable.

9. What is the purpose of farm-budget studies? Have any farm-budget studies been made in your state? If so, state what they show concerning the profitable character of the various farming systems compared, using the prices actually being received for the various farm products.

10. Compare the price forecasts given in the agricultural outlook of last year with the prices actually being received this year. If marked differences occur between the forecast and the actual price for particular products, investigate to determine the explanation of the difference.

11. According to your observation, do farmers adjust their plans according to the outlook information? If not, why not?

Suggested Readings

1. G. F. Warren, *Farm Management* (1918) is an excellent and relatively simple standard treatise which emphasizes the practical aspects of the subject. It is the pioneer work in the field. While the data and illustrations are not recent, it is still an excellent treatise on fundamentals.

2. C. L. Holmes, *Economics of Farm Organizations and Management* (1928) is another brief but excellent treatise which emphasizes the theoretical aspects of the subject.

3. R. L. Adams, *Farm Management* (1921) treats all phases of the subject but emphasizes the application of bookkeeping or use of records to successful farm management.

4. Frank App and Allen G. Waller, *Farm Economics* (1938), G. W. Forster, *Farm Organization and Management* (1938), Robert R. Hudleson, *Farm Management* (1939), and John A. Hopkins, *Elements of Farm Management* (1940) are more recent recognized treatises on general farm management.

5. John A. Hopkins, *Farm Records* (1936) treats specifically farm records and their use.

CHAPTER VIII

EXCHANGE VALUE AND THE MARKET

The word *value* is a much abused word, carrying a variety of meanings, many of them rather vague. It has entirely different meanings, for example, in philosophy, art, and music. By the term *æsthetic value* in art, reference is made to the significance placed upon certain combinations of lines or colors. These æsthetic values vary among different schools or groups of artists and to a certain extent among individuals. *Cultural value* is a term used in education to refer to the effect of certain forces, objects, or events, conducive to the development of a better self, or the advance of a desirable civilization. Extensive reading on a variety of subjects is generally considered to be of cultural value. *Ethical value* refers to a person's code of conduct, the significance as to right and wrong he places on various activities that are open to him. In a modern civilization the thief and racketeer are lacking in socially approved ethical values. These are but a few of many different uses of the term *value*, and the word is quite commonly used in some limited sense, as above illustrated, with the qualifying adjective omitted and expected to be understood from the context. This results in frequent misunderstanding.

VALUE IN ECONOMICS

Economic Value.—An economist may use the word *value* in any of its wide range of meanings. Usually, however, in economic literature the word is used to refer to some aspect of *economic value*, a term which may be defined as the significance of any good in directing human economic activity. Some economists make no distinction between economic value and *exchange value*, which latter term may be defined as the power of a good to command other economic goods in exchange. Careful consideration, however, will show that economic value is a term somewhat broader in scope than is exchange value. A state capitol building or the harbor of a port city, as examples, may have large economic value, in directing human economic activity, and yet have little or no exchange value, as that term is ordinarily used.

Subjective and Exchange Value.—In economics the term *subjective value* is frequently used. This refers to the significance placed upon a good within the mind of an individual. It may perhaps be best defined as the utility of a good to an individual. To one person music has a great

subjective value; to another its subjective value is very small. Free goods as well as economic goods have subjective value.

When the term *value* is used in economics without qualification, its most usual meaning is *exchange value*, or the power of the good to command other economic goods in exchange. The reader of economic literature, however, needs to be constantly on his guard, as the reference may be to subjective value or some other concept of value.

There are two sharp distinctions between subjective value and exchange value. First, since the former exists only in the mind of an individual, it cannot be measured. The latter, in contrast, is objective. It shows itself in actual transactions in the market, and hence the exchange value possessed by a commodity may be seen by any observer and expressed in definite quantities. Thus, a bushel of wheat may be observed to have an exchange value equal to a bushel and a half of corn, or three dozen eggs, or four gallons of gasoline, or a certain amount of money. Second, exchange value is not an individual matter, but a market phenomenon. It reflects in a measure the subjective valuation of a wide variety and a large number of people.

In the wholesale market for consumers' goods, where the goods are bought for resale, the attitude of the buyers is not based on their subjective valuation but depends upon their estimate of the objective valuation which will occur in the retail market for those goods, and this objective valuation in turn is dependent upon the subjective valuation of consumers. When attention is turned to the market for raw materials and agents of production, the relation of exchange value to subjective value becomes still more distant. Yet buyers in all these markets are looking ultimately to the consumers' purchases, and hence these more distant valuation processes cannot be divorced from subjective valuation and the influences affecting it.

Market and Normal Value.—Exchange value may be either *market value* or *normal value*. Market value refers to the power of a good to command other goods in exchange at a particular time. It has reference to exchange value in particular transactions. Normal value, in contrast, has reference to the exchange value toward which market value is constantly tending. Market value may remain above or below normal value for a considerable period of time; in fact, it may never exactly equal normal value, because the tendencies at work affecting both market and normal value are always affected by new influences and never reach their ultimate end. Normal value may be compared to the theoretical level of the water in the ocean, from which at any particular place the actual level almost always varies because of the influence of the wind, the tides, and the currents, but toward which it is always being drawn by the forces of gravity and mobility. To ascertain what are the forces governing market and normal values of different goods will be our chief

objective in several chapters immediately following this. First, however, we shall note several other concepts of value in economics, and some other terms and conditions, an understanding of which is essential to an analysis of the forces governing market and normal values.

Other Economic Value Concepts.—*Imputed value* is a value assigned to a large stock of goods on the basis of the market value of a small part of that stock. The statement that the value of the total wealth of the United States in 1937 was 322 billion dollars is an excellent illustration of imputed value. Clearly, all this wealth could not in one transaction be sold for 322 billion dollars of money. Frequently in economics the value of something is mentioned without qualification when the reference is to imputed value.

Four more value concepts with which, at least, we should by all means be familiar are *book value, fair value* with reference to railroads and public utilities, *monopoly value*, and *derived value*. Book value is the net worth of a business concern according to the statement of its assets and liabilities as reported in its balance sheet. It is usually expressed in dollars per share. Obviously, this may vary widely from market value. Fair value of a railroad or public utility has reference ordinarily to that value which the courts will recognize as the *value* upon which such a corporation is legally entitled to a fair return when consideration is given to fixing the rates which such a corporation may charge for its services. It is a legal concept of value, of which more will be said in future pages. Monopoly value refers to exchange value for any commodity of which the supply is sufficiently under one control that the exchange value or price which prevails for it is different (usually higher) than it would be under ordinary competitive conditions. Derived value refers to the value of a good which depends upon the value of some other good in the production of which it is used. Thus raw materials used in manufacturing have derived values which depend on the market values of the goods in the production of which they are used. These examples should be sufficient to show that whenever the question, what determines value? is raised, it is necessary first to inquire to what value reference is made.

Exchange Value and Price.—Exchange value refers to the power of a particular good to command in exchange not simply one other good but every other kind of good. To express the value of any particular good concretely in this way involves difficulties. It is possible to say that the value of a bushel of wheat is two bushels of corn, but to express the quantity of each kind of good which a bushel of wheat will command in exchange is impossible. Value, therefore, is ordinarily expressed in terms of money, and value so expressed is called *price*. Thus it has come about that the terms *value* and *price* are commonly used interchangeably, even by economists. But because value is defined as the capacity of a particular good to command in exchange other goods in

general, it is important to recognize one assumption which is made when value is expressed in terms of money, or price. This is, that changes in the value of a good are accurately reflected by changes in price only to the extent that the value of money does not change. Money, of course, has a value, or capacity to command other goods in exchange, as does any other good. And the value of money changes, as does that of other goods. With a great increase in the quantity of money in a country, the quantity of other goods remaining essentially the same, there will occur a great increase in prices. It may take twice as much money to buy the same quantity of other goods in general. The value of a dollar will then be only half as great as it was. Under these conditions, if a bushel of wheat sells for double the price at which it previously sold, its value, or power to command other goods *in general* in exchange, is the same as it was, because this higher price will buy only the same quantity of other goods as previously. Because it is customary in economic discussions to use the terms *value* and *price* interchangeably, it is customary when the price of wheat has declined from $1 to 50 cents per bushel to say that wheat has declined to half its former value. This is accurate only if the value of money has not in the meantime changed, or, otherwise expressed, it is accurate only if the general level of all prices has not in the meantime changed.

In analyzing the causes which determine exchange value we shall first use *price*, that is, the amount of money for which a commodity will exchange, as representing the value of that commodity. In so doing the assumption is always made that during the period covered by the analysis the value of money, as represented by the general level of all prices, has not changed. Later it will be necessary to examine the causes which result in changes in the value of money, or general level of all prices. And because changes in the general level of prices affect the prices of different kinds or classes of goods differently, some kinds changing more quickly than others, our analysis of the causes of the values of different kinds of goods over a period of time will not be complete until the effects of changes in the general level of prices upon the relative prices of different kinds of goods, one in relation to another, have been considered.

THE MARKET

Market Defined.—Since value or price in one market may be different from that in another, it is necessary to understand what is meant by a *market*. This word, like value, is used with a variety of meanings. Sometimes the producer speaks of the market as the demand of consumers or buyers which he is seeking to satisfy, as for instance when he says, "the market desires quality now, rather than a large quantity at a low price." Second, a *market* may refer to a place where a transfer of

title takes place, even though the goods need not be present. The New York Stock Exchange furnishes such a market, as on its trading floor title is transferred to a tremendous amount of property which is not present and much of which is not even within the city. No usage of the word *market* is better understood or more widely applied than that indicating a place where buyers and sellers meet. Next, the term *market* may refer to the direction of price movements, as when it is said that the market is strong, or the market is weak. The word is used with various other shades of meaning, depending on the purpose of the discussion. As our purpose at present is to analyze the factors which influence or determine price, we shall define a market very briefly as *the area within which prices tend to equality, or move up and down together.* This definition will be made clearer and more exact by a quotation from Alfred Marshall:

When demand and supply are spoken of in relation to one another, it is of course necessary that the markets to which they refer should be the same. As Cournot says, "Economists understand by the term *Market*, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same goods tend to equality easily and quickly." Or again as Jevons says: "Originally a market was a public place in a town where provisions and other objects were exposed for sale; but the word has been generalized, so as to mean any body of persons who are in intimate business relations and carry on extensive transactions in any commodity. A great city may contain as many markets as there are important branches of trade, and these markets may or may not be localized. The central point of a market is the public exchange, mart or auction rooms, where the traders agree to meet and transact business. In London the Stock Market, the Corn Market, the Coal Market, the Sugar Market, and many others are distinctly localized; in Manchester the Cotton Market, the Cotton Waste Market, and others. But this distinction of locality is not necessary. The traders may be spread over a whole town, or region of country, and yet make a market, if they are, by means of fairs, meetings, published price lists, and the post-office or otherwise, in close communication with each other."

Thus the more nearly perfect a market is, the stronger is the tendency for the same price to be paid for the same thing at the same time in all parts of the market: but, of course, if the market is large, allowance must be made for the expense of delivering the goods to different purchasers; each of whom must be supposed to pay in addition to the market price a special charge on account of delivery.

In applying economic reasonings in practice, it is often difficult to ascertain how far the movements of supply and demand in any one place are influenced by those in another. It is clear that the general tendency of the telegraph, the printing-press and steam traffic is to extend the area over which such influences act and to increase their force. The whole Western World may, in a sense, be regarded as one market for many kinds of stock exchange securities, for the

more valuable metals, and to a less extent for wool and cotton and even wheat; proper allowance being made for expenses of transport, in which may be included taxes levied by any customs houses through which the goods have to pass. For in all these cases the expenses of transport, including customs duties, are not sufficient to prevent buyers from all parts of the Western World from competing with one another for the same supplies.[1]

Limits to Extent of the Market.—Since the market for our present purposes has been defined as an area, it is proper next to inquire: What are the conditions which determine the extent of the market? For all commodities in general that which is most important is the degree of development of means of transportation and communication. Cheap, safe, and rapid transportation are prerequisites to any market of wide extent. Rapid communication, as by telegraph or telephone, is of great assistance. For a particular commodity the important factors which will affect the width of its market may be conveniently summarized under four general heads, *viz.*: (1) the extent of the demand; (2) portability; (3) cognizability; (4) monopoly and government restrictions.

No market can be wider than the area within which the commodity is in demand. This may not seem an important point in connection with agricultural staples, because the demand for them is widespread. Nevertheless, certain articles of food highly esteemed in some European and Oriental countries would find little demand in the United States. The discrimination of the people of Boston against white-shelled eggs in favor of brown-shelled ones may be considered as a slight limitation in demand for eggs with a white shell. For goods such as machinery and many kinds of clothing, there are distinct regional limitations in demand. There is no demand for furs in the tropics, for polo suits in a rural village, or for mining machinery where there are no mines. For many kinds of manufactured goods demand must be developed, and the same is true of at least a few agricultural products, for example, some particular kinds of California fruits. Advertising is credited with having greatly enlarged the market for California oranges. An important aspect of limits in demand is lack of purchasing power. An effective demand requires not only a desire for the good but the purchasing power with which to buy it. The market for certain agricultural products is limited because of lack of purchasing power in areas which might otherwise buy them—for example, the market for American wheat in parts of the Orient.

Portability is the greatest single factor in determining the differences in the extent of the market for different agricultural products. Under portability is included the relation of value to bulk or weight of the commodity. Butter is sufficiently valuable in relation to bulk that,

[1] Alfred Marshall, *Principles of Economics*, 8th ed. (Macmillan, 1920), p. 324.

with modern transportation facilities, it can stand the cost of being shipped around the world. As the freight rate on butter across the American continent by rail is less than three cents per pound, the market area for butter of standardized quality is certainly nation-wide. Hay at $15 per ton, in contrast, has such a low value in relation to bulk that the market for it lacks much of being nation-wide. Bulk in relation to value for straw is so great that the market for it is quite local, and in most places where it is plentiful, there is "no market" for it. Among nonagricultural products, bricks and fuel wood are good examples of commodities for which the market area is relatively limited because of great bulk in relation to value. The market for coal is far from nation-wide for the same reason, and the market for sand and gravel is generally local.

A second aspect of portability is perishability. The best illustration of an important agricultural product which has a relatively limited local market on account of perishability is fluid market milk. Accordingly, the farmers supplying milk to any large city form, generally speaking, a distinct market area, and prices received by farmers may vary considerably for different city milk sheds. Farmers supplying milk to New England cities receive over extended periods of time prices twice as high as those supplying cities of similar size in the Middle West. Improved transportation methods, however, are continuously widening the market for highly perishable agricultural products. Sweet cream from Minnesota is now marketed in Philadelphia. Australian lamb is frozen and shipped to England. California, Florida, and southern Texas supply fresh fruits and vegetables to the urban centers of the East. New extensions in the area of the market for highly perishable products are taking place every year.

Cognizability of the product is essential along with portability in order that there may be a free, wide market. The prices of rugs in different cities do not move up and down together in as close correspondence as does the price of wheat. Pure-bred cattle for breeding purposes do not all vary together in price as do steers of a particular grade ready for the packer. The explanation lies in the fact that rugs and pure-bred stock have individual qualities which are not easily recognized, or cognizable. The more nearly all the various parts of the supply of a commodity are alike in quality, the wider is the extent of the market likely to be. It is ease of cognizability along with portability which causes the market for the precious metals and securities such as those listed on the New York Stock Exchange to be practically world-wide. Because of differences in degree of ease of cognizability and uniformity, there have developed three methods of sale: (1) by description, (2) by sample, and (3) by inspection. Goods with the greatest degree of cognizability and uniformity are sold by description, and it is for these that the market

area is the widest. Commodities with a somewhat lesser degree of cognizability and uniformity are sold by sample, and for these the market area is less wide than for those which may be sold by description. Commodities with the least degree of cognizability and uniformity, those possessing the highest degree of individual qualities, are sold by inspection, and for these the market area is the most limited.

As a final class of influences on the extent of the market, as defined for purposes of this discussion, we have placed monopoly and government restrictions. These have been grouped together because they both represent artificial interference with that substantial equality in prices in different regions, or that moving together of prices which would occur if they were not present. Monopoly influence may not limit the area of the market in the sense that goods controlled by the monopoly are sold in only part of the area in which they would be sold if there were no monopoly. But monopoly influence is likely to cause a different behavior of price in the different parts of the market area in relation to one another than would prevail under competitive conditions. Price-determining influences under monopoly conditions need to be examined separately, therefore, from such influences under competitive conditions.

Government restrictions represent limitations of a different type to the extent of the market. Because of the fact that Germany had in 1931 a tariff of $1.62 per bushel, France one of 85 cents per bushel, and Italy one of $1.08 per bushel on the importation of wheat, the market area for wheat was distinctly interfered with. Such tariffs, when they become substantially prohibitive, as many of them do, result in setting up more limited market areas, in which prices often do not move at all closely together. The United States tariff on butter has caused butter prices in this country to move differently in relation to the rest of the world from what they would do if this tariff were not in force. In recent years some countries have put absolute embargoes on commodities which would otherwise be imported in considerable quantities. The effect of such an embargo, where the commodity would otherwise be imported, is to constitute of the region to which the embargo applies practically a separate market, shut off from the balance of the world.

Examples of Width of the Market.—The market for wheat and cotton has in years past been essentially world-wide because of the following facts. Cotton is used by all classes of people in practically all parts of the world except in the very cold regions. Wheat is an important part of the diet in most nations. Both are among the most non-perishable of agricultural products. Cotton at the prices which have normally prevailed in the past and wheat at similar prices are not extremely bulky in relation to value, particularly when it is realized that much of the transportation is by ships over large bodies of water. Baled cotton is easily handled and does not suffer from ocean transportation, and wheat

can be handled in bulk cheaply. The latter withstands ocean shipment better than most grains. Recent tariff restrictions on wheat imports into most European countries are, however, limiting the effect of world production and consumption on the wheat prices in those particular countries. Thus the market for wheat has become more narrow.

Price quotations from different market centers in the same market area should fluctuate together. If prices in one market center become higher than in others in the same market area, the quantity of product flowing to, and offered for sale in, the place where prices are high will increase. Sales will decrease or cease to be made where prices are lower, and the goods will be moved to points where they are higher until prices at the various points where goods are bought and sold are in their normal relationship again. With butter, for example, if Los Angeles prices should happen to be 3 cents higher than New York prices, butter from points in Minnesota, from which shipments were previously made to New York, would now be shipped to Los Angeles until New York and

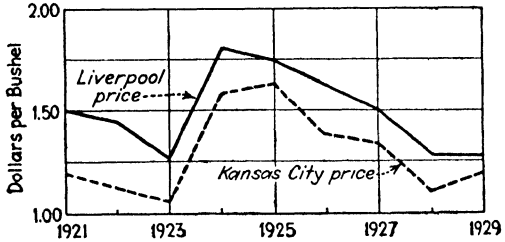

FIG. 10.—Annual average wheat prices at Liverpool and at Kansas City, 1921–1929. Liverpool price is on parcel lots. (*Data taken from Tables 23 and 25, Yearbook of Agriculture for 1931.*)

Los Angeles prices came closer together again. With staple farm products the work of keeping prices in line in various centers is in part performed by speculators who are constantly on the watch for an opportunity to buy where prices are low and sell where they are high.

Price quotations for wheat at Kansas City and at Liverpool over a period of years are presented in Fig. 10. Liverpool prices are higher, usually, since grain must be transported from the surplus-producing areas to England. The important fact to be drawn from this chart is that the prices at the two market centers moved up and down together. The price data for the years since 1929 are not shown on this chart, because the activities of the Farm Board and of the Agricultural Adjustment Administration have interfered with the normal tendency of prices in this country and at Liverpool to move together. The unusually small crops in the United States from 1933 through 1936 would have influenced the usual price relationship without the above named agencies.

The width of the market for potatoes is illustrative of two facts of importance: (1) the market width is less than world-wide and yet dis-

tinctly is not local; (2) the width of the market cannot be clearly defined. In a sense the market is nation-wide, but to some degree the market area might be defined as covering only a major region of the United States. Potatoes are used in all parts of the United States by nearly all of the population and are sufficiently nonperishable to withstand transportation to any part of the country. However, their value in relation to bulk is lower than is the case with wheat, and they must be protected from extreme temperatures. All in all, potatoes are less transportable than is wheat.

The annual average price of potatoes in Idaho and in New York state, both important producing areas, are presented in Fig. 11. As a rule, prices move up or down at the same time in both states, a fact tending

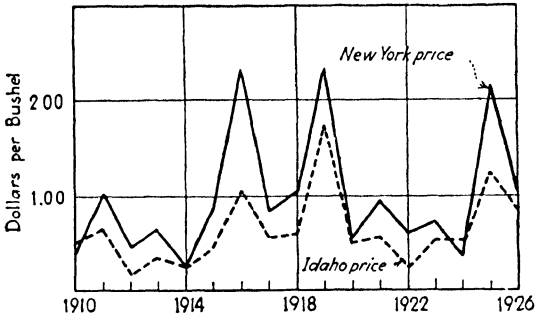

FIG. 11.—Annual average price of potatoes at Batavia, N. Y., and at Idaho Falls, Idaho, by crop years, 1910–11 to 1926–27. Batavia prices are for the eight months October to May. (*From G. F. Warren and F. A. Pearson, "Interrelationships of Price and Supply," Cornell University Agricultural Experimental Station Bulletin* 466, 1927, *Table* 8.) Idaho Falls prices are for the six months October to March. (*From R. B. Heflebower, "Factors Relating to the Price of Idaho Potatoes," University of Idaho Agricultural Experimental Station Bulletin* 166, 1929, *Table* III.) The prices per hundredweight are divided by 2.

to show that both states are included in the same general market area. During some seasons, however, the amount of price change from the previous year is considerably different in these two states. For instance, in the 1924 crop year prices changed but little from the previous year in Idaho but dropped 35 cents in New York state. Production data show that the potato crop was abnormally large east of the Rocky Mountains in 1924, whereas the crop in the Far Western states was about the average size. To a certain extent the market forces affecting potatoes are only regionwide, yet unusual differences in prices in different parts of the United States will lead to interregional shipments, thus tying together the market situation in all parts of the country to a certain extent.

Hay is a good example of a commodity with a relatively local market. Although hay is nonperishable and is used in all rural parts of the country, its value in relation to bulk is so low that transportation for long distances will take place only under unusual circumstances. Quarantines, such as

against the alfalfa weevil, further hamper the transportation of hay. The annual average prices of tame hay in Ohio and in Nebraska are presented in Fig. 12. There does not seem to be a close relationship between the changes in the prices of hay in these two states, particularly from 1929 to 1932. First the price is higher in one state and then in the other. In 1930 in particular, whereas hay rose to $17.40 a ton in Ohio, it fell to $8.50 a ton in Nebraska.

Significance of Width of Market.—The price of a commodity of world-wide market may be influenced favorably or unfavorably by developments in foreign countries. First, wars may repress or stimulate buying. The beginning of the World War stifled trade, but, as the war continued, the belligerents were forced to buy vast quantities of food and clothing materials, to the profit of American agriculture. Second, the fact of a wide market area often leads to a more stable annual production,

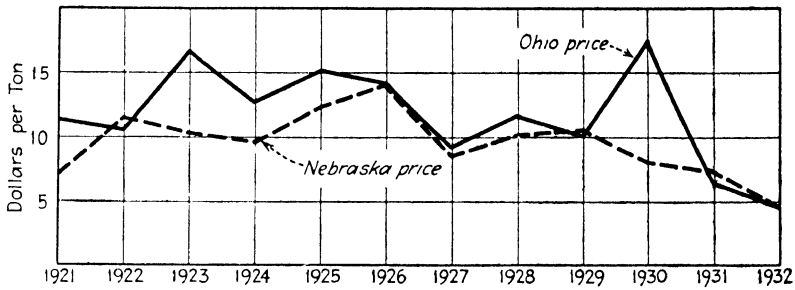

FIG. 12.—The farm price of hay in Nebraska and in Ohio, 1921–1932.

for the more varied will be the circumstances of production. One producing area may have a bumper crop while another suffers from drought. Canada may have a short wheat crop, as in 1924 and 1929, but this may be offset by favorable yields in the southern hemisphere. Third, the producer must watch developments over a wide area. The expansion of wheat acreage in Canada and Russia, of cotton acreage in parts of Brazil and Russia, and of sugar production in Cuba has been a source of worry to American producers of these goods.

On the other hand, a local market has peculiar characteristics. An unusual production of strawberries in one locality cannot be relieved completely by shipments to distant consuming centers. A light local hay crop may force prices to unusual heights. The prices of products with only a local market do not have the stabilizing influence of differences in conditions of production within different parts of the market supply area. If one local producer has high yields, most of his neighbors will under the same conditions also have high yields, to their mutual loss through the resulting depressed prices.

Commodities, Standardization and Substitution.—Before an analysis of the price of a commodity or a service can be made, a number of terms

and ideas must be delimited. In ordinary conversation broad commodity names are used without a realization of the significance of differences in grades or types of the commodity. Thus, the term "wheat" is often used as though it were a homogeneous commodity. Yet the milling quality of wheat, as shown by its protein content, as well as other characteristics, separates wheat into many subclasses, for which somewhat different prices prevail. And the spreads between these prices vary according to the relative supplies of and demands for these types of wheat. For example, in the drought years of 1934 and 1935, which so drastically reduced the yields of high-protein wheats in the Great Plains area, premiums on this type of wheat advanced greatly.

For the great agricultural staples, fairly definite grades, based on scientific analysis or the judgment of experts, have been established. In contrast, in the great bulk of the commodities sold at retail, widely recognized grades are rare. For these, consumers tend to rely on the goods sold under particular brands which they think are of the desired quality. In the discussion in later chapters of the effect of advertising and branding on prices for these goods, it must be remembered that such branding does provide a degree of standardization upon which the inexpert consumer may rely. In fact, in cases even of goods which are graded according to accepted standards, such as butter, many consumers come to prefer such brands as Land O'Lakes or Meadowbrook. Whether such brand preference, *in addition to careful grading*, aids the consumer, or the economic order, is questionable. That it adds to the profits of some sellers is evident.

In the analysis of prices, it is necessary to consider the supplies of goods and the substitution of one for another. Careful thought here will lead us to qualify our usual concept of a commodity. Is not low-grade wheat used chiefly for animal feed more in competition with corn and barley than with high-protein, milling wheats? Is it not possible that, in the purchase attitude of a moderately well-to-do housewife, sirloin steak is in more competition with Armour's Star Ham than is a low-priced, unbranded ham? Illustrations of this type all point to an important principle, *viz.*, that substitution of one good for another may be as often between what we call "commodities" as between different grades, or between well-known and little-known brands, of the same "commodity."

Competitive and Monopolistic Markets.—In a purely competitive market there are many buyers and many sellers. Furthermore, the goods must be so standardized that a buyer will not prefer the product of one seller to the extent that he will pay a higher price for it than for the good offered by other sellers. The exact criterion whereby *pure competition* is marked off from a situation of less competition is that under the former *a given seller does not need to consider the effect of his volume, or of his willingness to sell or not sell, on the price that will actually prevail.* The

price is beyond his influence in any measurable degree. Such a situation is closely approximated in the markets for the great agricultural staples.

In contrast, under pure monopoly there is only one seller. Therefore, by controlling the quantity offered for sale, the seller can control the price at any point he desires within the range at which buyers will buy. Such complete or pure monopoly is rare. In fact, illustrations must be drawn almost exclusively from the field of privileges granted by the government to certain persons, such as under the patent laws.

Most of our actual markets are neither purely competitive nor purely monopolistic. Most goods are sold under conditions of *monopolistic competition*, or of *impure monopoly*, in which both competitive and monopolistic tendencies are present. In any case in which the seller finds that he must consider the effect of his volume on the price or in which the buyer will pay more for an article with a well-known brand rather than for a similar good sold by another firm, monopolistic competition, not pure competition, exists. There are two major contributing factors to the widespread existence of monopolistic competition.

First, there is a widespread, and probably growing, number of markets in which there are so few sellers that each must consider the probable effect of his volume on the price. Such fewness of sellers is known as *oligopoly*. In case there are ten sellers, the increased volume obtained by one seller through price cutting may make such a reduction in the sales of the remaining nine that they will meet the cut. If so, the original price cutter will have gained nothing. Therefore, he would, if wise, include in his calculations the effect of his price cut on the price quotations of the other firms in the industry. Certainly one major steel company cannot cut the price on steel sheets without expecting that the industry will follow. Again, if one of three taxi companies *giving equal service* in a small town cuts fees, it may expect like cuts shortly by the others.

The second influence tending to make for monopolistic competition is the lack of standardization of the good, *as viewed by the buyer*. It makes no difference whether two cans of peaches carrying different labels are physically identical, or whether two lawyers are equally able; if the buyers of these commodities or services think they are different, elements of monopoly are present and they will command different prices. *Product differentiation* is the term which is applied in economic literature to such real or imagined differences among the goods offered by different sellers. *Such differentiation is most frequently created by the seller for the purpose of escaping pure competition.* If he makes the product slightly different physically it is most often to convince the buyer of the superiority of his good. Frequently, branded goods are identical with unbranded goods or with those sold under other brands, but if a great number of consumers are convinced of the superiority of a given brand, they will prefer this brand even at a higher price. Such are the motivation and economic

effects of "brand advertising." In fact, on occasion, the substitution by the buyer of an inferior (to him) brand for a well-known brand may be less frequent than the substitution of what we think of as a distinct commodity. All this reasoning leads to the conclusion that for many purposes in economics a successfully differentiated article is a distinct commodity. Its producer has to that extent a monopoly. Certainly he has to consider the effect of *his volume* on *his price*. And he must concern himself with substitution of other brands also insofar as price concessions or renewed vigor in salesmanship by other sellers will wean his customers from his brand.

When the markets for our great variety of goods and services are interpreted in the light of the forces making for competition or for monopoly, it will be seen that the markets for the raw materials of the farm closely approximate pure competition. In varying degrees of contrast, the markets for manufactured goods, including many processed farm products, for professional services, and in fact for the major part of what we as a nation produce and consume, involve monopolistic competition.

Methods of Procedure.—In our consideration of the factors which govern value and price, we shall first consider the manner in which market value is determined under both competitive and monopolistic conditions. Thereafter we shall consider the factors which determine normal value under competitive conditions. The discussion of normal value will of necessity include a consideration of the relation of cost of production to price.

After the consideration of the factors governing market value and normal value under competitive conditions, we shall further consider the manner in which monopoly price is determined, which, of course, will differ somewhat according to the degree of monopoly which prevails. This discussion will include the relation between cost of production and price under monopoly conditions. It will also include a consideration of the conditions which govern price determination under monopolistic competition.

Following the presentation of the principles according to which market and normal values are determined under both competitive and monopolistic conditions, an effort will be made to estimate, as far as possible, the extent to which competition and monopoly conditions prevail in the actual world in which the American farmer buys and sells. In connection with the consideration of the extent to which competitive and monopolistic conditions govern the prices which the farmer receives for what he has to sell, and the prices which he is compelled to pay for what he wishes to purchase, some consideration will be given to methods of controlling monopolies in the interest of the general welfare.

Questions and Problems

1. Name with distinguishing adjectives and define ten uses of the word *value.*

2. Distinguish between value and price.

3. When the terms *value* and *price* are used interchangeably by economists, what assumption is made?

4. What definition of a market is assumed in the discussion of limits to the extent of the market? What are these limits? Give an illustration of each.

5. Compare the width of the markets for wheat, cotton, and potatoes.

6. How does monopoly affect the width of the market?

7. What are the general characteristics of commodities with the widest markets and those of commodities with the narrowest markets?

8. In what ways were the markets for American farm products widened between 1815 and 1890?

9. In what ways have they been narrowed since 1914?

10. Distinguish a competitive from a monopolistic market. Explain the essential difference between competition and monopolistic competition.

11. Does the grading of commodities facilitate competition?

12. How does product differentiation change the character of the market?

Suggested Readings

Any of the standard treatises on principles of economics mentioned in other parts of this text may be consulted for the views of other writers. Alfred Marshall, *Principles of Economics* (1920), Book V, Chap. I, and F. W. Taussig, *Principles of Economics* (1939), Vol. I, Chap. 8, are especially recommended. Edward Chamberlin, *The Theory of Monopolistic Competition* (1938), Introduction and Chap. IV, and A. L. Meyers, *Elements of Modern Economics* (1937), Chap. V, contain excellent discussions of competition and monopoly.

CHAPTER IX

DEMAND, SUPPLY, AND MARKET PRICE

In our analysis of the causes which determine value or price, we shall begin with *market value* under competitive conditions. Inasmuch as the market value of a good has been defined as its value at a particular time, any inquiry as to what are the causes which determine market value must consider at least two factors: (1) the nature of the demand for the commodity under consideration and (2) the supply in existence or available at that time. Market value is a contrast to *normal value*. If we were inquiring as to causes determining the normal value of a particular commodity, we should have to consider the conditions which cause a supply of that commodity to be produced. But in our analysis of market value we more or less take the available supply for granted, assume it to be in existence, and inquire as to what determines value or price, provided the supply amounts to such or such a quantity.

INDIVIDUAL AND MARKET DEMAND

Any analysis of market value must start with the wants of human beings. Production is organized and carried on by profit-seeking entrepreneurs whose success is measured in terms of profits—the difference between cost prices and selling prices. In attempting to obtain profits, entrepreneurs hire productive agencies and guide them in the creation of utilities. In the last analysis, however, utility is a relationship of the good and a consumer, and therefore the final determination of the success of the productive process in adding to the want-satisfying power of a good is in the consumer's attitude toward that good. If the consumer does not desire the particular good, the labor and machine work spent on the good have not created utility. Thus, even in the present acquisitive society, the starting point in analyzing market prices is the consumer and his attitude toward goods.

Characteristics of Human Wants.—The study of human wants must start in the realm of psychology. From what source or sources do human wants spring? In part, desires spring from native characteristics, for mankind starts life with certain inherited responses to internal and external stimuli. When hungry, the baby cries for food; upon being pricked by a pin, it draws away.

Soon after the younger members of the human race are born, their environment begins to warp, twist, encourage, or repress the various

native responses. Food is to be had only at certain definite hours; crying is to be discouraged; smiling is approved. The process of educating and adapting the child to the civilization in which it is born is a process of changing native responses. Responses which are desired by those in control or in association with the child are encouraged; undesired responses are repressed or diverted to other channels. This process of changing the inherited nature of human beings continues until few of the native responses are left unchanged. Each person, or nearly each one, eats the food, wears the clothes, and seeks the amusement which his social environment dictates. Of immediate interest here are these two facts: First, wants are largely determined by the environment in which consumers live. Second, these wants can be changed and are changing because of such social forces as education, government, and the selling efforts of producers.

Total Human Wants Unlimited; Particular Wants Limited.—The *variety* of goods which can be used to satisfy the wants of the normal human being is unlimited. The desire for show may be satisfied by clothes, houses, automobiles, or any one of an extended list of goods. The desires of most human beings for goods which satisfy the love of ostentation and for goods which furnish amusement seem never to be satiated, a fact which offers opportunity for profit to the entrepreneur who brings out the "new." However, the amount of food which a person can consume is limited. This definitely limits the quantity of agricultural products which can be marketed at satisfactory prices and also the part of the population which may be agriculturally employed if farmers are to be able to sell their products in an exchange economy and enjoy incomes comparable to those enjoyed by other classes. It is true to a certain extent that, when consumers refuse to buy more of staple foods, even at lower prices, they will buy rare food products, such as artichokes or avocadoes at higher prices. Thus farmers may be able by effort to divert a slightly larger proportion of the consumers' income to the purchase of farm products in opposition to manufactured products made from other raw materials than those of the farm. But this possibility is definitely limited. As a nation becomes richer, a smaller part of its total income is spent for food and a larger part is spent for goods that satisfy the desires for ostentation and amusement.

Engel's Law.—The principles just mentioned were presented about three-quarters of a century ago by Ernst Engel, a distinguished German statistician, as a series of four definite laws, which collectively have come to be known as *Engel's law*. These so-called laws were based on statistical studies of how families with different incomes spent those incomes. The four laws presented were as follows: (1) the greater the income, the smaller is the percentage of the total which is spent for food; (2) the percentage of the total income which is spent for clothing remains about the same, regardless of the size of the income; (3) the percentage spent for

housing remains invariably the same, regardless of the income; (4) the percentage spent for miscellaneous items increases with increases in the total income.

More recent statistical studies have revealed that the first and fourth of these so-called laws are almost invariably true for any fairly large group of persons, but that the second and third need considerable qualification. Statistical studies made rather recently in the United States showed a continuous decline in the part of the income spent for food with an increase in the total income. One recent comprehensive investigation revealed that urban families having incomes of less than $1,000 per year spent 40 per cent of the income for food. With incomes from $1,000 to $2,000 per year, this had declined to 34 per cent. Where the income was in excess of $5,000, only 17 per cent of it was spent for food. Clothing expenditures, however, did not closely follow Engel's law. As income increased from less than $1,000 up to $5,000, a slightly larger percentage of the total was spent for clothing, but with increases in income above $5,000 a smaller percentage was spent for clothing. The percentage spent for house furnishings and equipment rose slightly with increases in incomes from $1,000 to $5,000 and then decreased as incomes exceeded $5,000. Such miscellaneous expenditures as tobacco, personal care, and automobile purchase and operation took a smaller percentage of incomes over $5,000 than of incomes from $2,000 to $5,000, although more than of the very low incomes.[1]

The production of new articles, as consumer resistance to the purchase of more staple products becomes marked, is therefore better illustrated in industry than in agriculture. Automobile manufacturers bring out new colors and body designs in addition to urging each family to have two cars, as sales resistance increases. To sell more men's suits, the element of style of cut and color comes to be emphasized by the clothiers. Furniture factories bring out new designs in an effort to get people discontented with old styles of furniture. Even those who carry on extended processing of raw materials of the farm use the device of new goods to lure buyers, as, for example, when textile manufacturers bring forth new print designs. Even in the case of those agricultural products which reach the consumer with little change of form, producers take advantage of the consumers' interest in new goods. As farmers have found difficulties in selling increased quantities of wheat, pork, beef, and staple vegetables, they have turned to the production of new kinds of fruits and vegetables to please the consumer's palate. There is this general difference, however, between new demands for agricultural products, especially foods, and for most other goods. A new demand for one agricultural product generally replaces a demand for some other farm

[1] Summarized from the "Federal Study of Consumer Purchases," in *Dun's Review*, March, 1939, p. 33.

product, whereas new demands for many other kinds of articles are demands for additional goods in the aggregate.

The Law of Diminishing Utility.—The fact that the total desire of most human beings for goods of all kinds in the aggregate appears to be unlimited is particularly significant in considering the fallacious doctrine that business depressions are caused by general overproduction. In ascertaining the causes of market values, however, the significant principle is that *the desire for additional quantities of particular goods is definitely limited.* This important principle is known as the *law of diminishing utility,* which may be stated as follows: *As an individual acquires additional units of a good, the importance which he attaches to any particular unit of that good declines.* A hungry man values a sandwich highly. If fairly hungry, he may place considerable value on a second or third one, but, as additional sandwiches are considered, each additional one will tend to have for him less utility. For his own use a hundredth sandwich within a given day would have for him little subjective value.

There has been much discussion as to whether this law of diminishing utility is universally true or whether there are some exceptions. The discussion of possible exceptions need not detain us, in case there are any, because they are so rare as to be of no practical importance in relation to market value. Some so-called exceptions are really not exceptions. It has been urged, for example, that habit-forming goods, such as drugs and tobacco, are exceptions, in that a person values them more highly after the habit or taste for them has been formed than he did before. That, however, is not the point covered by the law of diminishing utility. That law merely states that *at a given time* a person will value the additional units which he may acquire of a good less highly than the preceding ones. Within a given day a fourth orange has for him less utility than a third one; a second automobile less utility than a first one. The law does not refer to the fact that next year, when a man is a different type of person from what he is this year, he will value a good more highly than he does now. If there are exceptions to this law, they are not of sufficient importance to invalidate it as an explanation of the fact that in the market place at a given time consumers will buy increasing quantities of goods of a particular kind only if prices are lowered.

Marginal Utility and Price.—From the law of diminishing utility we come to the concept of *marginal utility.* If a hungry man can have only one sandwich, it will have for him great utility or subjective value. But, if ten sandwiches are available to him, the tenth will have for him less utility than the first. If the utility of the tenth is still great enough that he would pay for it, he would nevertheless pay for it less than he would for the ninth, and less for the ninth than for the eighth, and so on. The utility of the last unit as to number of the supply which he is considering is called the *marginal utility* of that supply to him. And, if he is asked to buy the entire supply of ten units, his tendency will be not to pay for the tenth, or any other unit, anything which has greater utility

to him than has the tenth unit. But if sellers are sufficiently anxious to dispose of ten units to him, they will lower the price asked for the tenth unit sufficiently to induce him to buy it. If he buys ten units at one time, however, he will, under the conditions that normally prevail in a competitive market, not pay any more for any other unit exactly like the tenth one than he will for that one. Another way of expressing the same thought is that, if sellers at a given time want to dispose of their entire supply of goods of a given nature and quality, they must take a price for each and every unit based on what buyers will pay for the marginal units. This general principle has been expressed in economics by the statement that price depends on marginal utility. The general principle, which may be observed in any market, is that if a large supply of goods of a particular kind is to be sold at a particular time, the price per unit for the entire supply must be one which will move the least desired portion (last as to quantity) of that supply. This general principle has been referred to as the *marginal utility theory of value.*

Marginal Vendibility.—The marginal utility theory of value was first presented in a manner to attract widespread attention by an English economist, Stanley Jevons, and by a number of Austrian economists, in 1870 and in the years immediately following. That theory has been much criticized. It contains important truths and was a great step forward in explaining subjective and market values. Those who presented the theory, however, asserted for it a completeness which it does not possess. It has certain logical breaks: (1) It explains price, which is an objective thing, in terms of utility, which is subjective. (2) It uses the term *utility,* denoting satisfaction, when the incentive to buying is desire, which may or may not end in satisfaction. (3) It does not explain the fact that the market value of a good tends to be the same to all buyers, rich and poor alike, whereas the marginal utility of the same good may be quite different to different buyers who pay the same price. To avoid these difficulties many recent economists have preferred to say that price is governed by marginal vendibility. This is to say that what the least desired units of the total supply of a good to be sold on a given market within a given limited period of time may be sold for determines also what the other like units of that supply must be sold for. We shall generally speak of marginal vendibility as governing price. Nevertheless, the marginal utility theory properly expressed and understood does have validity. Although utility is subjective and price is objective, the *expectation* of subjective utility does govern the objective price offer. Next, though utility and desire are not the same thing, desire represents the expectation of utility. Finally, although marginal utility to all marginal buyers is not the same, the various marginal utilities of the goods to different buyers weighed against the utility of that which must be paid in price are what governs price.

How marginal vendibility governs price may be brought out by a few illustrations. The potato crop of the United States in 1925 was unusually small, being estimated at 299 million bushels. The average farm price on Oct. 15 was estimated by the Department of Agriculture at $1.26 per bushel, and it continued to rise as the season advanced, until late the next spring it was $2.70 per bushel. The farm price, of course, was high, because the crop was so small that consumers could be charged high prices at retail and the whole crop could still be sold. Dealers paid high prices to the farmers, because enough consumers preferred to pay high prices rather than go without potatoes to enable the potato crop to be moved into consumption at high prices. The crop of 1928, in contrast, was unusually large, amounting to 427 million bushels. As a result the average farm price on Oct. 15 was only 58 cents per bushel. The point to which attention is particularly directed is that consumers would probably have paid as much in 1928 for 299 million bushels as they did in 1925, if that had been all of the potatoes that were available. They did not have to pay so large a price per bushel, however, for any part of the 1928 crop, because no 100 million bushels could be sold at a high price while the less desired part of the crop was sold at a lower price. There cannot be two substantially different prices in the same market for the same commodity at the same time, because, to the extent that buyers look after their own interests, they will not buy from those who ask the higher prices, and for some to ask higher prices would leave them with their goods unsold. The whole matter may be summed up in the statement that, if an entire supply of a commodity all identical in character is to be sold, that entire supply must be sold for the price which the *marginal* or last as to number, of the units of that supply can be sold for.

Marginal vendibility governs price not only under competitive but also under monopoly conditions. Though it is true that a monopoly may practice certain manipulations which will be explained when we come to consider monopoly price in more detail, a monopoly is not free from having to sell all units of a given kind for what the least desired as to number, or marginal, units of that supply may be sold for. Let us suppose, for example, that there are 5,000 persons in the United States who desire an automobile of —— type sufficiently within a given year that they would be willing to pay $1,000 each for them rather than go without them. The —— Motor Company, however, concludes that, if it lowers the price to $400, it can sell 500,000 cars of this particular type and decides to fix the price at $400. Let us assume that the company was right in its conclusion and sells 500,000 cars. To do this, it had to sell to the 5,000 persons who would have paid $1,000 per car rather than go without it at the same price which it charged those who would not have bought a car at any price above $400. Though in the business world there may be and are some slight exceptions, roughly speaking there can

be but one price of a given commodity in a given market at a given time, and the price which prevails for the marginal units which are sold must prevail also for the other units.

Consumers' Market Demand.—The demand attitude of the market as a whole is composed of the combined individual demands of all of those who have both the desire and the purchasing power to acquire the good under consideration at prices which might possibly prevail. *Market demand* should never be spoken of except with respect to a price, and, as that term shall be used here, it *refers to a schedule or table of the quantities of a good which buyers will purchase at different prices.* Such a schedule, hypothetical in this case, is contained in Table 24, showing the pounds of meat which the 750 families whose demand affects the price in a given market would buy per day at the various prices which might possibly prevail. Thus at 55 cents per pound, the purchases of the 750 families combined would be only 310 pounds, but at 30 cents they would be willing to increase their purchases to 825 pounds, and at 20 cents the purchases would mount to 1,050 pounds or about 1.3 pounds per family on the average.

The definition of market demand as a demand schedule differs from the use of the word *demand* on occasion in current speech and by some economists who are referring to the quantity which will be purchased. The inadequacy for our present purposes of this latter use of the word *demand* should be explained. The amount which will be purchased depends upon the price quoted, and therefore, if demand is defined as a certain quantity of goods, a definite price is assumed, for consumers will purchase a given quantity only at a certain price, a price which may be found on a demand schedule. We, however, are examining demand to determine its influence on market price. Therefore, to define demand as a quantity of goods, which is to assume a definite price, and then to use demand as one of the factors determining price would be an excellent example of circular reasoning. In using demand as a factor which determines price, it should be considered only as a schedule or curve.

TABLE 24.—A DEMAND SCHEDULE OF 750 FAMILIES COMBINED FOR MEAT

Price per Pound, Cents	Amount Purchased, Pounds
55	310
50	400
45	540
40	675
35	760
30	825
25	925
20	1,050
15	1,300

The Demand Curve.—The nature of demand as a demand schedule, and the nature of the relationship existing between price and quantities bought, will be clarified by the graphic presentation of demand as the demand curve, as is done in Fig. 13. In a demand curve, prices are always measured along the vertical axis and quantities along the horizontal axis. The demand curve is constructed in the following manner. From the demand schedule in Table 24, we note that, at 55 cents per pound, 310 pounds of meat will be purchased. A perpendicular is raised from the point on the horizontal axis which represents 310 pounds, here called *M*. Similarly a perpendicular is extended from the point on the vertical axis which indicates 55 cents. Where the two perpendiculars cross, *Q*, is the point representing the relationship between 310 pounds and 55 cents per pound. In a like manner points are located showing the relation of price and quantity when the price is 50 cents, 45 cents, and so on for the whole schedule of Table 24. The final step is to connect the various points by the curve *DD* or the demand curve. If the student will come to visualize demand as the demand curve, it will be of great aid in studying both market and normal price.

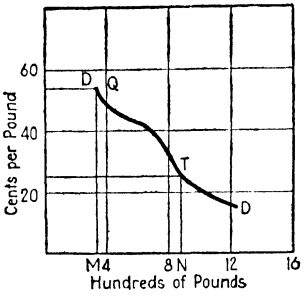

FIG. 13.—The demand for meat by 750 families (hypothetical).

Factors Influencing Market Demand.—Why will consumers buy more goods only at lower prices? Or, asking the question in terms of the demand curve, why does the demand curve slope downward and to the right? Three factors aid in understanding the background of market demand.

First, those who have purchased a good at a high price will purchase more, unless their desire has been satiated, but only at a lower price according to the principle of diminishing utility.

Second, as the price becomes lower, it brings the good within the reach of lower income classes, who can buy little, if any, at high prices because of their greater desire for other things. The hypothetical data in Table 25 show how the poorer families enter the list of actual purchasers as the price of meat declines. At 55 cents per pound only the wealthiest families (Group *A*) could buy the full amount of meat they desired, 200 pounds per day. In Group *B* the purchases would be only 0.25 pound per day per family when the price is 55 cents, but increases to 5 pounds per family when the price falls to 15 cents per pound. Families in Group *C* would purchase no meat unless the price is as low as 45 cents, and would not materially increase their purchases until the price falls to 20 cents and would not purchase more than 0.75 pound per family per day even at 15 cents. As a result of new income groups being willing to purchase at

lower prices, the amount of meat which the 750 families in Table 25 would purchase increases from 310 pounds at 55 cents to 1,300 pounds, if the meat were selling at 15 cents per pound.

TABLE 25.—THE AVERAGE DAILY DEMAND SCHEDULE OF 750 FAMILIES COMBINED FOR MEAT, SHOWING EFFECT OF INCOME ON DEMAND ATTITUDE

Price per pound, cents	Purchases of groups of families classified according to size of income				
	50 families of *A* income, pounds	100 families of *B* income, pounds	200 families of *C* income, pounds	400 families of *D* income, pounds	Total purchases of 750 families, pounds
55	200	100	10	00	310
50	200	150	50	00	400
45	200	200	100	40	540
40	200	250	150	75	675
35	200	250	200	100	760
30	200	250	225	150	825
25	200	300	250	175	925
20	200	350	300	200	1050
15	200	500	300	300	1300

Many cases from everyday life can be noted which illustrate the entrance of the lower income classes into the list of purchasers of goods as their price falls. When radio receiving sets first became practicable, their price was so high as to limit their use to the homes of the wealthy, but with the sale in 1931 of radios at considerably less than $100 a set, they came to be part of the equipment of even modest homes. Early-season fruits find but few purchasers who evaluate them highly enough to buy or have such large incomes that the desire for the fruit is not offset by the sacrifice of purchase.[1]

[1] A writer in *Fortune* Magazine, June, 1934, p. 124, has excellently illustrated the price-making process as to beef. He says:

"In a steer yielding 580 pounds of beef there are about:

150 pounds of chuck
104 pounds of loin
52 pounds of ribs

There are many other cuts, but the point is more simply made with three. The chuck . . . needs long and careful cooking and often appears as pot roast. The loin is the best part of the steer, source of the finest steaks. The ribs are the source of roast beef.

"Now the housewife is going out to buy one of these cuts, but she is not going to buy a carcass."

It is then pointed out that prices for the different cuts are so adjusted by the meat packer and butcher that all are sold in substantially the same period of time. The dealers are pictured as setting handicaps for race horses [the different cuts] "so that every horse must finish in a dead heat. . . . The housewife has selected the cuts, but she has purchased the carcass."

The third factor which makes it necessary to lower the price of a good in order to sell more is the differences in the valuation or desire for that good by different persons. Because of native and acquired differences between people, the desire for even one unit of a good varies considerably from person to person. One boy likes a top, another a kite. One man prefers golf, another tennis. Or one person desires apples, another grapes. Obviously, if a man does not care much for an apple, he will not be willing to pay a high price for it; but, if the price falls sufficiently, he may become a purchaser. Thus those people who do not put a high valuation on a certain kind of goods will, nevertheless, become actual purchasers if the price falls sufficiently.

The effect of differences in people's incomes and differences in their desire for certain goods upon their demand attitude in the market will become more clear if we see how these factors are related to the relative marginal utility of the goods to be purchased and of the money to be spent. The marginal utility of money is really the marginal utility of other goods which must be foregone if it is spent for the good whose demand we are studying. This sacrifice of other goods when a particular good is purchased is sometimes considered as an indication of the sacrifice or *disutility* involved in purchasing the particular good. The man of large income purchases so much of most goods that the marginal utility of each is at a low point. Therefore the marginal utility of money to him is low compared to its marginal utility to a poorer man. When a wealthy man spends $2 for an elaborate dinner, the marginal utility of the $2 is small, for he has already pursued most of his desires to near the satiation point. The poor man will not usually spend $2 for a dinner even though he may desire such an excellent dinner more than does the man of wealth, because that sum could be spent for many other goods in the class of necessaries of which the poor man has few or no units and which, therefore, have a high marginal utility to him.

Now let us eliminate the factor of differences in income, and study the effect of differences in people's desire for given goods. Let us take two men of equal income and to whom, therefore, the marginal utility of money should be similar. Suppose that one of these men is very fond of lamb chops and will buy them at 60 cents a pound, whereas the second man has no great taste for lamb. The latter, let us say, would not buy lamb chops until they sold for only 35 cents, because the desire for chops did not outweigh the desire for other goods which might be bought with the 60 cents. Thus marginal utility and the relative marginal utility of goods to different buyers become the final explanation of the consumers' market demand.

MARKET SUPPLY AND MARKET PRICE

General Nature of Market Supply.—As is true of so much of the terminology of economics, the word *supply* with reference to the market

is used with various shades of meaning, both in current speech and among the economists, but usually conveys either the idea of quantity available or already produced, or refers to the seller's attitude toward selling this existing quantity. In neither case does cost of production enter into the supply situation of market price, for the reference is to a quantity already produced. Either of these two ideas of supply may be proper on occasion. If sellers have a highly perishable good, as fresh strawberries, it is seldom good business for them to hold on for 15 cents a box if buyers will not pay that price in a few days. In such cases supply is a fixed quantity which must be sold irrespective of price. If, however, the good does not have to be sold at a particular time but may be sold or not sold, according to whether the price offers are agreeable to the sellers, supply becomes a supply schedule, showing the prices at which sellers are willing to offer different amounts of the good. Such a supply schedule is a picture of the selling attitude of all of those who have the good. The schedule presented in Table 26 shows, as is true of all such supply situations, that more will be offered for sale at a high price than at a low price.

TABLE 26.—A HYPOTHETICAL SUPPLY SCHEDULE FOR MEAT

Price per Pound, Cents	Amount Offered, Pounds
15	100
20	200
25	325
30	475
35	760
40	900
45	1,100
50	1,300
55	1,550

Thus only 200 pounds will be offered at 20 cents per pound, but, if the price were 45 cents, 1,100 pounds would be offered, and so on.

Graphic Presentation of Supply.—The method of graphically presenting supply will depend upon whether the conditions are such that supply is a quantity of goods which must be sold irrespective of price, or whether it is a supply schedule. In the former case, supply would be represented by a perpendicular raised from the proper point on the horizontal axis, the axis along which the quantity of goods is measured. In the latter case, supply would be a curve located in a manner similar to that explained for the demand curve. Such a curve representing market supply, as presented in Fig. 14, always slopes upward from left to right in contrast to the demand curve, a fact showing that more will be offered for sale at a high price than at a low price.

Market Price.—Market price is determined by the interaction of demand and supply. Now that both of these market forces have been presented graphically, it will be easier to study their interaction with the aid of graphs. In Fig. 13 is shown the demand curve for meat. Let us now assume that the supply is a fixed quantity of 900 pounds. A perpendicular raised from the point on the horizontal axis which measures 900 pounds cuts the demand curve at *T*. At this point buyers are willing to purchase the amount offered, that full amount but not more, and therefore the market price would be at this point represented by the distance *TN*, or 26 cents.

In Fig. 15 the demand curve for meat is again presented, this time in relation to a supply curve. We are now assuming, as is more accurate, that meat may be held for a certain length of time if the price is not satisfactory, and that therefore the amount offered will vary with the

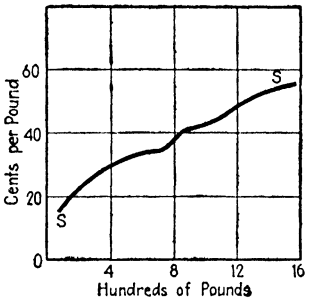

FIG. 14.—The supply curve for meat (hypothetical).

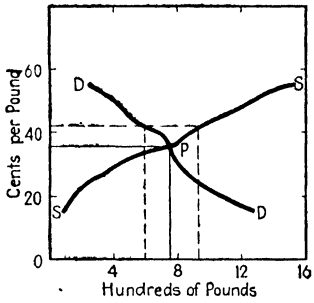

FIG. 15.—The determination of the market price of meat (hypothetical cases).

price. The two curves intersect at *P*, at which point the amount offered and the amount purchased would be the same. In other words, the price of 35 cents will clear the market. Marginal vendibility will equal the price asked by the least willing seller who must sell to move into consumption the supply to be sold.

The strong tendency for market price to be located at the point where the quantity offered and the quantity purchased are equal is emphasized by noting what would happen if the price were higher or lower than *P*, or the actual quantity offered were greater or less than 760 pounds. If in Fig. 15 suppliers put only 600 pounds on the market instead of 760 pounds, the price will rise, since for 600 pounds buyers are willing to pay 43 cents a pound. However, as the price moves upward toward 43 cents, suppliers proceed to increase the quantity they offer on the market, for they are willing to sell about 950 pounds in case the price reaches 43 cents. But as sellers increase the quantity, they find that buyers will take the increased quantity only at lower prices, forcing price back toward 35 cents. Suppliers cannot always immediately stop the increase in quantity available, and usually the increase continues until the price is forced

below *P*. Suppose that the quantity is increased to 950 pounds. For that quantity buyers are willing to pay only 25 cents per pound. However, the sellers are not willing to supply 950 pounds at a price of 25 cents but only 200 pounds, and they will undertake a reduction in quantity. Any variation of the price from 35 cents (the equilibrium price) or the quantity from 760 pounds will set in motion forces tending to bring price back to the point where quantity offered and quantity taken are equal.

The promptness and accuracy with which actual market prices will correspond with the price at which offers and purchases are in equilibrium depend on the degree to which both buyers and sellers are actively and intelligently seeking the price which is best for them. The best price for sellers is a high price, and the best price for buyers is a low one. If farmers are fully informed concerning the price of wheat, as they may be through newspaper and radio reports, they should not accept a price appreciably lower than the maximum which the buyers will pay. On the other hand, farmers who have dairy cows for sale find that accurate information on the market situation is much more difficult to obtain, and it is therefore probable that cows are often sold for less than could be obtained in a market in which the sellers were accurately informed. The wholesale buyers of farm produce are, as a whole, better informed concerning what is being paid and the general demand and supply situation than are the farmers, which in a particular transaction may result in a price slightly lower than that justified by the fundamental supply and demand conditions. In contrast, consumers as a whole are inexpert and uninformed buyers, buying without accurate knowledge of the merits of goods and without complete information of what prices are being asked at other stores. People become accustomed to trading at one store and do not always "shop around" to find the lowest prices. The result of the varying degrees of information existing in various markets is that, in the market for such great agricultural staples as wheat, there is only one price, determined accurately by supply and demand, but in other markets, as the retail market for many articles of clothing, differences in prices between different sellers are frequent and often continue for some time. These differences are in part due, however, to the fact that in high-priced stores buyers often are purchasing, not only the goods, but certain features of service, including a pleasant and distinctive place in which to do their shopping and certain guarantees of quality.

DEMAND FURTHER CONSIDERED

Elastic and Inelastic Demand.—Demand curves differ in the steepness of their slope; this shows that the demands for various goods differ in the extent to which the amount purchased will change with price changes, or, in the language of economics, they differ in their elasticity. A demand

may be either elastic, or inelastic, a distinction determined primarily by the degree to which the quantity purchased will change with a price change. Strictly speaking, all demands are to some extent elastic, because people will buy slightly more of all goods as prices are lowered. But for the sake of convenience, the distinction between an elastic and an inelastic demand is often drawn through the use of the concept of *unit elasticity. When a change in the price of a good results in no change in the total outlay which buyers will make for the aggregate of all the goods sold, the elasticity of demand for that good is unity,* as is true with the demand represented by *DD* in Fig. 16. In such a case the rate of change in quantity purchased just offsets the rate of change in price, so that the increased quantity sold at a lower price per unit brings in the aggregate the same amount of money as the lesser quantity would bring at a higher price per unit.

When a small decline in price brings about such a relatively large increase in quantity purchased that the total outlay for the good increases, as shown in *DD'* in Fig. 16, the demand is said to be *elastic.* Obviously, in such a case an increase in price brings a decrease in the total outlay. Generally the commodities for which the demand is elastic have one or more of the following characteristics. First, goods in the class of luxuries tend to have an elastic demand, for a small decrease in their price will bring these articles within the reach of new buyers of the lower income groups. Thus the greater the inequality in the distribution of income among consumers, the more elastic will be the demand for luxuries. If the price of these commodities is increased, the many buyers with small incomes will then cease to purchase. Second, commodities for which there is a variety of uses will ordinarily have an elastic demand. As the price of butter drops, it is used not only for table purposes but in cooking as well. On the other hand, when the price of such a commodity rises, other goods will be substituted for it, as when butter substitutes are used in larger amounts as the price of butter rises. The result is a tendency to restrict the consumption of butter.

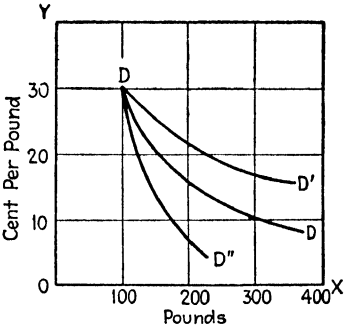

FIG. 16.—Elastic and inelastic demand curves.

Demand is regarded as *inelastic* when a large decline in price brings such a small increase in the quantity bought that the total money spent for the goods declines, as is illustrated by *DD''* in Fig. 16. Commodities for which the demand is inelastic have the opposite characteristics to those listed above. First, they are usually goods which are generally spoken of as necessaries, consumers buying approximately the same amount whether the prices are high or low. Second, they are often commodities which are

usable for only one purpose. They do not have the supporting effect of diversion to new uses as the price falls. Or when the price rises there is no important substitute to which buyers may turn, and hence the purchases of this article decline but little.

The staple food and clothing materials have a comparatively inelastic demand in the wholesale market, and hence the excessive production of one of these articles results in disastrously low prices.

> Given a large supply of wheat available or in prospect in one year, say at the extreme, 10 per cent above normal, the two limiting consumption demand curves . . . indicate that if that quantity of wheat is to be consumed within the current year, the price must be between 70 and 78 per cent of normal.[1]

On the other hand, a relatively small shortage of one of these commodities leads to a large increase in price. A decline of 23 per cent in the production of potatoes in 1925, as compared to 1924, brought a Dec. 1 farm price which was three times as high. The total farm value of the small potato crop of 1925 was 2⅓ times that of the large 1924 crop. The degree of elasticity of demand for any farm product will determine the degree of price loss to be suffered from overproduction, or gain to be obtained in small crop years. Some writers prefer to limit the use of the term *demand curve* to the demand curves of final consumers. These writers refer to the wholesale- or farm-market relationships between prices offered and quantities purchased as *price-supply curves*. Consumer demand curves in the cases mentioned above would be somewhat more elastic than the wholesale-market demand curves or price-supply curves described.

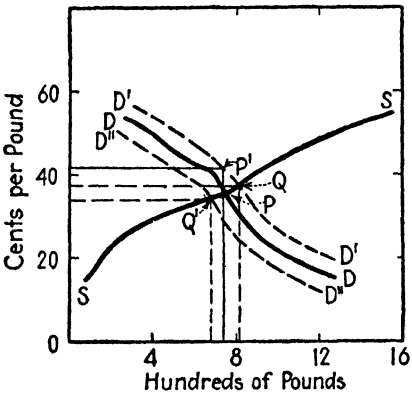

FIG. 17.—Changes in demand and their effect on the market price of meat (hypothetical).

Change of Demand.—The fact that consumers will buy more of a commodity at a lower price and less at a higher price does not indicate a change of demand, for this attitude of consumers is clearly included in the idea of demand as the demand schedule. Producers expect that consumers will buy less if the price is increased and buy more if the price is lowered. A change of demand involves a change in the attitude of buyers as shown by a shift in the location of the demand curve, an increase of demand occurring when the whole demand curve moves to the right as $D'D'$ in Fig. 17, and a decrease of demand occurring when the curve

[1] Holbrook Working, "Forecasting the Price of Wheat," *Journal of Farm Economics*, Vol. 9, No. 3, July, 1927, pp. 276–277.

moves to the left as $D''D''$ in Fig. 17. With the demand increased as is shown by $D'D'$, the 750 families will purchase 760 pounds of meat at 44 cents a pound, represented by the distance from the base line to P'. This will result in an increased supply and a new equilibrium price, represented by the distance from the base line to Q. If demand were to decline as represented by $D''D''$, the opposite results would occur.

Causes of Change of Demand.—At least four factors are significant in explaining changes in demand for particular goods from time to time.

First, growth in population brings about an increased demand for most agricultural products. There are more mouths to feed and more people to clothe, and therefore there is a greater demand for goods in general. More cotton cloth can be sold today for 40 cents a yard than could be sold at this price in 1890. More beef steers can be sold for $10 per hundredweight now than could be sold for this price in 1850. The effect of growth of population on the demand for farm products is fundamental in explaining the growth of land values as discussed in later chapters. The above statements should, however, not lead to the conclusion that with increasing population prices of products will necessarily be higher. The shift of the demand curve to the right may be offset by such an increase in supply that prices may be lower rather than higher. The general price level also has to be considered, and this, in turn, brings in the picture of the quantity of money and credit.

Second, changes in per capita income affect the total demand for all goods combined, but the effect is quite different for some commodities than for others. Reference to Engel's law (see pages 183 and 184) and its modifications will recall that in general an increase in income is accompanied by the expenditure of a larger proportion of the income, and therefore of more money, for nonnecessaries. Thus the period of urban prosperity from 1922 to 1929 was one of high demand for such things as automobiles and travel, amusements, expensive clothing, and so on. Higher per capita income enables people to include more of the high-priced foods in their menu in place of the staples such as bread and potatoes. In general an increase in per capita income does not mean a proportionate increase in the demand for farm products, for more of the increased income is spent for commodities based on the raw materials of mines and forests, or for personal services. Such shifts in demand as do occur with changes in the income of consumers may be only temporary if the cause is only the alternation of prosperity and depression with the business cycle, or may be more permanent if the cause is the general tendency for a country to be more productive per capita, as has been true in the United States in the last few decades.

Third, the desire for goods varies with the seasons of the year. When hot weather strikes the large cities, the demand for fruit increases relatively. During cold weather the demand for the heavier cuts of beef

grows. Examples might be multiplied, with illustrations drawn from many fields of industry.

Fourth, the consumers' attitude toward particular goods has been materially affected by education and propaganda. The spread of public education—if that term is used in a broad sense, including knowledge of nutrition, the influencing of æsthetic tastes, and so on—has changed the demand for various products, stimulating the purchase of some goods and restricting the buying of others. The type of clothing, furniture, and amusements people desire has been materially influenced by the moving and talking pictures. The general increase of knowledge of nutrition has made necessary certain adjustments in agriculture, particularly

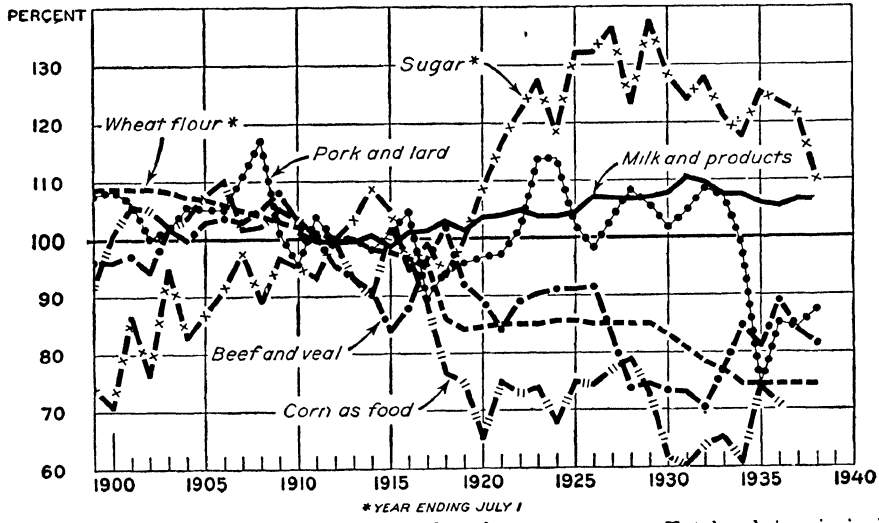

FIG. 18.—Changes in consumption of food products per person. Total and six principal products, United States, 1909–1938. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

through the emphasis upon vitamins and the proper number of calories and the balance between proteins and carbohydrates, which has influenced consumers' demand in favor of fruits, vegetables, and dairy products. The starchy foods, such as potatoes and bread, have become less important in the diet. However, neither information on nutrition nor growth of per capita income can explain all of the recent changes in food habits. Changes in people's habits of living, particularly in that they live now in less house space and that a larger portion of them obtain their living by mental effort, has stimulated the demand for the lighter and more palatable foods.

Some Actual Demand Changes.—As a net result of the above forces, the demand for various farm products has undergone distinct shifts since 1900. The accompanying chart, Fig. 18, points to some of the most significant changes in per capita consumption. Although the quantity consumed is covered by these data without regard to price, it is

safe to conclude that most of these shifts do not represent consumption changes due to price increases or decreases but rather genuine shifts in demand. In other words, such changes in human wants have taken place that the whole demand curve for each of the products listed in Fig. 18 is shifted. Concerning such demand changes as these, L. C. Gray and O. E. Baker say:

> Marked changes are occurring in the food consumption of the American people. The per capita consumption of corn and the minor cereals (rye, oats, barley, and buckwheat) as human food is only from one-third to one-half what it was two decades ago. Only about 85 per cent as much wheat is consumed per capita. There has been, on the other hand, notable expansion in the per capita consumption of sugar, a crop chiefly imported, and to a less extent of vegetables. Important changes have occurred in the consumption of animal products. Since the period 1909–1913 consumption of mutton and lamb per person (not shown in the chart) has decreased more than a fifth. The consumption of pork and lard per capita has been about a fourth higher in the last five years than in the pre-war years. Consumption of beef and veal has fluctuated greatly, reflecting the cycle of production and the influence of alternating prosperity and depression on the purchasing power of consumers. At the beginning of the World War, per capita consumption in the United States was 80 to 90 per cent of the quantity at the beginning of the century. High wages in the cities during the war and the years immediately following, and low prices for beef, led to an increased per capita consumption, which continued high until 1926, when a declining trend began. Our per capita consumption of milk and pork is considerably greater than in the pre-war period, or even at the beginning of the century. Since beef requires more land per unit of product than does either pork or milk, the decreasing trend in per capita consumption of beef, if it should continue, would tend to reduce the per capita acreage of crop and pasture land required to maintain domestic consumption.[1] The net result of the changes in diet does not affect greatly the per capita area of land needed for domestic food supply, but the changes indicated have notably influenced the demand for the products of particular regions.[2]

Advertising and Demand Changes.—Discussion of change of demand would not be complete without pointing out the effect of producers' selling efforts through the use of advertisements and salesmen. The modern producer need not assume that the demand situation is beyond his control, although it is true that he rarely can look forward to making a revolutionary change in consumers' demand. In the case of many agricultural commodities, advertising probably cannot materially influence

[1] "The greater aggregate consumption of food products during the years 1922–1929 is owing to heavier consumption of animal products, particularly pork, which are weighted more heavily than plant products. Although the commercial production of fruit has largely increased, there is no conclusive evidence of an increase in per capita consumption of fruit." [This footnote is part of the quotation.]

[2] *Miscellaneous Publication* 97, U. S. Department of Agriculture.

the consumers' attitude; yet the California Fruit Growers Exchange has capitalized upon the popular interest in nutrition by advertising the health-giving qualities of citrus fruits. Many other large cooperatives, such as California Sun-Maid Raisin Growers Association and the Land O' Lakes Creameries, Inc., have attempted to influence demand for their specific products with varying degrees of success.

A limiting factor in the advertising of farm products to the consumer is the large portion of agricultural products which must be processed and hence lose their identity before reaching the consumer. Advertising and persuasive salesmanship have very little effect in influencing the purchases by experts, such as the buyers of wheat for milling and of fruit for canning. But to the extent that farmers undertake processing of their own products, as in the case of butter and canned fruits, they have the opportunity to advertise, provided that their product is the type of product for which the consumers can be made to choose between the brand of the advertiser and those of competitors.

Joint Demand.—The demand for a finished product is, from one point of view, a joint demand for all materials and services which have contributed to the form, time, and place utility which this good possesses at the time it is bought by the consumer. Into the completed form utility of manufactured food products go not only the basic raw materials of the farm but also the use of machinery, labor, minerals, such as salt, and probably supplementary farm products. Transportation agencies contribute place utility, and merchants and warehouses contribute time utility. The housewife's demand for food is not only the demand for the raw materials of the farm but also for flavorings, containers, machinery use, labor, and the services of transportation and storage. Thus the demand for food products is a joint demand for all of the goods and services which go to make up the food product delivered to the housewife. A similar analysis holds true for the clothes and the process of changing cotton, wool, and flax into cloth or clothes ready for sale in department stores.

The joint nature of the consumer demand for products based on raw materials of the farm is important for three reasons.

First, wide variations may occur in the price of the basic farm product without material changes in the price the consumer pays, particularly if the value of the raw material is a small portion of the price the consumer pays. Frequently, marked declines in the prices of farm products are necessary before the price to the consumer declines sufficiently to stimulate buying. For instance, the pound loaf of bread selling for 10 cents at retail contains about 12.5 ounces of flour. To make 12.5 ounces of flour, about 15 ounces of wheat are required. With wheat at $1 a bushel at the farm, only 1.7 cents' worth of wheat goes into a 10-cent loaf of bread. Therefore, assuming other costs constant, wheat can fall

to about 40 cents per bushel, before the price of bread can be reduced 1 cent per pound loaf. The example of bread illustrates a principle that holds true to a greater or less extent of the relation which exists between the price of all farm products or raw materials of mines and forests and of the price of the finished products as the consumer buys them.

Second, when a decline in consumer demand for a good made out of raw farm products does occur, at least temporarily a very large part of the burden of that decline is likely to bear on the farmer. The prices of the other joint costs of the finished product are largely for goods or services which respond more slowly to competitive forces than do the prices of farm products. Among these are railroad freight rates, fixed by regulatory commissions; wages in urban industries, which move but slowly to lower levels; rents, which are often fixed by long-time leases, and similar rigid prices.

Third, the changes in prices of important goods or services added to the raw materials of the farm in the process of making the finished article may considerably affect the price of farm products. For instance, a marked change in transportation rates and labor costs could influence the price of finished commodities of elastic demand to the point that the volume sold would vary considerably. The consequent change in the volume of the finished good sold would materially raise or lower the price of the basic raw material of the farm. Thus, fluctuations in the price of raw products of the farm may occur even though there has been no change in the supply of those raw products or in the consumers' demand for the finished product. Professors G. F. Warren and F. A. Pearson have contended that the failure of the prices of those goods and services which enter into the processing and marketing of farm products to decline in the years after the World War was a potent factor in the agricultural depression of those years.

Derived Demand.—The demand for the factors of production and for any goods before they are in the form, place, and time desired by consumers is not an immediate reflection of consumer demand, although it is derived from that demand. Every processor or merchant who purchases goods does so with his eye on the consumers' desires. Farmers rarely produce the products in the form in which they are to be bought by the consumer, nor do they take the products to the place at which the consumer wants them, or undertake to have their products available at the particular time at which the consumer wants them. The farmer feels the consumers' desires only as they are "telegraphed" back to him through the intermediary agencies of processors and merchants. The prices which these processors and merchants will pay the farmer and the quantity they will buy at these prices are derived from the consumers' attitude toward these commodities. In case there arise imperfections in the "telegraphing" of the consumers' demand to the farmers, due to

friction in the working of the forces of competition, differences may occur among the fluctuations of farm prices, wholesale prices, and retail prices. The degree to which these imperfections actually occur will be discussed in later chapters.

THE STATISTICAL ANALYSIS OF DEMAND

Hypothetical versus Statistically Determined Demand Curves.—In the preceding pages demand has been discussed almost exclusively in terms of assumed demand schedules and curves. The major reason for this practice is that exact measurements of demand are difficult and have seldom been accurately accomplished. Even though the discussion of demand curves is largely based on hypothetical cases, this fact does not belie their significance in understanding the fundamental nature of price-making forces. Moreover, statistical analysis has substantiated rather than contradicted the earlier theoretical study of demand.

Wherever possible, sellers should and do attempt to obtain as exact an idea of the elasticity of demand for their product as possible. One important point to be impressed upon farmers individually and collectively is that the demand for most farm products is relatively inelastic. Cooperative associations must be guided in their sales policies by a study of demands for their products and of the factors causing demands to shift.

It should be remembered in interpreting demand as determined by statistical studies that these curves are based on historical data and hence do not necessarily apply to the present or the future. Nevertheless, they do usually give a quite valuable picture of the elasticity of demand for a given good and some knowledge of the factors which cause the demand to change.

Problems in Study.—For two reasons, most demand curves obtained by statistical analysis cannot be taken strictly as pictures of the consumers' demand. First, the quantity data used are frequently data of quantity produced rather than quantity consumed. Often not all of the production is harvested or, if harvested, is not used for human consumption but for animal food or for by-products. Second, the price data used are farm prices or wholesale prices usually, rarely retail prices. Only occasionally are farm products sold to the consumer directly by the farmer, or do they reach the consumer in the same form in which they left the farm, and hence the prices which merchants pay for farm products are derived from their estimation of the consumers' reaction. The closer the farmer is to the consumer in terms of number of agencies handling the goods and in time between the farmers' sale and the consumers' purchase, the more exactly will the prices paid to the farmer represent the consumers' attitude. Thus, in the case of lamb, which is not ordinarily stored for great lengths of time, and which is not usually handled by more than three

or four agencies after the farmer's sale, the fluctuation in the price paid to the farmer should closely coincide with the fluctuation in consumer prices. Certainly wholesale prices of slaughtered lamb should fluctuate quite closely with retail prices. On the other hand, in cases in which the demand for farm products is derived from the demand for a finished product of which the farm product is a relatively small part, the price paid the farmer for his product only distantly represents the consumers' attitude. In such cases, the relationship found between prices paid for different quantities represents more accurately the processors' demand for farm products. The nature of the processors' demand is explained under the previous headings of derived and joint demand. This processors' or merchants' demand must not be overlooked, for it is of more immediate interest to the farmer than is consumers' demand. In order to make clearer the idea of demand and to present the principles underlying the statistical analysis of demand, the leading results of important statistical studies are presented below.

In statistical studies of demand, two types of problems are faced. The first task is to get a measurement of the prices which the market will pay for different quantities of the product, assuming the demand situation unchanged. In other words, the problem is to present statistically a demand curve as that term was used earlier in the chapter. The second problem is to measure the effect of factors which cause this demand curve to move to the left or the right from its usual position. This problem involves the measurement of effect on the demand curve of changes in population, consumers' income, consumers' desires, prices of substitute products, and seasons of the year.

The Demand for Potatoes.—In Fig. 19 is presented the relationship between the production of potatoes in the United States during different years and the Dec. 1 farm price. The data presented in this graph bring out three important points.

First, demand changes from time to time, being influenced, in the case of potatoes, primarily by growth of population, although much of the change as shown in this figure is due to changes in the general price level from pre-war to war-time and to post-war levels. Even in the post-war period, in which the price level was approximately constant, the curve showing the average relation of price and quantity from 1925 to 1929 is higher than the same curve for 1921–1924. Only a small part of the difference between the curve for 1907–1915 and that for the years 1901 to 1906 can be explained by price-level changes. The change must have been largely due to population growth.

Second, after a shift of demand the new curve need not have the same elasticity as the old. In general, the demand for potatoes has become more inelastic.

Third, the curves drawn in by the statistician in Fig. 19 are only representative of the average relationship between price and quantity. The actual relationship existing in a given year is shown by the dot with the appropriate numeral. The scattering of these dots about the curve

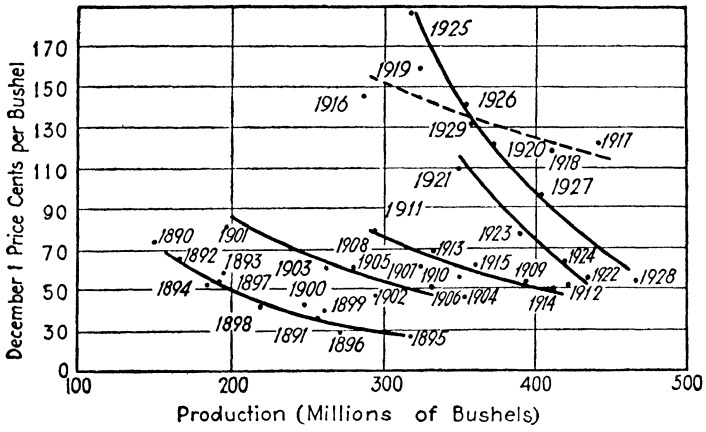

FIG. 19.—Potatoes: December 1 farm price and United States production, 1890–1929. (*E. J. Working, "Indications of Changes in Demand for Agricultural Products," Journal of Farm Economics, Vol. 14, No. 2, April,* 1932.)

gives an idea of how accurately the curve represents the price-quantity relationship.

The curves presented in Fig. 19 are not so inelastic as one might expect in the case of potatoes, the reason being that, in years when potato prices are low, they are used for animal feed and for making such by-products as starch and alcohol, or some of the crop is not harvested. But when the price is high, potatoes are used almost exclusively for human consumption and farmers are careful to harvest and market even low-grade stock.

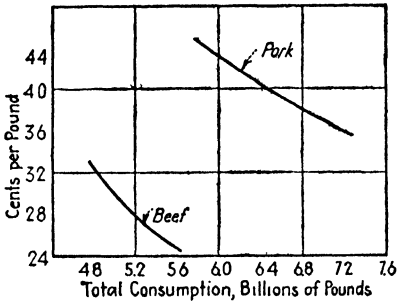

FIG. 20.—Demand for pork and beef in the United States, 1922–1931, in terms of retail price. These curves show the relation which existed between price and quantity when the effect of factors causing a change of demand was eliminated. (*Based on E. J. Working, "Indications of Changes in Demand for Agricultural Products," Journal of Farm Economics, Vol. 14, No. 2, April,* 1932.)

Retail Demand for Meat.—In order to present a demand curve that is more representative of the consumers' attitude and at the same time uses quantity data which more accurately indicate actual human consumption, demand curves for beef and for pork based on actual prices from 1922 to 1931 are presented in Fig. 20. Obviously, the demand for pork was much the greater. Let us test the elasticity of demand for the two meats. Six and two-tenths billion pounds of pork

would have sold at about 41.8 cents per pound for a total outlay of 2,592 million dollars as compared with an outlay of 2,584 millions when the quantity was 6.8 billion pounds and the price 38 cents. Thus the demand was slightly inelastic. If the demand for beef is submitted to a similar test, it will be found that it also was slightly inelastic.

Uses of Statistical Analysis.—The statistical study of demand has two practical applications. First, it forms a basis for price forecasting. When the available quantity of a farm product is known, it is possible to anticipate rather accurately the price which will prevail. Actual forecasting, however, has its limits because of errors in the data on supply and of unforeseen shifts in the whole demand curve, particularly of those arising from price-level variations. Second, plans for the social control of production, such as those made under the Agricultural Adjustment Act of 1933, must rely, in part, on a statistical knowledge of demand. The slope of the demand curve, or its elasticity, determines how much it will be necessary to reduce the quantity available in order to force the price of the given product up to the desired point. Thus, in the program for the hog industry, the administration had to determine how many hogs had to be removed from the market in order to force hog prices up to the point thought proper.

MARKET SUPPLY FURTHER CONSIDERED

Elasticity of Supply.—Elasticity is used with reference to supply in a manner similar to its use in connection with demand, although the idea of unit elasticity is rarely applied. An inelastic supply is one in which a large change in price brings only a relatively small change in quantity offered. Therefore, in those cases in which sellers have no choice but to sell at a price which consumers will pay for the whole quantity available, supply is totally inelastic. On the other hand, when a small change in price brings a relatively large change in the quantity offered, supply is elastic.

At least three factors are significant in explaining elasticity of supply.

First, the degree to which the good is perishable determines the extent to which sellers have the choice of selling or holding for higher prices. To anyone who has observed the wholesale or retail markets for perishable fruits, this principle is obvious. At the beginning of the day the sellers quote prices which, according to their knowledge of the available quantity and the demand situation, they think will clear the market. If, as the day advances, it appears that the quantity cannot be sold at that price, the tendency is to cut the price, usually to a point below that which would have been necessary if all of the day's supply had been offered at a lower price, for it is necessary to appeal to the more unwilling buyers. In the retail market, prices are rarely raised as the day advances even if a shortage occurs, because of the unfavorable reaction of con-

sumers to such a practice. With the improvement of storage facilities, many commodities, such as butter and eggs, which were previously dumped on the market at very low prices during the spring and early summer, are now held over for winter consumption and thus increase the possibility of elasticity in the supply situation.

Second, any seller who undertakes to hold for a better price must balance the costs and risks of storage against the possibility of obtaining a higher price. Where the costs are heavy (as in carrying livestock which is ready for market) and the outlook for higher prices is uncertain, the tendency will be to sell when the product is ready for market.

Third, the time period covered in the analysis determines to a large extent elasticity of supply. This factor raises at once the question as to what time period is covered by market price. It has frequently been claimed that market price refers to the price for a day, but if for a day, why not for an hour or, in such rapidly fluctuating markets as that for wheat and cotton, why not for the minute? For certain purposes the average price for a month, or for a crop season, is significant. The solution to this apparent confusion would seem to be that types of prices cannot be limited to two cut-and-dried categories of market and normal price, but that these two concepts represent degrees of difference, a difference which is primarily a matter of the time period considered. Therefore we shall consider supply situations for a day, a week, and a year.

All of the complications concerning the elasticity of supply as affected by the time period cannot be discussed here, but some of the more important may be brought out by illustrations. Let us consider the supply situation for potatoes over three different time periods. On a given day on the Chicago wholesale produce market there are, let us say, 400 cars of potatoes. Will these be sold irrespective of whether price offers are satisfactory? Not entirely, but to a certain extent, yes. This will happen because demurrage charges will soon begin on the cars, the cars must be kept heated, there is danger of deterioration, sellers are anxious to get their invested money, and above all there is uncertainty about whether the price will improve. It would seem that the supply would be fairly inelastic. If we now study the situation over a week, we find that higher prices will stimulate shipments, unless sellers are convinced that the upward movement of prices merely forecasts still higher prices, in which case shipments may actually decline. If the time period is lengthened to a crop season, the supply situation becomes a nearly fixed quantity, for each old crop must be moved before the main new crop reaches the market. Thus we find that the average price obtained by farmers at Idaho Falls was 50 cents per hundredweight in 1928 as compared to $1.56 per hundredweight in 1926. Even though the former price was below the cost of production, the farmers had to sell for what they could

get. If the commodity had been wheat, low prices might have encouraged the carrying over of a larger quantity into the next year, as frequently has happened. Thus the supply situation is a supply schedule when the average annual price for wheat is being analyzed, though probably quite inelastic because of the costs of carrying the grain and the uncertainty as to whether the next crop will be smaller.

Change of Supply.—Just as the buyers' attitude toward buying certain quantities at certain prices changes, so may the sellers' attitude toward selling vary from time to time. Suppose that news comes of a drought in the Australian and Argentinian wheat fields; the immediate effect will be that all sellers will revise upward their estimation of the price at which they will sell. In like manner, news of the stock market crash in 1929 influenced the sellers of some goods to revise downward the prices they asked. If the supply situation is such as to be represented by a supply schedule and a supply curve, this change of sellers' price demands involves the shifting of the whole supply schedule upward if they raise the prices they ask, or downward if they are now willing to accept lower prices. If a shipper has a car of cantaloupes in New York City, it will not be wise for him to hold for a higher price if shipping news shows that a large number of cars of this commodity are on their way to New York. But if the shipper learns that the very low prices prevailing have discouraged shipments, he may advisedly hold his car for a few days if the cantaloupes will remain in good condition. These changes in supply attitude are going on constantly with the news as to the demand situation or as to the quantity coming on the market in the future. Because of the frequent shifts in sellers' attitude, and the demands of buyers as well, competitive market prices are subject to frequent oscillations.

The Individual and Price.—Each individual buyer and seller has his small share in determining the price of the great staples sold in a competitive market. To say that the buyer who was just induced to buy and the seller who was just induced to sell at the prevailing market price are most significant would be inaccurate. The last straw which is added and which leads to the breaking of the camel's back would be unimportant without the preceding straws loaded on that luckless camel. The last straw is the focus point of attention and so are the last or marginal buyer and the last or marginal seller. The marginal buyer's buying or refusing to buy and the marginal seller's selling or refusing to sell are potent factors in causing the price to remain or move from its position at a particular time. The general height of that price, however, is the resultant of the attitude of all the buyers and all the sellers in the market.

When we leave the great staples and turn our attention to the prices of any good in which the transactions are few and isolated, or in which the commodity is not standardized, as in the case of land, work horses,

livestock for breeding purposes, etc., either the buyer or the seller through his skill as a bargainer may be able considerably to influence the actual price paid. In the case of some commodities, farmers collectively may exercise an appreciable influence on price when organized in cooperative associations. Of these cases more will be said when we come to the discussion of monopoly price.

Questions and Problems

1. State Engel's law. Show with some detail what features of it have been found most true and what features least true. Why is this law particularly significant to those engaged in agriculture?

2. Carefully distinguish between the law of diminishing utility and the law of diminishing returns.

3. Explain fully why it is more accurate to say that market price is governed by marginal vendibility than that it is governed by marginal utility?

4. Define a demand curve, and explain why the demand curve slopes downward and to the right. Mention three contributing causes. Is it accurate to speak of "demand" as a quantity of goods?

5. Define a market-supply curve, and show what shapes it may take and why.

6. Distinguish between an elastic and an inelastic demand? In so doing, explain the meaning of unit elasticity.

7. What must be done to a demand curve to show a change in demand?

8. Mention some of the most significant changes which have occurred in the demand for farm products since 1914.

9. Criticize this statement: "The demand for some farm products can be much increased by advertising. Also the demand for fruit is much greater than it was several years ago. This shows that the demand for these products is quite elastic."

10. In what respects is the demand for farm products a joint demand? How does this affect prices of these products?

11. What are the causes of the difficulty in ascertaining the exact shape of the demand curve for a given product?

12. Which is the more nearly horizontal and which the more nearly vertical, the consumers' demand curve or the wholesale-buyers' demand curve for potatoes? Explain why.

13. What is an elastic supply? What factors influence elasticity of market supply?

14. Point out in detail what you are able to learn about the degree of elasticity of the demand for some one farm product.

Suggested Readings

1. F. W. Taussig, *Principles of Economics* (1939), Vol. I, Chaps. 9 and 10, and Paul F. Gemmill, *Fundamentals of Economics* (1930) furnish some of the best explanations of the principles of market-price determination.

2. G. F. Warren and F. A. Pearson, *Interrelations of Supply and Price*, Cornell University, Agricultural Experiment Station *Bulletin* 466 (1928), represents an effort to ascertain and show the effects of changes in supply on price for different farm products.

3. John D. Black, *Agricultural Reform in the United States* (1929) summarizes the results of a number of efforts to show the effect of agricultural surpluses on prices and incomes.

CHAPTER X

COST OF PRODUCTION AND PRICE

Cost of production comes to have a more and more significant influence on competitive prices as the period under consideration becomes longer. We have seen in the preceding chapters that cost is of little importance in determining day-to-day market prices; that these prices are fixed by what consumers will pay for the quantity offered for sale. But if these market prices are much below the cost to the majority of producers, clearly there will be, after a time, a contraction in output. On the other hand, if prices are highly profitable to most of the entrepreneurs engaged in a certain branch of industry, these entrepreneurs will sooner or later increase their output and new enterprises will be established—the effect of such increased output being to lower market prices. No discussion of price determination is fundamental which does not treat of this tendency of market prices to move toward cost of production.

At any given time, market prices even under competition cannot be expected to coincide with cost of production in a society such as ours, which is dominated by shifting demands, technological improvements in methods of production, tariff barriers, and other factors which prevent the exact coordination of demand and cost. The degree of agreement between price and cost at a particular time depends upon (1) whether there has been a recent change in demand, and (2) the conditions under which the commodity is produced.

Cost of production affects price only through the influence which it has on the amount of the supply. This influence, in the case of commodities produced under competitive conditions, is entirely different from what it is in the case of a commodity supplied by a monopoly. And, for commodities produced under competitive conditions, changes in demand have varying results according to the following conditions surrounding the production of the commodity: (1) the degree of rapidity with which production may be increased or decreased; (2) the fact that the per unit cost of production of the commodity (*a*) increases, (*b*) decreases, or (*c*) remains constant with an increase in the total amount supplied to the market; (3) the extent to which the costs of production may be classified on the one hand as (*a*) fixed, or, on the other hand, as (*b*) variable; (4) the extent to which the product is produced under conditions of joint costs with other goods. Changes in methods of production, even if demand remains the same, may also cause a variety of different relation-

ships between cost of production and price. To all of these and other circumstances, consideration must be given. In this chapter we shall be concerned specifically with the relationship between cost of production and normal price under competitive conditions, and this relationship will be considered according to the circumstances above enumerated, though not exactly in the order in which they were named. First, however, we shall note more specifically what is meant by costs and by different kinds of costs and shall discuss whose costs are being considered.

KINDS OF COSTS

Real and Money Costs.—Some economists, especially among those classed as welfare economists, are much interested in costs in subjective terms, such as human sacrifice, fatigue, and disutility. They feel that a major objective of economics should be to reduce the cost of production in terms of human sacrifice or suffering. Such subjective costs they often designate as human costs, or *real costs*. In the discussion of costs of production in this chapter, we shall be but little concerned with costs in the sense just mentioned. Instead we shall deal almost entirely with costs in the sense in which the term is ordinarily used in business, that is, money costs.

Opportunity Costs.—Though our use of the term *cost* will be mostly limited to money cost, it will include what have been designated as *opportunity costs*. These refer to the advantages or money returns which might have been secured from any of the factors or means used in the production of the good under consideration, if it had not been used in producing that good but could have been used for some other purpose. To a man who has $10,000 of money which he invests in a producing enterprise, the use of this money may not appear as a cost of production. Nevertheless, as he might have secured a return in interest by investing it in government bonds, or other safe securities, the use of his own money in his own business is an opportunity cost; that is, it is a cost representing an opportunity to secure a money return from some other use of this factor of production. In the same way the use by a farmer in producing farm products of his own land against which there are no debts represents an opportunity cost to the extent of the net rent which he might have secured from this land, if he had not used it himself to carry on production but had leased it to some one else. Furthermore, in considering the land which is used in the production of a particular crop, let us say corn, the use of that land represents an opportunity cost, based upon what would have been the value of the use of the land had it been used in the production of some other crop, let us say wheat. In our analysis of the relation between the cost of production and normal price, opportunity costs will be considered as a part of the costs.

Fixed and Variable Costs.—Some costs of any going business or productive undertaking remain approximately the same regardless of whether operations are carried on to the extent of capacity or reduced to considerably less than capacity. Among these are interest on money invested in such fixed means of production as land and equipment, taxes, insurance, and depreciation. Some other costs vary almost directly with the extent of the operations. Among these are wages for certain kinds of labor, costs of raw materials, fuel, and the like. The former are designated as *fixed costs* or *overhead.* The latter are called *variable* or *direct costs.* It is not easy to classify all costs into one or the other of these two categories, as many costs vary to some degree with the extent of the operations, but not to the same degree as the variations in extent of operations. Nevertheless, it is generally recognized by business men and accountants that there are these two kinds of costs, and our understanding of the distinction between them will be of assistance to us in the analysis to follow.

Bulk-line Costs.—Because under competitive conditions a given good is being supplied to the market by many producers whose costs of production vary widely, one must inquire in discussing the relation between costs of production and normal price, to whose costs of production reference is made. In considering this, we shall be assisted by the use of the terms *bulk-line costs, representative firm,* and *marginal producer.*

The term *bulk-line costs* may be made clearer by an illustration. In a survey by the Federal government, covering the cost of production of cotton on 783 farms during the year of high prices, 1919, it was found that the bulk of the cotton, or 85 per cent, was produced at a cost ranging from 12 to 50 cents per pound. The cost which prevailed for more farms than any other cost was 36 cents per pound. About half the cotton was produced at costs ranging from 29 to 40 cents per pound. Yet there were eight farms on which the cost of production was in excess of $1.50 per pound, and there were a number on which it was less than 15 cents per pound. Clearly, any price which would equal the cost of production of the highest-cost producers would many times equal that of the lowest-cost producers. The explanations for these variations in cost differ. In the year covered by the survey, the crop had been practically a complete failure in three of the counties surveyed, because of very unfavorable weather conditions. It is not to be expected that a price will tend to prevail which will cover the costs of production at any given time of a small minority of all producers who have suffered an unusual misfortune because of events of that sort. Nor is the general tendency for a price to prevail which will cover the costs of only the most fortunate of the lowest-cost producers. The tendency is rather for price to lie within the bulk-line costs—that is, the cost per unit of the bulk of the producers—but the answer to the question as to the costs of *which* producers within

that bulk-line group will tend to be just equaled will depend on conditions that require further analysis.

During the World War there was government price fixing for many commodities. It is stated by those who had charge of naming the government-fixed prices that, if the price was fixed sufficiently high to cover the costs of production of the producers of from 80 to 90 per cent of the total supply of a commodity, there was no danger that the quantity produced or supplied to the market would decrease. Accordingly, the price-fixing commission generally attempted to fix the price sufficiently high to cover the costs of producers of from 80 to 90 per cent of the supply and referred to these as the *bulk-line producers.* Under certain different conditions, however, it is quite certain that a guaranteed fixed price, high enough to cover the costs of production of a lesser percentage, let us say 70 or even 50 per cent, of the supply, would result not only in maintaining but in decidedly increasing production.

The Representative Firm and the Marginal and Submarginal Producer.—In general, when we say that price tends to equal cost of production under competitive conditions, it should not be understood that price will equal the cost of production of all producers, but only that it will equal the cost of production of the representative producer, or representative firm. For our definition of a representative firm we shall quote from Alfred Marshall:

> Our representative firm for a given aggregate volume of production must be one which has had a fairly long life, and fair success, which is managed with normal ability, and which has normal access to the economies, external and internal, which belong to that aggregate volume of production; account being taken of the class of goods produced, the conditions of marketing them, and the economic environment generally.[1]

To that producer whose costs of production are just being covered sufficiently to enable him barely to remain in business we shall refer as the *marginal producer.* Clearly this is not the highest-cost producer, as the latter is taking such losses that he will not be able to continue production. Producers in the last mentioned class will be referred to as *submarginal producers.* They are doomed ultimately to have to discontinue operations, through bankruptcy or otherwise, unless they are subsidized with money from some other source than income from the business. In practically every kind of business or productive undertaking there are always submarginal producers who are losing money so consistently that they will ultimately be forced to retire from business. This is in spite of the fact that the particular ranking as to costs of nearly every producer among a number will change considerably from year to year.

[1] *Principles of Economics*, 8th ed. (Macmillan, 1920), p. 317.

NORMAL PRICE AN EQUILIBRIUM PRICE

Equilibrium Price.—In understanding the relation between cost of production and price we shall be assisted by an understanding of different applications of the term *equilibrium price.* In every application an equilibrium price is one which equilibrates or balances supply and demand. According to Alfred Marshall, an equilibrium price is such a price that if it were fixed at the beginning of the period of time for which price is being considered, "and adhered to throughout, it would exactly equate demand and supply (*i.e.*, the amount which buyers were willing to purchase at that price would be just equal to that for which sellers were willing to take that price)." There may be an equilibrium price for ten minutes, a day, a month, a year, or a period of many years. In each instance it is the price which will just induce sellers to sell as much as it will induce buyers to buy. When considered for a period of time so long that the good needs still to be produced, it is the price which will just induce producers to produce what it will induce buyers to buy.

Every price in a thoroughly competitive market tends to be a temporary equilibrium price. That is, every competitive price tends to equate supply and demand at the time it prevails. In our study of normal price, however, we are attempting to ascertain the price which can be continued for an extended period of time without resulting either in purchasers wishing to buy more goods than sellers are willing to supply at that price, or in those who wish to sell supplying more goods than buyers will purchase at that price.

Normal price has been previously defined as the price toward which market price is constantly tending. If the costs of production remain in general the same and the conditions of demand remain the same, price under competitive conditions tends to equal the total costs of production of the representative firm. The highest-cost producers tend to be eliminated. The lowest-cost producers tend to expand their production. To be sure, some very high cost producers in a given year may have suffered from some unusual misfortune, and though they have taken losses in that year they will have enough resources or assets to continue production and, since their costs will be lower next year, they will not be eliminated. Likewise, some very low cost producers in a given year may have had some unusual good fortune and may not immediately embark on a program of greatly extended production. However, if the highest-cost producers continue to be highest-cost producers, they will not be covering their costs of production sufficiently to continue their operations, and eventually, through bankruptcy or otherwise, they will be forced to retire from the production of the commodity, perhaps to work for wages.

If in a competitive industry many producers make very unusual profits, at least a number of them will gradually extend their production.

They also will bid against each other for labor, offering to pay higher wages. They will offer to pay higher prices for land. These conditions will tend to increase their costs of production. If any large part of the low-cost producers of a given commodity throughout the market area extend their operations, more of the product will be produced and as a result the price will decline. Therefore the extent of the profits of these more capable or more fortunate producers will decrease, both because of an increase in their costs of production and because of the fact that normal price will decline. Conversely, if in the entire industry losses are very heavy and profits very rare, many will be forced out of business and others will neither replace them nor extend their operations. The supply will tend to decrease with the passage of time. This will result in higher prices for those producers who have not yet been forced out of business, until price again tends to equal the cost of production to the representative firm. Normal price under competitive conditions will always tend—if sufficient time is allowed—to equal the costs of production of the representative producer. The rapidity with which adjustments occur will vary, however, according to many circumstances.

The Function of Normal Price.—The function of normal price is to induce producers to supply what it will induce consumers to consume. Therefore, if any price is so high that producers of the commodity or service to which it applies are making much larger business profits than producers of other commodities or services, it cannot under competitive conditions be a normal price for an extended period of time. This is because people will leave less profitable kinds of economic activity and take up the production of that commodity or service. Conversely, if any price is so low that those engaged in producing that good receive smaller business profits than are received by those engaged in other business undertakings which they may enter, it cannot be a normal price for a long period of time—though difficulty in leaving a particular business and entering upon other kinds of economic activity may cause a generally unprofitable price to remain normal for a considerable period of time.

Static and Dynamic Conditions.—A relatively static society would be one in which the methods of production and the general character of demand did not change. In such a society people would be born, grow up, and die; goods would be produced and consumed; but there would be no important changes in the kinds or quantities of goods demanded in the market and no striking inventions to change methods of production. If our economic life were carried on in an essentially static society, the analysis already given of how an equilibrium price tends to be arrived at would give the most essential features of the picture. However, our economic life is not carried on under static conditions. It is carried on under distinctly dynamic conditions, characterized by important, continuous changes, both in methods of production and in the quantity and

character of goods demanded. This complicates our problem of ascertaining the principles according to which normal price is determined.

A change in normal price may be initiated either by a change in demand or by a change in methods of production. The results which follow will be influenced by all four of the major groups of circumstances mentioned in the third paragraph of this chapter. Just what the results will be under certain particular circumstances will be best shown by illustration.

INCREASING AND DECREASING COST AND PRICE

Change in Demand with Increasing Costs.—First, we shall consider the effect of an increase in demand on price for a commodity which is subject to increasing costs. By a commodity being subject to increasing costs is meant that to increase the total supply furnished on the market will require a higher cost per unit of product furnished. If at the present time the world wants an increase of 25 per cent in wheat production, and

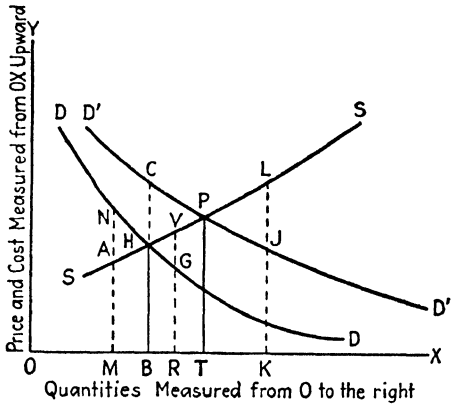

FIG. 21.—Normal price with increasing costs and increased demand.

this increased production can be brought forth only at a higher cost per bushel, this is an indication that wheat production is subject to increasing costs. In our examination of the result of an increase in the demand on the normal price, and on the relation between cost of production and price for a commodity subject to increasing costs, we shall be assisted by a study of supply and demand curves.

Let it be supposed that the demand for a commodity is represented by the demand curve *DD* in Fig. 21. Let it be supposed that the supply curve for this commodity is represented by *SS*. This supply curve is a long-run normal supply curve, by which is meant that it represents the various quantities which will be supplied to the market by producers in the aggregate at different prices, provided time is permitted them to

adjust their production in anticipation of these prices with the expectation that they will continue. The demand curve *DD* intersects the supply curve *SS* at *H*. This indicates that *OB* is the maximum quantity which consumers will be willing to purchase at a price as high as *BH* and that also it is the maximum which producers will supply at a price as low as *BH*. Therefore *BH* is an equilibrium price for the time thus far considered. For any quantity less than *OB* consumers would pay a higher price than *BH*, and producers would supply it for a lower price than *BH*. If for some reason within the time thus far considered, the supply should, therefore, be less than *OB*, let us say *OM*, competition among consumers would result in a higher price, bringing the price, according to the demand curve, to *MN*. According to the supply curve, the cost of production to the representative producer in supplying the quantity *OM* is only *MA*. The representative producer with the price at *MN* is covering not only his costs but is making a pure profit. Production will be expanded at increasing costs per unit until the quantity produced is *OB*, the normal cost of production to the representative producer is *BH*, and price has also dropped to *BH*. Equilibrium will have been established.

If the supply should be *OR*, the price would be only *RG*. To supply the quantity *OR*, however, the cost of production to the representative producer is *RV*. The representative producer is not covering his costs but is taking a loss, *GV*. Production will be reduced, tending to return to *OB*, where cost of production to the representative producer equals the price at which demand will take the quantity produced. For the conditions thus far assumed, the normal price or permanent equilibrium price is *BH*.

Now let it be supposed that a change in demand occurs, to the extent that demand is doubled. Consumers will buy twice as much at the same price as they would before. The new demand curve is represented by the curve *D'D'*. In the figure the distance *OK* is double the distance *OB*, and the distance from *K* to *J* is the same as from *B* to *H*; in other words, after this change in demand has occurred, consumers will take twice as much as before at the same price. But, according to the supply curve, producers will be willing to supply the quantity *OK* only at a price as high as *KL*. After the change in demand there will be a greater demand at a price of *KJ*, or *BH*, than producers will supply. Therefore, as soon as this change in demand has occurred, the price *BH* cannot continue to prevail. If the change in demand occurs suddenly, the supply available will be only *OB*, which producers were supplying in anticipation of the price *BH*. The new demand, however, will take this supply at the price *BC*. The representative producer will have a pure profit of *HC*. Production, however, will be increased until the new demand curve again cuts the supply curve, as it will do at *P*. Accordingly, the new equilibrium

price or normal price will be *TP*, and the new quantity which will be supplied to the market will be *OT*.

From the preceding illustration the following conclusions may now be drawn: (1) For a commodity produced at increasing costs, by which is meant that greater quantities will be supplied to the market only at higher costs per unit, an increase in demand will cause an increase in the normal price. (2) A sudden increase in demand will result in a temporary price higher than will continue after producers have had time to adjust their production to the new demand. (3) Likewise, a sudden decrease in demand would result in a temporary price lower than would prevail after producers had had time to adjust their production to the new demand. (4) The length of time during which market price will differ from the cost of production to the representative producer will depend on the rapidity with which it is possible for producers to increase production or economically to cease producing. Where there is a large fixed investment not well adapted to some other use, a decrease in production will be slower in occurring than where this is not the case. (5) The longer the period of time under consideration, the greater will be the tendency for price to equal the cost of production to the representative producer. (6) To double the demand for a commodity produced under increasing costs will result in an increase in the amount which will be supplied to the market, but the new amount will be less than double the old amount.

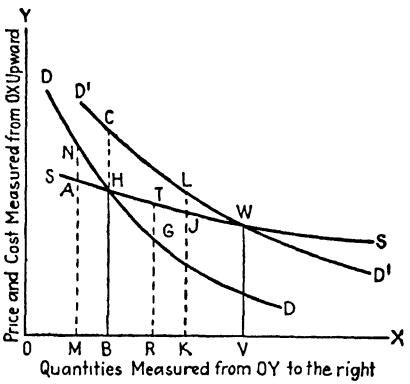

FIG. 22.—Normal price with decreasing costs and increased demand.

Changes in Demand with Decreasing Costs.—Let us next consider how a change in demand will affect the normal price for a commodity produced under conditions of decreasing costs, by which is meant that producers in the aggregate can furnish a larger supply to the market at a lower price per unit than they can furnish a smaller supply. Again let us suppose that the demand for the commodity is represented by *DD*, this time in Fig. 22. Also again let it be supposed that the supply curve is represented by *SS*. Let the supply curve cut the demand curve at *H*. This means that the equilibrium price or normal price for the time under consideration will be *BH*, and that this will be established when the quantity supplied to the market is *OB*. If the quantity furnished the market should be reduced to *OM* without any change in demand, the temporary market price would be *MN*, and the representative producer would have a pure profit of *AN*. Production, however, would be increased. The tendency would be for the price to return to *BH*, the cost of production

to the representative producer. In case the supply should be *OR*, the price would be *RG*. The representative producer would be producing at a loss of *GT* per unit of product. Production would decline, tending to go back to *OB* and result again in a price *BH*, which equals cost of production to the representative producer. *BH* is the equilibrium price or normal price.

Now let us suppose that demand is doubled, buyers being willing to take twice as much as before at the same price. The new demand curve is *D'D'*. The quantity *OK*, which is double *OB*, could be sold at the price *KL*. If the change in demand occurs suddenly the immediate price will be *BC*, because the quantity available is only *OB* and the representative producer will have a pure profit of *HC*. This will result in increased production. By the time production is doubled, the price will be *KL*. The representative producer will still have a pure profit, this time *JL*. Production will continue to be increased until the supply curve cuts the demand curve. This it will do when the quantity produced is *OV*. Under the new conditions of demand, the equilibrium price or normal price will be *VW*.

From the preceding illustration it will be seen that the immediate results from a change in demand are the same, regardless of whether the commodity is produced under conditions of increasing costs or decreasing costs. The long-run results, however, are different. Where production is carried on under conditions of decreasing costs the long-run effect will be to lower the normal price. A decrease in demand, on the contrary, might increase the normal price. Furthermore, to double demand under conditions of decreasing costs will result not only in a lower normal price but in more than doubling production in the long run.

Changes in Demand with Constant Costs.—The student should draw for himself demand and supply curves to ascertain the immediate and long-run effects of doubling demand in case the commodity should be produced under conditions of constant cost. By this is meant that the per unit cost of production to the representative producer remains unchanged, regardless of the amount which in the aggregate is supplied to the market. There are probably no commodities which are produced under conditions of exactly constant costs, though there are probably many which are produced under conditions which quite closely approximate constant costs. The shape of the long-run or normal supply curve, under conditions of constant cost, would be, of course, a straight line, parallel to the base line of the figure.

Agriculture as an Increasing-cost Industry.—Agriculture is usually considered as an excellent example of an increasing-cost industry. By this is meant simply that it is an industry of such a nature that unless the technical methods of production are improved, increased quantities of agricultural products will be supplied to the market only at increased

costs per unit of product. If the world wants six billion bushels of corn instead of four billion bushels, *and no less of other agricultural products*, and if other conditions, including all the technical production methods of agriculture, remain unchanged, the normal price of corn will be increased. This is due to the fact that the supply of good land is limited and that land is subject to the law of diminishing returns.

An increase in the total supply of agricultural products with no improvement in agricultural production methods requires, either that a larger product per acre must be secured from the lands already in use, or that additional lands must be put into use. For a larger supply of a single product there would, of course, be the additional possibility of using land formerly used for other products. To secure a larger product per acre from lands already in use requires, unless production methods are improved, that the lands be used more intensively, that is, that more labor and capital be applied to a given area of land. But because of the law of diminishing returns with particular application to land, as explained in Chap. V, additional applications of labor and capital to a given amount of land will not result in as much product per unit of capital and labor applied as did preceding units. This will result in increased cost per unit of product secured.

A second manner in which the total supply of agricultural products may be increased is by bringing into use more land. This, however, generally means that lands must be used which yield smaller returns for the labor and capital applied, assuming that farmers up to the present time have selected for their operations the lands which yielded the greatest returns for the labor and capital applied. To secure additional products, lands may be used that are less fertile, that are less advantageously located with respect to markets, or that have less favorable climatic conditions; or lands may be improved by expenditures of capital for drainage, irrigation, or fertilization. Any of these procedures, however, will tend to result in increased costs per unit of product. At least this will be the case generally if farmers up to the present time have exercised good judgment in their selection of lands for their operations, and production methods have not changed in such a manner as to cause different lands to be the "best" lands.

That a commodity is subject to increasing costs, as above explained, does not mean, however, that the cost of production per unit of product to the representative producer is necessarily greater now than it was twenty years ago, or that it necessarily will be greater ten years, or twenty years, from now than it is at present. The tendency to increasing costs as thus far explained may be offset by improvements in the technical methods of production. Examples of the effects of such improvements have already been given in earlier chapters. There can be little doubt that in the last twenty years there have been sufficiently great improve-

ments in the technical methods of production of wheat for the world market as a whole to more than offset any tendency toward increasing costs from the causes above discussed, though during that twenty-year period the world's normal annual production of wheat has increased from about 3½ billion bushels to about 4½ billion bushels. Furthermore, the replacement of horses and mules by the gasoline engine and the decline in the birth rate raise serious questions as to the additional quantities of farm products which the population, at least of the United States, in future years will demand.

Particular Agricultural Products and Increasing Costs.—The fact that at least the major agricultural staple products commercially produced for a wide market are subject to the principle of increasing costs should not lead to the conclusion that the principle applies in like manner to every individual product in every market. It is probably true that certain truck and horticultural crops mostly produced for a local market of rather limited extent could and would be supplied for a lower cost per unit if a greater supply would be absorbed by the market at but slightly lower prices. This appears to furnish an instance of agricultural production subject to decreasing costs. That situation, however, is due to the limited extent and peculiarity of the present market for those products and to the fact that the present production has by no means exhausted the land well adapted to the product. Economies from larger scale production would more than offset increasing costs as above explained and would result in decreasing costs.

The extent to which the production of any agricultural commodity in particular is subject to decreasing costs is affected, not only (1) by the nature of the market, as just indicated, but also (2) by the extent to which natural conditions favorable to its production exist, and (3) by alternative possibilities of using the land desired for its production. Illustrating the second feature we have on the one hand such horticultural products as carrots for a limited, isolated market. In many such markets increased quantities of carrots would probably be supplied at a less cost per unit of product if the market would absorb them at but slightly reduced prices, because they can be produced more economically on a larger scale than now prevails and there is no shortage of available land well adapted to their production. On the other hand, we have certain semitropical fruits, probably oranges, which can be supplied in considerably increased quantities only by using land on which production is appreciably more costly, because of the particular requirements of the crop as to soil, climate, and rainfall or irrigation.

As an illustration of the third feature above mentioned, we note that the extent to which the supply of market milk for a particular market may be subject to increasing costs may be affected by the extent to which the lands in the market milk shed are being bid for by those desiring

these lands for some other use—let us say for the production of horticultural products. Let us assume that the good agricultural land adapted to either horticultural crops or dairying near a city of large size is limited. Let us assume that an increase in the demand for land for growing horticultural crops causes land to be used for that purpose which was previously used for dairying. Furthermore, let us suppose that there is an increase in the demand for milk. The competition of horticulture will begin or intensify a tendency to increasing costs in dairying. In other words, it will cause the normal-supply curve to rise more in moving to the right than it otherwise would do. An increased demand for the land for some other alternative use will intensify or promote increasing costs and lead to higher normal price for any product which this alternative use tends to crowd out.

Another result will be that producers who have bought their land while one normal price for the product prevailed and who continue to carry on production when a different normal price for the product prevails will find that their relation between cost and price has been materially affected. The principles involved in that part of the analysis, however, are more properly explained under the discussion of the effects of fixed and variable costs on the relation of cost to price, which will be considered in a moment.

Examples of Decreasing Costs.—The industries which are subject to decreasing costs are in general those which are adapted to large-scale or mass-production methods. An automobile factory can produce automobiles much cheaper if it can produce a million per year than if it can produce only one thousand. The same tendency is true in the production of safety-razor blades and in fact of the great majority of all industrial products adapted to production by machine methods.

The gains which come from such mass-production methods, and which therefore result in such industries being subject to decreasing costs, have been classified under the general heads of (1) internal and (2) external economies, of which a number have been mentioned in an earlier chapter. *Internal economies* are those which result in less costly performance of the same operations to the extent that they are within the control of the management of the individual business organization. *External economies* are those dependent on the general development of the industry. The distinction between internal and external economies, however, is not a sharp one, because what is an internal economy in one case is an external economy in another. This is well illustrated in the automobile industry, where to the plant which manufactures its own parts the ability economically to do this under a mass-production system is an internal economy, whereas to another plant which buys its parts from the specialized makers of parts the ability to buy them economically is an external economy. The ability readily to secure workers with specialized skills

may be considered an external economy, though the securing and using of them are within the control of the individual organization and, therefore, an internal economy.

Among the more generally recognized economies of large-scale or mass production are the following: (1) the use of machinery, particularly highly specialized machines, which take the place of much human labor; (2) development of skill and saving time by having workers devote their entire time to one operation; (3) reduction of expenses of supervision and general overhead; (4) utilization of by-products; (5) the possibility of carrying on experimental research activities.

One of the economies of large-scale or mass production which applies to many industries, but which is not so generally recognized as those already mentioned, is that of marketing. In meat packing the large plant has an advantage over the small one in the marketing of its product outside of the local community in which the plant is located. This is especially true in the exporting of meat, which can not be done economically by any concern except one operating on a large scale. Even more outstanding economies in marketing, however, are possible as a part of mass production in the case of products which require large expenditures for advertising in order to develop the market demand. There is a tendency for products depending largely on advertising to be produced under conditions which are not thoroughly competitive, and to that extent the discussion of principles of their price determination is a matter of monopoly price rather than normal price under competitive conditions. Nevertheless, such a familiar example as the automobile, though produced under conditions involving a degree of monopoly, has its normal price materially affected by competitive forces; and that industry is a good illustration of production under decreasing costs which are partly the result of economies of marketing in connection with large-scale production.

Increasing Costs and Diminishing Returns Contrasted.—It has been mentioned that agriculture is in general an industry subject to increasing costs, and also that this is largely the result of diminishing returns from land. This close relation of diminishing returns and increasing costs has resulted in the two terms being used interchangeably by some writers. That, however, should not be done. *Diminishing returns* in economic language refers to a less than proportional increase in output from adding additional units of variable factors of production to a given amount of a fixed factor, the fixed factor in many discussions being assumed to be land. *Increasing costs*, as used in this discussion, and as generally used, refers to a situation where additional supplies of a commodity in the aggregate can be produced and supplied to a market only at increasing per unit costs for the additional units. Though closely associated, the two principles are not the same. Increasing costs are best understood in

contrast to decreasing costs. And decreasing costs prevail where a larger supply of a commodity in the aggregate can be furnished to a market at a smaller cost per unit than a smaller supply. In general, decreasing costs prevail in industries especially well adapted to mass-production methods, whereas increasing costs tend to prevail where mass or large-scale production offers no significant economies.

One way of viewing the distinction between diminishing returns and increasing cost is that diminishing returns refers to a decline in physical units of output per physical unit of input of one or more variable factors in combination with one or more fixed factors, whereas increasing costs refers to the necessity of an increase in the money costs of production per unit of product in order to add to the total supply of that product.

FIXED AND VARIABLE COSTS RELATED TO PRICE

General Principles.—The general relation of price to these two kinds of costs may be briefly stated as follows: The greater the extent to which the total costs of production of a good are in the class of variable costs, the closer is the market price at a given time likely to be to the total costs of production of the representative producer, and the more quickly will price tend to return rather closely to the costs of production after a disturbance caused by a change in supply or demand. Conversely, the greater the extent to which the total costs of production are in the class of fixed costs, the wider is the difference between price and costs of production likely to be at any one time, and the more slowly will price tend to return rather closely to the costs of production of the representative producer after a disturbance caused by a change in supply or in demand.

Causes.—The reasons for these relationships should not be difficult to see. If most of the costs of producing a commodity are variable, its production will tend to cease or greatly decline when price no longer equals costs; and production will tend to be quickly increased when price much exceeds costs. If, however, most of the costs are fixed and the price declines, the entrepreneur cannot appreciably reduce his costs by reducing production, and, accordingly, production will tend to continue with but slight diminution even when total costs lack much of being covered, provided that the variable costs continue to be covered. On the other hand, if large profits are being earned when the business is one in which most of the costs are fixed, entrepreneurs will less quickly enter that business. This is partly because, in the case these profits appear to be but temporary, they know that when profits cease to be satisfactory they cannot quickly cease production and stop their costs, and it is partly because more time is required to set up and establish as a going concern a business with large fixed costs. Many, however, may enter a business with relatively large fixed costs, if the business is easy to enter and a modest return on the investment appears to be fairly certain. Such a

business is agriculture, and this is probably one among many reasons why so many enter agriculture in comparison with other kinds of business as to hold financial returns in agriculture to a relatively low level.

Some Further Examples.—The principles above stated will be made clearer by additional illustrations. In considering illustrations, however, it must be kept in mind that the relation of price to cost is affected by factors other than the relative extent of fixed and variable costs. Among these other factors of great importance is the extent to which the business has features of monopoly, the discussion of which will have to be postponed until the next chapter.

But even under competitive conditions the relation of price to costs is affected, not only by the disturbing factors already discussed or mentioned in the earlier part of this chapter, but by additional ones. Among these is the difficulty of knowing in advance what the total variable costs will be in a large undertaking. An illustration of an industry in which this disturbing difficulty is present is building or construction by contract. The contracting business is one in which most of the costs are variable. Nevertheless, the costs of the contractor may differ considerably from the price he receives under conditions where the business is thoroughly competitive, because he has to anticipate his costs and it is difficult for him correctly to calculate them in advance.

With these cautions in mind, we may proceed to an example of a business in which most of the costs are variable and in which few of such disturbing factors are present. Such a business would be that of hiring laborers to cut wood under such conditions that the timber from which the wood is cut is bought only as cut, and the wood after being cut is sold immediately, let us say on the spot, without the necessity of fixed investment in hauling equipment. In that case, almost the entire costs would be variable, arising from the cost of a type of labor which could be hired or discharged as wanted or not wanted. Under these circumstances the entrepreneur would not long continue production if his costs were not covered. On the other hand, the ease with which others could enter the business would draw other entrepreneurs into the business as soon as there were indications of pure profits, and this would keep price at any time from rising much above costs.

An industry in which costs are very largely fixed is well illustrated by agriculture. The investment in land especially is heavy in relation to value of annual output, and practically all the costs connected with land continue, as well as a large part of those connected with equipment, whether production is carried on or not. The expense for hired labor is the most important variable cost in agriculture, as in productive undertakings generally. But, at that, in agriculture it is relatively unimportant in comparison with the fixed costs. The labor of the farmer himself may be viewed either as a fixed or as a variable cost. It is fixed in the sense

that the farmer saves no money costs, if he, so to speak, discharges himself by not working. It is variable in the sense that the wage he actually, so to speak, at last pays himself for his services varies with the extent of the output. In whatever way that may be viewed, the farmer who owns a farm can but seldom afford not to operate it, or not to have it operated, because by so doing his money costs would be but little reduced. Of large significance also is the thoroughly competitive nature of agriculture, with a very large number of operators supplying like products in a market of such large extent that for any farmer or any comparatively limited group of farmers to reduce their production would reduce the total amount of product coming to the market to but a negligible degree and therefore would have but a negligible effect on price.

Changes in Normal Price, Fixed Costs, and Sunk Costs.—Changes in normal price have been graphically demonstrated under conditions where such changes resulted from changes in demand. A change in normal price may equally well occur from a change in the conditions of supply.

Inventions or discoveries which reduce the cost of production to the representative producer mean that the normal-supply curve in a graphic representation is lowered. Such a change of the position of the normal-supply curve means that it cuts the demand curve at a different point and results in a different normal price. It means also that the immediate market price is different from the new long-run normal price. It means, furthermore, that the individual producer who has heavy fixed expenses in land, equipment, or other means of production adapted only to the production of goods of which the cost of production for the representative producer has been lowered, will be forced to take a loss on these *sunk costs*, due to loss of value of the principal of an investment on which it was expected that only interest and depreciation would be fixed costs. An example of such sunk costs is that of an expensive machine made obsolete by the unexpected invention of a new machine, so much better that the producer using the old machine will be unable to compete and has to *charge off* the whole cost of the machine. Such a loss through sunk costs could, of course, also come from a decrease in demand. That, or any other condition resulting in more than temporary excess capacity, would result in sunk costs.

Numerous examples may be cited of losses due to changes of the kind just mentioned. When railways were first built, supplying cheaper transportation, the money which had been put into many a canal company was completely lost. In the last few decades many a street railway system that has first failed to earn both its fixed and variable expenses and then failed to earn even its variable expenses, has finally been scrapped, the entire investment thus becoming a sunk cost. Many a California grape grower, after spending large sums of money in the

development of vineyards, has been wondering since the decline in grape and raisin prices, which began in 1921, whether his most economical course would be to pull up his vines. Many a farmer who assumed heavy fixed expenses on land bought at high prices when farm products were selling at high prices has lost the results of a lifetime of saving when prices of farm products declined so that his heavy fixed costs could no longer be realized from the prices of the products. And the fact that the capital in a relatively overdeveloped industry continues to be used in the hope that prices will recover tends to retard such a recovery.

Different Kinds of Normal Value.—Thus far the term *normal* has been usually employed without qualification, though it has been mentioned that there may be a normal price for each of a number of periods of different length, such as a day, a year, or a period of many years. For the most part, our discussion of normal price has been limited to a long period of time. At this particular point we shall give a few quotations from Alfred Marshall, whose discussions of normal price constitute economic literature of the highest order:

> The general drift of the term normal supply price is always the same whether the period to which it refers is short or long; but there are great differences in detail. In every case reference is made to a certain given rate of aggregate production; that is, to the production of a certain aggregate amount daily or annually. In every case the price is that the expectation of which is sufficient and only just sufficient to make it worth while for people to set themselves to produce that aggregate amount; in every case the cost of production is marginal; that is, it is the cost of production of those goods which are on the margin of not being produced at all, and which would not be produced if the price to be got for them were expected to be lower. . . . [1]
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> . . . Thus, although nothing but prime [variable] cost enters *necessarily and directly* into the supply price for short periods, it is yet true that supplementary [fixed] costs also exert some influence indirectly. A producer does not often isolate the cost of each separate small parcel of his output; he is apt to treat a considerable part of it, even in some cases the whole of it, more or less as a unit. He inquires whether it is worth his while to add a certain new line to his present undertakings, whether it is worth while to introduce a new machine and so on. He treats the extra output that would result from the change more or less as a unit beforehand. . . .
>
> To sum up then as regards short periods. The supply of specialized skill and ability, of suitable machinery and other material capital, and of the appropriate industrial organization has not time to be fully adapted to demand; but the producers have to adjust their supply to the demand as best they can with the appliances already at their disposal. On the one hand there is not time materially to increase those appliances if the supply of them is deficient; and on the other, if the supply is excessive, some of them must remain imperfectly employed, since there is not time for the supply to be much reduced by gradual decay, and by conversion to other uses. . . .

[1] Alfred Marshall, *Principles of Economics*, p. 373

In long periods on the other hand all investments of capital and effort in providing the material plant and the organization of a business, and in acquiring trade knowledge and specialized ability, have time to be adjusted to the incomes which are expected to be earned by them: and the estimates of those incomes therefore directly govern supply, and are the true long-period normal supply price of the commodities produced.[1]

. . . *As a general rule*, the shorter the period which we are considering, the greater must be the share of our attention which is given to the influence of demand on value; and the longer the period, the more important will be the influence of cost of production on value.[2]

Joint Costs.—Where two or more products result from one productive process, they are said to be produced under conditions of joint cost. Familiar examples are the lint and the seed of cotton and the meat and the hide of a beef animal. For all such goods, the long-run tendency of price to equal cost of production to the representative producer applies, not to one or the other of these products, but to the two jointly. An increase may occur in the demand for one of these two joint products while the demand for the other remains the same. This will result in a higher price for the product for which the demand has increased and a higher combined price for the two products, resulting in increased production, which in turn will lower the normal price of the product for which no increase in demand has occurred.

Specifically, a great increase in the demand for cotton lint would result in more cotton being produced in the long run. This would result in the production of more cotton seed. Accordingly, if the demand for cotton seed did not increase, its normal price would be lowered. Illustrating the opposite type of change, a decrease in the demand for hides would tend to increase the normal price of the meat of the animals. The course of events would be as follows: Suppose cattle hides decline in price, but that there is no change in the demand for beef as meat. Because the demand for beef has not changed, the same supply of meat will sell for the same price. The decline in price of hides, therefore, will result in farmers receiving less for their animals. This will cause a decline in the supply of cattle, and that in turn will cause an increase in the price of beef as meat.

THE RESPONSE OF SUPPLY TO PRICE FOR PARTICULAR PRODUCTS

In the preceding pages a number of important principles applying to the relation of long-run normal price to cost of production have been presented. These principles have usually been illustrated by means of examples. For the remainder of this chapter, we shall study the manner in which historically the supply of a few particular products, especially

[1] *Ibid.*, pp. 376–377.

[2] *Ibid.*, p. 349.

of agricultural products, has responded to changes in price. First, however, a few principles of price determination will be repeated.

Some General Principles.—The price of a good at a given time is governed (1) by the demand at that time, as represented by a demand schedule or curve, and (2) by the supply of the good at that time, as represented either by a fixed amount which is in existence and will be sold, or supply as represented by a market-supply schedule or market-supply curve, representing the various amounts of the supply in existence at that time which will be disposed of at different prices. The future price of a good will depend on the demand at that future time and the supply at that future time. But the supply in the future will be affected by the extent of the profits or losses of the producers of that good at the present time.

An Illustration from Manufacturing.—Of the above principle, many examples may be given in addition to the many that already have been given. One interesting example of a nonagricultural product is that of buggies and carriages. With the coming of the automobile, the demand curve for these vehicles was reduced; that is, the demand curve was moved to the left. Many manufacturers of buggies and carriages took heavy losses. But the long-run result was that the production of buggies and carriages was reduced. As the long-run normal-supply curve of buggies and carriages was quite probably of the type represented by decreasing costs, the long-run normal price of buggies and carriages was thereby increased. The new *market*-supply curve of buggies and carriages, like the demand curve, was moved to the left.

The Response of the Beef Supply to Price.—Much study has been made of the manner in which the supplies of particular agricultural products have in the past responded to price. Familiarity with the information which is now available on this subject should be of considerable help to farmers in planning their individual production programs. The United States Department of Agriculture and the agricultural colleges in the various states are constantly assembling information on the particular application of such information, which constitutes a part of what they refer to as *outlook information*. We shall give a few examples of such information of a more general character, the first being a presentation of the manner in which the beef supply in the United States has in the past responded to prices which have prevailed at those times.

In Fig. 23 are shown the *values* per head of both milk cows and cattle other than milk cows in the United States, as estimated annually by the Department of Agriculture. The estimated money values in current dollars have been adjusted to show changes in money values of cattle in relation to money values of other goods. It will be noted that in relation to prices of other goods prices of cattle have run in cycles, reaching high peaks of value every fourteen to sixteen years since 1880, and that

between these high peaks they have declined to values of not much more than half as much in relation to other goods as they possessed at the peak points. At the same time, it will be noted that the general trend has been for successive peaks to be higher than preceding peaks—for cattle values to trend upward in relation to the values of other goods.

The explanation of these cycles is, in brief, as follows: The price of cattle at a particular time, as was the case in 1899, is high in comparison with prices of other commodities. Beef production is therefore relatively profitable in comparison with other kinds of production. There is a stimulus for beef production to be increased. But this cannot be done suddenly, on account of the length of the breeding period. In practice,

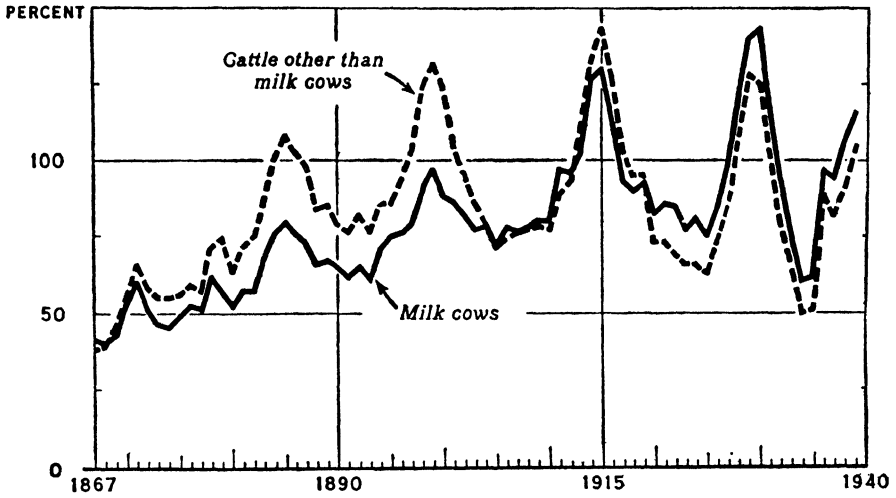

FIG. 23.—Purchasing power per head of milk cows and cattle other than milk cows, 1867–1939. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

however, from six to nine years after a period of high prices, cattle production has been expanded to the point where cattle prices are so low that beef production is relatively unprofitable in relation to other kinds of production, as was the case in 1905. Then producers begin to reduce their herds. For a while, the selling of stock formerly kept for breeding purposes tends to keep prices low, or sends them lower than they were, though many hold back, hoping that prices will recover. When prices begin to improve, the outlook is considered better and more stock is kept for breeding purposes. This reduces market receipts and helps further to improve prices, which encourages still more production, until, after a period of from six to nine years, or about eight years on the average, prices again reach a peak, as in 1915, and begin to drop. The initial decline is accentuated by the selling of breeding stock, until after about eight years, a low point is again reached, as in 1925. The number of cattle other than dairy cows on farms in the United States in 1905 was

46 millions. In 1912 it was 34 millions, a large decrease in number, corresponding to the increase in price. In 1925 the number was 43 millions, with prices again low. In 1930 it was 35 millions, with prices again relatively high. History repeated itself, and prices of cattle were again at a low point in relation to other commodities in 1934 and 1935 but quickly rose as a result of the drouth. There is not an exact correspondence between the number of cattle and the prices of cattle in relation to other commodities, a fact showing that there are some other factors which influence price through demand. Nevertheless, the correspondence is striking, and the manner in which the supply in the future responds to a favorable or unfavorable price at a given time is even more striking.

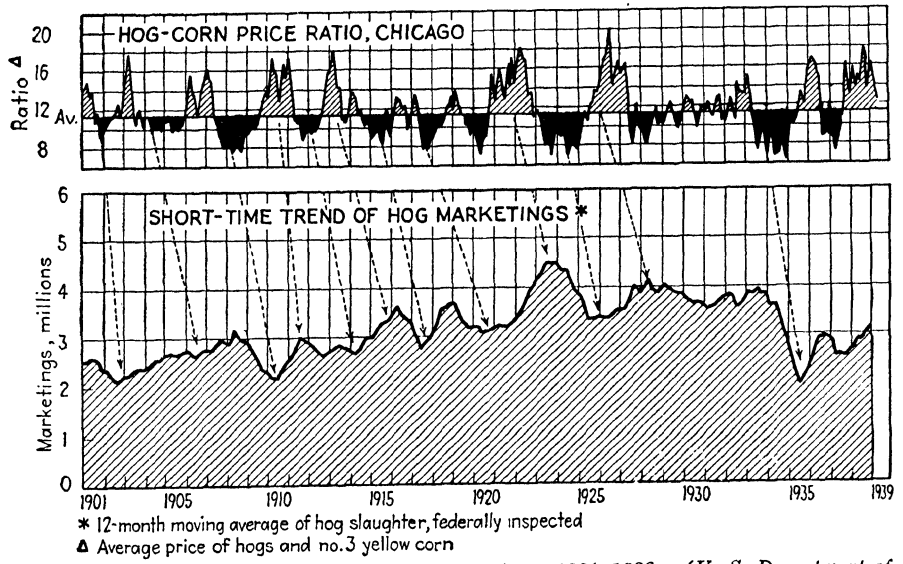

FIG. 24.—Hog-corn price ratios and hog marketings, 1901–1939. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

The Hog Cycle.—In the past, hog production has also tended to run in cycles, varying normally from about three to five years in length from peak to peak. The cycles have not been quite so regular as those of beef and have been dominated by the relation of the price of corn to the price of hogs. Whenever the price of live hogs has been especially high in relation to the price of corn, a great increase in the number of hogs marketed has usually occurred a year or two later. This is well shown in Fig. 24.

The hog-corn ratio is an expression indicating the number of bushels of corn which at a given time have the same market value as 100 pounds of live hogs, as based on the Chicago market. The *normal ratio* is considered to be somewhere near 11.6 bushels of corn per 100 pounds of live hogs, for the reason that the average price of heavy hogs at Chicago for

sixty-four years has been equal to the price of 11.6 bushels of No. 3 yellow corn at Chicago. The hog-corn ratio does not measure the profitableness of corn and hog production from year to year, but it does measure the relative profitableness of selling corn direct or selling it in the form of hogs. Whenever it requires more than approximately 11.6 bushels of corn to equal in value 100 pounds of live hogs, it is generally more profitable to feed the corn to hogs than to sell it direct. Whenever it requires appreciably less than 11.6 bushels of corn to equal in market value 100 pounds of live hogs, as was the case in 1924, it is generally more profitable to sell corn than to feed it to hogs.

Whenever the hog-corn ratio has gone to some such figure as 100 pounds of hogs to 14 or 16 bushels of corn, as it did in 1926, there has been a pronounced tendency for farmers to increase the number of their brood sows, and a pronounced increase in the number of hogs marketed, to occur from one to two years later. This, as should be expected, resulted in lower prices for hogs, and a situation where considerably less than 11.6 bushels of corn sold for the same price as 100 pounds of hogs. That in turn resulted in farmers disposing of brood sows, and in a reduction in the number of pigs. This again resulted in a ratio favorable to hogs, and thus the cycle was repeated. The variations from the normal ratio were less pronounced during five or six years beginning about 1927, a fact indicating that perhaps a number of farmers were studying the cycle and adjusting their production so as not to have most hogs when the corn-hog ratio was most unfavorable for hogs. The maladjustments of the following years of drouth, or some other cause, however, resulted in the cycle again becoming more pronounced.

Other Products.—Not all farm products show such rhythms in production as cattle and hogs. But many other products show that supply responds to price. Potatoes are an example of a product in which the response is very rapid. The acreage of potatoes can be rapidly increased, and accordingly we find that the greatest single factor in determining the acreage planted in any year is the price which prevailed during the preceding year, though the price which prevailed the year preceding that one also has some influence. As the crop depends not only on acreage planted, but also on the weather conditions, and as these vary irregularly, there is, however, no regular rhythm in the size of the crop or in the prices which prevail.

Poultry and egg production have been characterized in recent years by a certain degree of rhythm in the ratio between egg prices and feed prices, and also between prices of chickens and prices of feed, the typical cycle having been about three years in length. During the last thirty years wool prices have tended to move in cycles of around nine years in length, largely because of cyclical changes in wool production. Wool prices have responded markedly to changes in consumer demand asso-

ciated with general industrial conditions, and wool production in turn has responded to wool prices. Numerous other examples could be given of different kinds of responses in the supply of particular farm products to high or low prices.

The Relation of Cost to Price a Complicated Matter.—The material presented in this chapter has shown both that the relation of cost to normal price is a complicated matter, affected by many influences, and that, in spite of these complications, this relationship is subject to a number of very definite laws, or principles, and tendencies. The principles presented in this chapter are of high importance. Nevertheless, certain additional influences will be considered in the pages to follow. Among these is the prevalence of monopoly, which influences the relation of cost to price, not only of the good to which it applies, but indirectly also of other goods, indirectly affecting industries which are competitive rather than monopolistic in nature. The principles of price determination where monopoly exists, the extent of monopoly, and problems connected with its existence will receive our attention in the next two chapters.

Questions and Problems

1. Define normal value and normal price.

2. Summarize in a general way the relation which exists under competitive conditions between costs of production and price, distinguishing between market price and normal price.

3. Distinguish between production under increasing costs and under decreasing costs.

4. If the demand for a commodity produced under increasing costs is doubled, show how each of the following is affected: (*a*) the immediate market price; (*b*) the long-run normal price; (*c*) the amount produced in the long run. Show these effects by a graph with explanations.

5. Would the effects mentioned in the preceding question be different if the commodity were produced under decreasing costs, and, if so, how? Show these effects by a graph with explanations.

6. Give several illustrations of increasing- and of decreasing-cost industries.

7. Define fixed and variable costs, and show how the relation between cost of production and market price is affected by the extent of the fixed as compared with variable costs. Illustrate and explain.

8. Define *sunk costs*, and show how they affect the relation between cost of production and price.

9. Compare short-run normal and long-run normal price with respect to the extent to which fixed costs tend to be a part of price.

10. Explain the beef-cattle price cycle, including the causes which produce it.

11. Define the hog-corn ratio, and explain the cycle in the hog-corn ratio, including the causes which produce it.

12. Mention other cycles in farm-product prices of which you are able to learn.

13. A California raisin grower was asked in 1938 whether recent raisin prices had covered his costs. He replied, "In only one year. It costs me 2½ cents a pound to cover out-of-pocket costs and equipment repair. At three cents there is some income on the investment in land and vines. I hope raisin prices go above the present level

(2¼ to 2½ cents) *but not over 3½ cents.*" Why would the farmer make the last statement?

14. In 1939 a speaker on the wheat situation said (in response to a question): "The worst thing that could happen to the wheat farmers is the temporary stimulation of price as the result of a drought." Analyze this statement in terms of what you know of the effect of price changes on production and in the light of wheat prices and acreages from 1934 to 1938.

Suggested Readings

1. F. B. Garver and A. H. Hansen, *Principles of Economics* (1937) furnishes one of the best short explanations of the relationship between cost of production and price.

2. Alfred Marshall, *Principles of Economics* (1920) should be consulted by all who wish to study this subject thoroughly. Chapters III and V of Book V are among the most valuable. F. W. Taussig, *Principles of Economics* (1939), Vol. I, Chaps. 12 to 15, inclusive, is an excellent reference.

3. Edward Chamberlin, *The Theory of Monopolistic Competition* (1938), Chap. I, discusses value under pure competition with particular reference to the individual firm. This approach is helpful in comparing value under competition and under monopolistic competition.

4. G. F. Warren and F. A. Pearson, *The Agricultural Situation* (1924) furnishes a number of illustrations of the manner in which farmers have adjusted production in response to prices received.

5. The U. S. Department of Agriculture and a number of state agricultural experiment stations furnish from time to time, as a part of their outlook information, data on changes in production which farmers have made in response to price.

CHAPTER XI

EFFECTS OF MONOPOLY, PUBLIC AUTHORITY, AND CUSTOM ON PRICE

In the two preceding chapters, the operation of the major price-determining forces for particular goods under competitive conditions have been considered. In this chapter and the following one, our attention will be devoted to the effects of monopoly on prices. The analysis will include an examination of the effects of government authority and custom on the determination of prices and on the working of the competitive system, and special attention will be given to the effects of monopoly on persons engaged in agriculture.

TYPES OF MONOPOLY

Monopoly Defined.—The word *monopoly* is derived from two Greek words meaning "alone" and "to sell." Under the English common law the term was applied originally to a legal grant or charter, a *Patent from the King*, which conferred an exclusive privilege of trade of some kind or in some region. Corporations such as the British East India Company, the Virginia Company, the Plymouth Company, and the Hudson's Bay Company are examples of legally created monopolies which flourished during the time of American colonial history. Each of these concerns was granted by law certain exclusive privileges in trading.

The modern use in economics of the word *monopoly* is broader in scope than the use mentioned above. Strictly speaking, an absolute monopoly refers to complete control by one individual or organization (in the sense of complete absence of competition) of the buying or selling of any kind of good. There is only one buyer or one seller. Most monopolies, however, are not absolute, as only rarely is there complete absence of all competition. In most cases our concern is with some degree of monopoly. With that in mind we may say that there exists *some degree of monopoly* when there exists *such unity in the control of the supply or of the demand of any good as to result in a price materially different from the one that would result if there were a great number of sellers or buyers of that good in ordinary free competition.*

Monopolies of Many Kinds.—Monopolies of some degree exist in many forms. In the minds of most people monopoly is associated with large corporations. One student of them, however, says:

Most common monopolies are not the result of patents, mergers, or concerted action. In the vast majority of cases they are the result of special situations which bring about absence of competition. These situations are so numerous and so various that classification of them hardly seems worth while. An enterprise is established in which one man or a group of men have a controlling interest. The concern probably does not go into the open market and hire the best possible managers at the lowest necessary salaries. Undoubtedly the dominant man makes himself president at a salary which he fixes, or the dominant group select themselves as the principal executives at salaries which they themselves determine. In spite of the fact that there are plenty of men available, the enterprise is confronted with a sellers' monopoly—the sellers of executive service in this case. In the South, it is common for retailers to create a monopoly situation by extending credit to impecunious tenant farmers. Should the debtors fail to purchase all their supplies from the retailer—at his own price—he presses for payment of the debts. If one enterprise in an industry is substantially larger and more powerful than its competitors, it may compel them to adhere to its prices by threatening a price war against any concerns which sell below its prices. In Mexico and parts of eastern Europe, large landlords have used indebtedness as a device to hold laborers at far lower wages than competition would establish.[1]

The preceding quotation emphasizes the wide variety of conditions which result in degrees of monopoly and the difficulty of a satisfactory and complete classification. In spite of the fact that the different conditions are so numerous that a complete classification is difficult, our understanding of the problems of monopoly will be promoted by distinguishing some of the more important kinds.

Buyers' and Sellers' Monopolies.—First, monopolies may be distinguished as (*a*) buyers' and (*b*) sellers' monopolies. A buyers' monopoly exists where there is *only one buyer or such unity of action by different buyers as to result in a price different from that which would prevail if there were a number of truly competitive buyers.* For example, during the early years of the present century, when the Standard Oil Company controlled 85 to 90 per cent of the oil-refining business of this country, it undoubtedly secured some of its supply of crude oil at lower prices than would have been paid if there had been a number of truly competitive buyers. The evidence also is positive that about 1900 there was collusion among various grain-buying organizations operating lines of elevators in the Middle West, and that this resulted in lower grain prices to farmers at least in certain places than would have prevailed under regular competitive conditions.

It should be noted in regard to both the above illustrations of a buyers' monopoly that the buyer also sold the goods bought. This is generally the case of a buyers' monopoly which is opposed to the general welfare. A buyers' monopoly of final consumers could reduce prices to an appreciable degree only by reducing the consumption of that good. If final

[1] Sumner H. Slichter, *Modern Economic Society* (Holt, 1931), p. 352.

consumers wish to refrain from consuming goods, it does not appear that the general welfare has been injured, because producers have no reason to expect consumers to buy their products unless the consumers desire them. Buyers' monopolies which are opposed to the public interest, however, do arise in cases where such a monopoly obstructs the flow of goods through the channels of trade, discouraging production by buying only at unduly low prices, and preventing the consumption which would otherwise occur by being willing to sell only at unduly high prices, all for the sake of returning to the monopoly a profit in excess of that which would prevail under freely competitive conditions.

Sellers' monopolies are those which *have such a control of the supply of a good that they are able to control the amount offered for sale to the extent of causing a price to prevail which is different (usually higher) from the one which would prevail under ordinary competition.* Most monopolies—that is, organizations possessing a degree of monopoly power—are sellers' monopolies. The control over supply possessed by such a sellers' monopoly may arise from its being also a buyers' monopoly, but more often it arises from the possession of control of the production of the good over which it possesses monopoly powers. An excellent illustration of a sellers' monopoly based upon control of production is found where the monopoly has the exclusive privilege of producing the good granted to it by a patent. A sellers' monopoly must sell its goods under the principle that marginal vendibility governs price just as truly as if the good were sold under competitive conditions. But, if it has control of the production of the supply, it may enhance prices either (*a*) by simply limiting the supply to less than would be produced under normal competitive conditions, or (*b*) as is more often the case, by first fixing the price at which the good will be sold and then simply refraining from producing more than can be sold at that price. In either case, marginal vendibility still governs price. But because the demand curve declines as it moves to the right, marginal vendibility may result in a considerably higher price under monopoly than under competition, because of the fact that supply has been restricted. The point on the demand curve at which market price is fixed is farther to the left and higher than it would be if there were no monopoly.

Public and Private Monopolies.—A second classification of monopolies is as (*a*) public and (*b*) private monopolies. A public monopoly may be defined as one maintained or operated by the government. An excellent example is found in the mail service, operated as a government monopoly in the United States and other countries. Such a public monopoly may be undertaken solely or primarily for the purpose of furnishing a needed service in the most satisfactory manner at the least cost. It may also be undertaken for the purpose of raising revenue, in which case it is referred to as a *fiscal monopoly.* In India the British

government has long maintained a fiscal monopoly over the manufacture and sale of salt. The governments of Italy, Austria and other countries exercise a fiscal monopoly over the sale of tobacco products. A public monopoly may also exist for the purpose of controlling and limiting consumption of goods considered to be injurious: for example, alcoholic drinks or drugs.

Private monopolies include all that are not public. It is with private monopolies that we are most concerned in our study of the relation of monopolies to economic life in this country, of their influence upon prices, and of the problems of their regulation or control.

MONOPOLIES CLASSIFIED AS TO ORIGIN

Legal Monopolies.—As has already been mentioned, the term *monopoly* was originally applied only where the monopoly privilege was legally conferred. Monopolies thus created are still of considerable importance, though they are different in character from the trading companies above mentioned. All public monopolies are, of course, legal monopolies. Most obvious of present-day legally created private monopolies are those based on patents and copyrights, which give exclusive control to produce and sell the patented or copyrighted article. These are designed to stimulate invention and authorship. The monopoly granted by a patent in the United States extends for a period of seventeen years, while designs may be patented for shorter periods. A copyright gives exclusive control over publication for twenty-eight years, with the privilege of renewal for another twenty-eight years.

Closely akin to the above are trade-marks. Though they do not grant a monopoly right to produce and sell a particular kind of good, they do give a monopoly right to sell it with a particular trade-mark, which may be a coined word or a design. In the case of goods of which the merits are difficult to identify, trade-marks protect the producer to a great extent against competition and enable him to secure prices under monopoly principles of price determination rather than under competitive principles.

In the industries of public transportation and for public utilities, at least a measure of legal monopoly generally exists, for no one may enter such a business in most states without first obtaining from a public regulatory body a certificate of public convenience and necessity. This is presumed to be granted only after evidence is presented showing that the additional service which it is proposed to establish will promote the general welfare, and will not simply result in uneconomic competition, with the service which it is proposed to establish being already furnished as adequately as the conditions justify. Any monopolistic franchise is a legal monopoly.

Various kinds of certificates required of persons to practice particular professions—such as that of medicine, dentistry, and teaching in the public schools—grant a certain degree of legal monopoly. Though those engaged in such professions are not protected from the competition of others who possess the required certificates, they are absolutely protected from the competition of anyone, no matter how able that one may be, who does not have the qualifications prescribed as necessary to secure the required certificate and has not had such a certificate granted him.

Protective tariffs grant a degree of legal monopoly in that they protect domestic producers from the competition of goods produced in foreign countries.

Natural Monopolies.—Of very large importance in our economic life are what have come to be designated as *natural monopolies*. Such a monopoly may be defined as one which exists under conditions such that the determination of normal price under competitive conditions, as explained in Chap. X, is practically impossible. In the case of any natural monopoly, competition, if not impossible, is at least uneconomic. Of natural monopolies, three broad subgroups have been distinguished, as follows: (1) those based on the control of natural resources; (2) those based on secrecy; (3) those based on the nature of the business. The last mentioned group is by far the most important. Another, though entirely different, kind of natural monopoly is (4) one of personal qualities.

An excellent illustration of a natural monopoly based on control of resources is that of a rare mineral spring considered to have high medicinal value. The diamond mines of Africa, which are nearly all under the control of one corporation, have often been mentioned as a natural monopoly, though the fact that it took considerable business ingenuity as well as a certain amount of ruthlessness to bring these all under one control, and the further fact that in recent years the monopoly has been threatened by new discoveries of diamonds elsewhere, raise serious questions as to whether this is truly a natural monopoly.

Of monopolies based on secrecy, many of the so-called patent, but more properly called *proprietary*, medicines are excellent examples. These are often all designated "patent" medicines, under the theory that the formulas have been patented. In many cases, however, the formulas are not patented, as that would make them matters of public record, and the manufacturers prefer to keep the formulas secret. This is due perhaps in part to their ability thus to control the product after the time of the patent would have expired. But without doubt it is also due to fact that by keeping the formulas secret the manufacturers are able to convince the public that the product possesses rare qualities to a degree which they would be unable to do if the formulas were matters of public record. Considering the fact that such formulas may frequently be

determined by chemical analysis of the "patent medicine" no doubt one value of implying secrecy is to influence the buyer to believe in the unusual qualities of the medicine. An example of a secret process of great value is the one developed by the Sun-Maid Raisin Growers of California whereby the seeds are removed from muscat raisins and the raisins then are "puffed" back to their original shape. The ordinary "seeded" raisin cannot compete with the "puffed muscat."

Natural monopolies of the third class—that is, those based on the nature of the business—are such as the telephone, light and power, water-supply, and railway-transportation industries. All of these are designated as public utilities, or as businesses vested or affected with a public interest. In such businesses, by their very nature, genuine competition by different producers supplying the same kind of service cannot be expected to continue. If attempted temporarily, it will result in the destruction of enough competitors that monopoly will ultimately result. This is primarily for three reasons: (1) The business is such that it is impossible for many competitors to supply services to all customers. The necessary investment in plant is so much greater and, as is true especially of the telephone service, the service is so much inferior if there are a number of competing companies than it is if there is a monopoly, that many competitors cannot economically continue and will not continue. One or at most a very few companies must furnish all of the service in a given area. (2) The commodity or service supplied is standardized to such an extent that customers will readily change to the company offering some price advantage. (3) The fixed expenses form a relatively large part of total expenses. Because of conditions 2 and 3, competition, if attempted, will lead to monopoly. Price cutting, if undertaken, will be carried to such a degree that most of the competitors will fail to cover their expenses and will become bankrupt, the result being a monopoly.

Where monopoly is the *natural* condition, competition cannot be relied on to result in prices which are fair to the consumer. Accordingly, the English courts "from time immemorial" have held that where such a business is *affected with a public interest* the public may regulate rates or charges and services. This doctrine of the English courts was upheld by the U. S. Supreme Court in a number of decisions in the seventies, the most famous case being *Munn vs. Illinois,* decided in 1877. The principle of regulation of rates and services by public authority is now applied to all the classes of public utilities or businesses vested with a public interest—to those listed above and to some others.

For such a natural monopoly to be "affected with a public interest," it must be business of such a nature that refusal by those in charge of it (*a*) to serve all comers (*b*) without unreasonable discrimination and (*c*) at reasonable rates will result in a severe hardship upon those against

whom discrimination is practiced. As a result those who engage in such a business take upon themselves three obligations: (*a*) to render service to all applicants whom they are equipped to serve; (*b*) to render such service without undue discrimination in character of service rendered or in charges; (*c*) to render service at reasonable rates.

Natural monopoly of personal qualities, the fourth kind mentioned, refers to such matters as the skill of a famous surgeon or musician, or any other unusual personal ability.

Monopolies through Agreements, and by Trade Associations and Unions.—There are many existing cases of degrees of monopoly which are neither legal monopolies nor natural monopolies as above defined. A large part of these are the results of agreements—sometimes so informal as to be merely the custom of the trade; sometimes more formal but very secret; sometimes elaborate with complex organizations and punitive devices for making them effective; sometimes, especially in the case of labor organizations, openly intimidating those who propose to compete with them and appealing for public support. These may be as small in scope as the agreements among a few refreshment parlors, drug stores, feed stores, or doctors in a country village to maintain certain fixed prices; or they may be as nearly national and far reaching in their operations as the national railway brotherhoods, the building trades in metropolitan cities, and the manufacturers of cement and steel rails, with agreements or arrangements to refuse to supply any commodities or services except at prices higher than would prevail under ordinary competitive conditions, and with effective devices for preventing would-be competitors from successfully competing with them.* The whole trade-association movement has been stimulated by the National Industrial Recovery Act of 1933.

To assist in establishing these *monopolies through agreement*, a variety of devices are used. According to Professor F. A. Fetter, an able and thorough student of monopoly, the *external interferences with competition*, include, in addition to legal interferences, the following:

1. *Social Compulsion (and Fear):* Force of custom, social prejudice, or ostracism in religious, social, political, business, neighborhood, or other groups.
2. *Physical Violence (and Fear of It):* War brigandage, various crimes against persons, and threats of any of these.
3. *Crimes against Property and the Laws of Trade:* Various forms of fraud, dishonesty, bribery of employees, unfair competition, conspiracy to destroy competition.
4. *Financial Compulsion (and Fear):* Threats of withdrawal of credit, fear of local price cutting or of various other discriminatory price practices.
5. *Merger:* Complete unity of ownership and control of all sellers (or buyers) within a certain sales area.[1]

Monopolies of Other Origin.—The three classes of monopoly discussed above as to origin do not complete the full list of monopolies

[1] F. A. Fetter, *The Masquerade of Monopoly* (Harcourt, 1931), p. 269.

of some degree. As John Bates Clark remarked over thirty years ago:

> There is, in fact, always a trace of monopoly in the condition of an industry to which labor and capital tend to move, but cannot move with absolute freedom. Perfect mobility of the agents of production never exists; and hence prices are always varying, in greater or less degree, from the rates that the unhindered action of the competitive impulse in men would maintain.[1]

Forms of Business Combination for Monopoly Purposes.—As early as 1776 Adam Smith wrote: "People of the same trade hardly meet together even for merriment or diversion but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices." The same objective is still much in existence, but, because of the greater area of the market, and the increase in the number of producers who compete within a market, the conditions are decidedly different. The different means by which monopoly action may be taken vary all the way from informal understandings, illustrated by those reached in the steel industry at "Judge Gary dinners," to the outright merger of competitors at the other extreme.

The trust or monopoly movement as a subject of general public concern in the United States dates from the period of "big business" following the Civil War. The earliest business combinations for maintaining prices were mostly in the forms of *gentlemen's agreements.* Many of such agreements continue to be entered into at the present time. In effectiveness they vary. Where the number of competitors or conspirators, whichever we may choose to call them, is few, they are sometimes quite effective. Where many need to be held together, more formal organization is required to be effective.

In recent years the most common form of agreement on a large scale has been by means of a *trade association* or *open-price association.* Such associations, without doubt in part to avoid the anti-trust laws, are said to be primarily for exchanging statistical information and specifically disclaim being for the purpose of price fixing. A number have been prosecuted for violation of the Sherman Anti-trust Act. Some have been found guilty, others have been acquitted. The National Recovery Act of 1933 opened the door for a number of activities by trade associations which were previously violations of the Sherman Act.

The next form of organization to be widely prevalent was the *pool,* which is said to have been the typical form from 1875 to 1895. This was a formal agreement to divide either the total business, or the profits from the business, on some prearranged basis. "Always some degree of control over supply is involved, and is exerted more or less directly according to

[1] *The Distribution of Wealth* (Macmillan, 1902), p. 78.

the type of pool."[1] Numerous railway pools were formed during the seventies and eighties. Pools have not been effective in monopolistic price control except where a definite allotment of tonnage or business has been maintained by penalties for violation. Railroad pools were made unlawful by the Interstate Commerce Act in 1887, and the industrial pools were prohibited by the Sherman Anti-trust Act in 1890. Since that time pooling as a device for monopolistic price control has been largely superseded by other types of organization.

The *trust* as a business organization used for monopoly purpose generally has come to be held in bad repute. To most people a trust signifies a large monopoly which charges unfair prices. In legal language the term *trust* is used to refer to a contract, expressed or implied, whereby the property of one person, natural or artificial, is held and administered for his benefit by another. The word is applied in ordinary language to monopoly, for the reason that the legal trust was a device much used by attorneys at one period in our history in bringing competitors together in monopolistic agreements. The various previous competitors were induced to divest themselves of the control of their own properties and to place them in the single control of a small group by means of a trust, and those who were thus placed in control then proceeded to operate the whole as a single business of a monopolistic nature, eliminating or greatly reducing competition. Because such *trusts* were believed to be opposed to the public interest or general welfare, there was enacted in 1890 the Sherman Anti-trust Act, which was later strengthened by the Clayton Act and the Federal Trade Commission Act, both enacted in 1914.

One form of business organization to follow the trust was the *community-of-interest* type of organization, defined as "a form of business organization in which, without any central administration, the business policy of several companies is controlled by a group of common stockholders or directors."[2]

The forms of business organization most used in recent years, for bringing together for monopolistic purposes previous competitors, are the *holding company* and the amalgamation or *merger*. The former is a corporation organized to hold at least a controlling interest in the stocks of other companies. The stocks held are usually of operating companies, though there are holding companies of holding companies. The Standard Oil Company of New Jersey was changed from the *trust* type to the *holding-company* type in 1899. The United States Steel Corporation, the American Telephone and Telegraph Company, the General Motors Corporation, many of the large railroad systems, and others of the nation's largest corporations, not all monopolies, are of the holding-company

[1] L. H. Haney, *Business Organization and Combination* (Macmillan, 1914), p. 165.
[2] Haney, *loc. cit.*, p. 207.

type. The amalgamation or complete merger differs from the holding company in that the merged companies lose their separate existence as operating companies, being all operated as one single business unit.

PRINCIPLES OF MONOPOLY-PRICE DETERMINATION

Monopoly Control of Price Limited.—It is often asserted that a monopoly may charge any price which it pleases, but this statement is very misleading. It is true that a monopoly may name or designate any price which it pleases; but naming, designating, or asking a price, and obtaining it, are entirely different things. Assuming a definite state of demand for a commodity and a fixed supply to be sold within a given time, a monopoly cannot secure particularly more for that supply than can be secured with competitive selling under ordinary conditions. It may even secure slightly less. The price which may be secured depends on marginal vendibility as truly under monopoly as when there are competitive sellers. If a given amount must be disposed of, price will be governed by the intensity of the desires of possible buyers for the marginal part of that supply, compared with the intensity of their desires for other things, and that intensity is not much influenced by whether the supply is in the control of one or many sellers. Advertising and other sales strategy could, of course, influence such desire in either case, and a difference in such sales strategy might lead to such an effect on demand that a slightly higher price would be received under unified control of sales. On the other hand, it is quite possible that demand would react more favorably to the sales effort under competitive selling, and that with a given amount to be sold more money might be secured with competitive selling than with monopoly.

Monopoly-price Elevation Caused by Limiting Supply.—Unless a monopolist can increase demand by such a method as advertising, the real basis of his capacity to elevate price to any appreciable extent in the case of a seller's monopoly is due to his ability to reduce supply. In fact he would ordinarily keep the supply from being created to the same extent as would occur without monopoly. This may be shown by a graph. In this example the industry is assumed to be one which enjoys decreasing unit costs for a large part of the possible scale of production, a characteristic which is frequently true of industries that tend toward monopoly.

In Fig. 25 three of the four curves are familiar. *TC* is the curve of total costs per unit at various scales of operation, constructed as described on page 119 and in Table 17. *MC* is the curve of marginal costs, the construction of which is described on pages 118 and 119 and illustrated in Table 19. *DD'* is the familiar demand curve for the product of the industry. In this case, which is one of complete monopoly, it is

also the demand curve for the output of the particular firm which holds the monopoly.

The fourth curve in Fig. 25, $M'R$, is the marginal-revenue curve, or the curve showing the amount added to the seller's gross receipts by selling an additional unit of product. This under monopoly is quite different from what it is under competition, because the monopolist furnishes the whole supply. According to Fig. 25, 3 million units can be sold for \$3.12 a unit, or a total of \$9,360,000. The monopolist in planning his operations will compare his probable total income at this output with his probable total income at some other output, such as 3.25 million units. If the demand curve is as is shown in the chart, an

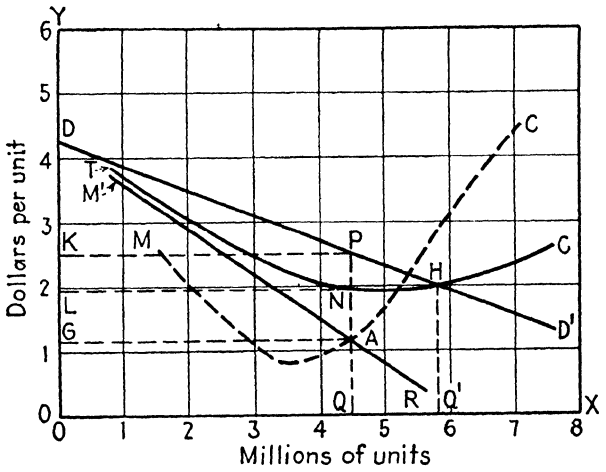

FIG. 25.—Value under monopoly.

additional 250,000 units, however, can be sold at only \$3 per unit, or a total of \$750,000. Now, according to the principle of marginal vendibility, he will be able to get only \$3 apiece for the 3 million units for which he previously obtained \$3.12, or 12 cents less per unit. This reduction in the amount received for the 3 million units, or

$$3{,}000{,}000 \times \$0.12 = \$360{,}000,$$

must be subtracted from the \$750,000 to find the additional receipts. This remainder is \$390,000, which is the added total income received by adding the last block of 250,000 units. Dividing \$390,000 by 250,000 gives an average of \$1.51 added revenue per unit received for this block of added or marginal units. $M'R$, the marginal-revenue curve, is a curve of such marginal receipts for various quantities which might be sold, though it is drawn to show additions of single units, rather than blocks of 250,000 units at a time.

Now, at what point will the monopolist fix his price? Under competition, if the supply curve were similar to TC in Fig. 25, price would be at H

and would equal HQ'. Under competition no individual seller is encouraged to reduce volume, because his proportion of the total supply is so small that he cannot influence the price. No wheat farmer's decision to sell or not sell his crop will influence the wheat price.

The monopolist will fix the price at the point at which he thinks that his profits will be largest. In Chap. V, pages 117–120, we learned that this will be the quantity for which the marginal (additional) revenue just equals the marginal (additional) costs. As long as marginal (added) revenue exceeds marginal (added) costs the total profits will be increased by increasing production and sales. In Fig. 25 the marginal-revenue curve $M'R$ intersects the marginal-cost curve MC at A. The quantity GA or OQ is the quantity which will yield the greatest profit. The price per unit at which this quantity (OQ) can be sold is measured by the distance the demand curve is above the base at point Q. That distance is PQ, and therefore PQ is the price which will yield the greatest profit.

Because for the quantity OQ the total cost per unit is NQ, the monopolist, by charging a price at PQ per unit, receives a pure profit of NP per unit. On OQ units he receives a total pure profit of NP per unit on OQ or MN units, this total being represented on the chart by the rectangle $PKLN$. Such a rectangle representing pure profit is largest for the quantity for which marginal cost and marginal revenue are equal.

Price under Monopolistic Competition.—Since *complete monopoly* is rare, it is particularly desirable to study methods of price determination when there is only a degree of monopoly present. It will be remembered that such situations, called *monopolistic competition*, differ from complete monopoly in that there is more than one seller, and that the sellers do not have a binding agreement with respect to price. But compared with pure competition, one or both of the following characteristics of the market are present: (a) fewness of sellers, or (b) differentiation of the product. Either one or both of these characteristics lead each seller to consider the effect of his volume on price.

Under *monopolistic competition* a variety of results is possible, depending on such factors as (1) degree of differentiation either in fact or in the minds of buyers between the products of each seller and other products which resemble it, (2) the number of producers who are producing either identical products or those which have a close resemblance, (3) the amount of expense necessary to enable a new producer to set up a plant and attract customers for an identical product or one which may be substituted for it, (4) the extent to which producers of products which are identical or which may be substituted for each other are disposed either to try to get along with each other and not arouse price wars or to fight it out with each other.

In case that under *monopolistic competition* a firm produces a product to some degree differentiated from other products and yet sufficiently

similar to other products that these may be readily substituted for it, such a firm usually after making a small increase in its price will lose some of its customers. But if in the minds of buyers its product has some specially superior qualities it will not lose all of them. Under pure competition, where there are many sellers of identical products, if one seller raises his price while others do not he will move no goods. In contrast, under monopolistic competition *based on product differentiation* a large part of a firm's customers usually will remain with it, even though its price is raised slightly above that charged for other "brands," or products slightly different. This may be expressed by saying that under monopolistic competition the demand curve for his product *as viewed by the individual seller* is less elastic than is the demand curve for the product of the individual seller under pure competition. In fact, under pure

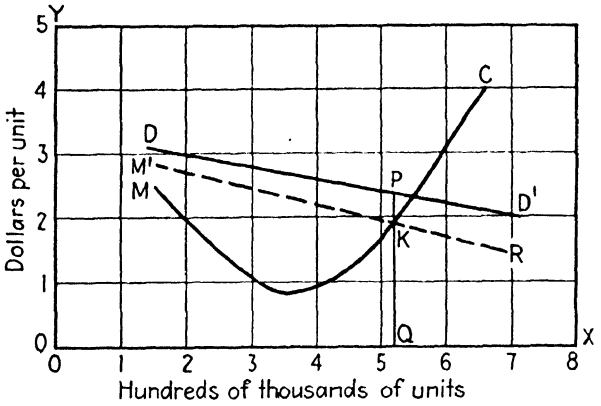

FIG. 26.—Value and monopolistic competition.

competition the demand curve for the product of the individual seller, *as viewed by him*, is practically perfectly elastic (parallel to the base of the chart) because he furnishes so little of the total supply that the price which buyers will pay is practically unaffected by the sales of this one seller. On the other hand, the demand curve under monopolistic competition is more elastic than is the demand curve under pure monopoly. This is because under monopolistic competition based on a differentiated product an increase in price will drive some customers to other products which bear a close resemblance, and a decrease in price, unless it is met by producers of similar products, will attract some customers from other products.

In Fig. 26 are represented some conditions which are always found and others which are frequently present under monopolistic competition. *DD'* represents the demand curve of the product of the individual seller. *M'R* represents this same seller's marginal-revenue curve. *MC* represents his marginal-cost curve. As under pure competition and under

pure monopoly, under monopolistic competition the quantity produced will tend to be that for which marginal revenue equals marginal cost. This is the quantity OQ. The price will be the distance between the base of the chart and the demand curve for this quantity, which distance is PQ. This chart has been drawn on the assumption that the commodity in question belongs to a group for which as a whole there is a demand similar to the demand for the monopolized product represented in Fig. 25. If that is the case the demand for the differentiated part of the total, as shown in Fig. 26, will be more elastic than the total demand for the completely monopolized product represented in Fig. 25. The extent to which price is above marginal cost in Fig. 26 is less relatively than the extent to which price is above marginal cost in Fig. 25, representing pure monopoly. The pure profit on marginal units and the total pure profit both are less than they would be under complete monopoly.

The successful differentiation of a firm's product in the minds of buyers often involves extensive selling and advertising expenses. If so, the result will be to raise the marginal-cost curve, which then will intersect the marginal-revenue curve $M'R$ at a smaller volume. A line drawn through this point perpendicular to the base OX would intersect the demand curve DD' at a higher point, and, therefore, the firm seeking the maximum profit would attempt to charge a higher price. Of course, it must be borne in mind that, without the sales and advertising pressure the firm's demand curve would be farther to the left than with such advertising; its share of the total market would be smaller. The gain from differentiation and an increased demand brought about by advertising depends on the increased inelasticity of the demand curve for this individual firm's product as a result of such advertising and on the extent to which it is able by advertising to shift the demand curve to the right, compared with the increased costs of doing business caused by the advertising.

Monopolistic Competition and Price Rigidity.—The exposition of price under monopolistic competition enables us to qualify and clarify the discussion of the relation of fixed and variable costs to price, which was presented on page 223. At that point in the discussion of competitive prices it was concluded that, if an industry with a high proportion of fixed costs suffered a decline of demand, the firms in that industry, in case thoroughly competitive conditions prevailed, would tend to continue to produce at approximately full volume as long as variable costs were covered. Yet we know as a matter of fact that in many urban industries with high fixed costs the prices which are quoted decline little or not at all in response to a decrease of demand.

There is no particular enigma here. If we take the case of agriculture, used in the last chapter, as an industry of high fixed costs, we must remember that in it are so many producers that no farmer by reducing

volume can appreciably affect price. In an oligopolistic industry (one of few sellers), however, where each firm's demand curve is less than perfectly elastic, the chances are that the firm's new marginal-revenue curve after the decline of demand will warrant a price approximating the price which prevailed before the decline of demand. Furthermore, each seller knows that his price cuts will be met by other sellers. Therefore, he can expect to gain little volume by price cutting. He fears that price cuts will encourage wholesalers and retailers to expect further cuts and to postpone purchases. And he thinks that if consumers become used to lower prices it will be difficult to raise prices again. The key to price rigidity, or flexibility, is the individual seller's feeling of responsibility, or lack of responsibility, for what happens to the price.

Monopoly and Class Price.—Many devices are used by monopolists to take advantage of the different buying power of various classes of possible buyers. In book publishing, for example, the first edition may be limited in quantity and be sold only for a price which none but the relatively well-to-do can afford to pay. As soon as advantage has been taken of sales to this more wealthy class of buyers, another edition may be offered at a much lower price. Later a third edition may be offered at a still lower price. The different prices put upon different seats in a theater is another example of how monopolists try to take advantage of the varying degrees of willingness to pay, of different classes of people. Certain types of sport models in automobiles may cost the manufacturer not more but rather less to produce than the standard models, but are sold at a higher price to the type of customer who is willing to pay an extra price for something different and distinctive.

A certain safety razor for many years could not be bought for less than $5, though it cost but a very small fraction of a dollar to manufacture. Later this same razor was given away in order to create a market for the blades to be used with it, which were sold at a price that yielded a handsome profit. While this was done, however, another design of the same razor, which cost little, if any, more to manufacture than the previous design was offered for sale at the old price of $5, in order to take advantage of the buying power of those to whom the payment of $5 for a razor meant no particular sacrifice. Innumerable other examples may be found of the efforts of monopolists to tap the different abilities or degrees of willingness with which different groups of customers pay. *Class price, therefore, is a difference of price secured from different classes of buyers by means of making a difference of minor consequence in substantially the same good.* Other monopolistic discrimination will receive our attention in later pages.

Monopoly Does Not Guarantee a Profit.—The mere fact that the producer of a given commodity possesses a monopoly of its production

and sale does not guarantee him a profit. Many efforts to produce and sell commodities under monopoly conditions established by a patent or otherwise have resulted in failure and bankruptcy. Unless a sufficient demand for the good exists, or can be created, the monopolist is powerless in his efforts to attain a profit solely as a result of his ability to restrict supply by controlling production.

In case, however, that a large demand for a good exists or may be developed, the monopolist may prevent the happening of that which invariably occurs under ordinary competition. This is the entrance of new producers, or the increase of production by existing producers, whereby the price will be forced downward as long as the representative producer earns any pure profit.

Factors Influencing the Height of Monopolistic Prices.—How much the price under monopoly or under monopolistic competition will be above a competitive price will depend on the elasticity of demand and the change in costs with changes in volume. The more inelastic the demand, the steeper will be the slope of the marginal-revenue curve. The latter curve will intersect the marginal-cost curve at a smaller volume, and a higher price will be the result. A perpendicular to the base line of the graph at that point will intersect the demand curve at a higher price. Under monopolistic competition the steepness of the firm's demand curve is based on the fewness of the sellers and the degree of product differentiation. Presumably, the fewer the number of sellers, and the more successful the differentiation, the higher will be the price. Otherwise expressed the more elastic the demand for his product the larger will be the quantity which it will be profitable for the monopolist to place on the market.

The quickness and steepness with which marginal costs rise as volume increases will, likewise, affect the location of the most profitable price. If it is an industry which obtains large economies with an increased scale of operations, the marginal-cost curve will intersect the marginal-revenue curve at a large volume, and a relatively low price will be the most profitable. Fortunately, industries with a tendency toward monopoly usually have such a cost situation, rather than one in which marginal costs rise quickly as volume increases beyond a small amount.

Limits to Monopoly Price.—In spite of the often repeated statement that he who possesses a monopoly may ask and secure any price which he desires, there are a number of factors which under most circumstances definitely limit monopoly price and monopoly profits. These affect different kinds of monopolies to varying degrees; but, for many business undertakings which unquestionably have in them some degrees of monopoly, such limiting factors are sufficiently present that those in charge of these businesses will not only vigorously but conscientiously

deny that their businesses are otherwise than thoroughly competitive. The most important of these limits are the following.

1. *The Limit in Demand.*—This has already been mentioned. Even a monopolist cannot sell anything for a price which buyers are unwilling to pay. Because of this factor, it is often to the advantage of a monopolist to sell a large quantity at a small profit per unit rather than a small quantity at a large profit per unit. Furthermore, because demand changes with the passage of time, it has come to pass that what were at one time considered very valuable monopolies have at later times become practically worthless.

2. *The Competition of Substitutes.*—This is really only a special phase of the limit in demand. Most of the goods capable of being monopolized are not absolutely essential to a large number of consumers. Therefore, though the monopolist is able to restrict the production and sale by others of the particular good which he produces, usually he is powerless to control the production and sale of something which may very readily be substituted for it. It is this competition of substitutes which causes most cases of monopoly to be only a degree of monopoly. Many a seller may truthfully assert concerning his good that there is nothing exactly like it. Nevertheless, if he attempts to charge too high a price, the buyer will find something which will satisfactorily take its place.

3. *Potential Competition.*—This is particularly significant as a limiting factor in partial monopolies which are neither legal monopolies nor natural monopolies. To illustrate, the United States Steel Corporation has been charged with having, by understandings and agreements with other steel companies, exercised monopolistic influence in fixing prices of various kinds of steel products and having held production to what could be sold at such prices. Even if it is assumed that this has been done and is being done, there are yet definite limits to the extent to which it can continuously be done. The prevalence of too high a price is a strong stimulus to other competitors to undertake the production and sale of the product for which the monopoly price has been held so high as to yield a large pure profit.

A recent illustration of potential competition becoming active competition is found in the manufacture and sale of cigarettes. The large companies, four in number, which for some years dominated the cigarette business, made strikingly large profits. The retail price of cigarettes to consumers was held at a constant level of 15 cents for a package of twenty (of which 6 cents was excise tax), and the wholesale price to dealers was slightly increased. During the latter part of 1931 and 1932, however, there occurred a marked decline in the cigarette sales of these dominating companies, and most of this decline could be accounted for by the increased sales of new brands of cigarettes put out by

a number of other manufacturers and sold at 10 cents for a package of twenty. In a little more than a year, of all the cigarettes sold in the United States the percentage supplied by the four leading companies with 15-cent brands dropped from about 90 to 80, and the percentage supplied by independent companies with 10-cent brands increased from about 10 to 20. High prices with high profits led to competitors breaking into this business, which beyond question was characterized by a degree of monopoly. In other words, the seller's long-run demand is more elastic than the immediate demand situation.

THE EVILS, TACTICS, AND EVIDENCES OF MONOPOLY

Monopoly Restricts Individual Opportunity.—Though monopoly generally represents some special advantage to the monopolist, it may or may not represent a disadvantage to others. Legal monopolies are presumed to be in the interest of the general welfare. Regulated monopoly is preferable to an attempt at impossible competition for public service corporations belonging to the natural-monopoly group. Under private ownership, the only real alternative to regulation for such businesses is unregulated monopoly, and this would represent a most unfair, if not intolerable, situation. For much *monopoly by agreement,* however, the gain to the monopolist is more than offset by the loss to others. Many persons are denied an equal opportunity to secure income in order that favored groups may have special advantages.

A writer on monopoly says:

> The man in the street is inclined to judge the desirability of monopolies by their effect on prices. A sellers' monopoly in most instances collects a higher price than would prevail under competition. For that reason, and to that extent, therefore, sellers' monopolies impress the man in the street as undesirable.
>
> But this view of monopolies tends to exaggerate their undesirability. Although sellers' monopolies do raise the price of some goods, they indirectly lower the prices of others. The explanation is simple. Sellers' monopolies raise prices by restricting output. When they restrict output, they necessarily limit the amount of labor and capital which is absorbed by the monopolized industries. This means that more labor and capital must seek employment in the non-monopoly industries. The output of these industries is greater than it otherwise would be, the rate of profit is less, and the prices of the products are less. Although buyers must pay more for monopolized products, they are able to purchase all other goods at somewhat lower prices.[1]

This quotation directs attention to the greatest evil of monopoly without properly condemning that evil. This evil is its effect upon those who are excluded from the monopolized industries. They are forced to pay higher prices for the products of monopoly but must find employment in the non-monopoly industries. Because more labor and

[1] S. H. Slichter, *Modern Economic Society* (Holt, 1931), p. 367.

capital are thus forced to find employment in these non-monopoly industries, the prices of the products of those industries are forced lower than they otherwise would be. Those in the monopolistic industries are able to charge higher prices for what they sell but are able to secure for lower prices much of what they buy. Those in the non-monopoly industries in contrast not only pay more for what they buy from the monopolists but are forced to take less for what they sell to them.

There can be no question that one of the highly important causes of the relatively low net returns received by those engaged in agriculture in recent years is the extent to which monopoly prevails, and has for some time prevailed, in industries other than agriculture. If the farmer receives less for his work in money, security, and other kinds of reward than does the worker of any other class whose work requires no more skill or hardship, the explanation is largely that monopolistic influences prevent people entering that particular kind of other work. If it were not for such restriction, people would shift from the more poorly paid work to the more highly paid work. Less of the product produced by more poorly paid work would be put upon the market, the price of that product would rise, and competition among employers in that industry for workers would cause wages to rise. On the other hand, the removal of the monopoly features from the now partly monopolized industries would mean lower prices for their goods, the possibility of selling more goods at these prices, more employment in those industries, and accordingly fewer people forced into the most poorly paid industries, which are the competitive industries.

Monopoly based upon artificial restriction of output or production cannot promote the general welfare, because the general economic welfare is not promoted by a general scarcity of goods. Monopoly brings about inequality of returns. Those who defend it have their eyes only on particular industries to which they see a benefit from restriction. But these favored groups benefit by restriction only so long as others do not practice a like restriction. If a like restriction is practiced in all lines of production, all will be in a worse condition.

As Professor Fetter has well said, "an enlightened system of competition must be an essential component of any defensible régime of private property." But there cannot be an enlightened system of competition when the privilege of engaging in a large part of all economic activity is either denied completely to other individuals as competent as those favored few who by conspiracy reserve various fields to themselves, or when all of those who are engaged in such activity conspire to give less service for higher prices, whereas others because of such conspiracy must pay higher prices and receive lower prices.

Monopoly Retards Desirable Economic Adjustments.—Prices charged by monopolies are distinctly slow in being adjusted downward. This

applies to monopolies of all kinds: natural monopolies with or without prices subject to government regulation, monopolies based on patents, and also to monopolies due to agreements and conspiracies. It applies to monopolies controlling the sale of commodities, to the unions controlling the sale of labor, and to the semimonopolies which depend on custom for price maintenance of merchandise and salaries, including charges for certain professional services. This results in retarding those readjustments which are necessary in periods of business depression in order to correct maladjustments in the prices of different goods in relation to each other. The rigidity of the prices of monopolized goods, including wages and salaries, means that in all the industries in which they prevail the producing plant is partly shut down and many persons are unemployed in preference to a downward adjustment in prices, such as would prevail under competitive conditions and such as is necessary in order that prices may be in such a relation to one another that those employed in the competitive industries may be able to buy freely the products of the monopolized industries. In short, the rigidity of monopolized prices is a cause of unemployment in periods of depression, of lower wages in competitive industry, and of the prolonging of depressions which may be started by financial and other causes.

Because monopoly means the presence of vested interest, it may retard the adoption of progressive improvements which would be adopted under more competitive conditions. A vested interest always resists change which threatens to endanger income on its present investments. When a monopoly controls all the possibilities of putting an improvement into operation, therefore, it is more likely to maintain things as they are than would an independent competitor who has not so much to lose from a change. Monopoly, therefore, may often throttle improvement.

Some Benefits Claimed for Monopoly.—For monopolies there are frequently claimed a number of benefits in addition to the commonly recognized advantages of natural monopolies and of certain legal monopolies. Among such benefits are: (1) that a monopoly price is not necessarily a high price; (2) that monopoly eliminates wastes which are invariably present in competition; (3) that monopoly stabilizes prices, and that this is highly desirable; (4) that monopoly takes the uncertainty out of business.

Without doubt under certain circumstances these claims have a degree of validity. The important questions are: (1) to what extent they are true, and (2), in case they apply, whether their results are sufficiently beneficial to offset the evils of monopoly. As to the first one to these claims, it is true that a monopoly price is not necessarily a high price. But, in practice, monopolies will usually charge all that the traffic will bear and the law permits. They will curtail production, and they will destroy competition by means of unfair competitive tactics.

Often they charge more than the price which gives them the greatest net profit. Accordingly, an unregulated monopoly price is usually a high price.

Monopolies may eliminate wastes, and it is the elimination of waste which is the justification for granting to a public utility a legal monopoly, subject, however, to regulation by the public. In practice, monopolies may be the cause of waste as well as the cause of its elimination. Monopoly tends to become self-satisfied. Furthermore, it tends to result in uniformity, and, as has been well said, "To the extent that uniformity displaces variety the chances of improvement of method are diminished. Improvement comes mainly through comparison, experimentation, trial of alternatives—sporadically and irregularly."[1] This is discouraged by monopoly. Many wastes of the kinds which it is claimed that monopoly will eliminate have not in fact been eliminated by existing monopolies. Professor A. S. Dewing in his *Financial Policy of Corporations* shows that in a large number of major industrial consolidations including those regarded as trusts, the net earnings of the combinations in the years following their formation were less than the combined earnings of the constituent companies prior to the consolidations. Apparently the greatest wastes under present competitive conditions which it appears might be appreciably reduced by regulated monopolies are wastes of natural resources in such industries as those of petroleum, soft coal, and lumber.

The claim that monopoly stabilizes prices is largely true, in so far as the monopolized goods are concerned. But that is a disadvantage rather than an advantage, when it stabilizes them at a high level at the expense of those engaged in the competitive industries. The failure of monopolized prices to come down under the conditions which would cause prices to decline in these industries if they were competitive results in greater price declines in the truly competitive industries. Monopolized prices are kept from declining by restricting production. Unemployment in the monopolized industries results. The persons unemployed in these industries seek employment in the competitive ones, and the prices in those industries go lower than they would have gone had the monopolized industries been willing to adjust their prices downward sufficiently to sustain employment and enable those engaged in other industries to buy their goods. This could be obviated only by universal monopoly, which with private ownership of property is impossible, and which under socialism presents so many difficulties that its net benefits certainly remain yet to be demonstrated.

The claim that monopoly takes the uncertainty out of business is like most of the other claims; it has much truth in so far as the fortunate members of the monopoly are concerned, but the reverse is largely true

[1] Myron W. Watkins, *Industrial Combination and Public Policy* (Houghton Mifflin, 1927), p. 53.

in so far as those who are left outside of the protection of monopoly are concerned.

Tactics and Evidences of Monopoly.—Under this head we shall consider a few of the devices used by those in a partially monopolistic position, in order to eliminate such competitors as exist and in order tc prevent other competitors from becoming established. Incidentally, certain "evidences" of monopoly will be mentioned and additional evils of monopoly will be indicated. Technically all of these monopolistic practices, except "dumping" abroad are illegal, yet, as new cases are brought before the courts, it becomes evident that these practices are used from time to time, at least until the courts order their cessation.

1. *Local and Temporary Price Wars.*—Local, temporary price cutting has been widely used by partial monopolies. It was much used by the Standard Oil Company in the days when that company was eliminating competitors by the ruthless methods which caused it to be found guilty of violating the Sherman Act and to be ordered dissolved by the U. S. Supreme Court. The method consists of cutting prices wherever a competitor is to be eliminated, meanwhile, however, maintaining them at a high level elsewhere. As soon as the competitor has been eliminated, the price is raised in the area where it was cut. Where branded or trade-marked goods are involved, the price cutting may be done under a brand or trade-mark different from the company's main one. It may also be done by a "dummy" subsidiary company.

In some price wars, prices are everywhere reduced to a "cut-throat" basis, by which is meant a voluntary reduction to a price so low that expenses are not being covered, with the idea that the competitor will be eliminated first and prices will then be raised sufficiently to make up for the loss. Local price cutting within a limited area is much more prevalent as a form of price war than general price cutting by a company selling over a wide area.

2. *Regional Discrimination.*—By this is meant rather continuous selling at higher prices in some markets than in others. This practice has been much followed by many partial monopolies in recent years. In towns or regions where only a few "regular" companies supply gasoline, and a monopolistic condition, therefore, may be maintained, the price is often held higher by several times the difference in freight rate from the source of supply than the price which is charged where there is competition. A sugar refinery may charge more for sugar to be delivered at or near the refinery than is charged by it for delivered sales at points many hundreds of miles away where competition prevails.

For many years, until at least partly discontinued in 1924 on order of the Federal Trade Commission, there prevailed in the steel business a system of pricing known as *Pittsburgh plus.* Prices everywhere were based on prices at Pittsburgh, being the Pittsburgh price plus the freight

from Pittsburgh to the point of delivery, regardless of where the steel mill was located or where the delivery was made. A mill located in Chicago received for steel delivered in Chicago the Pittsburgh price plus freight from Pittsburgh. For sales to be delivered in Columbus, Ohio, or Cleveland, Ohio, it also quoted a price calculated so as to make the steel delivered at those points cost the buyer the Pittsburgh price plus freight from Pittsburgh. Obviously, any mill shipping toward Pittsburgh, as a Chicago mill shipping to Cleveland, received a lower price f.o.b. at the mill for these toward-Pittsburgh sales than it received for local deliveries in Chicago, or for shipments in a direction from Pittsburgh. Prices were named by the United States Steel Corporation, which since it was organized in 1900 has been doing from 50 to 40 per cent of the total steel business of the country, and other companies quoted like prices. Apparently these prices were considered "fair" by the smaller companies, and it was considered safer in most instances to quote the same prices than to try to get more business by underselling and thus to provoke a local or general price war

The American Linseed Oil Association, an association of twelve corporations called *crushers* of oil, was found guilty in 1923 of violating the Sherman Anti-trust Act. It had divided the United States into eight zones for price quoting.

> The amounts charged for delivery were relatively higher in the agricultural sections of the country (and thus discriminatory), instead of being a fair average, according to the professed purpose of the plan. And the more distinctly agricultural the zone, the greater was this discrimination against it, when the farmers bought back the linseed oil made from the flaxseed they had grown. Whereas the marked industrial sections of the country were taxed less than the real average freight, the southeastern Atlantic coast region was taxed 12 per cent more than real average freight, . . . , the great southwest from Louisiana to New Mexico 80 per cent more, and the region of the great plains and the eastern slope of the Rockies from Kansas to Montana 133 per cent more. Where the farmers raised the flaxseed and sold it to the crushers on the open market, there, when they came to buy back the oil to paint their tools, furniture, houses, and barns, they paid two and a third times the actual average freight to get it delivered to them. [Delivered prices in each zone were theoretically based on Minneapolis as a basing point.] . . . Yet, the proverbially patient Kansan was made to pay seven cents imaginary freight added to the wholesale price for every gallon of oil he bought to paint his house and barn with the proceeds of his farm crops sold on the world's open markets.[1]

One form of regional discrimination is *dumping* in international trade. By this is meant selling for a lower price to a foreign market than to a domestic one. Such dumping is of course evidence of domestic monopoly. If domestic prices are on a competitive basis, the company

[1] Fetter, *The Masquerade of Monopoly* (Harcourt, 1931), p. 228.

which cuts prices on foreign sales is "holding the umbrella" over its competitors. It receives for all its sales an average of the higher domestic and lower foreign prices. Its competitors are able to take advantage of this and sell all their output on the domestic market at an average price higher than the average secured by the dumping firm. This cannot and will not continue where there is real competition, as the firm which practices it is giving its competitors an advantage which no firm can afford to give under genuinely competitive conditions. For similar reasons, and others which are obvious from the foregoing illustrations, all regional price discriminations are evidence of some degree of monopoly. Any *basing-point* system of pricing, under which delivered prices quoted by producers to different destinations do not reflect for each seller uniform prices at point of origin, and such uniform prices at point of origin plus freight to destination at point of delivery, evidence at least some degree of monopoly.

3. *Discriminatory Advantages in Transportation.*—This device for eliminating competitors and then charging high prices was much more prevalent previous to 1906 than it has been since. It was one of the chief means by which the early Standard Oil Company disposed of its competitors. That company, by playing one railroad against another, not only generally got lower freight rates than its competitors, but actually succeeded in getting the railroads to pay to it part of the freight rates paid by competitors. The large meat-packing companies previous to 1906 were also large beneficiaries from special freight rates and freight rebates.

This evil in its most flagrant form was eliminated by the Hepburn Act, passed by Congress in 1906, which rather effectively prohibited such *personal discrimination* in railroad rates, as well as rebates to favored shippers. Nevertheless, some abuses still exist in such forms as special allowances to favored shippers for services of industrial company-owned railway lines for originating the shipment and for switching, over allowances on damage claims, and the like.

4. *Dealer Intimidation.*—This device is used in a great variety of forms of which only a few will be mentioned here. The monopoly often supplies more than one product but possesses an effective monopoly on only one product. In such a case it may require dealers to refrain from handling competitors' products of various other kinds in order to secure a supply of the monopolized product. A contract calling for such an arrangement is known as a *tying contract*, and this is one of the monopolistic evils specifically prohibited by the Clayton Act of 1914.

A somewhat special phase of dealer intimidation is practiced by labor unions in their relations to buyers of labor in connection with strike tactics. Unions are disposed not to regard such acts as violations because of the provision in the Clayton Act, "that the labor of a human

being is not a commodity or article of commerce," and the further provisions in regard to labor unions: "Nor shall such organizations, or the members thereof, be held or construed to be illegal combinations or conspiracies in restraint of trade under the anti-trust laws." The courts, however, have held that the immunity granted to labor unions by the Clayton Act does not permit them to engage in conspiracy in restraint of trade.

MONOPOLY REGULATION AND CONTROL

Monopolies which unduly or unreasonably restrained trade have always been illegal under the English common law. As that law is the basis of law in most of our states, such monopolies could be prosecuted without specific statutes providing for their illegality. However, to provide for the possibility for Federal prosecution, as well as to make the law more specific, the Sherman Anti-trust Act was passed in 1890. Many states passed additional laws about the same time. At later dates additional laws relating to monopolies have been enacted.

The Sherman Anti-trust Act.—The general character of the Sherman Act may be shown by quoting the first two sections, which are as follows:

Sec. 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. Every person who shall make any such contract or engage in any such combination or conspiracy, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

Sec. 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

It will be noted that that which is prohibited by the Sherman Act is *every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce,* or *attempt to monopolize any part of commerce.* The problem which the courts have had to decide when cases charging violation of the Sherman Act have been brought before them has been: Has there been an agreement to restrain trade through replacing competition by monopoly in the determination of prices of goods, which except for such conspiracy or agreement would have had their prices determined by competitive forces?

The Clayton Act.—This act was passed by Congress in 1914 primarily for two purposes: (1) to make more specific the general terms of the Sherman Act, and (2) to legalize labor unions and remove them from the

danger of prosecution under the Sherman Act. A few of the respects in which the Clayton Act is more specific than the Sherman Act are the following: (*a*) The acquisition of stock of one corporation by another corporation is prohibited when the effect is "to substantially lessen competition," or "to tend to create a monopoly"; (*b*) interlocking directorates of the community-of-interest type are prohibited when the effect is to create monopolistic conditions; (*c*) various forms of *unfair competition* are specifically prohibited, including the *tying contract* already mentioned and unjustifiable discrimination in prices between different customers.

The Federal Trade Commission, composed of five members appointed by the President, was established in 1914, in order to make the anti-trust legislation more effective and eliminate unfair competitive practices. The commission has large powers of investigation and may require annual and special reports from businesses other than banks and common carriers engaged in interstate commerce. It may hold hearings, require the attendance of witnesses, and has the right to copy any documentary evidence. It must keep a full written record of testimony. Whenever it reaches the conclusion that unfair competition exists, it may issue an order requiring "such person, partnership, or corporation to cease and desist from using such method of competition." If this order is not obeyed the commission appeals to the courts. In the procedure before the courts, "the findings of the commission, as to the facts, if supported by evidence shall be conclusive," though either party may apply to the court for leave to adduce additional evidence. The commission is authorized and directed to suggest to the court the form of decree which it believes to be justified, though this order may be modified by the court. Complaints by the commission are to be given precedence over other cases pending before the court.

The general effect of the Federal Trade Commission Act has been to cast much light on unfair competitive practices and to expedite prosecutions under the anti-trust laws. It is maintained that the most important work of the commission has been to secure reforms with the voluntary cooperation of the trades investigated—that the persons employing the practices complained of reformed their practices in order to avoid being prosecuted before the courts.

Anti-trust Legislation Summarized.—In addition to the legislative acts above mentioned, there are not less than a dozen other acts of Congress which deal in some way with the question of monopoly. Some of their provisions and effects will be mentioned in future pages. We shall close this section with a brief quotation from two careful students of the monopoly question:[1]

[1] J. W. Jenks and W. E. Clark, *The Trust Problem* (Doubleday, Doran, 1929), pp. 244–246.

From October 31, 1890, . . . down to July 7, 1926, . . . three hundred seventeen suits have been filed in the Federal courts of the United States alleging violation of the anti-trust statutes. . . . The net result of this quarter century of trust prosecution has been the collection of more than $900,000 in fines, a few mild confinement sentences, occasional grants of injunction and, particularly since 1911, some actual dissolution of giant combinations. More important than these particular penalties has been the development of a general understanding in the business world that the government will prosecute and that the courts will penalize if the anti-trust law is violated. This understanding has doubtless prevented the formation of combinations which would have been in peril of the law, and it has certainly aided in lessening the use of predatory competitive methods by big business.

Nevertheless, the monopoly problem is not yet solved.

Movement against the Anti-trust Laws.—In the period following 1920, a strong movement for the repeal or *liberalization* of the Sherman and Clayton Anti-trust laws has occurred. Labor opposed the laws especially because under them the field of activity of organized labor was restricted. A large element of urban business opposed the prohibitions on cooperative activity, and they stated their conclusion that competition was not the life but the death of trade. The American Bar Association went on record for the modification of these laws in the direction of permitting a wide degree of "common action" among competing firms. This whole move formed part of the background for the Industrial Recovery Act of 1933, which provided for the partial suspension of the anti-trust laws for two years with regard to the activities of trade associations. In contrast, the so-called monopoly investigation, a comprehensive reexamination of the functioning of our economic order with particular reference to the business practices which might be interpreted as monopolistic, got under way in 1938. More will be said of the government's policy toward monopoly in Chap. XXIX.

Questions and Problems

1. Define a monopoly, distinguishing between earlier and present usages of the word.
2. Explain the nature of buyers' and sellers' monopolies. To what extent do they overlap?
3. What is a public monopoly? Give examples illustrating two kinds.
4. Explain three different kinds of monopoly classified as to origin, and, in so doing, mention several subclasses of each class.
5. What characteristics of an industry or market give rise to monopolistic competition? Give illustrations.
6. A gas (not gasoline) company advertised: "We have learned how to supply gas cheaper, and have decided to pass our reduced costs on to our customers in lower prices." By making use of a graphical illustration with demand and supply curves, show that selfish rather than altruistic motives may have been the reasons for such reduced prices.
7. Give at least five illustrations of class price by partial monopolies.

8. Summarize the limits to monopoly control of price.

9. Summarize the evils of monopoly.

10. What benefits are claimed for monopoly, and to what extent are these claims valid?

11. Take the case of an industry which has been primarily competitive. Show by means of a graph the effects of a successful brand-advertising campaign by one firm on that firm's costs, demand curve, marginal-revenue curve, and price. Then suppose three other firms "fight back" by advertising campaigns of their own. What is the effect on the demand curve of the first firm? Are any of the firms now better off than before the original move toward differentiation?

12. Summarize monopoly tactics, and mention some illustrations of them.

13. Trace the historical development of forms of business organization used by monopolies in the United States since 1870.

14. What are the chief features of the Sherman Act, the Clayton Act, and the Federal Trade Commission Act?

15. Name one business organization not mentioned in the text which you consider a monopoly, and summarize the evidence which leads you to consider it a monopoly.

Suggested Readings

1. S. H. Slichter, *Modern Economic Society* (1931), Chaps. XVI–XIX, is an excellent survey of the effects of various noncompetitive forces on prices.

2. Eliot Jones, *The Trust Problem in the United States* (1921) contains not only a statement of monopoly principles and of public policy with regard to monopoly but includes as well a description of the organization and activities of some of the famous trusts.

3. F. A. Fetter, *The Masquerade of Monopoly* (1931) is a recent study of the subject which emphasizes particularly the evidences and undesirable effects of monopoly.

4. A. R. Burns, *The Decline of Competition* (1936) presents the argument that effective competition is gone permanently from a large part of our business and that a plan of control must be set up.

5. Karl Pribram, *Cartel Problems* (1935) is a study of the purposes, methods, and problems of the German cartels or organizations for the control of particular industries.

6. F. W. Taussig, *Principles of Economics* (4th ed., 1939), Vol. 1, Chaps. 16–18, A. L. Meyers, *Elements of Modern Economics* (1937), Chaps. 9 and 10, and A. M. McIsaac and J. G. Smith, *Introduction to Economic Analysis* (1938), Chaps. 7–9, are recommended as excellent brief discussions of price under monopolistic competition.

7. Edward Chamberlin, *The Theory of Monopolistic Competition* (1938) treats that subject in an extended and more technical manner.

CHAPTER XII

MONOPOLY AND AGRICULTURE

Those persons who are employed in agriculture or interested in the welfare of agriculture are concerned with the question of monopoly from two points of view. From the first point of view the question may be expressed as follows: To what extent and how may farmers practice monopolistic price fixing? From the second point of view the question may be worded: To what extent is the farmer, or may he be, the victim of monopolistic price fixing by either buyers' or sellers' monopolies controlled by others?

THE FARMER AS A MONOPOLIST

The Individual Farmer as a Monopolist.—In a few rare cases the individual farmer may occupy a position involving some degree of monopoly. An illustration of such a position may be that of a livestock breeder whose breeding stock is widely held in high esteem. Such breeders have been known to put an arbitrarily determined minimum price (a rather high one) on animals to be sold for breeding purposes, and to practice what is essentially *dumping*, with regard to all animals for which no market for breeding purposes can be found at these prices, by selling them in such a manner as to be assured that they will be promptly slaughtered. In such a case the farmer as truly names the price at which his product—that is, the breeding stock—is sold, and limits production to what may be sold at that price, as do some other sellers of products of which they are said to have a monopoly. At least the farmer as seller in such a case *names* the price.

Careful attention should be given to the characteristics of a good which enable the single seller thus to name its price. Most outstanding is the fact that the seller controls the coming into existence of the entire supply of that particular good, which good, at least to some degree, is unique. No other farmer may have livestock for breeding purposes exactly like that of farmer Smith. This uniqueness may be to a large degree only a matter of opinion or imagination. In the following illustration this is exemplified by a good which is not a farm product:

An example of a price advantage that trade-marked goods often have is given in an article in *Printer's Ink*. Unadvertised hosiery at $1.95 and an advertised brand at $2.65 were placed on the same counter. Women would

examine both kinds but almost invariably bought the higher priced advertised brand, even though the unadvertised was actually superior.[1]

In this illustration and in the great majority of cases where reputation is more important than real merit, the qualities of the good are inscrutable—that is, the real merit cannot be readily ascertained but is hidden, and the good has to be bought on faith. In such cases the seller may create the belief in *inscrutable* qualities which do not really exist.

Again the *good* which is really sold may be not only the commodity but a certain service which is supplied with the commodity. Different retail stores may secure different prices for commodities very little different in *intrinsic value* partly because the intrinsic value of the goods is not easy to recognize, and partly because the retail store sells in each sale not only the commodity but certain services, such as convenience of location of the store, pleasant surroundings in which to trade, personal attention, as well as sometimes guarantees of quality, credit, delivery, etc. The buyer is willing to pay a higher price in some stores for the sake of this service. In a large city one restaurant may charge twice as much as another restaurant within the same block, and sometimes in the same hotel, for substantially the same food, because what is sold is not simply food but service also. Where selling by the farmer includes such service items, he can name the prices for his products to the same extent as can the merchants or others who sell goods under similar circumstances.

In respect to the vast majority of their products, however, farmers are in a position different from those of the above illustrations. The products of any farmer are so much like those of other farmers that the buyers to whom they must be sold can see no outstanding individual differences, and they feel quite competent to judge the extent of the differences which do exist. The fact that farmers as a rule sell their products not to final consumers, but to such expert judges of intrinsic value as millers and meat packers, interferes with their ability to develop a belief in peculiarly distinctive values by such means as advertising. The amount of distinctive service furnished to the buyer with the commodity by the farmer usually is relatively small. The results are that the products of different farmers will compete with each other; that there will be but one price (or approximately so) for a given commodity of a given quality or grade in a given market at a given time; and that the price which prevails for a product will vary from time to time, in order that price may perform its function of equilibrating supply and demand. Though farmers do not generally sell with their products such unique services as those supplied by retailers, when they do this, they have about the same capacity to *name* the price as does the retailer.

Collective Monopoly by Farmers.—Because farm products essentially alike are produced and supplied to the market by so many different

[1] E. T. Grether, *The Ronald Forum*, Ronald Press, May, 1928, p. 72.

farmers, it follows that, if farmers are to practice monopolistic price fixing to any appreciable extent, they must do so acting together. It must be a monopoly by agreement. This brings us to the question: To what extent may farmers through agreements or by cooperative associations control the prices of their products, provided that restricted production is not enforced by the government? A careful study of historical events and a close analysis of the principles involved lead to the conclusion that with some commodities this may be done to a very slight extent, but that its possibilities vary according to the commodity and the circumstances and that, in general, especially for the chief agricultural staples, they are of relatively slight importance.

To control the prices of most farm products to any appreciable degree for any extended period of time, farmers must be able to control not only the selling of those products but their creation. However, it is practically impossible through cooperative associations depending on voluntary group action to keep an individual farmer from producing products if he thinks it is going to be more profitable for him as an individual to produce them than not to produce them. Each farmer individually adds so little to the total supply of a product within a given market area that his personal addition to that supply has practically no effect on the price. Accordingly, it is not to the individual's advantage for him personally to reduce production solely for the purpose of enhancing the price; and, because of the great number of farmers and their isolation from each other, it is very difficult under all conditions and impossible under most conditions to bring about by joint action reduction of supply for the sake of enhancing price.

The possibilities of controlling prices of farm products through organization are different with fluid market milk from what they are with butter, different with lemons from what they are with apples, and different with rice from what they are with wheat. Certain things that have been done by producers' organizations in influencing the prices of some of the products just named may properly be called *controlling the price*, provided it is recognized that the degree of control is limited. But much popular discussion of price control through organization reflects a woeful lack of appreciation of its limitations and its dangers.

A Tobacco Monopoly.—Probably as successful a case of reduction of production through organized effort as has occurred in the United States is that of Burley tobacco in 1908. The events have been vividly summarized by Professor B. H. Hibbard as follows:

> In the Black Patch the growers of tobacco had felt that until about 1904 or 1905 there had been genuine competition among the tobacco buyers. After that time the supposed competitors rode in the same buggies, or divided up the territories and paid a price apparently fixed previously by agreement. The farmers were aroused and formed an association of some forty thousand tobacco growers.

The purpose was to raise the price of tobacco from 5 or 6 cents a pound to 11 cents. Not all growers were willing to join, and an unfortunate plan of compulsion was adopted. The so-called "Night Riders" visited the laggard farmers and by intimidation, or even by rough measures, forced most of them to join. Tobacco beds and fields were destroyed. A few lives were sacrificed. Temporarily the measures were successful. The tobacco could not easily be duplicated in any other part of the country, was pooled, and eventually the American Tobacco Company, and other buyers, rather than go without the tobacco, paid the price demanded by the farmers. This was a great triumph, and a large part of the credit was claimed by the American Society of Equity, which, although not approving of the outlaw tactics, had been of great assistance in guiding the projects.

Greater still was the victory in the Burley tobacco district. This kind of tobacco had been produced for years almost exclusively in the hill country to the east of the Blue Grass region. It was believed that it could not be successfully grown in the richer Blue Grass soil. A trial disproved this belief, and before long the output had increased enormously. Meanwhile, the American Tobacco Company had become almost the sole buyer of this kind of tobacco. The price which had usually been 20 cents, or over, a pound fell to 6.5 cents. It could not be profitably grown in the hills for less than 20 cents, while in the Blue Grass Country it paid well at 10 cents. At 6.5 cents it was grown anywhere at a loss. The Burley Tobacco Association was formed in order to resist the power of the American Tobacco Company. The plan was to pool the tobacco; to set a price on it fair to both parties, as the farmer believed; to limit the amount produced in order to insure continued high prices. The growers, as a class, were anxious to join, yet some, especially the hill farmers, resisted. The "Night Rider" methods brought them about all in. The crop of 1906 was assembled in warehouses, erected largely under the inspiration of the American Society of Equity, and pooled. A price, 15 cents, was set on it. Where the grower needed the money, and this was frequent, arrangements were made whereby it was borrowed and advanced. When sales were made the money was divided on a *pro rata* basis among those who had tobacco in the pool. But sales during the first year were few. Another crop was grown and added to the pooled stores of the warehouses. The American Tobacco Company professed indifference, since it claimed to have a ten-year supply on hand. The third year the tobacco growers determined to reduce the amount grown. In fact, in 1908 they undertook to prevent its production almost altogether, and they were remarkably successful. The Equity Society was very active, especially in the matter of financing the farmers before the sales of tobacco were made. The case as presented to the tobacco grower was substantially this: "We have a certain quantity of tobacco on hand; we can sell it for around 15 cents a pound if we do not add to the amount in stock. Is it not better to sell one or two crops at 15 or 18 cents than to add a third crop to the amount and sell the entire quantity for the same aggregate sum, or for even less?" In spite of the protestations of the American Tobacco Company that they did not need any more Burley tobacco, they paid the prices asked, from 17 to 20 cents, for the pooled tobacco.

This was a victory such as few organizations of farmers have ever won. However, the production of Burley tobacco, which was but about one-tenth of

the normal amount in 1908, suddenly rose to the usual amount in 1909. The price which had been held at such a high figure immediately slumped to half the amount. The pooling of the crop came to an end. The monopoly of the American Tobacco Company was more complete than before, on account of the refusal of the Burley Tobacco Growers' Association[1] to sell to independent tobacco manufacturing companies using low-grade tobacco, their supply at anything below the general price for the pool. In short, what had happened was substantially this: The conditions under which Burley tobacco was produced underwent a pronounced change. The price fell. A concerted resistance to the reduction of price, accompanied by a rigid limitation of supply, succeeded in effecting a return to the old price for a period. After this the economic forces again asserted themselves, the resistance weakened, and the normal conditions, a new normal, prevailed.[2]

Although the Burley Tobacco Society, aided by extra-legal methods, was able to exercise considerable monopoly power, it is significant that *economic forces again asserted themselves.* In other words, the high prices brought by the monopoly stimulated production, and the tobacco pool was added to the list of those temporary attempts at monopoly practices by cooperatives which have died at their own hands.

Collective Bargaining and Milk Prices.—For the exercise of monopoly principles of price control, fluid market milk probably offers as great opportunities as any agricultural product of large importance. Market-milk producers around certain cities have organized into bargaining associations and, by control of the product, have in some cases held prices several cents per gallon higher than they would have been, judging by prices in other cities, had the producers not been organized. Such organizations, known as *bargaining organizations*, have refused to sell to retail milk distributors except at designated prices and have succeeded in getting the higher prices demanded. But the success of all such schemes requires that the plans for keeping surplus milk off the market be carefully worked out and executed.

Price cannot be increased, unless the demand can be increased or the supply reduced. Most of the people who talk about price control will agree that it necessitates control of the supply. Many, however, do not appear to realize that such control of the supply must extend to the degree of being able to reduce the supply coming on to the market, not only temporarily, but, generally speaking, permanently, so long as prices are to be held up.

Milk bargaining organizations which have enhanced prices have been successful in working out and executing devices for keeping down the supply. One device which has been used much has been to pay each member the price agreed upon with distributors by bargaining for only

[1] The actual name of this association was the Burley Tobacco Society.

[2] B. H. Hibbard, *Marketing Agricultural Products* (Appleton, 1921), pp. 233–235.

a definitely limited amount of milk for each producer, this amount, or quota of the member, being frequently referred to as his *basic* supply. For excess milk the member receives a lower price, based upon its value for manufacturing into butter or other products, and this milk is frequently referred to as *surplus* milk. As such bargaining organizations generally operate in areas where it is not profitable to produce milk for butter purposes, the fact that the member gets only the butter price for his production above his basic quota tends to discourage him from increasing his production above that amount. The above statements, of course, need to be modified to the extent of saying that some bargaining organizations operate very close to large surplus-milk areas. But in such cases the extent to which the bargaining organization can raise the fluid-milk price is closely limited. If it raises the price too high, the surplus will appear on the market at a lower price and the bargaining organization must reduce prices or lose its trade.

Milk bargaining organizations frequently have their troubles. Some years ago the members of the Inter-State Milk Producers' Association of Philadelphia, one of the best known milk bargaining associations, contended that prices received were so low that, unless an increase were granted, they would have to sell many of their cows. The management of the association succeeded in getting the distributors to agree to a higher price. The price agreed upon was, however, so high that members considerably increased their herds. The result was that a large surplus quickly developed and threatened to wreck the association. To avert this danger, the association had to lower the price. The president of this association has publicly said, "When the basic price [fluid-milk price by bargaining] is as much as a dollar per hundredweight above the surplus price [based on value for butter], I lie awake at night worrying."

If milk bargaining organizations insist upon too high a price, they may get it temporarily, provided they have signed up in their organization practically all milk producers in the city's natural milk shed. But *surplus milk* will appear, and some distributor of fluid market milk will arrange to take all the surplus of a number of farmers at a price above the regular surplus price but below the price bargained for by the association. At this stage there are frequently milk wars, and usually the *basic* price is reduced.

Another method which milk bargaining organizations have used to keep surplus milk out of a market has been a close working agreement with the city's health department. Bargaining associations usually have inspectors checking up on members' milk and often have considerably improved the average quality of a city's milk. The result often is considerable assistance from the health department. This is illustrated by a statement made by the manager of the San Diego, Calif., bargaining association. Fluid milk prices in San Diego were comparatively high.

The manager of the San Diego association was asked how he was able to keep milk from more remote territory from coming in and spoiling prices. He replied that the nearest surplus area was the Imperial Valley, but that the milk of no farmer could be sold in San Diego unless his dairy was approved by the city's health department, and that thus far the health department had refused to inspect dairies in the Imperial Valley.

Some of the features of the milk market which permit control of prices of fluid milk to be carried to a greater degree than has been possible with most products are the following: (1) Milk is so perishable that a surplus cannot be carried over to come upon the market and lower prices later. (2) It cannot be economically shipped long distances, which reduces the number of producers within a market area whom it is necessary to keep organized and to hold in line. (3) The cost of marketing services is so great that a substantial increase in prices to farmers has but slight comparative effect on prices paid by consumers. (4) The demand for milk is relatively inelastic, so that consumers will not greatly decrease their consumption because of a moderate increase in price. (5) Prices collectively agreed on, if not too high or too low, result in stability and regularity of price and supply, which are pleasing to retail distributors and consumers as well as farmers. (6) Collective-bargaining organizations usually give considerable attention to improving the quality of the milk. (7) There must be a seasonal surplus anyway, and a method must be provided for taking care of this. (8) The surplus can be converted into butter and other products and thereby be removed from the fluid milk market more easily than surpluses of most other products can be disposed of.

Monopoly Attempts with Other Farm Products.—With butter the situation is entirely different. Butter from so many sources competes in so wide a market area that butter prices have not been and cannot be stabilized in the same manner as those of fluid market milk.

Lemons are like fluid milk in that the demand for them is inelastic. By decreasing the supply, the price can be raised enough to cause the smaller supply to bring to the producers in the aggregate more money than a large supply. About 90 per cent of the lemons produced in the United States are marketed through the California Fruit Growers Exchange. A few years ago the supply of lemons was so large that it was known that, if all were marketed as fresh fruit, prices would be so low as to be disastrous to many growers. A considerable supply of really good lemons was therefore turned into by-products by the exchange. These by-products did not compete appreciably with fresh fruit, and, by thus reducing the supply of fresh fruit, the growers got more money for their crop as a whole. But the lemons turned into by-products brought very little money. If 10 per cent of each grower's lemons were converted into by-products, every grower would get more money than if all the lemons

were marketed as fresh fruit. But any grower who sold all his fruit as fresh fruit, whereas others contributed a part of their crops to by-products, would get more money than if he also contributed a part of his fruit to by-products. Because of this, several local associations withdrew from the exchange, and insisted on selling all their lemons as fresh fruit.

This is the usual outcome of such a plan. In the case of any widely produced product, those who want to walk under the "umbrella of higher prices created by artificial scarcity," but who do not want to help hold up that umbrella, are numerous enough to wreck the plan. By selling on the outside all their product, they get more than the insiders. Soon there are more outsiders and fewer insiders, and the plan collapses.

Apples and wheat are examples of commodities produced over so wide an area that any effort to withhold any appreciable part of the marketable crop from the market in order to get more money for the balance results simply in a loss for those who withhold their crops, though there may result a higher price for others. With any commodity as widely produced for as wide and as highly competitive a market as wheat or apples, all of the crop that can be sold for more than harvesting and marketing expenses will normally go to market. Unless the power of government is used to a degree which has rarely been done, the only way to keep such a crop from going to market is to keep it from being produced. And, if it goes to market, it cannot be sold for more than buyers can be induced to pay for it and to clear the market.

For several years the rice growers of California worked a plan somewhat similar to that of converting lemons into by-products, as above discussed. The plan consisted of moving enough rice out of the country and selling it in the Orient at lower prices to elevate appreciably the domestic price and the average price received by growers. The plan worked because the exported part of the crop was small, because the growers were not numerous, were close together, and were strongly organized, and because the organization had the cooperation of practically all the rice mills, which are relatively few in number. These cooperated in such a way that all growers were practically forced to bear their part of the loss on the portion of the crop dumped abroad. Unless they did, the mills would not handle their rice. More recently the mills have not cooperated to the same extent and the plan has not worked so well.

With a crop grown by as many persons and handled through as many domestic and foreign outlets as cotton, apples, wheat, or potatoes, the chances of successfully applying such a plan are very small indeed.

One method of "umbrella holding" which cooperatives are sometimes expected by both their friends and enemies to employ is simply to hold their crop back from the market. Numerous cooperatives have done this to the extent that they later had to sell at lower prices than the out-

siders got while the cooperative was holding back. This practice was an important contributing factor to the failure of the large-scale cooperative tobacco marketing associations which operated in Kentucky and adjoining states from 1921 to 1925, each of which associations had over 70,000 members. It is one of the causes of difficulties experienced by the Sun-Maid Raisin Growers' Association of California during recent years and by many other associations.

Cooperatives can smooth out the fluctuations in prices to a slight degree. For a few commodities with certain peculiarities connected with their marketing, a certain degree of price lifting through collective action is possible. But all such possibilities are very limited. Successful cooperative marketing organizations have been due primarily to their offering better products through improved grading and standardization, to improved selling, and to reduction of marketing costs, rather than to ability to control the price. Price-controlling plans must always consider supply and demand, and only by influencing these can price be controlled.

The Capper-Volstead Act.—Previous to 1922, producers of agricultural products attempting to exercise some control over price through cooperative associations were frequently threatened with prosecutions under the anti-trust laws. In some cases officers of cooperative associations were temporarily lodged in jail, and in one case, that of the California Associated Raisin Company, investigation by the Federal Trade Commission resulted in a court decree, assented to by the association, to refrain from certain practices. As a result of such events there was enacted in 1922 the Capper-Volstead Act, which largely freed agricultural cooperative marketing associations from prosecution under the anti-trust laws. This contains certain provisions sufficiently important to be quoted:

> That persons engaged in the production of agricultural products as farmers, planters, ranchmen, dairymen, nut or fruit growers, may act together in associations, corporations, or otherwise, with or without capital stock, in collectively processing, preparing for market, handling, and marketing in interstate and foreign commerce, such products of persons so engaged. Such associations and their members may make the necessary contracts and agreement to effect such purposes: *Provided, however*, That such associations are operated for the mutual benefit of the members thereof, as such producers, and conform to one or both of the following requirements:
>
> First. That no member of the association is allowed more than one vote because of the amount of stock or membership capital he may own therein, or,
>
> Second. That the association does not pay dividends on stock or membership capital in excess of 8 per centum per annum.
>
> And in any case to the following:
>
> Third. That the association shall not deal in the products of nonmembers to an amount greater in value than such as are handled by it for members.

Sec. 2. That if the Secretary of Agriculture shall have reason to believe that any such association monopolizes or restrains trade in interstate or foreign commerce to such an extent that the price of any agricultural product is unduly enhanced by reason thereof, he shall serve upon such association a complaint stating his charge in that respect, to which complaint shall be attached, or contained therein, a notice of hearing, specifying a day and place not less than thirty days after the service thereof, requiring the association to show cause why an order should not be made directing it to cease and desist from monopolization or restraint of trade.

Though the Capper-Volstead Act leaves a cooperative association still subject to prosecution under the anti-trust laws, provided it has been investigated by the Secretary of Agriculture and he has reached the conclusion that it has restrained trade "to such an extent that the price of any agricultural product is unduly enhanced thereby," the result of this legislation has been that no agricultural cooperative marketing association or its officers have been prosecuted under the anti-trust laws since it was enacted. The power possessed by any cooperative agricultural marketing association of restraining trade to the extent of unduly enhancing prices is so limited that the possibilities of prosecution under the terms of the Capper-Volstead Act appear rather remote.

The Capper-Volstead Act has a secondary importance for the reason that under the Agricultural Marketing Act which in 1929 created the Federal Farm Board and provided 500 million dollars of funds to be lent primarily to cooperative marketing associations, the definition of a cooperative marketing association which was adopted was that of the Capper-Volstead Act.

Government Control of Price.—In certain foreign countries considerable manipulation of prices of farm products through government action has been attempted from time to time in the world's history, but particularly during and since the World War. In this country, also, there was some guaranteeing of minimum prices during the World War. These war-time operations, however, were for the purpose of stimulating production by assuring producers that they could rely on receiving not less than the guaranteed price.

The Federal government and some of the state governments have undertaken to influence minimum prices for farm products by direct government action or by facilitating farmer organization for price control. In passing it should be noted that the objective in these cases was the opposite of the purpose during 1917–1919. In the former period the purpose was to stimulate production. Since 1929 the programs have been designed to ameliorate critical farm conditions by raising prices above low market levels. The Federal Farm Board, beginning in 1929, tried to stabilize the price of wheat and cotton (in reality to keep them from dropping) by extensive purchases of these commodities. Since

1933 various programs of the Agricultural Adjustment Administration, from subsidized exports to nonrecourse loans on stored staples, have attempted to place "bottoms" under the prices of some farm products, with only partial success.

By the marketing-agreements program the Federal government since 1933 has attempted to assist producers of certain perishable goods in withholding part of these from the market. Such a program of control of shipments of perishables also has been carried out under the California Prorate Act of 1933. For certain commodities California is the sole or dominant source of supply. This localized supply situation both facilitates the organization of the prorate plans and at the same time returns all or nearly all the benefits to the California farmers. Such plans go into effect only after their approval in a referendum vote by two-thirds of the growers.

Even though government authority by various devices including penalties may force a reduction of amount put on the market, difficult economic problems remain. The locaion and contour of the demand curve will determine sales if price is fixed, or price if volume is controlled. Scientific price fixing or volume control involves the making of demand estimates often on the basis of sketchy evidence. Furthermore, such plans do not go to the root of the problem in those frequent cases in which the undesirably low price arises from excess productive capacity. Finally, there are difficult problems of balancing the interests of various groups of producers—let alone the interests of the consumer.

THE FARMER AS A VICTIM OF MONOPOLY

Farmers in Relation to Buyers' Monopolies.—Farmers in some cases unquestionably have been victims of buyers' monopolies of middlemen to whom they have had to look for a market for their products. Monopolies which existed in the grain-buying trade about 1900 have already been mentioned. Apparently in times past, under certain conditions, there has been a degree of monopoly profit in meat packing, resulting in lower prices for livestock to farmers than would have prevailed with regular competition, though the very modest or meager business profits of the large packing companies in recent years would tend to indicate that, if such monopoly exists at present, it is quite limited as to degree. That there have been monopoly profits in tobacco manufacturing is indicated both by the fact that the American Tobacco Company in 1911 was found guilty by the U. S. Supreme Court of having violated the Sherman Act and also by the extent of the net profits of the tobacco-manufacturing companies. In tobacco manufacturing, the effect of monopoly upon prices received by farmers for tobacco is, however, not so clear. The supply of tobacco appears to be very elastic. Tobacco production will very quickly be increased if prices have been especially satisfactory. It

appears that the price of tobacco within a very short period of time will adjust itself through the influence of supply to a not highly remunerative price for which growers will produce it. Though without doubt farmers have been forced to take reduced prices for their products because there existed buyers' monopolies of middlemen, the evidence available leads to the conclusion that the extent to which farmers have been victims of monopoly has been much greater as a result of sellers' monopolies of goods, including services, of which the farmer is directly or indirectly a buyer.

Some Sellers' Monopolies.—The extent of monopoly in those industries which supply the goods of which the farmer is a buyer is not capable of exact determination. A few illustrations, however, may be given of some of its ramifications. Medical services supplied to farmers and their families may be the result of monopoly agreements. Without doubt there is an element of monopoly in the price determination of many drugs. The following list of percentages (Table 27) of net earnings on invested capital by a number of corporations for the years 1926 and 1927 certainly indicates monopoly in some instances.

TABLE 27.—NET PROFITS OF SELECTED COMPANIES[1]

Company	Per cent earned on invested capital	
	1926	1927
Lambert Pharmaceutical Company (manufacturers of Listerine).	161.80	181.10
Melville Shoe Company	24.06	24.29
Gillette Safety Razor Company	31.08	33.31
Caterpillar Tractor Company	20.00	26.60
Cerro de Pasco Copper Corporation	58.20	54.60
Canada Dry Ginger Ale, Inc	48.31	57.80
General Electric Company	14.35	14.41

[1] Data from Laurence H. Sloan, *Corporation Profits* (Harper, 1929), p. 141.

Monopoly in Public Service.—On page 70 it has been shown that in 1937 about 15 per cent of the wealth of the United States was engaged in businesses affected with a public interest, of which the rates and charges are fixed by public authority. In 1931 it was stated by a reliable authority that, "for products which are sold by public service corporations at government-controlled prices, we spend over $12,245,000,000 a year."[1] The significance of these figures is better realized if they are compared with the national income of $89,419,000,000 for 1928. The amount spent for railway transportation services alone in 1929 was $6,486,175,000. Privately owned light and power companies received

[1] S. H. Slichter. *Modern Economic Society* (Holt, 1931), p. 376.

for their services in 1927 $1,841,227,000; telephone companies reporting to the Interstate Commerce Commission received in 1929 $1,172,863,000; electric railways received in 1927 $927,774,000, privately owned gas companies over $800,000,000, express companies nearly $300,000,000, and pipe lines, telegraph, and cable companies, water carriers, and the Pullman Company enough to bring the total to over $12,000,000,000.

These were all privately owned companies with rates or charges subject to public regulation. They were publicly regulated for the purpose of protecting the public from unfair charges, but this by no means guarantees that a thoroughly competitive business such as agriculture was not thereby to some extent made the victim of monopoly practices. In the railway business, for example, rates are regulated with the purpose of allowing a fair return on invested capital after all other expenses are paid. By far the most important of such other expenses are wages and salaries. From 1920 to 1926 about 80 per cent of all the income realized from railroad transportation, which was *not paid to other industry,* such as to the coal industry for fuel and to government in taxes, was paid out in wages and salaries.[1] But wages and salaries of many classes of railway workers at the present time are undoubtedly above a really competitive basis; that is, they are higher than similar labor would be paid under competitive conditions. The persons now employed hold their positions through seniority privileges, and other persons are denied the opportunity of employment. Likewise, high officials who are paid from $50,000 to $100,000 per year are by no means always employed on the principle of securing the most thoroughly competent service for the least necessary expenditure. There are other features of *inside monopoly* which result in greater expense than would need to be incurred except for such inside monopoly. All of this results in higher frequent rates than would be necessary except for such features of monopoly, and of all of this monopoly the farmer to a certain extent is the victim in that transportation costs are either added to factory costs for what he buys, or subtracted from terminal selling prices for what he produces for sale.

An illustration of the manner in which corporation costs may be the result of inside monopoly of management is furnished by some events about the Bethlehem Steel Corporation which came to light in 1930. Though this corporation alone has by no means a monopoly of the supply of steel, the methods which are here illustrated are beyond doubt used in cases where they add to the cost of goods which farmers must buy. During a lawsuit which grew out of the efforts of the Bethlehem Steel Corporation to acquire the Youngstown Sheet and Tube Company, it was revealed that directors of the Bethlehem Steel Corpora-

[1] W. I. King, *The National Income and Its Purchasing Power* (National Bureau of Economic Research, 1930), p. 125.

tion had for thirteen years, without the knowledge of stockholders, awarded to a very small group of executive officers, altogether twenty-one in number but never more than fifteen in any one year, bonuses aggregating over 30 million dollars. Charles M. Schwab, chairman of the board of directors, who himself did not share in them, awarded the bonuses. The bonuses thus awarded to the president, Eugene Grace, averaged $814,-993 per year. In spite of the fact that of this giant corporation's total assets of over 700 millions, the net worth represented by common stock was over 430 millions, this small group of officers received in bonuses a sum equal to about 80 per cent of all payments in dividends to common stockholders.

A group of large stockholders who organized to bring about a discontinuance of the bonuses protested against them in the following language:

Although the bonuses have thus been made the subject of inquiry and criticism by the group of stockholders represented by the Committee, and although a suit has been brought by other stockholders in the New Jersey Chancery Court to obtain redress in respect to the bonuses (in which suit the Committee has intervened), the directors of the corporation, nevertheless (while denying to the Committee access to the list of stockholders to which they were clearly entitled), have seen fit to send to the stockholders a letter of Chairman Schwab under date of March 2, 1931, together with a notice of the annual meeting to be held on April 14, 1931, stating as one of the special purposes of such meeting "The approval and ratification of the administration of the bonus system since 1917" and have solicited proxies running to Mr. Schwab and several of his fellow-directors authorizing them to vote at such meeting in approval of their own acts since 1917 in respect of the bonuses. In other words, the directors have attempted to secure a vote of immunity while denying to the other side any opportunity to be heard. Nothing could be more unfair.

Chairman Schwab in his letter of March 2nd attempts to make it appear that the practices of the directors as to bonuses have been known to the stockholders. This is contrary to the fact. It has been the regular yearly practice of the directors to take proxies authorizing them to vote at the annual meetings in favor of the ratification of their acts for the preceding year. If the bonuses had been the subject matter of disclosure to the stockholders during these years, it would be pointless to ask for proxies authorizing a vote in ratification of the bonuses since 1917.

A careful scrutiny of the annual reports of the corporation for the period in question will show that there is not in any of them the least mention of bonuses nor could the most astute analyst have gleaned from any of the earnings statements or balance sheets accompanying these annual reports anything relating to the compensation of officials, which subject is submerged in one bare item of operating expense.

Not only were the bonuses not disclosed but they were studiously concealed. The annual reports deal in the text as well as in the schedules of figures at length and in detail with the pension system of the corporation which involved an

expenditure of a few hundred thousand dollars a year but no mention whatsoever is made of bonuses which run into millions annually.

The plain fact of the matter is that no voluntary disclosure has been made of this bonus system and that it was only when the Bethlehem officials were cross-examined in the Youngstown suit that the facts became known. You are a stockholder. When and how did you first learn of the extent and character of this bonus system?

The amount of the bonuses is most unseemly and improper. The president, Mr. Grace, it now appears, received in the year 1929 a bonus of $1,623,753 and in the year 1930 a bonus of $1,015,591. *During the period in which these bonuses for executive officers have been in force, and up to the close of* 1928, *there has been taken out of the corporate treasury for this purpose* $31,878,255 *as against* $40,886,996 *paid to common stockholders. In other words, the amount paid as bonuses is about* 80 *per cent of the amount distributed as common dividends to the owners of the equity of the property.* In the four years 1925–28 inclusive, during which not a dollar of dividends was paid to common stockholders, $6,800,524 in bonuses was paid to these few favored directors and other executives. The president alone took $3,105,963 as bonuses during these years. Although the company in 1930 failed to earn its dividends, it nevertheless paid a bonus of $1,015,591 in that year to its president.

Mr. Schwab at page 17 of his letter states: "There is, of course, no relation between compensation to executives and payment of dividends." He then goes on to point out that the question of the payment of dividends is in the sound discretion of the directors. If the condition of the corporation is such that the directors in the fair exercise of discretion should withhold from the owners of the property any share of the earnings, it must, of course, follow that fair exercise of discretion would compel them to avoid paying inordinate bonuses to favored directors and other executives.[1]

Corporate Business Profits.—Under competitive conditions the rate of profit in different kinds of business undertakings tends to equality. The same is true for wages of labor requiring the same degree of skill or ability and hardship. If one kind of business or one kind of work is more profitable than another kind, the tendency is for people to change from the less profitable into the more profitable until equality tends again to prevail, allowance, of course, being made for the risk involved in each kind of undertaking. The continued presence, therefore, of an unusually large return, either as a percentage of *net profit* on invested capital or as payment for a given amount of personal service performed in any kind of economic activity, raises the question of whether the door to that kind of economic or business undertaking may not have been closed or made difficult to enter through "monopoly tactics." Because this is true, Table 28, showing "net profits" as a percentage of net worth for nearly 2,500 of the nation's largest corporations engaged in manufacturing,

[1] Protective Committee for Stockholders of Bethlehem Steel Corporation, circular letter, April 29, 1931.

trading, transportation, etc., for the years 1937, 1938, and 1939, is of interest.

As the companies whose profits and losses have been summarized in this table had on Jan. 1, 1939, a net worth (excluding all indebtedness) of over 55 billion dollars, this represents the control of a large part of the wealth of the country. On the other hand, as less than 2,500 corporations are included, the results of only distinctly large corporations are shown and the profits of these average higher than those of smaller corporations.

The percentage of return on net worth for each particular kind of business for each of the three years furnishes the information of greatest significance in indicating the presence or absence of monopoly. Though these percentages are on book value—which may either be "watered" or be an understatement of actual net assets, and, therefore, should not be regarded as an exact statement of earnings on the net investment—nevertheless, they do in a rough manner show the percentage earned on net investment. The years shown cover two of the most prosperous years since 1929 and one rather poor year, though not so poor as the years 1931, 1932, and 1933.

In judging the extent of competition reflected by these figures, both the size of the percentage of net profit and its regularity need to be noted. Moreover, the nature of the business needs to be kept in mind. Furthermore, it should not be overlooked that where there are no undue or monopoly profits for the stock of these corporations, there may still be inside monopoly of labor or of managerial salaries.

With these cautions in mind, it would appear that certain industries, such as soft drinks, tobacco products, chemicals, and drugs, reflect for the entire three years a rate of profit, and a regularity in profit, which suggests at least some degree of monopoly, though not necessarily anything illegal. Certain other industries, such as cotton mills, coal mining, leather tanning, and woolen goods manufacturing, represent for the entire period such a low rate of return as to indicate, not only the absence of monopoly, but a large amount of sunk capital upon which a normal rate of interest is not being earned. For three of these groups the deficits or losses of the poor years more than offset the profits of other years. Still other businesses, such as electrical equipment, and motor-vehicle parts, show for fairly prosperous years profits highly suggestive of monopoly, and such low returns for 1938 as to demonstrate that even businesses with an element of monopoly cannot escape the effects of depressions and that these hit some kinds of businesses harder than they do others.

The bakery and nonfood chain-store groups illustrate businesses as to which everyday observation proves conclusively that they are in competition with other business organizations smaller in size and differently organized, though performing the same services as the organizations

TABLE 28.—PROFITS OF LEADING CORPORATIONS, 1937, 1938, AND 1939[1]
(In Thousands of Dollars)

Number of corporations[2]	Industrial groups	Net profits			Net worth Jan. 1, 1939	Per cent return		
		1937	1938	1939		1937	1938	1939
21	Baking	$ 23,871	$ 27,168	$ 27,312	$ 314,498	7.6	8 6	8.7
18	Dairy products	22,430	23,928	28,905	291,363	7.8	8.4	9.9
22	Meat packing	18,819	D-5,980	27,370	557,144	3.2	..	4 9
41	Sugar	27,413	7,332	17,986	440,768	6.6	1.6	4 1
67	Miscellaneous food products	90,900	87,261	99,530	962,664	9 8	9 2	10 3
169	Total food products	$ 183,433	$ 139,709	$ 201,103	$ 2,566,437	7.2	5.4	7 8
13	Soft drinks	$ 29,309	$ 34,217	$ 39,140	$ 104,383	38 5	35 2	37 5
34	Brewing	10,908	12,274	15,655	89,310	14.2	15 1	17 5
16	Distilling	15,710	11,710	11,171	112,015	17.0	11 9	10 0
63	Total beverages	$ 55,927	$ 58,251	$ 65,966	$ 305,708	22.8	21.0	21.6
24	Tobacco products	$ 95,532	$ 93,085	$ 96,385	$ 733,661	12.9	12.8	13 1
45	Cotton goods	$ 14,176	D-7,582	$ 9,844	$ 270,128	4.7	...	3.6
13	Silk and rayon	12,428	3,990	13,405	116,421	11.1	3.4	11.5
9	Woolen goods	D-906	D-6,332	4,066	95,227	...	....	4 3
24	Knitted goods	4,415	3,475	5,366	68,173	7.0	5.2	7.9
38	Miscellaneous textile products	22,897	D-1,783	22,741	256,947	8 8	..	8 9
129	Total textile products	$ 53,010	D-8,232	$ 55,422	$ 806,896	6.4	....	6.9
27	Clothing and apparel	$ 6,885	$ 2,944	$ 11,426	$ 109,371	6.4	2.6	10.4
8	Leather tanning	$ 1,833	D-4,754	$ 3,430	$ 44,496	3.4	....	7.7
20	Shoes, etc.	12,969	7,421	12,235	177,500	7 1	4 2	6.9
28	Total leather products	$ 14,802	$ 2,667	$ 15,665	$ 221,996	6.3	1.2	7.1
29	Rubber products	$ 30,104	$ 23,867	$ 44,410	$ 472,730	6.4	5.0	9.4
36	Wood products	$ 16,602	$ 2,688	$ 11,422	$ 162,623	11.2	1.7	7.0
65	Paper products	$ 43,739	$ 21,990	$ 41,434	$ 645,839	7.5	3.4	6 4
33	Printing and publishing	$ 14,999	$ 7,437	$ 13,274	$ 185,315	8.2	3.9	7.2
44	Chemicals—industrial, etc.	$ 213,602	$ 120,982	$ 205,458	$ 1,592,167	14.7	7.8	12 9
25	Drugs	62,357	56,195	75,897	388,352	18.4	13.9	19.6
8	Fertilizer	5,946	2,782	1,777	81,561	7.5	3.4	2 2
13	Paint and varnish	17,752	7,312	17,340	213,102	8.4	3.4	8 1
90	Total chemical products	$ 299,657	$ 187,271	$ 300,562	$ 2,275,182	14.4	8.3	13.2
47	Petroleum products	$ 471,299	$ 190,045	$ 222,493	$ 4,126,218	10.0	4.6	5.4

D—deficit or loss.

[1] National City Bank of New York, *Bulletin on Economic Conditions*, April, 1940. Net profits are shown after depreciation, interest, taxes, and other charges and reserves, but before dividends. Net worth includes book value of outstanding preferred and common stock and surplus account at beginning of each year. See the April issue of this bulletin of other years for earnings of preceding years.

[2] During 1938 and 1939 there are included 2,480 corporations but their total net worth was slightly less in 1938 and only slightly more in 1939 than that of the 2,435 corporations included in 1937.

included, but that these large organizations have not sufficient competition as yet from other organizations of the same type or a different type

TABLE 28.—PROFITS OF LEADING CORPORATIONS, 1937, 1938, AND 1939.—(*Continued*)

Number of corporations[2]	Industrial groups	Net profits			Net worth, Jan. 1, 1939	Per cent return		
		1937	1938	1939		1937	1938	1939
59	Stone, clay, and glass	$ 76,459	$ 37,891	$ 69,664	$ 758,414	11.6	4.9	9.2
60	Iron and steel	$ 226,794	D-8,388	$ 142,215	$ 3,191,521	6.9	....	4.5
13	Agricultural implements	67,153	36,127	28,412	553,667	13.1	6.6	5.1
41	Building equipment	37,679	2,343	25,273	383,720	10.1	0.6	6.6
61	Electrical equipment	144,380	55,284	101,261	968,706	15.2	5.7	10.5
53	Hardware and tools	48,326	13,936	34,413	310,288	16.5	4 5	11.1
43	Household equipment	22,935	8,708	17,854	152,369	14.6	5.7	11.7
111	Machinery	78,004	35,791	50,119	583,810	14.5	6.1	8.6
20	Office equipment	44,253	22,637	23,809	228,783	20.2	10.0	10 4
28	Railway equipment	53,796	D-5,760	15,383	705,746	7.6	....	21.8
25	Aircraft and parts	7,778	14,281	27,527	131,126	7.2	11.7	21.0
53	Miscellaneous metal products	54,359	27,916	58,297	587,172	10.7	4.7	9.9
508	Total metal products	$ 785,457	$ 202,965	$ 524,563	$ 7,796,908	10.3	2.5	6.7
29	Motor vehicles (complete)	$ 254,672	$ 101,480	$ 224,468	$ 1,412,814	18.5	7.3	15 9
52	Motor vehicle parts	47,179	D- 444	30,675	239,429	17 9	...	12.8
81	Total motor vehicles	$ 301,851	$ 101,036	$ 255,143	$ 1,652,243	18 4	6.2	15.4
22	Miscellaneous manufacturing	31,629	3,895	8,875	96,607	12.7	4 0	9.2
1,410	Total manufacturing	$2,481,385	$1,067,511	$1,937,807	$22,916,148	10.8	4.6	8.5
25	Coal mining	$ 1,244	D-5,908	D-1,105	$ 430,764	0.3		
127	Total mining and quarrying	$ 216,100	$ 117,653	$ 168,502	$ 2,678,024	8.7	4.2	6 3
214	Total transportation	$ 94,949	D-124,078	$ 102,437	$13,646,481	0.7	....	0 8
157	Total public utilities	$ 566,852	$ 517,788	$ 599,443	$ 8,674,383	6.6	5 8	6 9
18	Chain stores—food	$ 11,382	$ 13,673	$ 20,262	$ 194,848	5 8	7.1	10.4
49	Chain stores—other	101,486	79,422	95,038	716,853	15 3	11 3	13 3
31	Department stores	10,632	8,909	13,100	228,821	4.4	3 9	5 7
5	Mail order	53,148	44,346	65,772	468,314	12 2	9.8	14 0
42	Wholesale and miscellaneous	13,941	8,197	11,785	215,960	6 9	3 8	5.5
145	Total trade	$ 190,589	$ 154,547	$ 205,957	$ 1,824,796	10 9	8.6	11 3
85	Total service and construction	$ 44,148	$ 39,767	$ 43,755	$ 689,291	7.2	5.9	6.3
296	Total finance	$ 436,997	$ 345,873	$ 398,428	$ 5,071,923	8.6	7 0	7.9
2,435	Grand total	$4,031,000	$2,119,061	$3,456,339	$55,501,046	7.2	3.8	6.2

to bring their business profits to what is ordinarily regarded as a *normal rate.*

In dealing with the problem of monopoly, farmers either may condone monopoly by others and attempt so to develop agricultural monopoly as to offset other monopoly, or they may attempt, so far as possible, to prevent, regulate, and control monopoly in other kinds of activity. The former alternative appears to offer but slight possibilities. Agricultural monopoly is impossible unless people can be kept from entering the agricultural industry and be restrained from producing agricultural products. This, to any appreciable extent, is impossible except through mandatory restriction of output by governmental power. Therefore it would seem that the interest of those engaged in agriculture and in all other necessarily thoroughly competitive occupations will be best promoted by their insisting that monopoly which restricts opportunity, restrains trade, and gives special advantages to favored groups shall be held to a minimum in other industry.

Those with special or *differential* advantages cannot be prevented from making larger profits than those without such advantages. But they can be forced to share with others a part of their gain from such advantages by a system of progressive income taxation, by which the public appropriates a part of the gain resulting from special or differential advantages. Such a system of taxes will have as an incidental result the possibility of lowering taxes on producers in competitive industries. Labor in competitive industry will benefit by this process because, with lower taxes on all engaged in such industry, competition for laborers among producers therein engaged will have the result that the increase in net returns to such an industry as a whole will be shared with labor in that industry through higher wages.

Questions and Problems

1. Explain the circumstances under which individual farmers or farmer organizations can successfully exercise a degree of monopoly power. Give illustrations.

2. What have been usual consequences of monopolistic activities on the part of cooperative marketing associations? Why?

3. What is the position of farmers' cooperative marketing associations as to monopolistic practices under the Capper-Volstead Act? Explain fully.

4. Has government aid enabled farmers to practice monopoly?

5. How are farmers affected by monopoly practices on the part of other businesses? Give illustrations.

6. What is *inside monopoly?* Examine the newspapers and periodicals for the years 1933 and 1934 for a recounting of the cases of this type of monopoly which were exposed in the Senate investigation of that year. See especially metropolitan daily papers, such as the *New York Times*, of about Mar. 1, 1934.

7. Based upon a careful study of Table 28, point out the following:

a. Those industries which showed the largest and best maintained rate of return on net worth during 1937 and the two following years.

b. Those industries in which the rate of return on net worth was the lowest and the most irregular.

8. What is the logical attitude of farmers toward monopolies?

Suggested Readings

1. B. H. Hibbard, *Marketing Agricultural Products*, Chaps. XVI and XXI, furnishes a number of illustrations of unsuccessful efforts of farmers to exercise monopoly powers in the marketing of their products.

2. H. D. Filley, *Cooperation in Agriculture* (1929), Chaps. IV and V, gives the details of a struggle between the farmers and a buyers' monopoly in the grain trade.

3. E. A. Stokdyk, "Economic and Legal Aspects of Compulsory Proration in Agricultural Marketing," University of California Experimental Station *Bulletin* 565 (1933), discusses problems and procedures under shipment-control plans, written about the time the California law was passed.

4. H. R. Wellman, "Possibilities and Limitations of Control of Shipments as a Method of Dealing with Tree Fruit Surpluses," *American Cooperation* (1938), pp. 478–495, is a penetrating analysis of the problem of limiting shipments with reference to experiences in California.

5. Jules Backman, *Government Price Fixing* (1938), analyzes attempts at government price fixing of raw materials in this and other countries.

6. Matthew Josephson, *The Robber Barons* (1934), contains colorful accounts of the making of some great fortunes by monopolistic methods.

7. See Suggested Readings, Chap. XI, page 261, for further references on monopolies of which farmers either have been or may be victims.

CHAPTER XIII

MONEY AND CREDIT

Our study now passes from the consideration of the factors determining the prices of particular goods to the examination of the meaning of the general price level and the factors causing it to vary. The term *general price level* refers to the change which occurs from time to time in the average of prices of all kinds. Thus the general price level rose rapidly during the inflation of the World War, collapsed thereafter, rose again in 1922 and 1923, and then remained on a fairly even keel until a new and marked decline began in 1930. That the general price level went through these gyrations does not indicate that all prices of particular goods did likewise. In fact, some individual prices often move opposite to the general level, for that level is only an average; and individual prices may vary much more than, much less than, or contrary to, the average.

In contrast to variations in values of particular goods which are due to changes in the demand or supply of these goods, fluctuations of the general price level are usually attributed to developments in the field of money and banking. The most generally accepted principle offered to explain general-price-level movements assigns these changes to variations in the quantity and rapidity of use of the medium of exchange as compared to variations in the volume of goods to be exchanged. Price-level fluctuations are accompanied by a greater change in the medium of exchange or its rapidity of turnover than in the volume of goods and services offered for sale.

Since money, in the sense of hand-to-hand cash, now performs less than 10 per cent of all exchanges (the other 90 or more per cent being carried on by the use of credit instruments), it is necessary to discuss the major characteristics of commercial banks, because these banks are the source of most of the credit instruments. Obviously, not all of the principles of money and banking can be presented in the confines of this book. In the selection of the principles to be discussed, especial emphasis will be given to the supply of money and credit instruments, the factors which cause this supply to vary, and the resulting effects upon prices.

PRINCIPLES OF MONEY

Nature of Money.—Money, in the sense of hand-to-hand cash, in which sense the word is most commonly used, may be defined as any medium of exchange of general acceptability. In this usage, money does

not include such credit instruments as checks and drafts, for they are acceptable only when offered by persons of recognized responsibility. A study of the history of money materials reveals that the articles or commodities which are of such general acceptability and have other characteristics which make them usable as media of exchange, have changed from time to time. Early American settlers along the Atlantic seaboard made use of the Indian wampum as money. Later the tobacco planters of the South used warehouse receipts for tobacco as money. However, the coins made of the precious metals gold and silver, and paper money redeemable in these metals, have proved to be the most successful forms of money. The characteristics which have caused these precious metals to replace almost completely all other commodities as *basic money* are the following: (1) they are widely in demand for uses other than their use as money; (2) they do not deteriorate to any appreciable extent; (3) they are uniform in character and easily divisible; (4) they are easily recognized or identified; (5) they are neither so plentiful as to be too bulky for use nor so rare as to be easily lost; (6) the total quantity does not change rapidly in short periods of time, and hence their value is correspondingly stable.

In a broader sense, the word *money* is sometimes used to include such credit instruments as checks and drafts, or bank deposits subject to check, which are employed as media of exchange, but which are not of general acceptability. When the term *money* is used in this book, however, it will be in its more limited sense except where the context implies the broader meaning. Occasionally, we shall also use the word *money* in even a more limited sense, such as *standard money* and *lawful money*, which will be defined later in this chapter.

Functions of Money. 1. *Medium of Exchange.*—In the modern exchange economy in which goods are produced for sale, money acts as a lubricating oil to facilitate exchange operations and is at the same time the tool by which the consumers' wishes are "telegraphed" to the producer. Barter, or the exchange of goods for goods, for several reasons presents such difficulties as to be possible only on a very limited scale. First, in a barter system the problem of divisibility of goods exchanged is confronted. A man who has a cow to trade cannot "break it up" to purchase a pig, and keep the remainder of the purchasing power to buy some wool next month—probably from a different seller. Second, in a barter system the seller cannot offer his goods for sale in a general market but must find someone who wants his particular goods and whose goods the seller also wants. The development of a medium of exchange in the form of money (and of credit instruments calling for the payment of money in the future) has made possible the specialization and accompanying productive efficiency of the exchange economy. Contrary to barter, a money system permits the seller to offer his goods in a general

market and to receive in exchange money or credit, which medium of exchange he may then apply to purchase whatever goods he desires. Money, in the broad sense, may be looked upon as generalized purchasing power.

In a system in which the producer and the consumer are separated by a series of exchanges of the commodity, the consumers who are ultimately the source of demand must have some means of making known their wants and thus directing production. Money, as generalized purchasing power, can be used by consumers to buy whatever commodities they want, and, as this money is passed back through the marketing agencies to the entrepreneur who carries on the form-changing operations, the latter is stimulated to further production. On the other hand, in the case of those goods for which the consumers will not offer sufficient money to cover production costs, the activities of the entrepreneur who undertakes the form-changing operations are discouraged by the fact that not enough money reaches him to cover costs. Money thus becomes the agency whereby consumers direct production under the modern exchange economy. Entrepreneurs in turn, through the distribution of the income to the productive agencies, provide the income of consumers. As a *medium of exchange,* therefore, money not only facilitates the division of labor but assists in directing the productive activities into those lines which consumers most desire.

2. *Standard of Value.*—Money is the only objective common denominator by which the value of different goods can be compared. The value of hogs in terms of corn is not found by the observation of the rates at which these two commodities are actually exchanged, for they are rarely bartered. Instead, their relative exchange values are compared by comparing the prices at which the two commodities are selling. Thus, if on a given day in Davenport, Iowa, corn is selling for 75 cents a bushel and hogs for $9 per hundredweight, the hundred pounds of hogs is twelve times as valuable as a bushel of corn and the hog-corn ratio is said to be 12. In a similar fashion the exchange value of corn in terms of all other goods is measured by the cents per bushel it can command. And, if the general price level remains unchanged, a change in the price of corn indicates a corresponding change in the value of corn.

3. *Store of Value.*—The person who wishes to save part of his product is eager to store this value in a form which is convenient and which at the same time will have relatively stable power of commanding other goods in exchange. Money and credit instruments occupy but a small space, do not deteriorate materially, and have a more stable purchasing power than most other goods, and hence are the best available form in which to save. In a marketing economy, a man actually has little opportunity to undertake the first step in saving in any other form, for most, if not all, of his income is received in money.

Money, as generalized purchasing power and as purchasing power of relatively stable value, does not have to be used at any particular time. This fact may have broad economic consequences. The consumer is not bound to return his money income immediately into the market for consumable goods. He may save it—for instance, put it in a savings bank—and thereby prevent the money from going into the consumers' market directly. It would be incorrect, however, to infer that the act of saving permanently takes this purchasing power out of the consumers' goods markets. Funds which are saved are used for the development of capital goods, and for the development of these goods raw materials must be purchased and labor hired. Yet the time elapsing before purchasing power which is saved gets into the consumers' goods market is considerably greater than if the money goes directly from the receiver of the income to the retail market. Furthermore, it is possible for consumers to save purchasing power and to hoard it rather than to put it into investments whereby it may flow back into the hands of consumers. Also, savers may so rapidly increase the funds available for capital investment that the investment market cannot absorb these funds. In these latter cases the purchasing power may remain out of the consumers' goods market for a considerable period of time, perhaps reducing the prices or volume of consumers' goods sold. This fact, that money may become suspended purchasing power, is significant in relation to those oscillations of business activity known as the *business cycle.*

4. *Standard of Deferred Payments.*—Whenever one person lends to another or sells him goods "on time," money serves as the measure of the value to be paid at the future date. Obviously, if the value of money changes in the meantime, or, in other words, the general price level changes, the value paid at the future date will be more or less than the value given at the time the loan was made or the goods sold. When the price level dropped after 1929, each dollar paid by debtor to creditor had more value, for it could buy more goods at the lower prices then prevailing. Conversely, during times of rising prices as from 1915 to 1920, each dollar received by a creditor had less buying power. One of our major current problems is so to improve the monetary system that money will be an accurate standard of deferred payments.

The Money Standard.—The basis of any monetary system is *standard money.* Standard money is that money which is designated by law as the measure of value and to which all other forms of money are so united that the value of the other money cannot depart from the value of the standard money. Standard money is always given the *legal-tender* power. This is a characteristic given to certain money by law and requiring that, when money designated by law as having legal-tender power is offered in payment of a debt, the creditor must accept it as a tender or offer of payment, unless there is a contract providing for payment in some other

kind of money. If the standard money is metallic, it also will be coined in unlimited amounts or at least bought at a fixed price at the mint in case the proper metal is brought to the mint. This introduces us to the term *free coinage,* by which is meant that the metal of which the coinage is free will be received by the government and coined in unlimited quantities whenever presented. Free coinage does not necessarily mean coinage free of charge but only in unlimited amounts. Coinage which is free of charge is called *gratuitous coinage,* which may be associated with free coinage but not necessarily so. There must also be free import and export of the monetary metal, if the money is to have the full characteristics of standard money.

Various monetary standards have been used at different times in history and are in use today. Prior to 1873 the United States was on the bimetallic standard, under which both gold and silver were standard money. Both metals were coined in unlimited amounts upon the presentation of the metals at the mint, and both gold and silver coins were legal tender. At the present writing no country is on the silver standard. During the World War all of the major countries, except the United States, and nearly all of the minor countries of the world went on a paper standard. By January, 1930, all of the major countries and most of the minor countries had returned to the gold standard. But during the financial stress from 1931 to 1933 and the wars which followed later in the decade practically all of the world left the gold standard and thereby operated on a paper-money basis. In January, 1934, the United States returned to a form of the gold standard, the exact nature of which will be described in a later section. Even countries whose currencies now have some relation to gold provide for a great deal of governmental control.

The Gold Standard.—The "orthodox" gold standard prevailed in the United States from 1879 to 1914 and, with the modification of some Federal reserve system interference, until April, 1933. Under this system, gold is not only the standard of value but is coined freely and imported and exported without restriction. All forms of circulating media are convertible into gold. Gold occupies the rôle of the redemption fund for other money and of the specified reserve behind much of the paper money in circulation. Under the *gold-bullion* standard, used by many European countries during the 1920's, domestic currency will be redeemed in bullion, not in coin. The *gold-exchange* standard is a device whereby a country with limited gold resources maintains its currency at a fixed value relative to strong gold currencies. This stability has been obtained by placing a gold deposit in a strong country such as the United States or England and then engaging in the necessary transactions in foreign exchange to hold the currency of the weaker country at or near par with the currency of the stronger nation. This system has been used

for decades by India and the Philippine Islands and, following 1920, by many of the smaller nations. The gold-exchange standard has worked quite well until the major country, to which the currencies of minor countries were "tied," encountered financial difficulties, as did England in 1931. Then all have left the gold standard—the planet and the satellites as well.

Bimetallism: Gresham's Law.—Before discussing the bimetallic standard, we shall explain a monetary principle called *Gresham's law* after Sir Thomas Gresham, who explained it in such a way as to attract wide attention in the time of Queen Elizabeth. Stated with general application this law holds that cheap money drives a more valuable money from circulation. Thus the inconvertible greenbacks of the Civil War period drove gold and silver coins either out of the country or into hiding. Worn or questionable coins circulate more rapidly than new coins, because each person tries to pass them on. When people can discharge their debts in either the more valuable or the less valuable money, they will generally do so in the less valuable money, and the more valuable money will disappear from circulation.

The chief difficulties of the bimetallic standard arise from the fact that with the passage of time the values of gold and silver, one to the other, in the open market for these metals vary from their fixed values as established at the mint. In other words, the *market ratio* varies from the fixed *mint ratio*. The mint ratio is the relative amount of the pure metal content of the silver dollar to that of the gold dollar, which in most recent discussions of the subject has been taken as 16 to 1, the ratio existing when we left the bimetallic standard in 1873. The market ratio is the relative amount of the two metals which have the same value in the open market. If at a given time the mint ratio, fixed by law and according to which outstanding money has been coined, is 16 to 1, while the market ratio is 18 to 1, Gresham's law will come into play and drive gold out of circulation. According to the mint ratio of 16 to 1, only 16 ounces of silver is required to exchange for a dollar at the mint, whereas 18 ounces would be required in the market. Silver is thus overvalued at the mint and will all or nearly all go to the mint. On the other hand, gold is worth 18 ounces of silver in the market but only 16 ounces at the mint and hence will not be coined. Silver will be coined in large amounts, whereas new gold will go into industrial uses or be exported and old gold coins will be withdrawn from circulation to be melted. If the market ratio had been 15 to 1, the effect of Gresham's law would have been to drive silver out of circulation.

The market ratio is constantly oscillating, and, when bimetallism exists, it is sometimes above and sometimes below the mint ratio. Thus the money system is really constantly going through the struggles from gold to silver and back again. The experience in the United States

seems to indicate that in practice a bimetallic standard does not ordinarily exist; rather there tends to be a changing single metallic standard. From 1792 to 1834, the mint ratio of 15 to 1 overvalued silver, and hence silver was the actual medium of exchange. In the latter year the ratio was changed to 16 to 1, which, particularly after the gold discoveries in California in 1849, overvalued gold, and the silver dollar was driven from circulation. In fact, the subsidiary silver coins were kept in circulation only by reducing their silver content by 7 per cent in 1853. The United States abandoned the bimetallic standard in 1873. During the period of deflation and also of large silver production from 1875 to 1895, there was a strong demand for the return of the free coinage of silver. Again in 1932 and 1933 considerable interest arose in the use of additional silver as money, or even its remonetization. As explained below, in 1933 and early 1934, provision was made for silver purchases by the Federal Treasury but bimetallism was not thereby reestablished.

A Managed Currency.—Under a *managed currency* the volume of money and of other media of exchange is subject to the conscious control of the government or of the central bank. This is in contrast to the metallic standards under which the quantity of money presumably depends on the available supply of the precious metal or metals. In the actual operation of monetary systems the distinction ceases to be clear-cut. Even during the 1920's the gold standards of both Great Britain and the United States were subject to some "management," as will be described later in the chapter. On the other hand, the British managed currency of the present (early 1940) involves occasional exports of gold and the accumulation of gold reserves.

A strictly managed currency is a paper standard. No precious metal is necessarily available for reserves, nor for settling international balances. The circulating paper money is not redeemable in gold. Gold may be imported or exported, but only at the discretion of the controlling authority. The whole emphasis is on the conscious control of the quantity of money in such a manner as to preserve (or possibly to obtain) the desired value of the money. Aside from the problem of judicious control of the quantity of money, a paper-standard country faces the problem of public confidence. The frequent lack of public confidence rests to a large extent on the fact that in history, when nations have adopted a strict paper standard, the quantity has not been controlled. The temptation to "run the printing presses" as a means of meeting public expenditure is too strong, and the paper has depreciated in value to the disadvantage of those holding it. Nearly all these unsuccessful historical efforts to maintain a strict paper standard, however, have been in times when there was a national emergency, or when the knowledge of monetary principles was not widespread, and therefore do not finally prove that a paper standard cannot be operated satisfactorily, if established during more normal times.

In fact, England and a group of satellite countries successfully operated managed currencies at least from 1931 to the outbreak of the war in 1939, and show no particular interest in returning to a gold standard. Even the new war did not at once disrupt their currencies.

The Choice of a Standard.—The chief objective in the selection of a monetary standard should be to find the standard which will lead to the most stable price level possible. For a long time most authorities on money concluded that the gold standard would most nearly fulfill this aim. It is true that the majority supported some degree of central-bank control of the related bank credit, by the general methods described on pages 304 and 328. At the present time, however, there is a growing conviction that, at least under the disturbed international economic and political conditions, an uncontrolled gold standard would be undesirable and unworkable. There is even growing support for the idea of increasing permanently the degree of control in monetary affairs and decreasing the reliance on the supposedly "automatic" control by the limiting influence of the supply of a precious metal.

Types of Money.—The United States has five types of money, which illustrate all but one of the kinds of money which have been developed. Though this nation is on a form of the gold standard, its circulating medium does not include gold. This standard money is used only for settling international trade balances and as a basis for the issuance of paper money and bank credit. The types of money in actual circulation are (*a*) metallic money other than gold, (*b*) representative money, (*c*) government-credit or fiduciary money, and (*d*) bank notes. These kinds of money will now be described. Irredeemable money will also be described briefly, and the American monetary system examined from the point of view of the gold-redemption quality of various kinds of money.

1. The legally defined *standard money* of this country is gold, all of which is now kept as bullion. The about 18 billion dollars of gold held in 1940 (Table 29) was about four times the number of dollars worth of gold which we had in the 1920's. This abnormal gold stock represents the disordered state of world monetary and political affairs and is not an advantage to us. How we acquired this gold and the problems related thereto will be discussed in a later chapter on foreign trade.

2. *Other metallic money* includes silver dollars, subsidiary silver coins, and five-cent and one-cent pieces. The silver dollars still retain one characteristic of standard money, that of full legal-tender power. The subsidiary coins are legal tender up to specified amounts. In 1940 the silver dollars and bullion totaled 1,855 million, of which only 44 million were in circulation, and the subsidiary and minor coins totaled 569 million dollars. In 1933, provision was made for the purchase of 24 million ounces of newly mined silver a year, half of which was to be coined. In early 1934, Congress authorized the Secretary of the Treasury to pur-

TABLE 29.—MONETARY STOCK OF THE UNITED STATES, DIVIDED INTO MAJOR TYPES OF MONEY, AS OF JAN. 31, 1940

Type of money	In circulation (million dollars)	In Treasury and Federal reserve banks (million dollars)	Total (million dollars)
Gold coin and gold bullion	....*	17,931†	17,931
Silver dollars and silver bullion	44	1,811	1,855
Subsidiary and minor coins	535	34	569
Gold certificates	69	.....	‡
Silver certificates	1,469	.....	‡
United States notes	265	82	347
Treasury notes of 1890	1		
National bank notes	173	2	175
Federal reserve bank notes	23	1	24
Federal reserve notes	4,796	§	4,796
Total	7,376	19,861	25,697

* The Treasury now includes no item for gold in circulation.

† Gold coin and bullion computed on the basis of a dollar of 13.71 grains of gold, as compared with the old dollar of 23.22 grains.

‡ Since both gold and silver certificates represent gold or silver held as security, these items are not included in total money.

§ Not available.

chase additional silver until that metal should equal 25 per cent of the precious metal behind our currency.

3. The United States government issues silver certificates, which are *representative* money and amount to deposit slips for coined silver dollars or bullion. The majority of our people prefer to carry paper money rather than the heavy silver dollars. The great amount of silver certificates in circulation, 1,469 million dollars in 1940, represents the effects of the provisions of the Silver Purchase Act of 1934, under which silver certificates are to be issued equal to the monetary value of the silver purchased.

The government also prepares gold certificates, but does not put them into circulation. These certificates, which circulated freely before 1933, are now used for transactions in gold between the Federal reserve banks and the Treasury.

4. The United States government also issues notes, which are obligations of the government but against which the Treasury does not keep 100 per cent in metallic money. Such money is called government credit money or *fiduciary* money. The greenbacks or United States notes became a part of our money during the Civil War, but they were not made redeemable in gold until 1879. Since 1900 the United States government has maintained a special reserve in gold to redeem these greenbacks, although under present law such redemption cannot take place except for

exporting gold to settle international balances. In 1940, there were 347 million dollars in greenbacks (265 million dollars in circulation) against which the government maintains a gold reserve of approximately 150 million dollars. In addition to the greenbacks, the Federal government has outstanding approximately 1 million dollars of Treasury notes of 1890 (probably all lost or in collections) issued under the Sherman Silver Act of that year to purchase silver for coining into silver dollars.

5. The major portion of our actual circulating cash is composed of bank notes, or bank credit money. Formerly the national bank notes, backed by a deposit of specified issues of Federal bonds, ranked high in our circulating money. Now, however, these notes together with the similar Federal reserve bank notes are being retired. Federal reserve notes, as distinguished from Federal reserve *bank* notes, are discussed further on page 303, but it should be noted here that their essential features are that they are backed partly by gold certificates and partly by valuable papers. Comparison of the amount of Federal reserve notes (4,796 million dollars in circulation in 1940) with the amount of each of the other types of money will show that these notes composed nearly two-thirds of the money in actual circulation. When all the types of money are added together, it will be seen that the total money in the Treasury, in banks, and in hand-to-hand circulation was 25,687 million dollars on Jan. 31, 1940.

6. The sixth type of money which has been used in American history, and used very frequently in recent years, both here and abroad, is known as *fiat money*. This is paper money which has no specific backing in precious metal, nor does the issuing body promise to redeem it at any particular time in metallic money. It is issued on the authority of the government and is forced into circulation by giving it legal-tender power, which forces the debtor to receive it from the government and enables these debtors in turn to pass on the money to other people. The greenbacks in practice were fiat money in this country from the time of their issue during the Civil War until 1879. Technically, all the United States money except gold became fiat money in March, 1933. Even after the new monetary system was established in January, 1934, paper money could be redeemed only in gold bullion and then only for export. To date the lack of the domestic redemption quality has not adversely affected our money.

BANKING PRINCIPLES

Types of Financial Activity.—Usually the various financial institutions known as *banks* are classified into commercial banks, savings banks, trust companies, investment banks, and miscellaneous. Data in Table 30 show the magnitude of the banking business in this country. Although there are distinct institutions, such as savings banks and distinct trust

companies, the emphasis should not be placed on kinds of financial institutions but on types of financial activities. The word *bank*, when unmodified, refers to what are generally known as *commercial banks*. Yet these institutions ordinarily carry on savings and trust activities. Similarly, most institutions which carry the word *trust* in their title are actually commercial banks primarily.

Savings or time deposits whether in a separate savings bank or in a commercial bank presumably represent funds which the depositors do not expect to use for some time. Technically, neither are payable on demand, although the bank will usually permit withdrawal of savings deposits immediately upon request. By law time deposits are required to be left to the date of maturity of the certificates issued for them. Banks feel free to place considerable of their savings and time-deposit funds in less liquid investments, such as real-estate mortgages, municipal bonds, and less marketable, but secure, corporate bonds. Savings and time deposits represented nearly half of the total deposits.

Though commercial banks carry on a wide variety of financial activities, their *commercial banking functions* have to do with the receipt and use of deposits payable on demand and transferable by check. Because

TABLE 30.—NUMBER, DEPOSITS, AND LOANS AND INVESTMENTS OF BANKS IN THE UNITED STATES, OCT. 2, 1939[1]

Type of bank	Number	Deposits (million dollars)	Loans and investments (million dollars)		
			Total	Loans	Investments
Member banks:					
National	5,196	25,248	33,075	13,470	19,605
State	1,143	14,039			
Nonmember banks:					
Mutual savings banks	552	10,520	10,333	4,936	5,397
Other	8,170	7,630	6,546	3,228	3,318
Total all banks	15,061	57,437	49,954	21,634	28,320

[1] Federal Reserve *Bulletin*, March, 1940, p. 223.

the depositor views a demand deposit as his liquid funds, the banks keep these funds in more liquid assets. From the early days of English banking, it has been held that such deposits should be used to make loans to producers and merchants for their short-term, temporary needs. Liquidity of such loans presumably arises from their proximate maturity. In practice this ideal has never been accomplished in American banking and less so today than ever. Banks now suffering from a surfeit of funds find few of these *commercial* borrowers and are forced to purchase long- or

short-term obligations of governments and to make longer loans to producers. Liquidity is obtained through holding large amounts of salable assets. Demand deposits of all banks were estimated at 30 billion on June 30, 1939.[1]

The Federal Deposit Insurance Corporation now insures up to $5,000 each deposit in the national banks and in state banks which can qualify and which desire to become members of the corporation. Though most experience in American history with deposit-guaranty plans has been unfortunate, this plan, being national in scope, can, if a high level of bank supervision is maintained, have a very satisfactory record.

The original form of the *trust company* was that of a financial corporation to act as the trustee for minors and defectives, to execute estates, and to do almost anything of a financial character. These liberal powers granted to trust companies enabled them to encroach on the field of commercial banking until, at the present time, some organizations which started out as trust companies, have come to be among the country's greatest commercial banks. No longer does the term *trust company* in the title of a financial institution indicate that it is purely a trust company. More frequently it will be a large commercial bank whose trust activities are carried on in a department of the bank.

Investment banks, which congregate largely in the greater cities, are financial institutions whose function is to underwrite the issues of bonds and other securities by corporations and public bodies. The process of underwriting consists of assuring the organization which is issuing the securities that they will be sold by a particular date at a given price, or, if they are not sold, the underwriting bank or syndicate of banks agrees to buy the securities at a certain price. These investment banks usually have agencies for distributing, to such investors as savings banks, life-insurance companies, and private individuals, the securities which they underwrite.

Other types of financial institutions should be mentioned briefly. Of growing importance are the *savings and loan associations*, which are mutual organizations engaged in assembling relatively small savings and the financing of urban building, primarily residential. In order to meet a particular situation which commercial banks are unable to fill, a type of bank known as the *Morris Plan bank*, whose chief function is to lend money for consumption purposes rather than productive purposes, has developed in the United States, largely since the World War. In addition, there are such institutions as the Federal reserve banks and the various agricultural-credit agencies (described in Chap. XXIV) designed to solve certain specific credit problems.

Here our chief concern will be with the commercial banks. As the receivers and transferors of demand deposits, they provide the medium of

[1] Estimate supplied by Dr. Lauchlin Currie.

exchange in 90 per cent or more of our total transactions. Because the major purpose of our discussion of money and banking is to investigate what governs the quantity and value of our medium of exchange, this demand-deposit institution concerns us most. As we shall see below, however, the volume of demand deposits is related to the loans and investments of these deposit institutions. Lending and investing involve credit, a concept which is next explained.

Credit.—Credit is the transference of wealth or value from one person to another upon the promise of the latter to pay a stated sum in the future. Thus bank credit is the advancing of funds by a bank to its customer in return for the latter's promise to repay the loan in the future. The credit is extended at the option of the lender, after he has determined the credit standing of the borrower. The bank investigates the assets of the man who wishes to borrow, his ability to use the funds in business so that the loan may be repaid, and, above all, the character of the borrower. Sometimes these bases of credit rating are called the *three C's*, character, capacity, and capital.

Discounting.—The process of making short-time loans is frequently referred to as the process of *discounting*. Technically, discounting means taking interest out in advance. Thus the ordinary commercial bank may not request that the borrower pay back the principal plus the interest but instead may subtract the interest from the principal at the time the loan is made. If *A* wishes to borrow $1000 for six months at 6 per cent, the bank would in that case advance him, not $1000 but that sum less the discount of $30, reducing the sum advanced, or proceeds of the loan, to $970. However, in financial parlance the word *discount* has come to refer, not only to the act of taking out interest in advance, but also to the whole process of making a short-time loan and to the loan itself.

It is in connection with the process of lending money that the peculiar characteristics of commercial banking become important. Although banks are sometimes described as institutions which gather together the surplus funds of stockholders and depositors, sums both large and small, and make these funds available to the business world, the volume of credit extended by commercial banks as a group is not limited to the amount of capital contributed by the stockholders plus the amount of "money" deposited by individuals, but they may multiply this "money" from five to ten times.

Bank Operations.—The nature and activities of a commercial bank, particularly the process of creating credit, may be demonstrated by noting the steps whereby a bank builds up its business after its founding and how it then carries on its day-to-day operations. Suppose a new bank, to be called the First National Bank of X, is started with a total capital stock of $75,000, plus an additional contribution by the stockholders of

$25,000, which will appear in the bank's statement or balance sheet as *surplus*. Of the $100,000, $40,000 is used to buy a building and equipment, the remainder being kept as cash. Of the cash, $40,000 is sent to the Federal reserve bank as the legal reserve behind the deposits which the bank expects to receive or create in its lending activities. The statement would read:

Assets		Liabilities	
Bank Building	$ 35,000.00	Capital Stock	$ 75,000.00
Furniture and Fixtures	5,000.00	Surplus	25,000.00
Cash and Due from Banks	60,000.00		
	$100,000.00		$100,000.00

On the first day the new bank is open, it receives deposits of $10,000 in cash and $25,000 in checks, which may be converted into cash by presentation at the banks on which they are drawn. The next day additional deposits of $25,000 in checks are made. The bank's statement now reads:

Assets		Liabilities	
Bank Building	$ 35,000.00	Deposits	$ 60,000.00
Furniture and Fixtures	5,000.00	Capital Stock	75,000.00
Cash and Due from Banks	120,000.00	Surplus	25,000.00
	$160,000.00		$160,000.00

Suppose that John Jones, a farmer, asks for a loan of $500 to harvest his wheat crop. After due consideration of the credit position of John Jones, the bank agrees to lend the money on Jones' note secured by a chattel mortgage on his wheat crop. The bank discounts the note for three months at 6 per cent, adding to John Jones' deposit account the sum of $500 minus the discount of $7.50, or $492.50. In the balance sheet, portraying the condition of the bank, the deposits will be increased by $492.50 and the assets by $500 under loans and discounts. The discount of $7.50 appears among the liabilities as "Undivided Profits." During the day additional loans totaling $30,000 are made, the proceeds of which total $29,750, of which $4,000 is taken as cash, the remainder being advanced as deposits. Discounts on the $30,000 of loans are $250, which is assigned to "Undivided Profits." The statement now reads:

Assets		Liabilities	
Loans and Discounts	$ 30,500.00	Deposits	$ 86,242.50
Bank Building	35,000.00	Capital Stock	75,000.00
Furniture and Fixtures	5,000 00	Surplus	25,000.00
Cash and Due from Banks	116,000.00	Undivided Profits	257.50
	$186,500.00		$186,500.00

Jones now proceeds to pay out $125 for labor by means of checks drawn on his account. If the employees demand cash from the bank

upon presenting the checks, the following changes take place on the balance sheet of the bank. The deposit item is reduced by $125 and the cash item for a similar amount; thus the assets and liabilities stay balanced. John Jones then pays out $75 for machine hire to his neighbor, Frank Smith, who, in turn, deposits the check in the same bank. The bank then reduces the account of John Jones by $75 and increases that of Frank Smith by a corresponding amount. Because Smith deposits the check of Jones in the same bank, the whole process of making payments is a bookkeeping transaction which goes on within the bank, and no change occurs in the bank statement. If Smith had deposited the check in another bank, however, the latter could demand $75 in cash from the First National Bank, cash being reduced by $75, but the deposits on the liability side also being reduced by a corresponding amount. In fact, during a day the bank will be called upon to pay many checks drawn on it but deposited elsewhere, say $15,000. If so, its cash will be reduced by $15,000 unless at the same time it receives deposits of an equal or greater amount of cash or checks drawn on other banks.

When Jones, after the sale of his wheat, pays off his loan with a check drawn by a wheat buyer on the buyer's bank in a distant city, the "Loans and Discounts" are reduced by $500, but amount "Due from Banks" is increased by a corresponding amount. The complete explanation of the events which take place when more than one bank is involved in the credit transaction, and when payments in different communities are involved, will be discussed below in the section dealing with the clearing of checks.

According to the last balance sheet presented, the bank had total cash of $116,000 and deposits of only $84,742.50, or a reserve ratio (cash to deposits) of about 130 per cent, whereas good banking practice allows that less than 35 per cent of deposits be held as cash and due from banks. Therefore the bank is in a position to make more loans in the form of discounting promissory notes for farmers and local business men, to buy out-of-town short-time loans such as banker's acceptances and commercial paper, to lend on mortgages, and to buy bonds. Interest and other earnings begin to come in and, when in excess of the expenses of operating the bank, are put in "Undivided Profits," until such time as the directors either put the profits into "Surplus" or declare a cash dividend on the capital stock. All of these transactions together, plus additional deposits, loss of cash from buying bonds and commercial paper, etc., so change the bank statement that at the end of six months it reads:

Assets		Liabilities	
Loans and Discounts.....	$346,576.50	Deposits.....	$418,576.00
Bank Building.....	35,000.00	Capital Stock.....	75,000.00
Furniture and Fixtures....	5,000.00	Surplus.....	25,000.00
Cash and Due from Banks..	135,250.00	Undivided Profits.....	3,250.50
	$521,826.50		$521,826.50

The Bank Statement.—After this bank has become firmly established, the various parts of the balance sheet come into a normal relationship to one another as in the typical balance sheet of a bank in a small town presented in Table 31. On the assets side of the balance sheet, the item Loans and Discounts includes all loans the bank has made to its customers

TABLE 31

THE FIRST NATIONAL BANK

Statement at the close of business, Sept. 30, 1939

RESOURCES

Loans and Discounts		$ 893,281.75
Overdrafts		375.13
Furniture and Fixtures		8,800.00
Bank Building		67,000.00
Other Real Estate		6,406.55
Stock in Federal Reserve Bank		4,200.00
U. S. Securities	$157,350.00	
Other Stocks, Bonds and Warrants	131,573.42	
Due from Banks, and Cash	524,118.51	
		813,041.93
		$1,793,105.36

LIABILITIES

Demand Deposits		$1,162,144.50
Time Deposits		549,329.76
Due to Banks		97,210.48
Reserves		14,982.50
Capital Stock	$ 75,000.00	
Surplus	70,000.00	
Undivided Profits and Reserve	24,447.12	
Invested Capital		169,447.12
		$1,793.105.36

on short-time promissory notes or on mortgages, and purchases of bank acceptances and commercial paper. Loans and discounts usually form the major asset of this type of bank. Overdrafts arise when depositors overdraw their accounts, an asset or a claim against depositors which is not desirable, and this bank shows overdrafts of $375.13. The items "Furniture and Fixtures" and "Bank Building" need no explanation. The asset "Other Real Estate" would usually refer to real estate seized to satisfy debts, perhaps by the foreclosure of a mortgage. Each bank which is a member of the Federal reserve system must actually buy stock in the Federal reserve bank of its district to the amount of 3 per cent of its paid-in capital and surplus.

The meaning of the last three items in the assets is clear, but their significance should be emphasized. "Due from Banks and Cash" composes the *primary reserve* of the bank. This fund is the first line of defense in case depositors demand an unusual amount of cash. Although the minimum ratio of cash and due from banks to deposits is prescribed by law, usually about 7 to 15 per cent of demand deposits, conservative bankers always keep more than the minimum. Recently, banks have

been carrying very high reserves. As was pointed out in the preceding section, the size of the primary or cash reserve limits the amount of credit which may be created. The two other items of "U. S. Securities" and "Other Stocks, Bonds, and Warrants"—being composed to a large extent of securities which may be easily sold for cash—are included in what is known as the *secondary reserve.*

Turning to the liability side of the bank statement, we note that the two items of "Demand Deposits" and "Time Deposits" form about 80 per cent of the total obligations. In this bank about two-thirds of the deposits are demand deposits and about one-third are time deposits. Reserves of $14,982.50 appearing on the liability side is an item probably set up to care for future losses on assets. The next three items ("Capital Stock," "Surplus," and "Undivided Profits and Reserve"), which are put together as "Invested Capital," represent the stockholders' equity in the bank—claims which would not ordinarily be realized (except undivided profits), unless the bank decided to go out of business. The surplus probably represents in part a payment of more than $100 a share for stock when the bank was founded, and in part a return of earnings into the business.

Credit Expansion.—By experience, banks have learned that on a given day, during times when the people have confidence in their government and financial institutions, depositors will withdraw in cash but a small portion of their funds. A large part of the deposits withdrawn are used to buy goods, the sellers of which will redeposit the cash or the checks used in making payments. The minimum ratio of cash reserves to demand deposits is prescribed by law as from 7 to about 15 per cent, according to the locality of the bank.[1] In the case of banks which are members of the Federal reserve system, these legal reserves must be deposited in the reserve banks. Non-member state banks usually carry part of their legal reserves as deposits in other banks. Banks must have additional cash for till purposes and for unexpected demands, since they are not expected to pay out legal reserves. Therefore banks usually keep for safety an amount in cash and due from banks equal to from 20 to 35 per cent of the deposits. A considerable part of the individual bank's liquid reserves, however, are carried as deposits in other banks. As a result the cash possessed by the banking system as a whole is usually less than 20 per cent of total deposits. Experience has shown that these reserves are ample in ordinary times.

[1] The minimum legal reserve for national banks is 3 per cent against time deposits, and from 7 to 13 per cent, depending on the size of the town or city in which the bank is located, against demand deposits. The board of governors of the Federal reserve system, as described below, has the power to double the minimum legal reserve requirements of its member banks. At this writing (July, 1939) reserve requirements are 5 per cent for time deposits and 12 to 22¾ per cent for demand deposits, according to the size of the city.

For every $100 in cash deposited, the banks need not keep over about 10 per cent in actual cash, though each individual bank will have a considerable reserve in "Due from Banks." Therefore, for every $100 in *lawful money* added to the cash reserves of the banking system, the banks together may create demand deposits equal to from $500 to $1000. It is through this process of *creating* demand deposits (or checking accounts) as a means of lending by banks that there has been from 25 billion to 30 billion dollars in deposits subject to check, and a somewhat greater amount of time deposits, in this country at times when there was usually only about five billion dollars of money in circulation and about eight billion dollars in the country.

Though the banking system as a whole, in the manner explained above, can create deposits of many times the amount of the reserves of *lawful money*,[1] the reader should not conclude that a single bank can greatly increase its deposits simply by making loans. This is because checks will be drawn against the deposits thus created and most of these checks (perhaps four-fifths of them) will be deposited in other banks. A single bank would, therefore, lose its cash in the clearing process. But when all banks lend freely, they all gain deposits by the lending process. The limit to such lending is the amount of reserves which must be kept against the deposits thus created.

Neither should the reader conclude that all the interest collected on created deposits is a part of gross profit to the banks. To attract deposits banks pay interest on practically all time deposits and on public deposits. Until prohibited by law they also paid on many large private demand deposits. Banks perform a number of services in connection with demand deposits, not all the costs of which are covered by service charges.

The Collection of Checks.—The fact that over 90 per cent of the business transactions of the United States are carried on without the use of hand-to-hand cash is made possible by a comprehensive system of offsetting claims, one against the other. This offsetting process goes on within every commercial bank as between its own depositors, and, when depositors outside the bank are involved, the offsetting is done through the process of clearing checks.

When John Jones draws a check against his deposit in the First National Bank and hands this check to Frank Smith in payment for a cow, the check closes the transaction so far as the two men are concerned. When Frank Smith deposits the check in the First National Bank to his account, the bank's bookkeepers add the sum, let us say $110, to the

[1] Lawful money is here used to refer to that money which may be counted as a part of basic reserves against deposits. This includes gold or gold certificates, silver or silver certificates, and United States notes, but does not include bank notes. Bank notes must be redeemed in *lawful money*. The term is also used with other meanings.

account of Frank Smith and subtract it from the account of John Jones. If Frank Smith takes part or all of the check in the form of cash, then money, in the sense of hand-to-hand cash, comes into the transaction. But ordinarily the larger proportion of checks will be presented to the bank for deposit rather than to obtain cash.

Suppose now that Frank Smith does not deposit with the First National Bank but in the Citizens National Bank. The transaction then becomes involved. The Citizens National Bank will add the sum of $110 to the account of Frank Smith, but, in order to reimburse itself for this increased deposit, it must obtain the funds from the First National Bank. It could present the check at the First National Bank and obtain cash. It is quite probable, however, that the First National Bank has some checks drawn on the Citizens National Bank. In that case a system of offsetting claims between the First National Bank and the Citizens National Bank would be more convenient. In small towns having only two or three banks, the checks can actually be presented by one bank to the other and then at the end of the day the balance be settled in cash. In larger cities where several banks are involved, clearing houses are organized. At the daily or semidaily meetings of representatives of the various banks each bank presents all checks it has drawn on other banks, and all other banks present to it checks which it must pay. Then the banks which have more checks drawn on them than they have drawn on other banks must make up the balance in cash. The cash is then paid over to the banks which gain in clearing for the day. Whether settlement shall be daily or weekly or whether it shall be by cash or by checks on some out-of-town banks or the Federal reserve bank depends upon the organization of the clearing house. If the city has a Federal reserve bank or branch, clearing balances will be settled by checks on deposits in the Federal reserve bank. The important thing to grasp is that through the process of clearing the volume of cash required for the tremendous amount of transactions is relatively small.

When more than one city is involved, the geographic separation of the various banks prevents daily meetings of the clearing house. The organization under the Federal Reserve System, known as the *par check-collection system,* has facilitated the collections of interstate and intersectional payments. Each bank which is a member of the check-collection system may send checks drawn on out-of-town banks to the Federal reserve bank of the district. That bank sends them on to the bank on which the checks are drawn, and after a period of time varying with the distance between banks the account of the latter is reduced and that of the former bank is increased by the amount of the check. Thus the reserves which banks have on deposit with the Federal reserve bank of the district are used as the basis for clearing transactions. A bank which has more checks drawn against it than it deposits against other banks

must take steps to maintain its deposit with the reserve bank. Clearing between the Federal reserve districts is done through the gold settlement fund in Washington. Par collection, which is required of all banks clearing through the Federal Reserve, means that banks on which checks are drawn may not deduct an exchange fee.

BANKING SYSTEM OF THE UNITED STATES

Commercial banks receive their right to do business by a charter from either the national government or the state government of the state in which they expect to do business. Nonincorporated or private banks, prohibited in most states, are unimportant. The laws usually prescribe the minimum capital with which banks may be established in relation to the size of the city in which they expect to do business, the minimum cash reserves which they must keep behind deposits, types of loans which may be made, and the duties and responsibilities of the officers. To give greater assurance that the banks are properly conducted, the laws provide for periodic examinations by expert examiners under the direction of the state banking department or national Comptroller of the Currency. The activities in which banks may indulge are primarily those determined by the nature of the commercial banks as outlined above. There is some variation in banking laws from state to state and between the laws of states and those of the national government. Because of a fear of large banks, our laws, until recently, favored the development of many small banks. Recent legislation, particularly since 1933, has permitted statewide branch banking in most states. The number of commercial banks has been reduced from 20,834 in 1930 to 14,931 in 1937, partly by liquidation of failed banks and partly by absorption into branch systems. In this way our banking system is becoming more like those of Canada and major European countries, which are made up of a few very large banks with hundreds of branches. In Canada there are only ten banks with branches and three of them do two-thirds of the total banking business. Other institutions, savings banks, trust companies, Morris Plan banks, and most savings and loan associations operate under state charters. Federal land banks, joint-stock land banks, Federal intermediate-credit banks, other recent farm-credit agencies, the recently established Federal savings and loan associations, and Federal reserve banks have charters from the national government.

The Federal Reserve System.—Superimposed upon the ordinary commercial banking system is the Federal Reserve System, established in 1914. The Federal Reserve System was organized to remedy the chief defects of the old national banking system, particularly as these defects had come to light in the panic of 1907. First, the system was to *mobilize* the banking *reserves* of the country and to use these resources to aid banks in times of financial stress. Second, it was designed to provide greater

unity among the thousands of independent banks and thus to exercise a degree of *control* over the *credit supply*. Third, reserve banks were to provide a more *elastic currency*, the Federal reserve note.

The United States is divided into twelve Federal reserve districts, each of which contains a Federal reserve bank, and, in the case of some of the districts covering a wide area, the Federal reserve bank has one or more branches. These banks are owned by member banks, each being required to subscribe 6 per cent of its capital stock and surplus in the stock of the Federal reserve bank of its district as called for. Up to the present time only 50 per cent of the subscription has been called for. All national banks must belong to the system; state banks may belong if they wish, provided they meet the requirements of the Federal Reserve System. Each Federal reserve bank is operated under the control of a board of directors, the majority of whom are elected by the member banks of their district, and the remainder are appointed by the board of governors of the Federal Reserve System. The responsibility for the general supervision of the system and the coordination of the activities of the separate Federal reserve banks is placed upon the shoulders of the Board of Governors of the Federal Reserve System which is appointed by the President of the United States with the consent of the senate.

Federal Reserve Rediscounting.—The most important activities of the Federal reserve banks are three: (1) the issuing of bank notes, (2) the advancing of funds to member banks, and (3) credit-control activities, the nature of which will be explained below. Whenever a member bank has discounted the note of a customer and the bank wishes in turn to obtain the funds represented by the loan before the loan is due, the bank may rediscount this note. Prior to the establishment of the Federal Reserve System there was no organized plan of rediscounting. Each bank had to find some other bank which had surplus funds and which was willing to rediscount the note. Now the Federal reserve banks stand ready to rediscount all commercial paper or promissory notes submitted to them by member banks, provided this paper is of the type which the law allows the reserve banks to purchase and appears to the reserve bank to be a good risk. Federal reserve banks may rediscount bank loans only when they arise out of agriculture, industry, or trade and have no more than three months until maturity date. In the case of agriculture this time has been extended to nine months, inasmuch as the productive process there requires such a long time. To an increasing extent, however, member banks borrow from the reserve banks, not by rediscounting, but upon the member bank's own note secured by a deposit of government bonds, or at a higher rate, of other satisfactory collateral. The reserve banks obtain their funds for investment purposes from the original investments in the bank's capital stock by the member banks, from earnings on that capital put back into the business, from deposits by member

banks with the Federal reserve bank, and to some extent from the creation of bank credit as described below and on pages 304 and 305.

At the present time all the legally required reserves of member banks are deposited with the Federal reserve bank of the district and serve the dual purpose of reserves and the basis for check-clearing operations explained earlier. Behind these deposits by member banks the Federal reserve banks are required to keep as a minimum only 35 per cent in *lawful money*, so that the reserve banks can create deposits just as can the member banks for their customers. Thus, when a member bank finds its reserves are running low, it may borrow at the Federal reserve bank, which will add the proceeds of the loan to the account of the member bank. Because the legal reserves of member banks are in the form of deposits with Federal reserve banks, this deposit increases the reserve of the member bank. The reserve bank, by crediting the deposit, has lowered necessarily its own ratio of cash reserve to deposits.

Centralized Reserves.—The peculiar advantage of this system of reserves arises out of the fact that the reserves of a whole Federal reserve district are under central control and may be utilized to make advances or rediscount paper for the member banks in any section in which there may be financial stress. Without this mobilization the banks of such regions would have to seek aid in indiscriminate fashion wherever it might be obtained. The experience of the years prior to the establishment of the Federal reserve system conclusively proved that organized reserves are highly desirable. Not only are the reserves organized within a Federal reserve district, but through relations between the reserve banks funds may be sent from one district to another. In 1921 the Minneapolis Federal Reserve Bank found its reserves strained by the rapid economic deflation in the wheat area and received aid in weathering this strain from other Federal reserve banks.

Federal Reserve Notes.—The Federal reserve banks issue two types of notes: Federal reserve bank notes and Federal reserve notes. The Federal reserve bank notes are being withdrawn from circulation by retiring the bonds which are used as their backing. The Federal reserve notes have risen to first rank in the volume of our circulating medium. The Federal reserve banks may issue Federal reserve notes when they deposit with the Federal reserve agent in their bank, who is a representative of the Board of Governors, an amount of gold certificates equal at least to 40 per cent of the value of the notes which they wish to issue. The remainder of the value of the notes must be deposited with the Federal reserve agent in the form of eligible commercial paper or of government bonds. Recently the enormous holdings of gold certificates by the reserve banks (about $13.5 billion in June, 1939) has enabled them to issue Federal reserve notes backed almost exclusively by gold. There is no limit to the volume of notes which the banks may issue except

that limit placed by the gold certificates and collateral which must be deposited.

Not only are the Federal reserve notes the largest part of the money in circulation, but they are also important in that they give the money system an element of elasticity. The nation's requirement for money varies from time to time, and it is highly essential that the volume of money vary with this requirement. Experience prior to the establishment of the Federal Reserve System pointed out conclusively that the national bank notes, the greenbacks, and the metallic money are highly inelastic. But, in respect to the Federal reserve notes, the reserve banks ordinarily have unused issuing capacity and therefore the volume of circulating notes can be increased or decreased according to the requirements of business.

Elasticity may be required to offset hoarding, as in 1931–1933. During these years the *money in circulation* increased from 4.6 billion dollars in March, 1931, to 5.6 billions later in the same year and finally to 7.6 billion dollars in March, 1933, largely through an expansion of Federal reserve notes to replace various forms of money which, though listed as circulating, was actually being hoarded.

Credit Control.—Based upon the experience of England in particular in the use of a central bank for the purpose of controlling the volume of credit, the supporters of the Federal reserve system have expected it to assume a similar function. Excessive variation in the supply of bank credit seems to be an important factor in the extreme oscillation of prosperity and depression. If the reserve banks can control the credit supply, they should assist in preventing an unsound credit condition.

The Federal reserve banks have at their disposal three devices for controlling credit. First, the raising or lowering of the rediscount rate under the supervision of the Board of Governors is expected to have an effect on the interest rates which commercial banks charge their customers, particularly in the larger cities. This is expected in turn to bring increases or decreases in volume of bank credit. The degree of credit control which may be obtained by this method is much disputed among students of banking. By some it is believed that the change in the rediscount rate will have a psychological effect upon the business men of the nation. High rediscount rates should stand as a warning, whereas low rediscount rates should encourage business men by emphasizing the abundance of credit. Thus the rediscount rate of the New York Federal Reserve Bank was raised from 4½ to 5 per cent on July 13, 1929, and to 6 per cent on Aug. 9 of the same year as an attempt to bring speculation into control. After the stock-market crash, the rate was lowered to 3½ per cent by March 14, 1930, and to 1½ per cent on May 8, 1931, in an attempt to stimulate business. The extent to which these and other

methods of credit control have been effective in the past will be further considered in the next chapter.

Second, in order to make rediscount rates of the Federal reserve banks effective—in other words, to force the member banks to follow the lead of the Federal reserve banks—the latter operating as a unit through the Open Market Committee may make use of their privilege of buying and selling government securities and bank acceptances in the open market. When the reserve banks wish to force down interest rates and ease credit conditions, they may buy in the open market a large volume of government securities, paying for these securities with surplus funds on hand or with created credit. Member bank reserves are augmented just as when the member banks themselves borrow from the reserve banks. Thus the credit supply in the hands of the member banks is increased and should be an influence in lowering interest rates. On the other hand, when the Federal reserve banks wish to force up interest rates, they may sell their holdings of government securities to the open market and thus absorb from the market a large volume of credit. This act should have a contracting influence on the supply of credit.

At the same time that the Federal reserve banks were raising their rediscount rates in 1929 to restrain speculation, they were selling government securities in an attempt to withdraw credit from the market. After the speculative collapse, the reserve banks bought securities in an attempt to pump credit into the market to support the falling security and commodity values. Later, in the second quarter of 1932, in a concerted effort to revive business, the reserve banks bought government securities at the rate of 100 million dollars a week until their total holdings reached the stupendous figure of 1,800 million dollars. Large purchases were also made in 1933; but in 1933, in particular, member banks did not put these created funds to work, preferring, under the conditions existing, to carry the funds as excess reserves at the reserve bank. Although credit control had been fairly successful from 1920 to 1927, its control since then has been less adequate, a fact, among others, which has led to many proposals for the revision of our banking system.

A third device for credit control was given to the Board of Governors by the Banking Act of 1935, *viz.*, the power to change the reserve requirements of member banks. The board could not lower the requirements below the minimum reserves which had existed since 1917, but it could place the reserve ratios anywhere between those minima and maxima of twice the minima. Because of a growing fear of inflation during 1936 and 1937, the board increased reserve requirements by 50 per cent as of Aug. 16, 1936, and to twice the old ratios as of May 1, 1937. A sharp recession got under way in 1937, and in April, 1938, reserve requirements were reduced to a point 75 per cent above the 1917–1936 level.

Additional reference to the use and limitations of the Federal Reserve System control of credit will be made at the end of the following chapter.

Recent Banking Developments.—Although the major features of recent banking legislation and practice have been incorporated into the preceding sections, an interpretation of the general tenor of these developments is desirable here. First, the banking acts of 1933 and 1935 strengthened the Federal Reserve Board's control of bank operations and credit conditions. Experience during the boom of 1925–1929 and the chaotic 1931–1933 period showed the need for unity of action by the reserve banks and for larger powers. Second, machinery, notably the deposit insurance system and powers of lending by reserve banks on a wider variety of member bank assets, was set up to fight bank runs and epidemic bank failures. Third, liberalized banking laws and banking practice have led banks into noncommercial loans such as mortgages, personal loans, and installment loans. Time loans, running five years, or possibly more, are being made in increasing amounts to business men.

A survey of recent banking developments would not be complete without reference to government lending and to new financial institutions. Agricultural loan agencies are described in Chap. XXIV. The Reconstruction Finance Corporation was set up in 1932 to make loans direct to business concerns, farmers, and to banks whose assets could not be used to borrow at the reserve banks under the then-existing restrictions. The Home Owners' Loan Corporation was to take over mortgages where foreclosure was threatened. Since 1934, in particular, some of the preceding agencies, notably the R.F.C., and new ones, such as the Federal Housing Administration, the Federal Home Loan Bank, Federal Savings and Loan Associations, or new powers for old agencies, such as industrial advances by reserve banks, have all been designed to increase the flow of investment funds by making loans which were not attractive to commercial and savings banks or private investors. An interesting device, that of the "insured loan," has been introduced by a number of these agencies. Thus, in the case of the F.H.A., loans are made to homeowners by banks, insurance companies, etc., whom the F.H.A. insures against loss up to 10 or 20 per cent of the total of their loans of this type. The F.H.A. builds up an insurance fund by charging one-half of 1 per cent of the base of the loan. Other loan-insurance plans have been worked out for other types of housing loans, for operating loans to farmers, and for industrial advances by the reserve banks. The issue of government *versus* private lending has been raised by the activities of these new agencies, and by still further proposals, such as that for insured capital loans to business or for a system of capital-loan banks. The issues involved are so confused—emergency *versus* permanent government lending, old *versus* new forms of lending—that they cannot be analyzed here.

Questions and Problems

1. Distinguish three uses of the term *money*.

2. Compare exchange through barter, through the use of money, and through the use of credit instruments as to (*a*) their relative importance today and (*b*) the facility of the exchange.

3. Of what significance is the fact that money may become *suspended purchasing power*?

4. Of the various functions of money, which have been performed least satisfactorily by our money system in the past?

5. Upon what money standard is the United States today? What recent changes have occurred in the standard money of the United States and of other leading nations?

6. Explain how Gresham's law operates.

7. Compare three money standards as to the probable stability of the purchasing power of the monetary unit.

8. Rank the various kinds of money in the United States according to the volume of each kind in circulation. Give the percentage of the total for the two most important kinds.

9. Select some particular bank, and determine in what kinds of financial activities it engages.

10. Take the bank statement given on page 297 of your text, and make the necessary changes in that statement so as to show the effect of the following transactions on the statement:

a. A loan of $3,500.

b. The cashing of a $100 check drawn on a deposit in the bank

c. The same as *b*, except that the check was drawn on another bank.

d. The paying of a dividend of 3 per cent on the capital stock.

e. The maturing of $3,000 of bonds held by the bank.

f. The foreclosure of a farm mortgage for $2,000.

g. The paying of an $800 loan by John Jones.

11. Explain why the following statement is true: "Though the banking system as a whole, in the manner above explained, can create deposits to many times the reserves of *lawful money*, the reader should not conclude that a single bank can greatly increase its deposits simply by making loans."

12. Suppose you deposit in your bank a $100 check drawn on a bank in a distant city. Explain how your bank will receive payment on that check.

13. What are the functions of the Federal reserve banks?

14. Explain how the Federal reserve banks attempt to control the volume of bank credit. How successful have they been?

15. Do additional changes in our banking system seem desirable? If so, explain

Suggested Readings

1. D. B. Woodward and M. A. Rose, *A Primer of Money* (1932) is a very clear and brief presentation of the principles of money and banking together with a consideration of current problems.

2. R. B. Westerfield, *Money, Credit, and Banking* (1938) is a recent comprehensive text on money and banking. It is particularly useful for the presentation of recent legislation.

3. F. A. Bradford, *Banking* (1932), Chap. XI, is a clear-cut exposition of how banks expand credit. L. A. Rufener, *Money and Banking in the United States* (1934), Chaps. X and XI, is also recommended.

4. C. R. Whittlesey, *International Monetary Issues* (1937) is an excellent critique of the gold standard.

5. *The Federal Reserve System, Its Purposes and Functions* (1939), prepared and published by the Board of Governors of the Federal Reserve System, is an up-to-date portrayal of the Federal Reserve System.

6. J. W. Beaty, *How to Understand Banks* (1934) is a brief, readable description of bank functions and operations.

7. W. R. Burgess, *The Reserve Banks and the Money Market* (1936) contains a full description of the Federal Reserve System together with much emphasis on the credit control tools and policies of the system.

CHAPTER XIV

PRICE-LEVEL MOVEMENTS AND AGRICULTURE

The disruption of our economic system during the drastic price-level changes between 1914 and the present (1940) has concentrated the attention of farm leaders, business leaders, and economists upon the serious social consequences of great changes in the price level. The study of the price level is here divided into five parts: (1) meaning and measurement of the price level; (2) causes of variations of the price level; (3) history of the price level and the outlook for the future; (4) effects of price-level changes; (5) means of controlling the price level.

THE PRICE LEVEL AND ITS MEASUREMENT

The Price Level an Average.—The general price level is the average of all prices at a given time as compared to some other time. The price level is a relative, not an absolute figure; for our interest is in whether prices have changed from a higher point to a lower point or *vice versa*, not in whether prices are on the average absolutely high or low. Since the price level is an average, individual prices may vary more or less than the average, or may move in a direction opposite to that taken by the average. Although, according to Snyder's index, the average price level fell, between August, 1929, and August, 1932, from 166 to 132 per cent of the 1913 level, or a decline of 20 per cent, the price of cotton, in the same period, dropped from 18.0 to 6.5 cents per pound, or a decline of 64 per cent, and the composite price of steel declined only 10 per cent. During the period from 1923 to 1928, in which the general price level remained fairly constant, the price of beef cattle rose from $9.40 to $13.91 per hundredweight, a 48 per cent increase. Such a variation in an individual price series, when the general level is about constant, is related to conditions affecting the supply and demand of this particular good.

During a change in the general price level, not only different commodities, but different groups or types of goods change in price more or less rapidly or to a greater or less extent than others. Thus, whereas the general price level declined 20 per cent from August, 1929, to the same month of 1932, and factory wages dropped at the same rate, farm prices fell 59 per cent, and the wholesale prices of all products 34 per cent. Later in the chapter these differences in degree of change in various types of prices during general price-level fluctuations will be studied in more detail including an examination of the causes.

It is the fact of differences in the reaction of different types of prices to a general price-level change that makes the change so serious. Therefore it is the change in the price level, not whether we operate on a high or on a low price level, which brings major economic consequences.

Measurement of the Price Level: Index Numbers.—The statistical device of index numbers is designed to measure the average change of any large number of items, such as the prices of a number of goods, expressed as a relative to some time period taken as 100. A simple illustration will show the essential steps in the construction of index numbers as well as emphasize the nature of the price level as an average.

The data necessary for the construction of index numbers of grain prices at the farm for the years 1929 and 1939 are presented in Table 32. The index numbers might be constructed by adding up the prices in 1929 of a bushel of each of the five grains, totaling $3.628 and taking this as 100. Then the total for 1939, $2.635, would be expressed as a percentage of the 1929 figure, or 72.6 per cent. An examination of Column II in the table, however, reveals that these grains vary widely in their importance, whereas the method just used gives equal weight to each grain, except for differences in prices, and hence may distort the picture as to the true change in the average of grain prices.

TABLE 32.—CONSTRUCTION OF INDEX NUMBERS OF GRAIN PRICES FOR 1929 AND 1939
(Dec. 1, 1929 = 100)

Commodity	1929			1939		
	Dollars per bushel	Production, millions of bushels	Price times weight	Dollars per bushel	Weight (1929 production)	Price times weight
	(I)	(II)	(III)	(IV)	(V)	(VI)
Wheat	$1.035	813	$ 841.45	$0.824	813	$ 669.91
Corn	0.774	2,535	1,962.09	0.503	2,535	1,275.11
Oats	0.426	1,118	476.26	0.347	1,118	387.95
Barley	0.544	280	152.32	0.438	280	122.64
Rye	0.849	35	29.17	0.523	35	18.31
Total	$3.628	.....	$3,461.29	$2.635	.....	$2,473.92
Per cent of 1929	100.0	.....	100.0	72.6	.....	71.5

To overcome this difficulty, each of the prices per bushel should be multiplied by a weight, here taken as the 1929 production, as in Columns III and VI. The resulting products should be summed, the total being $3,461.29 million for 1929, which we shall take as 100 per cent. Now the price data for 1939 should be multiplied by the 1929 production, that production being used since weights generally remain fixed through-

out. The sum of prices times weights for 1939, $2,473.92 million, is 71.5 per cent of 1929. Thus the index number for 1929 is 100.0 and for 1939 is 71.5. Though it is apparent that the most drastic declines in price were in wheat and rye, in the weighted index these were in part offset by less marked declines in corn and oats, the two crops of largest production. If the price data for 1932, or 1940, or any other years, were put through this process, 1929 being used as a base, the index of grain prices for those years could be found as relative to 1929. In this illustration we have used the single year 1929 as a base. At times an average of several years is used as a base. *Index numbers*, constructed as illustrated above, *are a device to measure the average relative change of a group of prices. Index numbers* which measure change in other aspects of economic life such as production or trade can be constructed also. They *express degrees of change in a series of items relative to a base, usually on a percentage basis with the base used as* 100 *per cent.*

The Choice of an Index of Prices.—A number of index numbers of prices are available—each one of them designed primarily for one purpose. The selection of an index for a particular use depends on the purpose for which it is to be used. Here our primary purpose is to measure the general level of prices. We shall use for that purpose Carl Snyder's index of the general price level, even though the most frequent practice is to use the Bureau of Labor Statistics' index of the wholesale prices of all commodities as the measure of the price level. Snyder's index includes not only wholesale-commodity prices, but retail prices, wages, and, in fact, a representation of almost everything which is bought and sold. This index for the period 1875–1939 is presented in Fig. 28, page 317. Indexes for the measurement of the variation in special types of prices, such as wages, will be presented later.

The Price Level and the Value of Money.—The average prices of goods and services represent the average exchange ratios between money and goods. When this ratio changes, we say the value of money—its power to command goods in exchange—has changed. When prices in general rise, money commands less goods, and we say that the value of money has declined. Conversely, falling prices in general indicate that the value of a dollar is greater. Thus changes in the general level of prices indicate opposite variations in the value of money.

THE VALUE OF MONEY

Money a Commodity.—Money is a commodity which differs from other commodities primarily in that the demand for it is not for consumption but as a medium of exchange. If gold were not used normally as the standard money of most of the world, the demand for it would be much less and its value but a fraction of its present worth. Irredeemable paper money is in itself worthless, but the fact that it will be accepted by sellers,

even though at a discount, gives it a value. And, among a certain school of economists, it is held that irredeemable paper money will maintain a stable value if the quantity is properly restricted.

The similarity of money to other commodities indicates that its value should be studied in the same manner, namely, by studying the relation of supply and demand. In a general sense, this is the contention of the quantity theory of money, which holds that the value of money depends upon the quantity of money in relation to the volume of goods to be exchanged.

The Supply of Media of Exchange.—When a nation is on the gold standard, the quantity of its money is limited to a specified multiple of that nation's holdings of gold. A considerable portion of the actual cash may be paper money, which is redeemable, to be sure, but back of which a gold reserve of considerably less than 100 per cent is maintained. Furthermore, these reserve requirements may be changed by law or by the habits of the people with respect to demanding coin for the paper and therefore make possible a reduction in reserve requirements. Then more paper money can be issued with a given amount of gold. In general, the tendency has been to lower reserves in standard money as the people have acquired more confidence in the integrity of governments. Prior to the devaluation of the dollar in 1934, the United States had about nine billions of money as the term is generally used (with 5 billions or less normally in circulation, excluding bank deposits) with only about 4 billions of gold behind it. After the devaluation, by which the dollar value of gold was increased to about 7 billion dollars (and through domestic gold production and imports by which the dollar value of gold was increased to 18 billion dollars by 1940), the additional amount of paper money which could have been created on this added gold reserve was not immediately needed and hence, after 1934, gold was a larger proportion of the total money than before.

To the extent that the ratio of reserves of standard money to the currency in circulation remains constant, variations in the money supply are made possible by variations in the gold stock. Clearly if a country's gold reserves are less than the specified minimum, it must reduce its money in circulation, change the reserve requirements, or reduce the gold content of its monetary unit. On the other hand, the possession of gold beyond that which is needed as reserve behind existing money can result in increased money in circulation only if the authorities see fit to issue additional money and the business community to use it.

The gold stock for the world as a whole is affected by discoveries of gold deposits at irregular intervals and by the profit to be derived from operating the deposits already known. Since the price of gold is usually fixed by law—as in this country, where until October, 1933, it was $20.67 per ounce for pure gold—the variable which affects the profits of gold-

mining companies is the cost of operating mines. With the drastic drop in labor and other costs in the early 1930's, many old mines were reopened, small placer deposits opened, and the production of gold increased noticeably. After January, 1934, the new gold price of approximately $35 per ounce stimulated gold mining to an even greater extent. A large percentage increase in gold production, however, means but a relatively small increase in the world's stock of monetary gold. Current gold production represented 2.29 per cent of the world's stock of monetary gold in 1931, a percentage which had more than doubled by 1936, having risen to 5.41.

Within a particular country, the imports and exports of precious metal to settle the international balance of payments may lead to a relatively large or a relatively small gold stock in that country, leading to higher or to lower prices in that country than in the rest of the world. If free gold movements are permitted, the condition just mentioned will, however, set into motion forces that will tend to bring about uniformity in the international price level in terms of gold. These forces are discussed in Chap. XIX.

In a nation such as the United States, in which 90 per cent or more of its exchanges are carried on by the use of credit instruments, the supply of these instruments is of vital importance in studying the price level. Most of these instruments arise from the credit extended by commercial banks as explained in the preceding chapter. But the banks must keep a primary reserve behind their deposits. Given a certain ratio of cash reserves to deposits as prescribed by law and the experience of banks, the possibility of lending through created deposits must vary with the cash reserves of the banking system. An importation of gold, unless controlled by a central-bank policy, could result in more money, more deposits created for borrowers, more money offered in demand for goods, and in higher prices. Over the world as a whole, the increased gold production of 1849 and thereafter in California, and of the nineties and thereafter in the Klondike and in South Africa, did bring higher prices.

From time to time, reserve ratios of banks change; the general tendency has been to reduce the required reserves. Thus less gold is required to support a large credit structure and a large volume of media of exchange. Under the Federal Reserve System, the legal reserve requirements of member banks have been reduced to about half of what they were previously, although reserve requirements were raised after 1936 to offset the tremendous "excess" reserves of the banks. This was explained on page 305.

The Demand for Money.—Money is desired primarily because it is generalized purchasing power, or, in other words, may be used as a medium of exchange. Therefore, the volume of things to be exchanged—commodities, services, and property rights—all requiring some medium

of exchange, are part of the demand for money and credit instruments. However, $100 will exchange 100 items at $1 each, but if the price is $2 each, $200 will be required, indicating that the prices at which goods exchange affects the demand for money as much as does the number of transactions.

At a particular time, money is also desired as a store of value, for people are not using all their money actually to purchase goods or to invest or to use in their business but are holding some of it as pocket money or idle bank deposits. Variations in the volume of money and credit so held may be viewed as a variation in the rapidity or velocity of circulation of the total quantity of media of exchange.

The Quantity Theory of Money.—The most generally accepted theory of the value of money is known as the *quantity theory*, which, when properly qualified, seems to be the best explanation of the variations in the general price level. In its earlier form this theory stated that, assuming the volume of goods to be exchanged and the velocity of circulation to be constant, variations in the value of money rested on variations in the quantity of money. It was argued that, over a period of time, the volume of goods was determined by nonmonetary forces, such as population and productive efficiency, and was not the result of price changes. The velocity of circulation was held to be determined by the monetary habits of the people.

It soon became evident that, in a credit economy, the volume of money was less important than the volume of credit instruments as a medium of exchange. The theory was accordingly modified, but the emphasis was placed on the interrelation of the two forms of media of exchange through the cash-reserve requirements of the banks. Variations in money were held to affect directly the volume of bank credit.

The manner in which the quantity of the media of exchange and other factors associated therewith are related to the price level has been summarized in the equation of exchange,

$$MV + M'V' = PT,$$

made widely known by Professor Irving Fisher, in which:

M is the volume of money.

M' is the volume of credit instruments (bank deposits subject to check).

V is the velocity of money.

V' is the velocity of bank deposits.

P is the price level.

T is the volume of things to be exchanged.

Expressed simply as an equation, it is a truism, for obviously volume of media of exchange times the velocity (frequency of exchange within a given period) must equal the volume of things exchanged times the

prices at which the exchanges take place. The really important questions which arise in connection with the equation of exchange are: (1) Do V, V', and T remain constant, and if not, what are the conditions which cause them to change? (2) Are the changes in the quantity of media of exchange the cause of price-level changes, or do price-level changes bring about changes in M and M'? In seeking the answers to these questions, one will find that the factors affecting such prolonged movements of the general price level as from 1870 to 1896 (see Fig. 28, page 317), or from the latter date to 1920, are somewhat different from the factors affecting those price-level changes which are features of the business cycle.

Qualification of the Quantity Theory.—During the short-term variations of the price level with the ups and downs of business, all factors

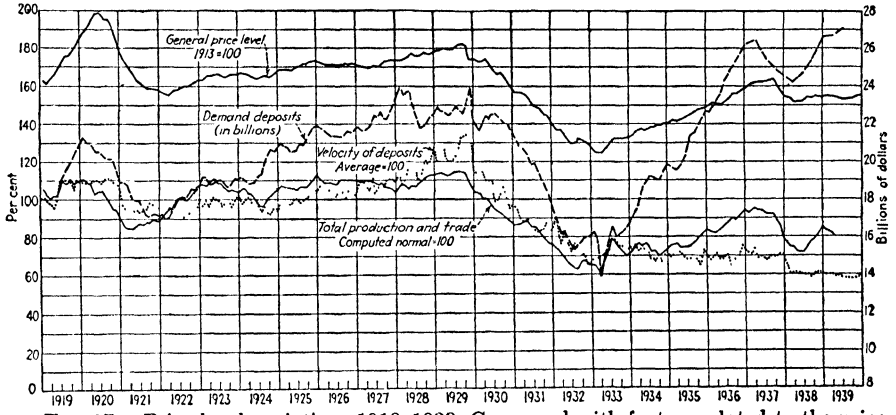

FIG. 27.—Price-level variations 1919–1939, Compared with factors related to the price level. (*Indexes of the general price level of production and trade, and of velocity of bank deposits supplied by the Federal Reserve Bank of New York. Demand deposits estimated by the authors through interpolating and extending the estimates of total adjusted demand deposits by Lauchlin Currie in his The Supply and Control of Money* [1935], *Table* I. *Annual estimates of total adjusted demand deposits, as of June* 30, *have been supplied by Dr. Currie.*)

in the equation of exchange vary. This fact, showing even marked variations of velocity of bank deposits, is clearly illustrated in Fig. 27. The difficult problem is to determine cause and effect—a process which involves not merely statistics on priority of change, but explanation of causal relationships.

Some of the high lights of the 20-year period shown in the chart are (1) the downward movement of prices was preceded by recession of bank credit only in 1920–1921; (2) price recovery started simultaneously with increase of M' in 1933 but did not go to the extreme heights reached by bank deposits after 1935; (3) movement of T preceded P in 1920–1921, 1922–1923, 1923–1924, 1924–1925, and preceded changes in M' in 1922–1923 and 1923–1924. What does this review of events since 1919 mean? Clearly it shows the error of any simple, or possibly single, explana-

tion of the short-time causal relationships of factors in the equation of exchange.

With respect to an upward movement, the knowledge of conditions under which M' will increase because of business (not government) borrowing indicates that some increase in P and T, or definite prospects thereof, must precede changes in bank credit. In competitive industries, prospects of price increases are most important. In industries under monopolistic competition, it is volume, not price, changes which most immediately affect borrowings. Changes in M' brought about by government deficit financing or central bank action can increase M' *in use*, only if such attempts at stimulation coincide with an increase in the prospects for business. Such is clearly the lesson of 1933 to 1939.

Contraction, in contrast, can be more easily forced by controlling agencies. The decline of M' before prices or trade receded in 1920–1921 was caused by the fact that the member banks were overextended and that the Federal Reserve took aggressive steps to check the inflation. Federal Reserve action was less effective in 1928–1929 because of the ample resources of commercial banks. It is possible that the raising of reserve requirements in the spring of 1937, combined with tax collections (including social-security taxes) which exceeded Federal expenditures, had some bearing on the sharp recession in the last half of that year.

Summary. 1. *Long-time Variations.*—Those variations in the value of money which continue for a decade or more seem to be related primarily to variations in the ratio of the volume of media of exchange (including both M and M') to the volume of things to be exchanged. Many quantity theorists, however, have placed undue emphasis on the effect of great gold discoveries and overlooked the effect of the issue of paper money with a small backing of gold and the general tendency to reduce bank-reserve requirements. Moreover, they have at times overlooked the tendency of price-level movements to bring contrary changes in the gold supply where the gold mines are *marginal*, their operations being affected by variations in cost. Low prices tend to stimulate gold mining and high prices to discourage it. This, however, is not a factor of major importance.

2. *Short-time Variations.*—When we consider short-time changes in the price level, it would seem that every one of the factors in the equation of exchange fluctuates, and it is difficult to determine which is to the greatest degree the cause and which the effect. This question was the center of much of the argument following 1933 concerning the proper steps to raise the price level. To an increased extent, however, economists are emphasizing that the "flow of investment," that is, the extent to which business prospects affect the use of existing bank credit (V') or encourage borrowing at the banks so that the total bank credit (M') is changed, is the dominant influence in short-time changes in the price

level and in business conditions. This topic will come up for further discussion in Chap. XXVIII, in which will be discussed the causes of the business cycle.

MOVEMENTS OF THE GENERAL PRICE LEVEL

Although the general price level is best measured by Snyder's index of the general price level, this index covers only the period from 1875 to date, and, therefore, in the study of the history of the general price level in this country, we shall have to use an index of the wholesale prices of commodities. A comparison of the movement of the two indexes as presented in Fig. 28, however, shows that the general direction of move-

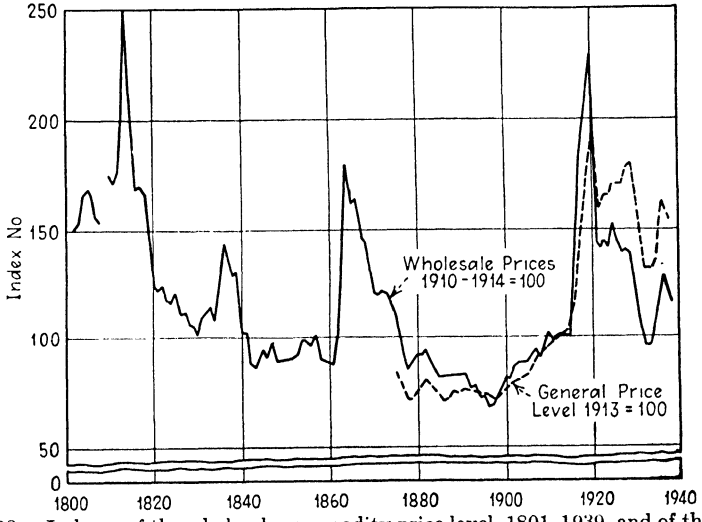

FIG. 28.—Indexes of the wholesale commodity price level, 1801–1939, and of the general price level, 1875–1939, in the United States. (*Index of wholesale price level from Warren and Pearson, Farm Economics, 45 and current issues. Index of general price level from Carl Snyder, Business Cycles and Business Measurements, 1927, Table 23, and current issues of Monthly Bulletin of Federal Reserve Bank of New York.*)

ment is usually the same in the case of the two indexes. Only in the period since 1920 have they ceased to move together, a fact which will be discussed later.

Periods of War-time Inflation.—The first outstanding characteristic of the history of the price level is that during the years shown in Fig. 28 there are three points of very high prices, which, if the dates are noted carefully, correspond to three periods of war. A period of extensive military operations seemingly cannot be financed without a considerable degree of inflation. This inflation may come through the issue of inconvertible money as during the Civil War or through the expansion of bank credit as during the World War. In each case, following the cessation of hostilities, came a period of sharp downward revision of the

price structure. After the Civil War, the first downward movement accompanied the return of the greenbacks to convertibility, which was prolonged to 1879. After the World War the first sharp deflation came with the contraction of bank credit in 1920, followed by eight years of stability, to be followed in turn by the still more drastic deflation after 1929. Some writers now maintain that the last drastic decline of prices was only a necessary continuance of deflation, which had been interfered with by the Federal Reserve's stabilization activities during the period from 1921 to 1929.

Periods of Gradual Decline.—The second important point to notice concerning the history of the price level is that, following the first deflation after both the 1814 and 1864 peaks, came a prolonged period of relatively gradual but fairly continuous price-level decline, continuing into the forties in the first case and to 1896 in the latter case. On the basis of this historical coincidence, some writers anticipated a repetition of this gradual downward price movement in the years after the World War. In other words, those writing during the period 1922–1929 prophesied that the price level then existing could not be maintained. Those writing during the depression of 1930–1932 stated that the revival of business activity would not bring prices back to the 1929 level, for they were destined to be lower during the 1930's and 1940's than they were during the 1920's.

There is nothing predestined about a price-level decline or a price-level rise. The mere fact that the decades following our two earlier periods of major military operations have been periods of downward movement of prices does not necessarily indicate that the decades following the World War will have a similar price-level history. The previous periods of decline were the result of a more rapid growth in the volume of exchanges than in the volume of media of exchange, and a prolonged post-World War decline can be anticipated only if a similar situation exists or comes to be true. As this is being written, our permanent policy with regard to the medium of exchange is a matter of uncertainty, and therefore the probable movements of the price level are also uncertain.

Other Movements, 1830–1914.—Besides the war-time inflations and deflations and the tendency of the price level to continue to decline after the first sharp post-war deflations, certain other movements of the price level are significant. Prices rose abruptly during the 1830's, primarily because bank notes, many of them of relatively little value, increased greatly during this dark period in the history of American banking, known as the era of *wildcat banking*. After the various states undertook more careful regulation of banking, the notes became more sound and were issued in smaller volume, and the decline in prices began anew until stopped by the increase in gold with the California discoveries

in 1849. From the last of the forties until the Civil War inflation, prices remained at a fairly even level.

The downward movement after the Civil War ended abruptly about 1896, to be followed by almost twenty years of consistent—and, for peacetime, quite rapid—upward movement of prices. In the twenty-five years preceding 1896, an upward movement of prices had been fought for by the debtor class, particularly the farmers, first, in an attempt to have the greenback issue expanded and, then, in the free-silver movement under Bryan in the nineties. By a strange coincidence this increase in prices began just as Bryan was defeated in 1896, not because of that defeat, but because of developments which produced an upward movement of prices on a gold standard.

The period 1896–1914 was one in which the volume of media of exchange grew more rapidly than the expanding volume of goods and services to be exchanged. Two factors explain the relatively rapid growth in money and bank credit. First were new gold supplies. In the nineties the rich gold fields of the Klondike were developed, bringing a large increase in the monetary gold stock of the world. Of more lasting effect on the supply, however, was the introduction at about the same time of the cyanide process for refining gold ores, which made possible the profitable working of the extensive but low-grade ores of South Africa. In recent years these South African mines have supplied about 55 per cent of the annual gold output, which since 1906 has usually been in excess of 400 million dollars per year. It is the large-scale working of extensive known ore deposits which can be relied upon to bring a consistent increase in the world's stock of gold. Second, this was a period of the extension of commercial banking in this country and abroad, which made possible the building of a larger superstructure of bank deposits subject to check as a medium of exchange. Note issue came to be a less important function of the average bank, and the creation of deposit currency a more important function.

Price Level since 1920.—The period of stability after 1921, during which wholesale commodity prices remained about 50 per cent and general prices about 70 per cent above the pre-war level, seems to have been related in part at least to Federal reserve policy. After the sharp first post-war deflation of 1920–1921, the reserve banks assisted in preventing further deflation. On the other hand, when prices rose sharply in 1923 and threatened again to be headed for the 1920 level, the Federal reserve banks, using the technique explained in the preceding chapter, applied the brakes effectively. During the years following, until 1929, the reserve banks had only one major price-level problem, that of preventing the excess gold in our possession from leading to a period of inflation. This was done by what was known as gold *sterilization*, a process whereby the Federal reserve notes came to be almost

gold certificates, and whereby the surplus gold in the vaults of reserve banks was not used as a basis for large increases in bank credit. The member banks were discouraged from borrowing from the reserve banks and hence from using this excess gold as a basis for undue credit expansion.

The sharp decline after 1929 witnessed the collapse of the Federal reserve control. It indicated that this agency is more capable of preventing inflation than of preventing deflation. It indicated that no country can divorce itself from conditions abroad, particularly as long as that country keeps a constant weight of gold in its standard money. The sharp financial difficulties of this depression in the United States were related to the financial weakness of Europe, whose difficulties came to a head in England's departure from the gold standard in September, 1931. The following drain on our gold resources by Europe, the hoarding by our people, and the failure of numerous banks, all led to a sharp contraction of bank credit and a tremendous decline in velocity of circulation, which forced prices down rapidly.

Following the departure from the international gold standard in April, 1933, prices moved up rapidly for about three months and then followed a fairly stable course. A major rise of prices got under way in 1936, but this was followed by a sharp recession in the middle of 1937, with irregular movements during 1938 and 1939.

THE EFFECTS OF VARIATIONS IN THE GENERAL PRICE LEVEL

The effects of price-level changes result from the fact that not all types of prices vary at the same rate and from changes in the real buying power of payments made by debtors to creditors. The latter effect is quite obvious, but the former needs extensive demonstration, because it is not so generally recognized.

Wholesale Prices and the Cost of Living.—In general, the nearer a price series is to the consumer, the more sluggish will be its response to a change in the general level of all prices; and the nearer it is to a raw material the more prompt and marked will be its variation.

At present there is no strictly retail price index available, though the Bureau of Labor Statistics' index of the urban cost of living is frequently used for this purpose. It contains such items as rent and power for which there is no corresponding wholesale item. This index is sufficiently representative of the situation to show the sluggish reaction of retail prices. The index of the cost of living lagged behind all of the other indexes presented in Fig. 29 during the war-time inflation and fell more slowly in both the 1921 and the 1930–1933 declines. Though farm prices fell 63 per cent and wholesale prices 33 per cent between 1929 and June, 1932, the cost of living declined only 20 per cent. The fact that the index of retail prices remained continuously above the index of

wholesale prices and that the latter remained above the index of farm prices during the post-war era will be discussed under a special heading.

Farm and Retail Prices of Food.—A clear-cut example of the relation of the farm prices and the retail prices of the same products is portrayed by the relation of the indexes of the farm and of the retail prices of food as constructed by G. F. Warren and F. A. Pearson of Cornell Univer-

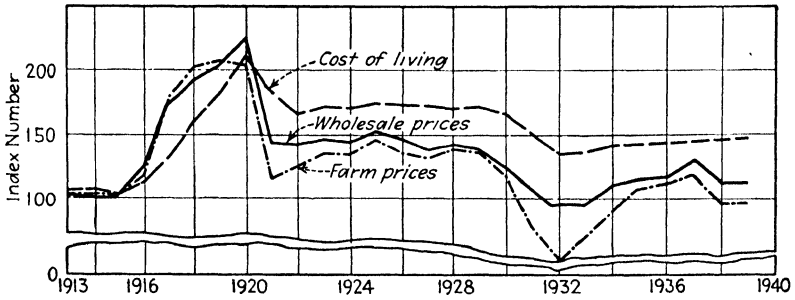

FIG. 29.—Indexes of farm prices, wholesale prices, and cost of living in the United States, 1913–1939. 1910–1914 = 100. (*Data from current issues of Farm Economics.*)

sity. These indexes, presented in Fig. 30, show clearly the tendency of retail prices to lag. During the rising prices of war times, the farmer received more of the consumer's dollar, but since the 1921 decline he has received less than in 1913. The farm prices of food dropped from 151 per cent of the 1910–1914 level in 1930 to 66 per cent in April, 1932, a decline of 56 per cent. Between the same dates the retail prices of food dropped

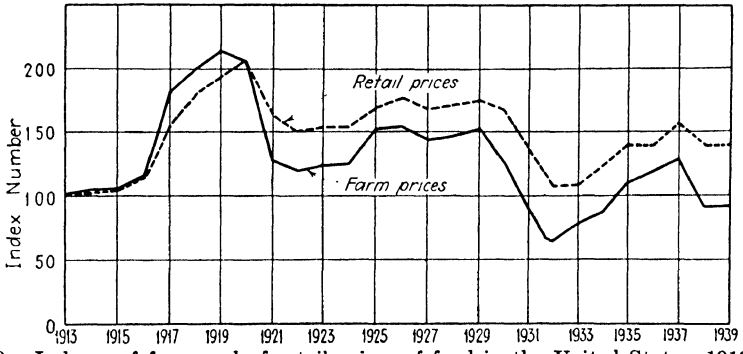

FIG. 30.—Indexes of farm and of retail prices of food in the United States, 1913–1939. (*Data from current issues of Farm Economics.*)

from 169 per cent of the 1910–1914 average to about 113 per cent, a 33 per cent decline. Developments since 1933 have done little to reduce this spread betwen farm and retail prices of food.

If the change in prices of farm products is due to peculiar conditions in the farming industry, such as bumper crops or a drought, while the general price level remains approximately constant, it is logical that retail prices should vary by a smaller percentage than the farm prices of

the same commodities. The retail price includes not only the farm price but also packing or processing, transporting, and merchandising costs, which do not necessarily change with farm prices under the conditions assumed here. Consequently, a 10 per cent decline in farm prices does not necessarily indicate that wholesale and retail prices of farm products should fall by the same percentage. A change of a certain number of cents or dollars in a price at the farm represents a much greater percentage than one of the same number of cents or dollars in the price at retail. When the farm price of a bushel of potatoes drops from 50 to 40 cents, a 20 per cent decline has taken place. If this 10-cent decline is immediately reflected in the retail market so that potatoes drop from $1.50 to $1.40, only a 6.67 per cent decline has occurred.

Explanation of Price Lags.—More important than the above are the instances of lags of retail prices behind farm and wholesale prices in connection with changes in the general price level. Two factors assist in understanding such price lags.

First, the costs of the various services rendered in getting goods from the producer of raw materials to the final consumer are made up of certain price series, notably interest rates, wages, and rents, as well as taxes, which are themselves lagging series during price-level changes. The lagging of the prices of these factors of production may be explained in turn by three considerations: (*a*) All these costs, especially rents and interest rates, are the subject of *long-time contracts*, the terms of which can be rearranged (except in case of bankruptcy) only on expiration of the contract or upon the agreement of the parties. To a certain extent, wages, especially when the result of agreements with powerful unions, are fixed for extended periods, covering often a year or sometimes a longer period. (*b*) The charges for all three of these factors of production become to a certain extent customary after prices have remained on an even keel for a period of time, which customary charges are upset only after a time lag and a drastic price-level change. (*c*) Elements of monopoly are present in the case of margins and prices of many processors and merchants. Similarly, some wages are not highly competitive but become rigid because of the influence of public opinion and the activities of labor unions. Again, freight rates and other charges fixed by government change, but slowly.

Often the producer feels the relative rigidity of wages indirectly—rather than directly—especially in such costs as transportation rates and taxes. Both of these costs are made up primarily of wages and salaries. The index of wages presented in Fig. 31 shows how this most important of all costs lags behind wholesale prices on the decline. From 1933 to 1937, however, wages nearly kept abreast of rising wholesale prices, a fact which will be discussed further in the next chapter. Unfortunately, the indexes of interest rates are for new loans and do not show the actual

rates being paid under old, as well as new, contracts. Index numbers of rents, when analyzed, support the contention that this is a lagging cost. The lagging nature of transportation rates is further discussed in Chap. XXII and of taxes in Chap. XXI.

A second factor explaining these price lags is the tendency of retail prices themselves to be sluggish. This factor is distinct from the one just discussed; namely, that the costs arising between the raw-material and finished-good stages of production tend to vary sluggishly. Some retail prices, as of chewing gum, are customary. In other cases, merchants will try, if possible, to move inventory at the price paid for it, and, since there may be a lag of from a month to more than a year between the purchase of goods by the retailer and his sale of them to the consumer, this habit may become a major factor in the lag of retail prices, unless the

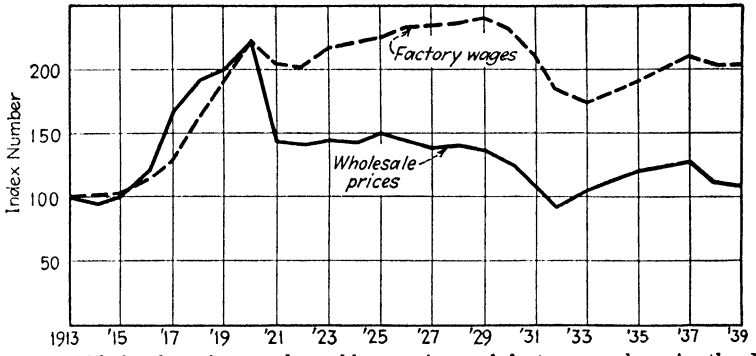

FIG. 31.—Wholesale prices and weekly earnings of factory workers in the United States, 1913–1939. 1910–1914 = 100. (*Data from current issues of The Agricultural Situation.*)

competition between retailers is unusually sharp, as it tends to be in the sale of the staple foods. Of growing importance in controlling the prices of the commodities and services bought by consumers are monopoly influences and government regulation. The latter affects the power, telephone, and railroad rates charged consumers. Government action in changing the rates of these utilities lags behind price-level changes, partly because of the slow-moving nature of government, and partly because these industries feel perhaps to a greater extent than any other the effect of labor agreements, rental contracts, interest contracts on bond issues, and heavy taxation. Monopoly enters to affect retail prices through trade-marks, trade associations, and patents—all of which are monopolistic devices.

Price Declines and Agriculture.—Let us consider two factors which make price-level declines particularly burdensome to farmers. First, farm prices suffer from the fact that whereas they are highly competitive, many other prices are not. In the cases of the latter, those who exercise certain monopoly powers over their prices try to hold their prices steady,

particularly during a price-level decline, although they will eventually lose if the price-level decline is large. Union labor—which is strong in the transportation fields and in some mining and manufacturing—tends both to hold up the prices of the things farmers buy and at the same time to prevent a reduction in the margin between farm prices and retail prices, so that the farmer gets a smaller share of the consumer's dollar. Trade associations and trade-marks both tend to hold up the prices of things bought by the farmer, in face of a general price-level decline. At the same time these two non-competitive factors tend to hold up the retail price of farm products, particularly those which have gone through important form-changing processes, and thus to prevent the farmer from benefiting from the increased consumption that would take place at lower prices. Agriculture, being highly competitive, not only cannot resist price-level changes, but finds its position made still more unbearable by elements of monopoly in nonagricultural prices.

Second, whereas the volume of industrial production can be controlled and forced to vary directly with prices, agricultural production responds but slowly to price changes. If the price level rises, industry, which rarely works at capacity, may speed up its processes and even establish new plants quite rapidly. Agricultural production, as a whole, responds more slowly to such situations. There is no idle capacity ready to produce at a moment's notice; crops already planted cannot be increased. New land and new livestock cannot be brought into production at once. Conversely, with a price-level decline, industrial plants operate on reduced schedule or close. Farm crops already planted will be harvested, and livestock will be fed for slaughter. Only after some years will farm production be reduced by a series of bankruptcies on marginal land and by less intensive cultivation. Thus the circumstances of agricultural production permit that industry take full advantage of price-level increases but place on the farmer a heavy burden at times of price-level decline.

Post-war Differences in Types of Prices.—In Fig. 29 it is seen that neither the cost of living nor wholesale prices have returned to their pre-war relation to farm prices; and Fig. 30 demonstrates that the retail prices of food have remained from 10 to 40 points above farm prices when each is expressed as a percentage of the pre-war prices. Three factors have contributed to this situation.

First, those elements of cost which make up the margins between the three types of prices not only lagged in 1921 but are still "lagging." Wages, railroad rates, and especially taxes have remained above the level of their pre-war relationships to wholesale prices. Since about 78 per cent of the income of the railroad business which is not paid to some other industry (as, for example, taxes and the purchase of coal) goes to wages, and since railroad wages were about 120 to 145 per cent above the

pre-war level, it would seem that a major factor in explaining the high transportation rates—45 per cent above the pre-war level—has been the high wages paid to railroad employees. Another factor has been the high taxes borne by these transportation agencies, which were in 1932 still 121 per cent above 1914. And back of high taxes we again find the higher wages of public employees as a factor, though the increased number of activities undertaken by governmental agencies is a still more potent factor. Thus a considerable portion of this continuous spread between retail prices and the price received by producers is related to the high post-war wages. As will be pointed out in Chap. XV, these high wages came into being during the rapid growth in efficiency of industry and the demand for the various productive agencies at a time when the rate of growth in the number of laborers was declining because of the falling birth rate and particularly because of the restriction of immigration following 1921.

Second, specialization in production in advantageous localities reduces the costs of form-changing operations and thus makes possible lower farm prices, but it involves more effort in creating place and possession utility. Goods must be transported over a wider area to reach the wholesale and retail markets, and more selling effort is required.

Third, the consumers' demand for variety, freshness, and service has increased the cost of retailing. The merchant who carries a wide variety of goods has a relatively larger capital investment and must, therefore, operate on a wider margin between wholesale and retail prices. To provide a ready stock of fresh goods and to offer service in the store and in delivering increase the capital and labor outlay.

Farm Prices and Farm Costs.—A comparison of the changes in farm prices and farm costs logically follows the preceding analysis of the variation in particular types of prices. Figure 32 presents the variations in the prices of farm products sold and in the prices of the goods and services purchased for farm production and consumption in comparison with the relation existing among these costs and prices prior to the war. Farm prices rose more rapidly from 1916 to 1919 but did not reach so high a peak as did wages in 1920. Considering the fact that goods bought by farmers were as high as farm prices in 1920 and that farm wages were higher, we note that the profit margin of farmers was already being reduced. This process continued during the deflation of 1921, when farm prices fell almost 35 points below farm wages. From 1922 to 1930 farm prices remained 25 to 40 points below farm wages and from 10 to 25 points below the prices of goods farmers buy, as compared to the pre-war situation. The continuation of this disadvantageous spread between farm prices and such commodities and services as are bought by farmers is explained in terms similar to those emphasized in the preceding section. Again in the deflation after 1929 the farmer suffered, though the drastic

cut in farm wages alleviated the situation slightly. By the spring of 1932 the buying power of farm products (index of farm prices divided by an index of the prices of commodities used in production and for family maintenance) had declined to 50 per cent of the pre-war level. The farmer had to sell twice as much in physical volume in order to purchase as much as in 1913. Between 1933 and 1937 a sharp increase in farm prices occurred. The relatively slower increase of prices of commodities bought and of farm wages, plus the drastic reduction of farm taxes brought a price situation for farm products in 1937 which was nearly as favorable as in 1929. The sharp decline of farm prices in 1938 and 1939 brought renewed price disadvantages to farmers.

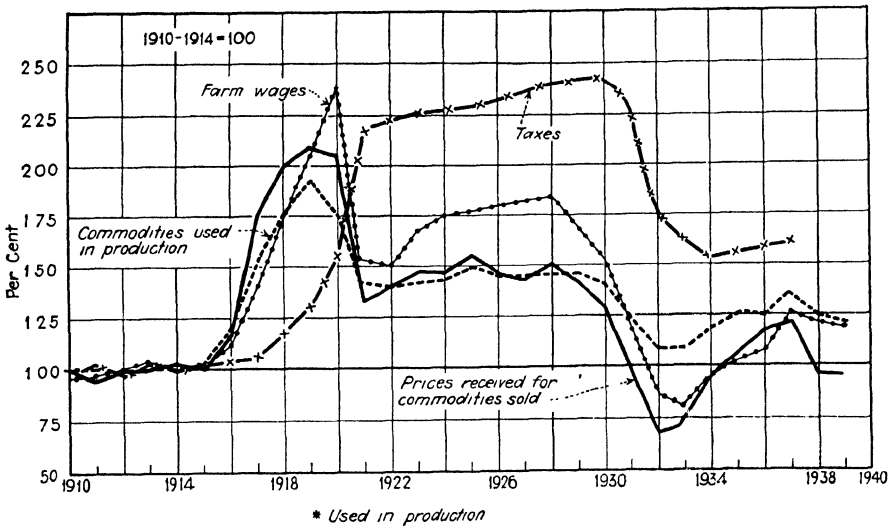

FIG. 32.—Prices received by farmers and prices paid for commodities, farm wages, and farm taxes, 1910–1939. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

Two cautions should be noted in interpreting relative prices as indicators of agricultural welfare. First, there are occasions on which significant farm price changes are the result of crop yields. For instance, much of the higher farm prices of 1934 to 1937 was the result of the severe droughts of 1934 to 1936. With this qualfication, changes of farm prices relative to prices of commodities and services is a good indicator of changes in the economic position of agriculture during a short period. The second caution is that over periods of a decade or more, changes in the efficiency of production may be so phenomenal that high prices for cost factors are more than offset by this efficiency. Comparisons of relative prices in the 1930's with relative prices before the war overstate the farmers' disadvantage.

Farmers as Debtors.—Whether we operate on a high or low price level is immaterial, but the process of transition from one price level to another

is painful to certain economic groups. A rising price level has disadvantages to those economic groups whose incomes are relatively fixed. With rising prices, wage earners, landlords, and creditors find that their incomes in money do not increase so rapidly as the cost of living rises, and hence their purchasing power is reduced. A creditor who lent a thousand dollars in 1913, when the cost of living was 100, and was paid back in 1920, when the cost of living was 212 per cent of the 1910–1914 average, received only 47 per cent as much purchasing power as he lent in 1913. At the same time the entrepreneurial class gained, for its selling prices rose more rapidly than its costs. Funds borrowed when the price level was low may be paid off in dollars of lower purchasing power. A smaller amount of farm products had to be sold in 1919, when farm prices were 215 per cent of the 1910–1914 average, to retire a thousand-dollar mortgage than would have been necessary in 1913.

The effect of specific economic groups is reversed when the price level declines. Wages and rents do not decline so rapidly as living costs, although in the case of labor this advantage may be offset by unemployment. Creditors gain, provided they can collect the loans they have made, for loans made in dollars of low buying power must be paid back in dollars of larger purchasing power. Entrepreneurs suffer, for selling prices drop more rapidly than costs. Debtors find the retirement of their debts unexpectedly difficult, for they must now sell more goods to obtain the same number of dollars. Even if farmers' costs had dropped proportionally with the prices of farm products, a farmer, in making payments of interest and principal in 1931 on a farm mortgage contracted in 1926, was forced to sell almost twice as much volume, for farm prices fell from 142 per cent of the 1910–1914 average in 1926 to 82 per cent in 1931.

Farmers as a whole are debtors and hence prefer at least a stable, if not a rising, price level. The rural support of the post-Civil-War greenback movement was not due to any widespread farmer support of any monetary theory but to the farmers' desire to stop the price decline of this deflation period. Similarly, farmers are no more wedded to free silver than they are to the gold standard. They rallied to the free-silver cause, not out of love for the silver miners, but to prevent the continuous price-level decline of 1880–1896. In the price-level declines of 1920–1922 and 1930–1933, the farmers did not present so united a front, some arguing for paper money, others desiring free silver, and many supporting the idea of expanding credit to force the price level upward. An increasing number have come to believe that the control of the price level is a proper and necessary function of a government-supervised banking system.

PRICE-LEVEL STABILIZATION

After the preceding survey and analysis of the effect of changes in the general level of prices on various economic groups, particularly the

farmers, the desirability of price-level stabilization becomes more evident. If the entrepreneur, landowner, creditor, and laborer could conduct their daily lives and business transactions with the assurance that the purchasing power of the dollar would remain approximately constant, one of the greatest, if not the greatest, of economic uncertainties would be removed. There would be no basis for fear of loss due to a price-level shift, or in the other circumstance, a hope for a speculative gain. Moreover, if the general level of prices would remain constant, then overproduction or underproduction in a given commodity, or group of commodities, could be adjusted without the disruption of the whole price structure, accompanied by a sharp and prolonged period of business depression.

Numerous suggestions of means or devices for price-level control have been made, of which many do not represent careful study of the principles of money and banking but are merely the dreams of reformers. Students of these problems, however, have suggested several means of price-level stabilization which offer great possibilities. We shall briefly study three suggested means: (1) central-bank control of credit; (2) the *compensated dollar;* (3) a *managed currency.*

Central-bank Control of Credit.—Central-bank control of credit as a means of price-level stabilization has already been undertaken by several central banks abroad and by our own Federal Reserve System, but it has not yet been completely successful, either because the technique was not used properly or because the task was too big for banks alone to control, particularly when the central bank of each nation acted by itself. Bank control cannot be expected to be effective in controlling long-time trends of change in the price level due to changes in the world's supply of standard money relative to the volume of goods exchanged. Even in controlling short-time, relatively minor, price-level movements during the business cycle, central banks face some difficult problems.

Bank control must be exercised through the control of bank credit, the growth of which can be restrained by high rates and even by the refusal of loans. On the other hand, in order to prevent undue deflation, or downward movement of prices, banks should be able to increase the volume of loans at will. However, even though banks offer inducements to borrowers in the form of low interest rates and show a willingness to loan on more uncertain projects, the final decision to borrow rests with the banks' clients. The latter in turn are influenced in their decision by the prospects of making profits by the use of borrowed funds; and, in a period of sharp and continued decline of prices, the lagging of costs behind selling prices undermines the profit outlook. Thus deflation, particularly if sharp, discourages borrowing and tends to make ineffective the attempts of banks to stop the deflation.

In minor price declines, as in that of 1924, business men do not become perturbed about the price-level decline and are willing to utilize

the plentiful credit offered by banks. However, from 1931 to early 1933, at least, the continued and drastic downward movement of selling prices without a comparable reduction in cost discouraged borrowing. The reduction in bank deposits, as a result, further reduced buying and tended to lower prices, leading to a vicious circle between reduced borrowing and lower prices.

No doubt improvement could be made in the method of control attempted and in the cooperation of the central banks and the commercial banks, which are in more direct contact with business. But, the extreme confidence which the people of the United States had in the Federal Reserve's powers in the prosperous days of 1929 has been shaken and not without cause. In addition, recent governmental practice and recent thought of economists indicate the possibility and necessity of correlating the revenue, expenditure, and borrowing policies of national governments with central-bank credit policies, particularly the excess or deficits of revenues over expenditures.

The Compensated Dollar.—The limitations on the control of the price level through central-bank activities, particularly with reference to longer time price-level trends, have caused attention to be turned to plans which propose to stabilize the price level through the control of the volume of money, using money in the sense of hand-to-hand cash. The first of these is the compensated dollar, given wide publicity in the writings of Irving Fisher. The general idea of the plan is to vary the gold content of the dollar according to price-level changes. Unduly high prices would be reduced by increasing the gold content of the dollar and therefore having fewer dollars from a given gold stock. On the other hand, if prices are falling, the gold content of a dollar would be decreased, so that the same gold stock would form more dollars.

Obviously, gold coins could not be constantly melted and recoined as the weight of the dollar was to be changed. Instead, the actual circulating medium would be gold certificates, redeemable in an amount of gold determined by the price level; more, if the prices were rising, in order to increase the value of the dollar; less, if the price level was falling, in order to decrease the value of the dollar. If the price level falls, the gold which could be obtained per dollar might be decreased 1 per cent every few months until the price level returned to the point at which it was to be stabilized. The reverse would be the practice in case of a rise in the price level. In order to prevent speculation in gold, the government would always buy gold at 1 per cent, or so, less than its selling price.

Three difficulties with the plan can be pointed out. First, unless the plan were administered on a world basis, international trade would not move so smoothly as under the traditional form of the gold standard. Second, the plan is so complicated that it would be very difficult to obtain the necessary public support to put it into effect. However, as a

result of the publicity given to this plan in 1933 under the title of the *commodity dollar*, the plan obtained in a short space of time a broad and influential support. A third factor which seriously limits the adequacy of the plan is that it is designed to remedy long-time, not cyclical, variations in the price level. The compensated-dollar plan comes into play only after the price-level change has occurred. Cyclical price-level changes are sudden and sharp, a fact requiring that control must be exerted through anticipating the price-level changes and preventing their occurrence. To a large school of authorities, the central banks in cooperation with the national treasury are the only agencies capable of anticipating these cyclical variations and taking the necessary preventive steps.

More will be said concerning this proposal below, in connection with the monetary developments of 1933.

Managed Currency.—The term *managed currency* has come to be used to include all plans of social control of the price level through a change in the money system. More particularly, the term *managed currency* is often applied to the plan under which the government or the central bank would control the volume of bank credit and paper money independently of the gold stock of the country. In fact, the internal price level is to be divorced from the gold standard and is to be in reality on a paper standard. Gold would be retained as an emergency reserve and as a means of settling international balances and, under the administration of the central bank, of stabilizing exchange rates.

The plan is based on the theory that redeemability in a precious metal is not a necessary characteristic of money; that paper money will retain its value if properly regulated as to volume. For at least as long as other national monetary systems are on the gold standard, the country using a managed currency would have to keep gold to settle balances. The volume of credit and of bank notes in the United States from 1922 to 1929 was so completely divorced from the size of our gold holdings by Federal reserve control policy that many writers say that this country actually had a managed currency during that period.

The plan, assuming wise regulation, faces at least two difficulties, which, however, may not be insuperable. First, it rests on the willingness of the public to accept a paper standard. It is true that the currency of today has but a limited amount of gold back of it, and it may be that the masses have been educated to a nonmetallic currency entirely. Second, exchange rates between a country adopting this plan and other countries might be subject to violent oscillations, unless the use of the gold stock for purposes of stabilizing these rates or more direct controls could work effectively. Stability in exchange rates might be sacrificed, however, if, in the process, stability of the internal price level could be obtained.

A special form of managed money and credit is the proposal for "100 per cent reserve" money. Under this plan the government would require 100 per cent reserves in lawful money behind all demand deposits. The banks would acquire the additional cash to make 100 per cent reserves by some type of initial transaction with the government. Thereafter changes in the total medium of exchange could take place only as the government changed the amount of lawful money, which it presumably would do according to some criterion such as the growth of population. There would be no necessary relation to gold. Clearly the objective of the plan would be to make the total supply of circulating media inelastic in both prosperity and depression; hence this plan involves significant changes in our banking structure which cannot be covered in detail here.

Reflation—1933-1939.—The whole question of price-level control has taken on a more realistic appearance with the introduction of the idea of *reflation* in 1933 and the actual attempt to raise the price level to a desired point and there to stabilize it. Between 1929 and 1933 the wholesale price level declined by over one-third, and hence the burden of debt became very oppressive and the disparity between different types of prices became very marked. Under policies previously followed, deflation would have been allowed to run its course, and, after a period of time, prices would have been again brought into workable relations, one to the other, and the debt burden relieved through bankruptcy. Certain things might have been done to alleviate the suffering of such a prolonged period of readjustment, such as prosecution of monopolies to force down their prices and the establishment of machinery for speeding the settlement of creditors' claims. The policy adopted, however, was one of *reflation*—forcing prices back to the point at which the debts had been contracted and at the same time raising farm prices and similar low prices relative to other prices.

The departure from the international gold standard in April, 1933, was the first step in this reflation program. It was followed by the granting of wide monetary powers to the President, to reduce the gold content of the dollar, to buy silver, to order the Federal reserve banks to buy government securities, and to issue paper money. Since, by the fall of 1933, prices had not risen so much as had been hoped, the government undertook the purchase of gold at higher and higher prices, thereby assisting in reducing the exchange value of the dollar by about 40 per cent relative to such gold currencies as the French franc. At this point the dollar was stabilized by the announcement of a new gold dollar of 59.06 per cent of the gold content of the old dollar. That this gold manipulation did not bring a prompt restoration of the price level of the 1920's did not surprise the majority of economists. It is probably true that the gold standard had a depressing influence on prices because of the shortage of gold in some countries and continued deflation abroad.

Domestically we had ample gold reserves, but the international maldistribution of this gold had a deflationary influence. When we reduced the gold content of the dollar we cut loose from some deflationary influences abroad. But to force down the exchange value of the dollar and expect that fact alone to raise our price level was based on a misunderstanding of the processes of recovery and rising prices. The increase of V', rate of use of credit, and of M', bank credit, are the essential parts of reflation. These rest primarily upon expected returns from the use funds by business.

At the same time that the monetary system was being changed, and for several years thereafter, the Federal government undertook to stimulate business activity and commodity prices by "pump priming." The substance of this program is that large government expenditures (in excess of revenues), using borrowed money, will stimulate business. Though the full consideration of this program will be postponed until Chaps. XXVIII and XXIX, it should be pointed out that improved business activity and rising prices resulting therefrom are the result of improved profit prospects rather than of government expenditures in excess of revenues.

Conclusion.—National governments have now assumed an active rôle with respect to price levels and business conditions. The pre-war simplicity of monetary affairs, based on the world-wide use of the gold standard, is gone. Under the new, frequently-changing, and varied monetary systems and policies of today, complicated by pressure-group influence for advantages which certain monetary changes can give them, it is extremely difficult for even the most careful student to understand and evaluate the events and problems related to money.

Questions and Problems

1. Distinguish the price level and the price of an individual commodity (*a*) as to their meaning and (*b*) as to the general character of the factors causing each to vary.

2. Summarize the most generally accepted theory of the relation of the monetary gold supply to the price level.

3. Explain the changes which take place in the various parts of the equation of exchange during short-time periods of price-level fluctuations, such as that from 1930 to 1934.

4. Summarize the price-level history of the United States, and, by using the equation of exchange, point out what monetary, banking, production, or other changes seem to explain the price-level oscillations since 1860.

5. Why do price-level variations bring such major economic consequences? Give two reasons.

6. Point out the differing effects of a rising and of a falling price level on various economic classes.

7. What are some of the types of prices which *lag* during price-level changes? Explain the causes of these *lags*.

8. Point out the effects of price-level changes on agriculture with particular reference to the years since 1913. Why is agriculture affected in this manner?

9. Investigate and summarize the arguments advanced for and against *reflation* during 1933 and 1934.

10. Bring up to date the various indexes presented in the charts in this chapter. Then summarize the price movements since February, 1934.

Suggested Readings

1. L. D. Edie, *Money, Bank Credit, and Prices* (1928) is a very lucid exposition of the principles of money and credit and their relation to the price level.

2. D. B. Woodward and M. A. Rose, *Inflation* (1933) is an analysis of that interesting subject with relation to the agitation in 1932–1933.

3. Irving Fisher, *The Purchasing Power of Money* (1922) is a widely accepted exposition of the price level and of factors causing it to vary. Chapter IV is particularly recommended for reading.

4. Lauchlin Currie, *The Supply and Control of Money* (1935) is an exposition of the monetary and banking developments since 1920, with conclusions which support the need for strong control of the quantity of bank credit.

5. Irving Fisher, 100% *Money* (1935) is a brief exposition of this plan of monetary reform.

6. M. Curtis and H. Townshend, *Modern Money* (1938) is an exposition of monetary principles which is based primarily on the ideas of J. M. Keynes.

7. L. A. Rufener, *Money and Banking in the United States* (1934), Chaps. IV and V, contains a lucid exposition and evaluation of the quantity theory and of the effects of price-level changes.

CHAPTER XV

LABOR AND WAGES

Our attention is now turned toward those major principles of economics which concern the laws governing the distribution of the national income. In this chapter, the returns to labor will receive special attention. In the next two, the returns to capital and to land will be considered. In Chap. XVIII pure profit will be further discussed. This division of the social income among the factors of production is called *functional distribution*, in contrast to *personal distribution*, or the division among individuals and families. If we keep in mind the fact that an individual may represent more than one factor of production, we shall see that it is possible for these two aspects of income distribution to be quite different. A skilled laborer may obtain most of his income as wages, but he may have savings invested in a building and loan company, in life insurance, in the stock of his employer's business, or in something else, receiving interest and perhaps some profits as an entrepreneur. The typical farmer represents all four factors of production, and therefore the income available for the use of himself and his family may be part wage income, part interest earnings, part land rent, and perhaps even some pure profit.

DISTRIBUTION THEORY

The Productivity Theory.—The most generally accepted theory of distribution is the productivity theory, a valid and valuable principle when properly understood and applied. This theory in its chief outline will be here stated, though it will require further explanation in the pages to follow in order to be clearly understood. It holds that the return to any unit of *labor* or *capital* of a given grade at a given time will tend to equal the *marginal productivity* (or product) of that factor—that is, the product expected to be added by that grade of that factor in the least productive employments being newly undertaken. The return to *land* is a *surplus*, representing the excess returns expected from the better grades of land, above what is produced by labor and capital at the margin. *Pure profit* to the entrepreneur arises if there is any *residual* after the prior claims of all the other factors have been met. These statements will now be further explained.

Marginal Productivity and Wages.—The productivity theory of distribution as applied to labor and to capital is known as the *marginal productivity theory*. This raises two questions. The first is: How is the

marginal use of such a factor of production as labor determined? The answer to that question is that the marginal use is that point in the application of additional units of labor to existing amounts of land and capital at which the last units to be employed are employed. We learned from the law of diminishing returns that, if land and capital are fixed in quantity, labor is subject to diminishing returns; hence the marginal use is the least productive use. At this margin, competition among employers for the available labor will result in labor's being paid practically the full expected value of the product which it produces. If all the laborers of a certain kind in a certain region except a few are employed, and the labor of any one of those unemployed may be expected to add $3 per day in value of product to the income of a score of employers, then competition among these employers for this labor will result in the workers being able to secure practically $3 per day for their labor. At the margin, therefore, a wage prevails which equilibrates the demand for, and supply of, labor and gives to labor approximately the full value of its product. This further qualification, however, is necessary: because employers advance wages to employees some time before they receive a return from the product, the expected future value of the product is *discounted*, to take care of interest on this advance.

Why All Wages Tend to Be Governed by Marginal Productivity.—The second question is: Why do all laborers of a given grade tend to receive only a wage equal to the value of the product added to the entrepreneur's gross income by the marginal laborer? The answer to that question is that labor is like other goods, in that what the marginal units sell for, other units will also sell for. There tends to be but one price for a given good in a given market at one time, and hired labor is as truly a good as other goods. A farmer may hire a dozen men who are all about equally effective as workmen. Perhaps he could afford to pay the first one $6 per day, rather than go without his services. But ten men want work, and the tenth will add only about $2 per day to the income of this farmer (or others in need of help). He will pay the tenth man only $2, because that is all he can afford to pay. Each of the men whom this man may fully replace must then take $2, if they are all to be employed. It is simply the marginal-vendibility theory of value applied to wages.

Functional Distribution in the United States.—Dr. W. I. King of the National Bureau of Economic Research has carefully studied what percentage of the national income during a period of eighteen years has gone to hired labor and what percentage to all other factors of production, the latter part being designated the *return to property and entrepreneurship*. Obviously, the latter includes the combined return of land and capital and the profits of entrepreneurs as well. Moreover, the term *wages and salaries* as used by King includes only wages and salaries actually paid to hired employees and hence does not include that part of an enterpre-

neur's income (for example, a farmer's or a small independent business man's) which should be assigned as his wage income for work by himself in the enterprise. Although King's estimates that the percentage of income going to labor increased from about 50 to about 58 per cent between 1910 and 1928, this may represent merely the tendency for more labor to be hired rather than to be self-employed.

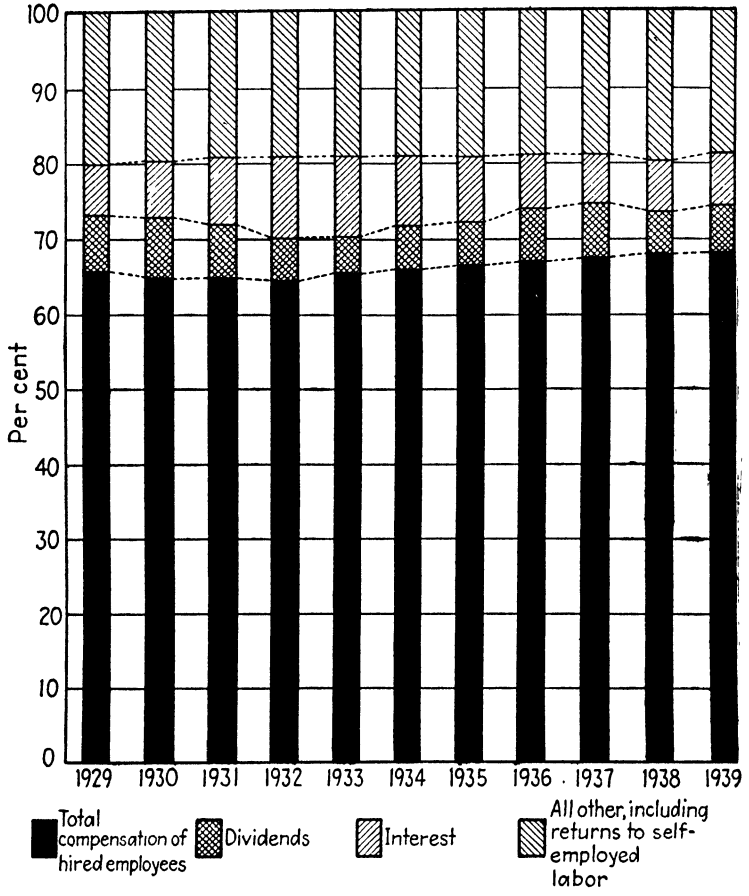

FIG. 33.—Percentage distribution of income paid out, by type of payment, 1929–1938.

The 58 per cent of the national income represented as going to labor does not include the labor income of the 74 per cent of all people working in agriculture who are not hired labor, nor that of many people operating stores or working at other businesses in which they are their own employers. If imputed wages for these could be ascertained and added to the share of labor, that share would be appreciably more than the 58 per cent given above for the year 1927. Another investigator of this subject, M. C. Rorty, who is a past president of the American Statistical

Association, has estimated that for the year 1926 all wages including imputed wages amounted to 77 per cent of the national income.

More recent data supplied by the Bureau of Foreign and Domestic Commerce divide the share of property and entrepreneurship into four subdivisions: dividends, interest, net rents and royalties, and entrepreneurial withdrawals. The last named group includes return to self-employed labor. According to these data (Fig. 33) the share of hired labor is placed at about two-thirds of the national income—in contrast to 58 per cent by King. It is evident that the percentage of the national income paid as interest increased during the deeper parts of the depression of the thirties. The opposite effect of the depression on dividends is also clear. The percentage of the national income going to labor and to all others changed but little.

Later in this chapter and in the chapters following we shall consider in more detail the question of what portion of the national income has in the past been received by labor and by the other factors of production. The subject has been mentioned at this point to assist the student in understanding what is meant by the *functional distribution* of the national income.

Use of the Idea of Functional Distribution.—In a strict sense, functional distribution is concerned with the share received by a factor of production in total, not per laborer or per acre of land. The data in Fig. 33 are intended to express this idea. Our first concern in this and other chapters on the subject, however, will be with wage rates and interest rates and with rent and profits under particular conditions. The principles governing that part of the national income which goes to each of the factors of production are best analyzed by considering particular rates. After doing that, we can better consider the percentage distribution of the national income among the various factors and discuss the possible means by which the part going to any factor may be increased.

TYPES OF WAGES

Wages Are the Price of Labor.—Wages are the remuneration for human labor. Labor is human effort, either physical or mental, undertaken for an economic motive. The inclusion of mental effort in the term *labor* indicates that much of managerial activities, particularly of a routine character, is labor and as such receives wages. This definition does not mean to infer that labor cannot be enjoyable, for much labor is enjoyable and would be more so if hours were shortened. In the business world it is customary to limit the word *wages* to pay by the day, the week, or the piece, and to designate as salaries pay by the month or year. To this there are exceptions, agricultural pay by the month, for example, being commonly designated wages. Under wages we shall include salaries unless the context specifically indicates the contrary.

Cash and Imputed Wages.—Wages as the price of labor may actually be paid out by the entrepreneur for hired persons or may be imputed wages. By an imputed wage, we mean that part of the entrepreneur's income which is assignable to his own labor or that of a member of his own family who is not actually paid a money wage. Imputed wages are particularly important in agriculture, because, of the 10,472,000 people gainfully employed in agriculture in 1930, only about 2,773,000, or 26 per cent, were hired. The rate assigned to each kind of work preformed by the farmer or members of the farm family should be equal to the price prevailing for that kind of labor in the general labor market, allowance being made for the fact that the possible earnings of some members of the family might not be very large if removed from the family farm. With allowances for such a situation, the problem becomes one of determining the forces which fix the wages of hired labor.

Time and Piece Rates.—Cash wages are of two types: time rates and piece rates. Most farm labor is paid on a time basis, such as the hour, day, or month, but for certain work, particularly in the harvesting of some crops, labor is hired by the piece. Both time and piece rates are used extensively in urban industry. Piece rates tend to be fixed at such a figure that the average laborer will earn in a day an amount equal to the general daily wage paid on a time basis. Fundamentally, the forces determining piece rates and time wages are the same.

Wages as a Cost and as Income.—Wages, the price of labor, occupy a dual rôle, that of a cost of production and of income to the laborer. The entrepreneur is interested in wages as a cost of production and therefore as one factor determining the possible profit to be received from the enterprise. As a result, the entrepreneur is interested in the wage cost per unit of product more than in wages paid to each laborer.

The farmer's concern with wages, however, cannot cease with the cost of production viewpoint, for the average American farmer is not only an entrepreneur, a capitalist, and a landowner, but also a laborer. Part of his annual income above cash outgo and depreciation is a return to himself and his family as laborers comparable to the wages of other rural labor. Thus the interest of every farmer is bound up intimately with the welfare of rural labor.

Real Wages as Income.—Money wage rates often are not an accurate basis upon which to compare the income of labor from one period of time to another, or of laborers in different localities at the same time. First, wages in money must be interpreted in the light of the variations in the purchasing power of money. Comparison of wages between different times—and between different places as well—is possible only after these wages have been adjusted for differences in the cost of living. This fact is well illustrated in the case of wages before, during, and after the inflation of 1917–1920, a period during which the purchasing power of money

changed rapidly. In 1920 the weekly earnings of New York factory workers had risen to 227 per cent of the 1910–1914 average, but the cost of living had risen to 212 per cent. After the deflation, that is, from 1922 to 1929, money wages of factory labor were about 235 per cent of the 1914 average, whereas the average cost of living was about 170 per cent of the pre-war average. Hence fully employed factory workers had distinctly greater purchasing power from 1922 to 1929 than before or during the war. Wages when adjusted for purchasing power of money, or considered from the point of view of what money wages will buy, are called *real wages*. The reader should be careful to determine from the context whenever the term *wages* is used without qualification, whether the reference is to money wages or to real wages.

In a comparison of the real wages of rural and urban labor, the differences in the cost of living between city and country, and the farm laborer's receipts in kind, should be considered. Frequently single laborers are given board, room, and laundry in addition to cash wages, particularly on the farms of the northern and western states. Often, married laborers are given the use of a cottage and certain farm produce in addition. Even the growing number of laborers who live in small towns and commute to their work find that such important living expenses as rent are cheaper than in the large cities. The U. S. Department of Agriculture publishes a monthly estimate of farm wages with and without board for each of the states.[1]

A second consideration that must be borne in mind when one interprets wages is that money wages, whether time or piece rates, should be adjusted to allow for unemployment in order to measure the real-wage income of labor. High daily or piece rates do not indicate a high degree of economic welfare for labor if such wages are received only in the busy seasons of the year, the labor being necessarily unemployed the remainder of the year. Also, during a business depression, unemployment reduces labor income, even though nominal wage rates decline but little. For instance, though the wage rate for New York factory workers fell only 26 per cent from 1929 to June, 1932, the employment of factory workers in the country as a whole during that time declined 50 per cent. Laborers in some occupations—such as harvesting and processing farm products, lumbering, and coal mining—face unemployment in certain seasons of the year. Sometimes, by entering other employments during slack seasons, these laborers are able to augment their income. But, in general, the relatively high wage rates which tend to exist in seasonal occupations give a misleading impression of the income of the laborers engaged in them.

Wage Cost of Production.—Although entrepreneurs collectively are interested in the real-wage income of labor as indicative of the ability of

[1] Published in *Crops and Markets*.

workers to buy the products of farms and factories, individual employers are more interested in the wage cost per unit of product. Wage rates by hour, day, week, or month do not always indicate wage cost. The latter depends in part on the efficiency of the laborer. Hence the far-sighted employer does not compare laborers applying for work solely on the basis of the wage rate which must be paid but rather compares this rate with the probable output. Henry Ford furnishes an example of this. Furthermore, the general variations of wage rates due to changes in business prosperity do not always indicate comparable variations in wage costs. When jobs are plentiful, output per laborer often declines, because laborers do not exert themselves so much. But when the threat of unemployment is present, labor efficiency, as well as management efficiency, increases.

WAGE THEORIES

Wage theory is an effort to explain the principles or forces which determine what wages will be under particular conditions. Because of the presence of many interfering forces, such as the introduction of new machines or changes of demand for the products of a given type of labor, it is difficult to demonstrate positively by statistics that a given theory of wages is or is not true. There usually are, however, certain general indications by which the validity of a wage theory can be tested. The wage theory at present most generally accepted among economists as explaining the general level of wages over a period of time is the marginal-productivity theory. This theory has been widely accepted for only about half a century. It was evolved from older theories but is based on a clearer understanding of economic forces. We shall first briefly discuss two of the older theories.

Subsistence Theory.—In the early days of the scientific study of economics the *subsistence* theory was widely in vogue. This was stated in 1817 by David Ricardo, one of its best expositors, as follows:

> Labour, like all other things which are purchased and sold, and which may be increased or diminished in quantity, has its natural (normal) and its market price. The natural price of labour is that price which is necessary to enable labourers, one with another, to subsist and to perpetuate their race, without either increase or diminution.[1]

This theory, thus stated by Ricardo over one hundred years ago, is clearly based on the Malthusian theory of population, which has been explained in Chap. V. It was believed that, if real wages were to rise, population would increase and force wages downward; that, if real wages were to fall, the accompanying shortage of the necessities of life, would lead to more deaths and fewer births and thus reduce the popula-

[1] *Principles of Political Economy and Taxation*, Chap. V.

tion. Accordingly, all that common labor could ever hope for was a bare subsistence wage. Stated only in the above rigid fashion, this wage theory was designated by the socialists as the *iron law of wages*, which it was held would always prevail under capitalism. Therefore it was urged labor had everything to gain by joining the socialists in the overthrow of capitalism. Why the iron law would not operate as truly under socialism as under capitalism the socialists did not explain.

In this rigid form the theory stands or falls with the Malthusian theory of population. And, with the improvement in production technique and limitation of births so characteristic of Western civilization, the theory can hardly be applied at present to the advanced countries of the world. Wages in these countries are usually far above the mere level of subsistence. Ricardo, however, realized that people were not like wild animals, that the minimum required was not the food and clothing needed to barely subsist but the necessities and conveniences to which they had become accustomed. Thus, if this elastic element in Ricardo's statement is emphasized, which was not done until recently, the theory agrees with our general conclusions concerning the factors governing the birth rate today and becomes, in a sense, a *standard-of-living* theory.

Wages Fund Theory.—This theory was widely held in the middle of the last century. It was well stated by John Stuart Mill but later recanted by him. The following quotation was a summarization by Mill preceding his famous attack on the theory and retraction in 1869:[1]

> The theory rests on what may be called the doctrine of the wages fund. There is supposed to be, at any given instant, a sum of wealth, which is unconditionally devoted to the payment of wages of labour. This sum is not regarded as unalterable, for it is augmented by saving, and increases with the progress of wealth; but it is reasoned upon as at any given moment a predetermined amount. More than that amount it is assumed that the wages-receiving class cannot possibly divide among them; that amount, and no less, they cannot but obtain. So that, the sum to be divided being fixed, the wages of each depend solely on the divisor, the number of participants. . . .

Stated in the above terms, the theory became a basis for criticism of the labor-union movement. It was asserted that, whereas the wage rate was determined by the ratio of the number of laborers to capital, nothing which these unions could do would raise wages. Only a reduction in numbers of laborers relative to capital could improve labor's position. Moreover, if any group through collective bargaining should succeed in raising its wages, it must be done by reducing the wages of unorganized labor, for there would be less of the *wages fund* left to be divided among this unorganized labor. A belief closely resembling this latter contention is still held by most economists, although largely for different reasons.

[1] *Principles of Political Economy* (ed. W. J. Ashley), p. 992.

The great weakness of the wages fund theory lies in the implication that the fund from which all labor will be paid at any given time is definitely fixed. The demand for labor depends on the demand for the products of labor, and in the consideration of this demand it should not be overlooked that laborers represent the largest portion of the consuming population. One contribution made by the theory to our understanding of the wage problem is its emphasis on the fact that the entrepreneur advances the wage to the laborer before the product of the labor is sold. and that, therefore, the employer must discount (for interest) the sum which could be paid to labor if the product were sold immediately. In other words, labor is paid out of capital, though not out of a fixed but rather out of a varying capital fund, the size of which depends in part on the demand for the products of labor.

Other Theories.—The two wage theories already explained, added to the marginal-productivity theory to be explained below, have contributed most of our understanding of the wage problem. Some other theories have been advanced: the socialistic theory; the commodity theory, which is very similar to the theory discussed below; and the bargaining theory. These will be discussed in connection with the marginal-productivity theory.

POPULATION, IMMIGRATION, AND WAGES

The Natural Increase of Population.—The supply of labor in general depends largely upon the population, the age distribution of that population, and the proportion of women gainfully employed. Other factors are numbers of hours worked per week, intensity of work, age of retirement, number of youths in school, number of unemployable poor and idle rich, and number of holidays. Population growth is due either to natural increase (excess of births over deaths) or to net immigration. The earliest comprehensive theory advanced to explain the growth of population by natural increase was that of Thomas R. Malthus, already explained. At present, so far as the more advanced areas of the world are concerned, the rate of growth of population can be better explained by considering the effect of modern methods of life and modern ideals on the bearing and rearing of large families. As these ideals and the knowledge of birth control permeate the masses, the Malthusian theory as originally stated will become wholly inapplicable to the Western world. But until that time, the Malthusian theory will apply to a certain extent to the lower income classes of the United States, Canada, and Western Europe. Recent evidence gathered by sociologists shows that an increase in the income of these classes increases the marriage rate and decreases infant mortality, both of which facts tend to increase the population in response to an increase in income. The number of children per family, however, is less in the higher income classes, and this has more than offset the other

two factors. Birth rates among wage earners also seem to be decreasing now.

The standard of living or level of expenditure which people would like to have is not a constant but a changing standard, and hence, as the population growth in all classes comes to be guided by the standard of living, population growth will respond differently to changes in income.

Immigration.—In any particular region or country the total number of laborers may be affected by emigration and immigration. The population of the United States (aside from the Indians) is composed of immigrants and the descendants of immigrants. That immigration has been an important factor in population growth in the United States is shown by the fact that of the 21 per cent increase in population in this country from 1900 to 1910, 11.51 per cent was contributed by immigration and only 9.45 per cent by birth within the country. During the decade which included the World War, 1911 to 1920, the increase in total population was 15 per cent, of which only 4.5 per cent was contributed by immigration and 10.5 per cent by the birth rate. Further evidence of the tremendous volume of immigration into the United States is presented in Table 33. The decade 1901–1910 saw 8,795,386 people immigrate to this country, far surpassing any other decade. However, when the attention is turned to immigration by five-year periods, as shown in Table 33, it is seen that the immigration for the half decade just prior to the war far exceeded that of any similar period.

Immigration Policy.—Prior to 1921, the United States made no attempt to restrict the number of immigrants in general. Orientals were excluded by the Chinese Exclusion Law of 1882 and the Gentlemen's Agreement with Japan. Laws had been passed to improve the quality of the immigrants by providing that defectives, criminals, and those liable to become dependent on charity should be excluded. Finally in 1917, over President Wilson's veto, Congress provided that immigrants must pass a literacy test.

The Immigration Restriction Law of 1921 records a change of policy. Fearing that the economic depression in Europe following the close of the war would lead to continued heavy immigration, bringing unemployment and lower wages for American labor, Congress proceeded to limit the number of immigrants. The 1921 law provided that the number of immigrants from each country which could come to the United States annually should not exceed 3 per cent of the number of people from that nation already in the United States according to the Census of 1910. As a result of this law, immigration fell from 805,000 in 1921 to 309,000 in 1922. This latter figure should be compared with an average annual immigration of 879,539 from 1901 to 1910.

In 1924 the volume of immigration was further restricted by reducing the quota for each country to 2 per cent of the number from that nation

in this country in 1890. At the same time non-Caucasian Asiatics were in effect excluded by barring all aliens not eligible to citizenship. The purpose of changing the Census date was to change the character of the immigration. Prior to 1890 by far the greater number of the immigrants had come from Northern and Western Europe.

TABLE 33.—IMMIGRATION INTO THE UNITED STATES FROM 1870 TO 1937[1]

Ten-year periods	Number	Five-year periods	Number
1871–1880	2,812,191	1910–1914	5,174,701
1881–1890	5,246,613	1915–1919	1,172,679
1891–1900	3,687,564	1920–1924	2,774,600
1901–1910	8,795,386	1925–1929	1,520,910
1911–1920	5,735,811	1930–1931	426,953
		1935–1937	139,121

[1] Data taken from Table 100, *Statistical Abstract of the United States*, 1938.

In 1929 the quota plan based on Census data of a particular date was replaced by a national-origins plan. A commission was authorized by Congress to determine the national origins of the people of the United States. On the basis of the commission's report, Congress determined the number of immigrants which could enter each year from each country. The total maximum immigration under this plan has been estimated at about 154,000 per year. The relative immigration from various parts of Europe under the national-origins plan is quite similar to that under the act of 1924. In 1932, largely because of the depression, there was a net emigration. Immigration per year during 1935–1937 was less than a fifth of the 1925–1929 yearly average.

Immigrants from the western hemisphere are not on the quota plan, but may enter the United States in unrestricted number, provided they can meet such tests as were mentioned above. An increasing number of Mexicans have entered to become agricultural laborers in the southwestern states, forming a large part of the supply of cheap labor. As such they compete with native labor. The Mexican immigrants present a serious sociological and educational problem to these states. Stimulated by the unemployment situation of 1930, Congress considered putting the Mexicans on the quota basis, but no action was taken, in part because of the opposition of the farming interests of the southwestern states.

Immigration and Wages.—The widely accepted views that immigration reduces wages should be at least qualified by the following considerations. First, though immigration does materially increase the number of laborers, it also increases the demand for products and, therefore, the demand for labor. According to Say's law, the supply of products constitutes the demand for other products. Accordingly, immigrants add to the demand for labor as well as to the supply of labor. It is only

in so far as additional labor comes into the country in such numbers as to make their absorption difficult, or leads to diminishing additional returns from their employment on our resources, that wages in general should tend to decline. Second, immigration increases the supply of labor primarily in the unskilled employments. Though it probably tends to reduce wages in these occupations in relation to wages in other occupations, it also tends to raise the wage level of the native-born population. The latter tend more and more to enter the skilled trades, clerical jobs, and the professions. Though after one or two generations the descendants of immigrants also tend to move upward into the higher paid occupations, some authorities have concluded that immigrants have, on the whole, pushed the descendants of the older stock up the financial ladder.

Farmers' Interest in Immigration.—The farmers of the United States are affected both favorably and unfavorably by immigration. As landowners, farmers are concerned first with the tendency of a growing population to increase the demand for land and thereby to cause land values to move upward. If the immigrants go mostly to the city, the prices of farm products should be increased and prices of goods bought by farmers decreased. If, however, immigrants take new land to a large extent, the result is to extend, or even overextend, the tilled area and thereby reduce the returns to the land already in use. As laborers, farmers are affected to the extent that immigrants who take up agricultural employment thereby reduce the wage income of agricultural labor.

Writing in early 1929, John D. Black concluded:[1]

> In the next 5 or 10 years the present farming population might gain a little from permitting freer immigration. But if very many of the new immigrants became farm laborers or tenants, or settlers on new or abandoned lands, the scale of rural living would be lowered, as it has been by such a process in the past fifty years.

Sex and Age.—The total population alone does not indicate the labor supply, for (as stated on page 346) the proportion of the population which enters into the labor supply depends upon the sex and age of the population and also upon such forces as number of years spent in going to school, the number of women who work, and retirement age. Table 34 classifies according to sex the total population and the number and percentage of gainfully employed in the Census years of 1910, 1920, and 1930. It is significant that during this twenty-year period there was no pronounced change in the proportion of the gainfully employed who were women.

Furthermore, the proportion of women and of children who work, aside from doing housework, varies from time to time and from place to place. Child labor in factories had declined to less than one million by

[1] *Agricultural Reform in the United States* (McGraw-Hill, 1929), p. 489.

TABLE 34.—POPULATION OF CONTINENTAL UNITED STATES, NUMBER AND PERCENTAGE GAINFULLY EMPLOYED, BY SEX—1910, 1920, 1930[1]

Type of data	1910 (millions)	1920 (millions)	1930 (millions)
Population:			
Total	91.97	105.71	122.8
Male	47.33	53.96	62.1
Female	44.64	51.81	60.6
Number gainfully employed:			
Total	38.17	41.61	48.8
Male	30.09	33.06	38.1
Female	8.08	8.55	10.8
	(Per cent)	(Per cent)	(Per cent)
Percentage gainfully employed	100.00	100.00	100.0
Male	78.8	79.50	79.2
Female	21.2	20.50	20.8
Percentage of population of corresponding age and sex:			
Male	81.3	78.2	76.2
Female	23.4	21.1	22.1

[1] *Statistical Abstract of the United States*, 1930, Tables 5, 10, 46 and 48; and 1930 *Census:* Population, Vol. III, Part I, Table 15.

1932, and employers in the blanket code of 1933 agreed to abolish the practice of employing persons less than sixteen years of age. Women are not important factors in American agricultural production, except in the dairy, poultry, and some fruit and truck industries, although in other countries they often work in the fields. Women have, however, crowded men out of some lines of work, such as the making of textiles and clothing, clerical work, and teaching, the supply of men in other types of work being relatively increased. The use of women in industry may cause temporary hardship on the men replaced in particular industries. But these men are sooner or later absorbed in other employments. The national income is increased by the output of the additional laborers. The women add to the demands for goods, and thus for labor, as well as to the supply, and hence economic arguments against the employment of women are rendered weak.

As young people tend to spend a larger part of their time in education, they become less important as members of the laboring force during that period. The rapidly declining birth rate has reduced the usual proportion of the population in the younger age groups. In 1930 only 9.3 per cent of the population was under five years of age, whereas 10.3 per cent was from five up to ten years. This shows clearly the declining birth rate, inasmuch as the children born from five to ten years ago were more numerous in spite of the greater number of deaths among them than those born during the last five years. Only 29.4 per cent of the population was under

fifteen years of age in 1930, compared with 31.7 per cent in 1920. The 1940 census will show undoubtedly a continuation of this trend. The future labor supply will be materially affected by the reduction in the present younger age group.

The general supply of labor discussed in the preceding paragraphs will to some degree influence changes in the wages of all kinds of labor. It will have some bearing on whether the wages of every wage group will increase or decrease and how the changes will compare with those in other countries. Of greater significance, however, are the forces affecting the productivity of labor through technological improvements in the processes of production and the legal and other arrangements affecting the division of the social income along the factors of production. These matters can be best considered in connection with the marginal-productivity theory of wages.

WAGE GROUPS

Although many wage theories have been presented to explain the general level of wages, economists, especially since the days of the publication of J. M. Cairnes' *Leading Principles of Political Economy* in 1874, have recognized that labor is not a homogeneous commodity, and hence that there is no general wage rate for all labor. Instead there is a series of group wage rates, the whole number of laborers being divided into quite clearly marked groups. Movement of laborers from one occupation to another within the same group is frequent, but movement from one group to another is not frequent in Western Europe and is becoming less so in America as our society becomes older. Hence these groups are spoken of as *non-competing groups.*

The following major groups are usually identified:

1. Higher managerial group.
2. Professional and small business group.
3. Skilled-labor group.
4. "White-collared" group, such as clerks.
5. Unskilled-labor group.

Farm laborers are for the most part in the last class, although, with the increased application of machinery and scientific methods of agriculture, farm labor which is skilled along particular lines is becoming more important.

The typical wage per worker varies among the various groups in the order of the enumeration of groups presented in the previous paragraph. The wage of the managerial group is highest, and that of the unskilled workers is lowest. This differentiation in wages among the various groups is due to a greater number of workers relative to the demand situation in the lower wage groups. Why is there such an undersupply of labor in the higher wage groups so that they receive higher wages?

The Choice of Occupation.—The number of men engaged in any particular occupation—or in any series of occupations which together form a wage group—is partly determined by the choice of occupation made by laborers themselves or by their parents. This choice depends on a variety of factors. First, the sacrifice of effort and money necessary to acquire the skill of an artisan or to train for a profession deters most workers from entering the higher wage groups. Frequently the necessity of assisting in providing for his relatives prevents a young man from accepting the low income of a training period. Second, many young people enter those occupations which carry little opportunity for advancement because they are lured by the relatively higher beginning wages. Among many young people of the lower income classes, the desire to improve their economic status does not seem sufficiently strong to urge them to undergo the sacrifices of a training period. Many lack the native ability to enter the highly paid occupations. Third, the door to certain occupations is sometimes closed at the time a young person is seeking employment. This arises usually from the existence of rigid wage rates, seniority rules, and other factors which prevent the young person from being hired on a merit basis, or at lower wages which he might be willing to accept if he could thereby get work at his chosen occupation. Wages are fixed above a competitive basis by law, agreement with a union, or otherwise, and only the fortunate are able to secure entrance into these occupations. Occupations in which these restrictions operate are those of postal employees and employees in the operating division of railroads. Such restraints until recently have not commonly operated in unskilled occupations, but they are frequent in the higher paid employments. Inside monopoly in some corporations closes certain positions to outsiders and gives entrance to those with influential connections. As a result of the influence of all of the above enumerated factors on the choice of an occupation, workers enter the unskilled occupations in relatively larger numbers than other employments.

With persons other than unskilled workers, influences other than the wages received have relatively more effect on the choice of occupation. These noneconomic advantages of particular occupations are known as *net advantages* and form a fourth factor influencing the choice of occupation. Certain types of work carry with them sufficient social prestige that young people will enter this work even if the probable wage is not large. This factor explains to some extent the "white-collared" group, whose work usually requires some training, yet whose wage in many cases is not much higher than that of unskilled labor. The environment of the work influences men to choose one occupation rather than another, the evaluation of specific environmental factors varying from person to person. One man may be willing to accept a lower real wage if he can live in the exciting city environment. Another may be willing to make a mone-

tary sacrifice in order to work, live, and rear his family in a rural region. A dangerous occupation usually attracts fewer men than does one which is relatively safe, though the added risk does not deter so many as might be supposed. The enjoyable character of the work itself is a significant factor in directing people of particular interests into particular work, especially when the choice is among the various professions.

Because of the above factors, a hierarchy of wage groups has been built up, each group being on a different wage level. Any influence which upsets the usual wage differential between the groups will tend to be remedied by the intergroup movement of labor if such movement is possible. Any factor which facilitates the acquisition of manual skill or of professional training will tend to reduce the wage differential between the lower groups and the higher groups, for large numbers will then train themselves for higher wage positions, leaving fewer workers for lower wage work.

THE MARGINAL-PRODUCTIVITY THEORY

The problem now at hand is to analyze the determination of wages in any occupation within the wage group. Since there exists a direct relationship between the value of a laborer's output and his wages, it results that, except where custom, union rules, or other similar factors interfere, the able-bodied, alert man will tend to receive higher wages than his less efficient fellow. This is especially true in agriculture, where conditions are most highly competitive. In such cases there will tend to be as many wage rates as there are occupations and levels of personal efficiency within an occupation. In many skilled and some unskilled occupations, however, the standard-wage policy prevails, and hence all employed in a certain occupation on a given job—or frequently in the whole region—will be paid the same wage rate.

Where there is relatively free competition among employers and among laborers, the tendency is for wages as the price paid for labor to be fixed by supply and demand, as are other competitive prices—wages tending to equal marginal productivity. The demand and supply of labor, however, have many characteristics different from the demand and supply of finished consumable goods.

The Demand for Labor.—The demand for labor is in large part a derived demand, since labor is employed to produce goods which consumers desire. In the wages that he can pay, the producer is limited by the price which he can obtain for the products of labor. Farmers and other entrepreneurs employ laborers because they expect that the products of labor will be bought at a price sufficient to pay the wages and other costs, with at least the hope of profit for the enterpriser.

Part of the demand for labor is direct—a demand for the services of the professional man, the household worker, the gardener, and so on. As

in the case of the consumer demand for any commodity, the number of laborers who will be hired for direct service and the wages paid will depend on the purchasing power of the consumers and the intensity of their desire for the services of labor. But, since the direct demand for most types of labor is limited, we shall study especially the derived demand for labor. In fact, the three groups of laborers (as classified by the Census Bureau) whose services are most likely to be demanded directly—namely, public service not elsewhere specified, professional services, and domestic and personal service—composed in 1930 less than 20 per cent of the gainfully employed (see Fig. 1, page 11).

The Demand Curve.—The fact that the demand curve of employers for a particular kind of labor slopes downward from left to right represents that more labor will be hired at low than at high wages; but the reasons for this situation are more complex than those applicable to the consumers' demand curves for finished products. Instead of the major motivating factor behind demand being utility or the want-satisfying power of a good, the demand for labor as a derived demand is determined primarily by the amount that labor can add to the income of employers. But with all other conditions outside of that industry remaining the same, employers in a given industry cannot afford to pay as high wages for additional employees as for fewer employees. The reason is primarily that more employees and larger output require that more goods must be sold, and that, because of the law of diminishing utility for goods of a particular kind, such additional goods can be sold only at lower prices. Accordingly, additional laborers can be employed profitably only at lower wages.

In addition, in industries which operate under increasing costs, as is in general true of agriculture, the application of additional units of labor does not add proportionately to the output. Capital at a given time is fixed, and land also is fixed unless poorer land is used. To farm more extensively involves bringing into use less desirable land—that is, pushing out the extensive margin—with diminished productivity per laborer at the margin. To farm the same land more intensively brings into effect diminishing returns, and, consequently, smaller returns at the intensive margin. The diminished output added to each additional laborer may be summarized in the term *diminishing productivity* of labor—that is, fewer units of product added to the gross income of the entrepreneur with each additional laborer and therefore less ability to pay wages for added workers. The above analysis explains fundamentally why higher wages prevail in the United States than in such a country as India or China.

Man and Machines.—A third factor which at times operates to influence the contour of the demand curve for labor in a particular employment is the substitution of men for machines or land, or machines

and land for men, according to the relative cost of land and capital as opposed to the wages of labor in the industry under consideration. This is the principle of variable proportions of the factors, explained in Chap. V. If the wage rates in a particular industry are high in relation to the cost of using the machines adapted for use in this industry, employers will tend to use more machines in comparison with the number of men. An example comes from the railroad transportation industry. Whereas from 1923 to 1931 railroad freight rates were only 145 per cent of the 1914 level as compared with 240 per cent for railroad wages, the railroads, partly in order to avoid these wage costs, introduced heavier rails, larger cars, longer trains, and more powerful locomotives, operated by the same-sized crews, for the purpose of economizing on labor. On the other hand, if the labor is cheap in relation to machine costs or land costs, it will be used more plentifully at these lower wages. European farmers have always economized in the area of land used and have employed large amounts of labor, their abundant and relatively cheaper factor. In contrast, in America labor has always been a relatively scarce factor of production, with land being relatively abundant, and hence labor has been scattered over much land, so that the product per laborer has been large.

The reader is liable to be misled concerning the effect of machines on labor, and *vice versa*, and hence two important cautions will be noted. First, frequently the high cost of machines relative to labor is due partly to the relatively high wages in the machine-making industries. Thus, for instance, in 1931 and 1932—when farmers were inclined to use more of the very cheap farm labor relative to farm machinery, gasoline, and repairs, of which the prices had declined but little—at least a part of the real explanation lay in the fact that wages (and salaries) of workers producing farm machinery and supplies had declined but little. In a sense the result was a substitution of farm labor for mine, factory, transportation, and merchant labor. Second, under certain circumstances the use of machinery is not inconsistent with very high wages. In fact, the productivity necessary in order to pay high wages must be based ordinarily on machine methods of production. It is only in those cases in which a process, such as many farm activities, can be performed almost equally well by few machines and many laborers, as opposed to many machines and few laborers, that the change from one general technique of production to the other will follow changes in the relative costs of labor and of machines. When some advanced machine is developed, such as the modern machines for spinning and weaving, it will be introduced in spite of very low wages, as is witnessed by the use of textile machinery in factories in India and China. The consequent increased output per man will permanently raise wages; unless, as Malthus explained, the higher wages lead to a rapid increase in popula-

tion. In the United States, particularly following restrictions on immigration, the use of machine methods has raised wages.

The Supply and Price of a Particular Kind of Labor.—The supply of a certain type of labor is almost a fixed quantity at a particular time, depending on the number of laborers present and able to perform the kind of work required in the region in which they are needed. Wages under these circumstances will be determined by what employers can pay if they are to hire all of the laborers available, provided there is real competition in the labor market. An increase of demand for this kind of labor will tend to bring a corresponding increase in wages.

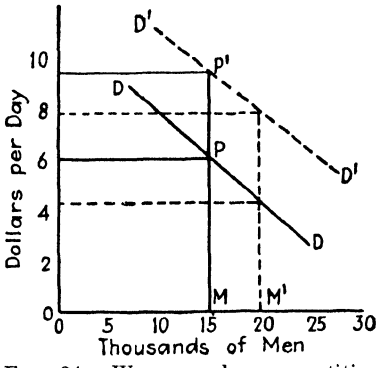

FIG. 34.—Wages under competitive conditions (assumed case).

The principles advanced in the preceding paragraph may be illustrated by the wages of automobile mechanics in a particular region. Let us assume that, at a given time, the demand for these mechanics is represented by *DD* in Fig. 34. If there are 15,000 mechanics available, the wage should be about $6 per day or *PM*. At this wage all seeking employment can obtain work. Now let us suppose that the demand for mechanics expand to *D'D'*. Since there are available at once only 15,000 laborers trained for the job, wages would tend to rise to *P'M* or $9.50 per day.

The processes of wage-rate determination will operate as described when there are no significant restrictions placed on wages by custom, public opinion, governmental authority, employers' agreements, or union activities. Law or industrial codes, such as those formed under the Industrial Recovery Act, may fix minimum wages. Wage rates would then be directly influenced by demand only when there were so few employees relatively as to lead to bidding among employers for the restricted labor supply, wages thus being forced upward. On the other hand, employers might agree concerning maximum wages, in which situation lower wages might be paid in case of an oversupply of workers. The effect of these various social influences on wages will be further considered later in this chapter.

Marginal Productivity.—The demand for, and supply of, a given type of labor tend to come into equilibrium at the point of marginal productivity in a manner similar to the tendency for the normal supply and the demand for commodities to equal the cost to the representative firm. The point of marginal productivity has been reached when the amount added to the employer's income by the use of an added laborer

just equals the wages which must be paid in order to get this laborer. Applying the idea of the margin to Fig. 34, we see that, as more laborers are hired, the productivity of additional laborers in terms of increase of the employers' incomes becomes less as depicted by the descending curve *DD*. The point of marginal productivity depends on the number of laborers, if competition is free. Thus, if there are 12,000 mechanics, the marginal laborer can be paid about $6.50 a day when the demand is represented by *DD*. If, on the other hand, there are 20,000 of these men, marginal productivity is only $4.15 per day. If, as was assumed above, there are actually 15,000, then the marginal laborer is worth $6 a day to the least willing employer. Should the demand suddenly expand to *D'D'*, the point of marginal productivity will be raised to $9.50 a day if there are 15,000 workers, or $7.90 if there are 20,000 seeking employment.

Interpretation of Marginal Productivity.—The marginal-productivity theory of wages is a very valuable principle if properly interpreted and applied. Two cautions should be noted. First, marginal productivity is an equilibrium point, and the actual rate paid by a particular employer may vary above or below this point for short periods of time. An individual employer may knowingly pay more than marginal productivity for a short time in order to hold his labor force together. On the other hand, he may not pay full marginal productivity for his individual business because his business has features of monopoly and other employers do not by competition force him to pay higher wages. However, employers will not, for an extended period of time, pay laborers of a particular class more than the least effective laborers of that class are adding to the gross income of their businesses. Nor, under competitive conditions, will employers knowingly pay less, for by hiring additional laborers they may add more to their gross income than the labor costs them and therefore would be foregoing profits if such additional labor was not used.

Second, it may be impossible for an employer at a given time to know exactly how much the product of the last laborer hired is worth. For a time, labor may be used which is actually costing more than the value of what it produces, because the employer may have to complete certain production or in other circumstances may not be able at once to know what the added labor is producing. On the other hand, the product from additional labor which might be hired is always problematic. Especially in the case of high-priced employees, as managers, it is difficult to know how much one man may be worth to an organization in comparison with another who could be hired much more cheaply. Thus for a while an employer may pay a wage above or below what would be the marginal product in his plant or on his farm; over a period of time, however, he tends to hire labor up to the margin but not over.

That individual employers or employers collectively tend to balance wage cost and labor product and to use labor to the margin has already been emphasized in Chap V, as well as in the present discussion; yet a few illustrations may be added. When the price of farm products rose from 1915 to 1919, farmers hired more labor, even at rising wage rates, because their selling prices were rising more rapidly. In other words, the value of the product of labor engaged in agriculture was rising. During the deflation of 1930–1932, the reverse took place, so that, even though the farm wages fell below the pre-war point, farm prices fell even further, and farmers hired less labor. Gold mines, long abandoned, were reopened in 1931–1932, because at the low wage rates then prevailing these mines could be operated profitably. All through the depression years after 1930 the principle of marginal productivity has been evidenced. The wage movements of these periods will be better understood after a study of the effects of changes in demand or supply of labor, or both, on wages.

Wages under Changing Demand.—Thus far, wage determination has been discussed with reference to a fixed number of workers. This is a proper assumption for the national labor supply as a whole and also for the supply of a particular kind of labor in a region at a certain time. If the wages for a given type of work rise relative to other wages, however, there will be, rather shortly, an increase in the number seeking work in this occupation and in this region.

Though the early effect of an increase in the demand for a certain type of labor, for instance, that of stenographers, will be to raise wages materially, later a large part of this increase will be lost as more people are attracted into this occupation in this locality. The promptness with which the additional laborers will be available depends on the mobility of labor, both mobility between occupations and between localities. At first, Jack-of-all-trade people somewhat skilled at several occupations—including, we should say here, stenography—will devote themselves solely to that work. Young people in large numbers will enter this work. People skilled in this activity will in some cases move to the locality of higher wages.

Changes of numbers of workers in particular occupations as the result of wage changes are illustrated by the case of women stenographers and teachers from 1918 to 1933. From 1918 to 1920 there existed a distinct shortage of stenographers, and their wages were relatively high. At the same time the wages of teachers had not risen comparably to the price-level rise which had occurred after 1915. Young women trained in larger numbers as stenographers, and fewer relatively prepared for teaching. This fact, among others, accounts for the reverse trend of wages in the years from 1922 to 1929—upward for teachers and downward relatively for stenographers. After 1929 there came to be a surplus of

teachers, partly because of declining demand; then salaries declined, and enrollment in teacher-training courses decreased. The reader will recognize similar examples portrayed in the choice of college curriculums by students and in the interregional movements of farm laborers.

Effects of Wage "Pegging."—Although the effect of changes in either demand or supply of labor on wages has already been intimated, the topic deserves special emphasis, particularly in the light of certain widespread beliefs and practices which seem to hold that, by the pressure of public opinion or the action of unions, downward changes in wages may be resisted without ill effects. Of course, the idea that under competitive conditions the upward movement of wages when justified by conditions can long be resisted is equally fallacious.

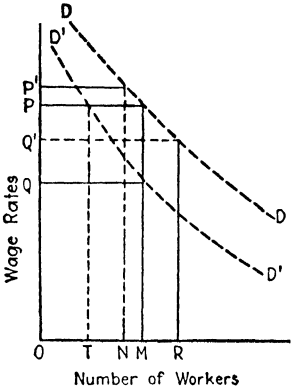

FIG. 35.—The effect of a changing demand and of wage "pegging" on wages and employment.

In Fig. 35 the demand for labor at the beginning of this discussion is represented by *DD* and the number of laborers by *OM*. Suppose that, by union action or minimum-wage legislation, wages are fixed at *OP'* instead of *OP*, the wage which would prevail under competitive conditions. Temporarily, employers may be forced to pay wage *OP'* and hire all of the laborers because of contracts let or because of greater loss by immediately reducing operations. After a time, however, only laborers *ON* will be hired and laborers *MN* will be unemployed. If Fig. 35 refers to a particular trade as carpenters, the high wages *OP'* will draw more men into the trade and speed the downward movement of wages, perhaps forcing wages below *OP*.

Suppose, on the other hand, that, while wages were at *OP*, the demand had declined to *D'D'*, perhaps because of a business depression. Again, suppose that through the pressure of public opinion, union activity, etc., wages are held at *OP*. After a time, usually but a short period, the number employed will drop to *OT*. If wages had been allowed to drop comparably with the decline in demand, all could have been employed at *OQ*. During a period of drastic business recession, however, it is probable that prices fall so rapidly and employers become so pessimistic about the business outlook, that, even though wage rates responded quickly to the downward movement of the employers' gross income, not all could be employed. But unemployment would be decidedly smaller.

Let us start again with wages at *OP*, with *OM* laborers employed, and with demand represented by *DD*. If the number of laborers increased to *OR*, it would be ill advised to hold wages to *OP*, for that would mean that laborers *MR* would be unemployed. The total number of laborers *OR* can be employed only at wage *OQ'*, unless a comparable increase in

demand occurs. Thus we may conclude that any attempt to hold wages either above or below the wage justified by marginal productivity will either result in unemployment or be followed eventually by the proper adjustment of wage to the supply and demand situation.

Bargaining and Wages.—The actual wage agreement between an employer and his employee or employees may be above or below that indicated by marginal productivity, not only because of failure to locate that point accurately, but also because of differences in the bargaining ability of the two parties. Some writers have held that bargaining is the strongest force in wage determination, but the authors are of the opinion that bargaining is effective only in particular wage contracts, forcing those wages temporarily to vary from marginal productivity.

If a rain storm is threatening when the farmer's hay is on the ground, or if a building contractor has a contract calling for the completion of a large building within a short time, neither entrepreneur is in a strong bargaining position, and labor, if aware of the employers' predicament, may be able to obtain unusually high wages. The employee who is unusually able at "selling himself" may at any time obtain a wage far above that warranted by his efficiency. It is probable, however, that bargaining advantage lies most frequently with the employer. The employee does not have a large reserve upon which to live if he prefers unemployment to accepting low wages. His commodity, labor, is a perishable good, and time once lost from working cannot be regained. The laborer knows little about what the employer can afford to pay, about the demand condition, or about the going rate of wages. This ignorance may be capitalized by the prospective employer and lead to a wage below what he would have paid if necessary. The subject of the weak bargaining power of the individual laborer leads to the topic of labor unions and collective bargaining.

SOCIAL CONTROL OF LABOR AND WAGES

Social control of labor and wages varies from the pressure of public opinion and the influence of such voluntary associations as labor unions to such rigid governmental control as minimum-wage laws. All of these social influences on wages, hours, and working conditions are coming to be more frequent and more powerful in affecting the conditions of work and remuneration of employees.

Labor Organization.—Local labor organizations occasionally include labor of all kinds, but most frequently only those of a particular trade or craft. To an increasing extent, however, unions are being organized to include all kinds of laborers engaged in a given industry, for instance, mining or the making of clothes. Most trades have their national organizations, such as the National Association of Carpenters and Joiners; and each union covering a whole industry has its national, such as the United Mine Workers. Frequently all local unions are combined into

city labor councils or federations which act as the local spokesmen of organized labor. Some unions join together in state federations. Most of the national craft unions and some of the national industrial unions joined to form the American Federation of Labor (A.F. of L.). Recently the Congress of Industrial Organizations (C.I.O.), composed of unions organized on the industrial basis, has come to the fore. The powerful Railway Brotherhoods have remained independent. The movement toward labor organization has been given a great impetus by the National Industrial Recovery Act (NRA) of 1933 and by the Wagner Labor Relations Act of 1935. Under the latter, employees are specifically given the right to organize and to choose their own representatives without any interference on the part of their employers. The act does not, however, force the employer to bargain with their unionized employees, nor does it provide machinery for reaching, or enforcing, agreements.

Organized labor has been strongest in the skilled trades, for often it is difficult to replace striking skilled workers, whereas unskilled labor abounds. Because recent legislation has facilitated the unionization movement, and the C.I.O. has been aggressively organizing on the industrial basis, the unionization of unskilled labor has grown rapidly.

The strength of unions varies from section to section and from industry to industry. For instance, in the building trades certain cities are known as union cities and others as nonunion. Agricultural labor has not been effectively unionized, largely because the laborers are so scattered while at work.

Labor Activities.—Labor is organized primarily to carry on collective bargaining with its employers on the subjects of wages, hours, and working conditions. All other union activities are incidental. The tools which are used to obtain favorable action by the employers are varied. Unions usually prefer to obtain their objectives, whether they be higher wages or shorter hours, by negotiation. If that fails, they may threaten to collectively quit work—that is, to strike. Ordinarily they will not strike unless they feel that they have the bargaining advantage—that the employer has to have their services, and that he will not be able to replace them with labor of comparable skill. If they do strike they often attempt to prevent the use of "scabs" or "strike breakers" by *picketing* the plant. Here is where labor repeatedly comes into conflict with the law, for the exact legal status of picketing is uncertain, depending somewhat on the circumstances, the state laws, the degree of violence used, and the way the whole matter is viewed by the court. Sometimes sympathizing labor groups will *boycott* or refuse to work on the materials coming from the company in which the strike is in progress, or, if the good is one ready for consumption, refuse to buy it for their own use. At other times the boycott is used to assist in the unionization of nonunion shops.

Organized labor is usually eager to obtain the *closed shop*, or one in which only union labor is hired, as a step in effective collective bargaining. Some unions have by various devices such as high initiation fees, brought about a *closed union* or a restriction on the number of members. Employers usually prefer the *open shop*, in which men are hired whether union or nonunion, since that strengthens their bargaining position. Some strikes arise out of the attempt of the men to obtain the closed shop.

Unions demand that there be adopted a standard rate, or the practice of paying all men under the wage agreement the same rate for the same kind of work, irrespective of the personal efficiency of the men. In this way, the employer loses his opportunity to bargain with the individual, and the union has to concentrate on raising only one rate, the standard rate. Some unions go so far as to try to force the employer to hire any union man and not to show any preference for the hard-working and efficient, and some succeed in this. Under the agreements of railroad unions with employers, for example, promotion must be based on seniority rather than on exceptional efficiency.

The policies of the typical American labor union have been summarized in the term *business unionism*. This expression implies that the aim of such unions is economic advantage through bargaining. Each union aims primarily at advancing the cause of its own members. It does not concern itself primarily with political activities, not having formed a labor party. Its policies are not designed to destroy capitalism, or always to improve the condition of labor in general. In fact, as will be further noted below, these policies of the strongly organized labor groups sometimes act to the detriment of the great mass of unorganized labor. Labor unions, therefore, do not necessarily represent a whole labor movement.

Effects of Unions on Wages.—Since the primary purpose of organized action by labor is to obtain, among other less important gains, higher wages, the success of labor unions of all kinds should be measured largely in terms of better wages. Organized bargaining by labor may affect wages in one or more of three ways.

First, by group action, the weak bargaining position of the individual laborer, noted above, is overcome at least in part. Usually wage negotiations are carried on by union agents, representing the national organization of the group of laborers involved in the dispute. These men, who are not in the employ of the industries engaged in the dispute, have a knowledge of labor conditions, corporation accounting and finance, and the actual conduct of negotiations. Usually the union has stored up strike funds which are sufficient to support striking workmen even during a fairly prolonged strike.

Second, collective bargaining may be used to force employers to pay the full marginal product. In some cases custom, in other cases tacit

agreements among employers, in still other cases outright agreements tend to keep wages below what employers could pay and would pay, if active, intelligent competition existed. To meet such situations, labor, by threatening to withdraw all or a material part of the labor supply through a strike, may force wages upward.

Third, where the position of the union is strong, it may exercise monopoly powers and force the employers to pay a wage higher than would prevail under normal competition. It should be recognized, however, that the union cannot force the employers to pay such a wage for long and at the same time employ all of the men. As the wage is forced upward, the point of marginal productivity is higher on the demand schedule or curve and the number employed reduced correspondingly, as was explained above. Furthermore, unless the closed shop is combined with the *closed union*, in which the union limits the number of new members, the high wages will attract more men into the trade. These additional laborers weaken the position of the union, amass a group of potential strike breakers, and prepare the way for the breaking of the union's power by the combined employers in the industry. The length of time during which such monopoly position may be held depends on the condition in the industry, the rapidity with which the new labor enters the trade, and the success of the union in keeping the unemployed labor under its control.

Wage and Hour Legislation.—Minimum-wage and maximum-hour legislation has been a battleground for much legal and economic debate. In general, prior to 1935, minimum-wage laws were held to be unconstitutional in this country. The courts likewise held that maximum-hour legislation, except for women and children or for employees in special occupations such as transportation, were unconstitutional. In 1937, however, the Supreme Court declared the Washington state minimum-wage law to be constitutional. Immediately several state statutes and the Federal Fair Labor Standards Act were passed. The latter law is limited to industries whose products enter interstate commerce and specifically exempts agriculture, small-scale processors of farm products, workers in retail trade in general, workers in the transportation and communications industries and public employees. The act provides that *minimum wages* shall not be less than 30 cents after October, 1939, and after 1945, not less than 40 cents. Between these two dates the exact minimum is to be fixed by the administrators of the law upon the recommendation of a committee of the industry but cannot be above 40 cents. Hours of work per week shall not exceed 40 after October 1940, unless the employees are paid time and a half for overtime.[1]

[1] For a more complete statement and interpretation of the law see P. H. Douglas and Joseph Hackman, "Fair Labor Standards Act of 1938 II," *Political Science Quarterly*, Vol. LIV, No. 1, March, 1939.

The economic debate on minimum wages has been concentrated on the effect of such laws on employment and on the real income of labor. It is true that Australia, New Zealand, and Germany have had such legislation for decades, but reports on the economic effects are either biased or inconclusive. If the labor market is competitive so that employers are forced to pay wages equal to the full marginal productivity of labor, legislation which forces wages above this point can only lead to unemployment. On the other hand, it is recognized that, in an era of monopolistic competition, or in a period of drastic contractions and unemployment, many employers may not be forced by the play of market forces to pay as high wages as they can. In some industries wages may be below the minimum level of decency which we, as a wealthy nation, can approve. Wages in "sweated industries" and in some other industries and areas have been below this level. Furthermore, $12.00 a week (40 hours $\times$ 30 cents) is not a high weekly income, although the short hours contribute to the low weekly income. After 1945, at 40 cents per hour, 40 hours will contribute only $16.00 a week, but it could be $18.20 for 48 hours if that were permitted. After all, raising the hourly rate only raises costs and contributes little to the income of the employed if an artificially short work week is enforced.

Some Conclusions.—One point which requires emphasis in light of union policies, recent legislation, and utterances of public officials is that often there is a major difference between the wages which an established business will pay and the wage rates and other costs which will encourage the setting up of new business or the expansion of old ones. The former is clearly the meaning of the provision of the Fair Labor Standards Act that such minimum wages (above 30 or 40 cents) shall prevail except that the administrator is to avoid "substantially curtailing employment." Such effects on employment could be demonstrated to the administrator only with reference to established plants. The demand for shorter hours may be considered either as a device for relieving unemployment or as a plan to relieve fatigue and increase leisure. As a scheme for reducing unemployment, if it is proposed to pay the same hourly wages for fewer hours a week, it merely casts the burden of unemployment on the shoulders of the employed. If the same weekly wage is to be paid for the shorter work week the increased wage rates per hour usually mean higher labor costs to the employer. In turn, these higher costs must be passed on in the form of higher prices, or the employer must hire fewer men, or be bankrupted by the higher costs. NRA experience in 1934–1935 showed the fallacy of this procedure. As a longer run problem, the shortening of the work week should represent a choice by the workers in which they elect to take "part of the gains of increased production in the shape of more goods (higher real wages) and part in the shape of more leisure. In this . . . movement, a gradual shortening of the working week is

accompanied by a gradual increase of real wages, not a decrease, as when men work part time to distribute unemployment."[1]

In the case of existing firms, with heavy sunk capital investment in plant and market connections, employers can be forced to pay such high wages that nothing is left for return on investment, and possibly not enough to replace fairly the depreciation of plant. In contrast, enterprisers will not invest new capital under such circumstances; it is still in fluid form and can and will be used only when costs compared to prices offer prospects of return of principal and interest. It is probable that wage rates since 1933, in many industries, have been above *prospective* marginal productivity in new uses. This is not to deny that some wage increases have benefited labor without hurting employment immediately or in the long run.

The Rigidity of Certain Wages.—From time to time in this book, particularly in Chap. XII on Monopoly and Agriculture and Chap. XIV on Price-level Movements and Agriculture, emphasis has been given to the ill effects of rigid prices or costs upon those industries or persons whose prices are flexible, especially upon agriculture. These rigid prices are most obvious, and their ill effects upon industries with sensitive, flexible prices are most drastic during a period of general price-level decline. The purpose of the discussion of this whole problem of rigid *versus* flexible prices is to point out the economic consequences of the coexistence of the two types of prices. Probably a return to an era of almost completely flexible prices is impossible; the present tendency is toward more control of prices, although that control up to date has been far from efficient.

At this point the attention is directed toward one species of price rigidity, namely, wage rigidity. It is not the purpose to give the impression that this is the sole, or even the major, price rigidity. However, since wages have come to be more rigid, it is proper that we study the effects of that fact, even though wages are the price of human labor. Money wage rates in most urban employments have become more rigid, tending to resist change when demand or supply alters. As has been previously noted, wages tend to be a lagging factor in a price-level change. This never has been more true than in the price decline of the depression beginning in 1929. The data in Table 36—representing a compilation of wage data for 1934, 1929, and 1932—show two things. First, wages in these industries averaged 197 per cent of the pre-war level in July, 1932, at which time the wholesale-commodity price index was below the pre-war level. Assuming that about half of this differential between 1929 and 1932 was overcome by increased efficiency in the use of labor, the remaining part of the differential represents a more rapid decline in the selling prices of products than occurred in wage costs.

[1] J. M. Clark, *Strategic Factors in the Business Cycle* (1934), pp. 144–145.

This wage rigidity, especially in particular industries, together with other rigid prices, particularly those of monopolized goods, is considered by some students of the problem to have been a major factor in prolonging the 1930– depression, during which 12 million workers were unemployed and business activity was 45 per cent below normal. Whether that be true or not, there can be little question that wage and other price rigidities in certain urban industries, when they have the result that the prices of goods which farmers must buy are maintained in spite of large unemployment in the industries producing them, are in conflict with the interest of those engaged in agriculture.

FIG. 36.—INDEXES OF HOURLY WAGES IN CERTAIN URBAN INDUSTRIES, 1914, 1929, AND 1932[1]

Industry	Base 1914	Year 1929	July, 1932	Percentage of decline, 1929–1932
Agricultural implements	100	235	204	13
Automobiles	100	239	203	15
Boots and shoes	100	235	190	19
Chemicals	100	251	218	13
Cotton goods (northern mills)	100	235	195	17
Furniture	100	235	193	18
Hardware	100	227	204	10
Iron and steel	100	250	191	24
Lumber and millwork	100	262	184	30
Machines and tools	100	217	203	6
Machinery—heavy equipment	100	215	185	14
Meat packing	100	247	194	21
Printing—book and job	100	241	230	5
News and Magazine	100	231	197	15
Rubber	100	263	248	16
Wool	100	266	198	26
Simple averages of these industries	100	237	197	17
Class I railroads	100	251	231*	8

[1] This table is taken from the monthly bulletin or "Letter" entitled "Economic Conditions" by the National City Bank of New York for November, 1932.

* June. Source: National Industrial Conference Board.

Second, though the 17 per cent wage-rate decline in these industries between 1929 and July, 1932, was offset by a corresponding decline in urban cost of living, these wage rates give a false impression of the purchasing power of labor, because of the 12 million unemployed. The effect of unemployment is in part indicated by the fact that, whereas wage rates in New York state declined only 28 per cent in this three-year period, factory pay rolls declined 55 per cent.

The rigidity of certain wage rates (including salaries) in resisting the declines warranted by economic conditions—whether such rigidity is

due to government regulation, public opinion, custom, or union influence, together with the rigidity of other prices—can, and sometimes does, react to the detriment of wage earners in those employments in which the elements of wage rigidity are not present to the same degree. At these disproportionately high wages, fewer men can obtain work in such occupations. The unemployed from these occupations plus the additional young men who would normally enter them are added to the lists seeking work in those occupations in which resistance to wage declines is slight. As a result, wages for farm labor and also usually for urban unskilled labor decline drastically. This very fact may cause the aggregate of wages to be reduced. These events are illustrated by the 50 per cent decline in wage rates for farm labor from 1929 to 1932, as compared with the 17 per cent decline in the wage rates in urban employments listed in Fig. 36.

This brings us back to a point mentioned in connection with the wages fund theory of wages: namely, that high wages for one class of workers may be achieved at the expense of another group of workers. Very high wages in railroad transportation, for example, may work out as follows. Such high wages are a major cause of high freight rates. High freights reduce the net proceeds received by farmers for their crops and increase the prices they must pay for manufactured goods. Farmers, therefore, are less able to pay high wages, because the marginal-productivity value of farm labor is decreased. Farm wages decline accordingly, and the decline is augmented because the high freight rates reduce the amount of traffic which may be moved and in so doing reduce the number of possible railroad employees. This causes workers excluded from railroad work to seek employment in agriculture, and, by adding to the number of agricultural workers in proportion to the workers in the privileged employments, necessitates even lower wages in agriculture—wages based on marginal productivity.

The discussion throughout this chapter of the rigidity of wages, especially in so far as that rigidity comes from union activities, does not lead to the conclusion that labor unions are necessarily unsocial and uneconomic organizations. In fact, most economists see clearly the desirability of labor organizations and point out that such organizations can do much good for the masses of people, the working folk. Such an acknowledgment does not relieve the student of economics of the necessity of critically studying labor policies, if he is to understand our present economic relations. The purpose here has been to raise two questions: First, have unions at times fixed wages at a point at which many in their own trade cannot be employed? Second, have the wage policies of strong labor organizations affected detrimentally the condition of unorganized labor, especially of workers in agriculture? The questions are thus concerned with the effects of union policy, not with the propriety of organized effort by labor.

Urban and Farm Wages Compared.—Prior to 1921, the money wages of factory workers and farm labor moved closely together. In 1921, however, farm wages fell to less than 150 per cent of the 1910–1914 average, whereas industrial wages did not fall below 200 per cent of the 1914 level. Both types of wages rose again in general until 1929, but industrial wages remained much higher than farm wages. In the deflation period after 1929 farm wages fell the most, dropping in January, 1933, to 74 per cent of the pre-war point, while industrial wages were still 164 per cent of the 1914 level (see Fig. 37, page 365, and Table 6, page 18).

The relatively low wages for farm labor during the post-war period and the rapidity of the decline of those wages after 1929 seem to be related to the following causes. First, the expansion of demand for labor was primarily in urban industries, and, in spite of the movement of population from country to city during this period, this movement was not sufficiently great to bring approximate wage equality. Second, rural labor, being unorganized, has its wages determined more clearly by competitive forces, whereas elements of monopoly entered into the wages in many urban industries. Prices of farm products declined sharply after 1929, a condition which was soon reflected in farm wages. Even though the decline in the prices of many urban products was also marked, urban labor, supported by public opinion, was able for some time to prevent any material reductions in wage rates and during the whole of the depression was able to prevent marked reductions in a large number of industries. In so far as the high urban wages have contributed to rural depression, these high wages have also tended to force downward the wages of rural labor.

Long-time Trend of Real Wages.—A question frequently asked is whether the great improvements in production which were inaugurated by the Industrial Revolution have been to any great degree reflected in increased wage rates. On that point a quotation from Alfred Marshall, written in 1890, is of special interest:[1]

> Malthus, in his admirable survey of the course of wages in England from the thirteenth to the eighteenth centuries, shows how their mean level oscillated from century to century, falling sometimes down to about half a peck of corn [wheat] a day, and rising sometimes up to a peck and a half or even, in the fifteenth century, to about two pecks. [Later he says] There is some doubt as to the extent of the rise in the real wages in the fifteenth century. It is only in the last two generations that the real wages of common labour in England have exceeded two pecks.

Assuming that wheat, the staff of life in England at that time, sold at the equivalent of $1 per bushel, half a peck per day would represent

[1] *Principles of Economics*, 8th ed., 1920, pp. 507, 508n.

a wage of 75 cents per week (six days). Two pecks per day, the maximum reported for all these centuries, would mean a weekly wage of three bushels, worth $3.

A study by A. H. Hansen shows that real wages in the United States increased to 2½ times their previous level between 1820 and 1890.[1] From that date until 1920 money wages rose rapidly, but the cost of living also increased at a rapid rate. That there was little increase in real wages during this period is the conclusion also reached by Paul H. Douglas, as the result of an extensive study published as *Real Wages in*

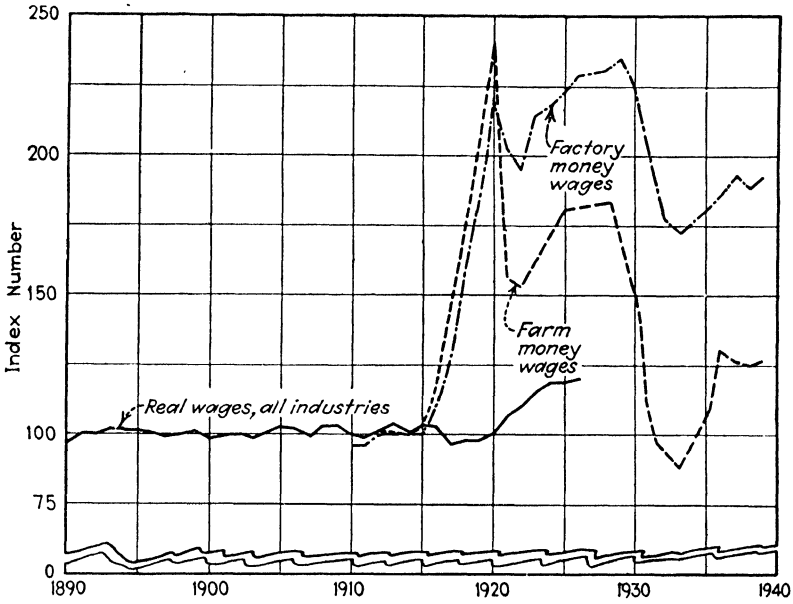

FIG. 37.—Real wages in all industry, 1890–1926, and money wages in manufacturing and farming, 1910 or 1915 to 1939. [*Real wages from P. H. Douglas, Real Wages in the United States*, 1890–1926 (*Houghton Mifflin*, 1930), *pp.* 210, 211. *Other indexes previously referred to.*]

the United States, 1890–1926 (see Fig. 37). According to Douglas, both weekly wage earnings in all industry and the cost of living in this country practically tripled between 1890 and 1920, and, as a result, the purchasing power of weekly wages (real wages) was substantially the same throughout the period. There was a gain, however, for labor, because the average hours worked per week declined from 58.4 in 1890 to 50.4 in 1920. The same weekly real wage was received for eight hours less work per week.

After 1920 weekly real wages increased. According to Douglas, they were 20 per cent higher in 1926 than in 1920, as is shown in Fig. 37. According to Warren and Pearson, the increase was greater than 20 per

[1] "Factors Affecting Real Wages," *American Economic Review*, March, 1925, p. 32.

cent, and real wages were approximately 25 per cent higher in 1931 than in 1926. Different reasons have been assigned by different writers for these increases. Among them are the following: (1) general prosperity, with a strong demand for labor; (2) the restricted-immigration policy previously described; (3) labor-union policy supported by public opinion. All of these factors explain the increased wages in terms of marginal productivity—the first, by increasing productivity; the second, by preventing a large increase in the number of laborers in the lower income groups; and the third, by forcing employers to pay all they could afford to pay or by restricting numbers employed. Since 1929 money wages have declined less than has the cost of living. Workers who have received but slight reductions in daily or weekly pay and continued to be fully employed have received increased real wages. The many who were unemployed or but slightly employed, however, did not fare so well.

Recent Wage and Employment Data.—Wage and employment developments in manufacturing since 1929 are summarized in Table 35. Unfortunately, comparable data for all economic activity are not available. The following points are portrayed in this table: (1) Payrolls declined by over 50 per cent from 1929 to 1932 chiefly because of a decline

TABLE 35.—HOURLY WAGES, COST OF LIVING, AND EMPLOYMENT IN FACTORIES, 1929–1937[1]

	1929	1932	1937
Hourly wage rates	100	84	116
Payrolls	100	43	90
Hours of work done	100	46	77
Factory employment	100	62	100
Cost of living	100	78	88

[1] Source of data: *Statistical Yearbook*, 1938 (League of Nations), Tables 12, 17, 124. Index of employment from *Federal Reserve Bulletin*.

of employment. (2) Employment dropped less than hours worked because of "spread work" plan. (3) Wage rates dropped less than the cost of living. (4) By 1937 wage rates were 16 per cent above 1929. (5) Cost of living in 1937 was 12 per cent below 1929. (6) Payrolls in 1937 were below 1929 because hours of work for each person employed were nearly a quarter less. Actual number of men at work in factories were about the same in 1937 as in 1929 although total hours of work were much less.

Wages as a Share of the National Income.—In the early part of this chapter some estimates were given of the percentages which wages, in times past, have constituted of the national income. Of that more will be said in the closing sections of the chapter devoted to interest (Chap. XVI), to which we shall give our attention next.

Questions and Problems

1. Distinguish between cash wages and imputed wages; between wages as a cost and as income; between money wages and real wages.

2. By illustrations show that the degree of change in money wages is not always a true indication of the degree of change in real wages.

3. Explain the essential features of the subsistence theory of wages, and show its weaknesses. Do the same for the wages fund theory.

4. Summarize the history of immigration to the United States and of the U. S. immigration laws.

5. How has immigration to this country affected wages?

6. Mention five so-called *noncompeting groups* of workers, and mention the forces which tend to keep them noncompeting. Are these five classes more or less rigid than they were thirty years ago? Why?

7. Explain the essential features of the marginal-productivity theory of wages. To what degree is it valid?

8. Do machines cause lower wages and unemployment? Discuss fully.

9. Contrast the short-run and the long-run effects on wages of a marked increase in the demand for a particular kind of skilled labor. In doing this make use of a demand curve and a supply curve.

10. To what extent may skillful bargaining increase particular wages? the general level of wages?

11. To what extent is labor unionized in the United States? Discuss at some length the possible effects of unions on wages.

12. Discuss the possibilities of, and the limits to, wage control by law.

13. Show how certain wage policies in urban industry may be detrimental to agricultural welfare, including the incomes of agricultural wage workers.

14. Trace the history of real wages in the world since the thirteenth century and in the United States since 1790.

15. What is the future outlook for wages in this country?

Suggested Readings

1. S. J. Coon, "Collective Bargaining and Productivity," *American Economic Review*, September, 1929, considers more completely the possibilities of raising wage rates through the activities of labor unions.

2. Dale Yoder, *Labor Economics and Labor Problems* (1939) is a thorough study of labor organization, legislation, and problems.

3. Paul Douglas, *Real Wages in the United States*, 1890–1926 (1930) is an exhaustive statistical study of wages during that period; *The Theory of Wages* (1934) should be consulted by all who desire an acquaintance with the most scholarly literature on the subject of wages.

4. Paul H. Douglas, "Wage Theory and Wage Policy," *International Labor Review*, March, 1939, is a comprehensive evaluation of wage theory and policy under a variety of circumstances.

5. S. H. Slichter, *Modern Economic Society* (1928), Chaps. XXII–XXV, provides much material with which to amplify one's understanding of the rôle of labor and the determination of wages.

6. F. W. Taussig, *Principles of Economics* (1939), Vol. II, Chaps. 52, 53, and 58–61.

7. C. R. Daugherty, *Labor Problems in American Industry* (1938) is particularly valuable for the nontheoretical aspects of wages and labor problems.

CHAPTER XVI

CAPITAL AND INTEREST

Interest ranks next to wages in importance as a source of money income. The interest payable by farm operators on borrowed funds used in connection with production has been estimated by the U. S. Department of Agriculture as varying during the eight years ending with 1931 from 713 to 626 million dollars annually, or an average of slightly more than one hundred dollars per farm per year.[1] In 1932 with the low prices then prevailing for farm products, interest payable by farm operators to others was over 40 per cent of the amount left to them as the combined return for their own labor and that of their families and as *imputed interest* on their own investment in real estate and equipment.[2] Since these years interest costs have decreased both because of a reduction in debts and because of lower rates. Nevertheless, interest remains a heavy cost. All agricultural farm property—including land and buildings, livestock, and equipment—was estimated to have a value of about 58 billion dollars in the spring of 1930 and about 42 billion dollars, or 16 billions less, in 1936. Of this value about one-fourth was represented by debt and the remainder by net ownership. On all of this investment or ownership of wealth not represented by debt, the farmers could have secured interest by exchanging their owned wealth, other than money, for money and investing it so that interest would have been received. Not only in agriculture but also in all other kinds of business activity, interest plays a large part. Most people in the prime of life hope that, as they grow older, they will be able to live at least in part from interest on savings and investments. A considerable portion of life insurance income is from interest. Accordingly, any real understanding of our economic system as a whole requires an understanding of the principles governing the rate of interest.

THE NATURE OF CAPITAL

Interest Paid for Use of Capital.—The term *interest*, like most terms in economics, is used with different shades of meaning. In all cases

[1] The above given figure excludes interest paid on mortgages against farms operated by tenants.

[2] This remainder consisted of the income left after paying out of gross income the following items: cash operating costs, taxes, wages to hired labor, and rent for land not owned, but before allowing anything for the labor of farmers and their families or returns on their own investments in land and equipment or for costs of their living expenses. Data from *Crops and Markets*, April, 1933.

where interest is paid, however, it can be said to be paid for the use of capital. But the term *capital* also is used with different meanings. In fact, there is no economic term which is used with a wider range of meanings and in regard to which there has been more dispute as to its proper or best use than the word *capital.* Fortunately, however, it is usually possible to tell from the manner in which it is used in any case what meaning it is intended to convey. When we say, as above, that interest is paid for the use of capital, we intend that in this usage capital shall include all forms of wealth, though this statement will require further explanation to be accurately understood. The banker and business man think of interest as money paid for the use of money, but an understanding of its cause and of the factors governing its rate requires that we look deeper and examine the operation of forces not apparent on the surface.

Classical Concept of Capital.—By the classical economists the term *capital* was not applied to land but only to wealth of other kinds used in such a manner as to furnish income. Adam Smith refers to goods which are accumulated or stored up, such as "materials and tools," or "goods of different kinds," as "stock." He then says that when a man

> . . . possesses stock sufficient to maintain him for months or years, he naturally endeavors to derive a revenue from the greater part of it, reserving only so much for his immediate consumption as may maintain him till this revenue begins to come in. His whole stock, therefore, is distinguished into two parts. That part which he expects to afford him revenue is called his capital.

Adam Smith's use of the word *capital,* accordingly, refers to produced goods devoted to income-producing purposes. This is the concept of capital as generally used by the classical writers on political economy and also in much of the discussion of capital and interest by modern economists.

Capital and Money.—Capital is sometimes regarded by persons who are not careful in their thinking as being solely or almost entirely money. This view results from the fact that exchange values are expressed for the most part in terms of money. Let any man, for example, be asked how much capital he has invested in his business, and he will mention a sum of money. The owner of a store may say that his capital amounts to $75,000. If asked, however, of what his capital consists, he may say: land, $5,000; building, $20,000; merchandise for sale, $30,000; accounts receivable, $5,000; cash, $5,000; equipment and other things, $10,000. The above illustration is given to emphasize that capital for the most part consists of things other than money, though values of all capital are expressed in terms of money, and money itself is a form of capital. Money as the medium of exchange is *fluid*

capital. By this is meant that it is capital value which may be quickly converted into other forms of capital. It is a peculiar and necessary form of capital in an exchange economy. Our *standard money* also conforms to the classical definition of capital in that it is a result of past productive effort, and that it is used to carry on productive activities. But in addition to being in a fluid form, money differs in one other important respect from other forms of capital. The more a nation possesses of most kinds of capital, the more abundantly the people of that nation may satisfy their wants. A very great increase in the quantity of money for the nation as a whole, on the contrary, would not satisfy any more wants, or enable production to be carried on more effectively, but would only result in higher prices. The student should be careful not to think of capital as consisting entirely, or even to any large degree, of money, and to remember that though money is a form of capital it differs in several ways from other forms of capital.

Capital in Corporation Accounting.—As has already been explained in an earlier chapter, by the capital of a corporation may be meant either the authorized capital or the paid-in capital—usually the latter. This refers to the amount of investment of stockholders in the corporation for which stock is issued, excluding surplus. When the capitalization of a corporation is spoken of, that which is meant is usually the sum of the par value of the stock and the amount of bonds outstanding. With these concepts of capital, however, we are not concerned in this chapter.

Is Land Capital?—The precedent of the classical political economists, in not including land as a part of capital, is followed by a large part of present-day economists, especially in explaining what governs the rate of interest. The most common definition of capital in economics is that it is the sum total of savings from past production (excluding land) used in present productive processes. When land is excluded from the category of capital, however, land is not used as a synonym for real estate. Instead, it refers only to land as a gift of nature, to natural resources without improvements. In practice most land with any appreciable value at present is a mixture of natural resources and of improvements made by man. When interest, as that term is used in the language of business, is paid for the use of money with which to buy real estate, it is impossible to tell what part of this payment is made in order to get control of a stock of savings which are the result of past production, and what part is made to get control of resources which are originally the gift of nature. Accordingly, in the business world land is considered capital to the same degree as any of the goods other than money from which income is derived. This view is illustrated by the following quotation from the November, 1932, issue of *Crops and Markets*, published by the U. S. Department of Agriculture:

Accompanying the shrinkage in gross farm income there has also been a sharp reduction in the current value of farm capital. All lands and buildings, which were valued at about $48,000,000,000 in the years 1927 to 1930 were estimated at about $44,000,000,000 in 1931 and about $37,000,000,000 in the spring of 1932. The value of live stock on farms declined from about $6,500,000,000 in January, 1930, to $3,500,000,000 in January, 1932.

The authors of this text hold that there are sufficiently important differences between land as a natural resource and capital which is accumulated from the savings of past productive effort to justify the distinction made between them by the classical economists. Among these differences are the following:

1. *Fixity in Amount.*—Land as a natural resource in the aggregate and of particular grades is relatively fixed in amount for all time. Capital as a result of saving can be increased many fold. Most kinds of saved capital also wear out or depreciate more rapidly than does land as a natural resource.

2. *Immobility.*—Land as a natural resource is fixed as to location. Capital which is accumulated from the savings of past production possesses a considerable degree of mobility. Some forms are absolutely mobile at all times. When first saved most forms may be placed in almost any location.

3. *Price Determination.*—Resulting from the above, there are important differences in the manner in which the prices of these two classes of property are determined in the long run. The normal or long-run value of capital goods, excluding land, tends to equal their cost of production or reproduction. It may go lower but will not generally long remain much higher. Land, having no original cost of production and being fixed in amount, has its value in both the short run and the long run determined solely by the capitalization of the income derived from it. Of this more will be said in the next chapter.

It is unfortunate that in the language of economics and of business the word *capital* is used in so many different ways, especially that it is used both to include and to exclude land as a natural resource. Some writers in their effort to meet this difficulty include land as a part of capital and then classify all capital into natural and artificial capital, letting land, as we have above discussed it, constitute the first class.

Capital as Capitalized Income.—Another concept of the word *capital* as used by economists of reputation is that it is the capitalized value of any income. If any property yields an annual net income of $5 and the interest rate is assumed to be 5 per cent per annum, the value of that property is $100, the value being obtained by dividing the annual income by the interest rate. This may be called its *capital value.* Irving Fisher, an economist of repute, who has written much on capital and interest, says: "We must distinguish between capital wealth and capital value.

It is capital value of which most people think when they say capital. . . . I define wealth as material things owned by human beings. . . . Capital in the sense of capital value is simply future income . . . capitalized." By being capitalized is meant that a value is assigned to it on the basis of expected income from it, which income is considered interest at some assumed rate or per cent.

Capital as Credit.—One of various other uses of the word *capital* is in application to borrowed funds or credit. Financial journals speak of the price of capital when they have reference to rates of interest which must be paid in the *loan market.* This is frequently referred to as the capital market.

No One Definition the only Correct One.—Because of the many current usages of the word *capital,* it is again emphasized that the student needs to be careful to secure a correct view of what is meant by this word in any discussion in which it occurs. It cannot be properly maintained that any one usage of the term is the only correct one. Moreover, the different meanings with which it is used shade so gradually one into another that it is easy to become confused in one's thinking by a failure to see really essential differences between them. These different usages are as night and day. They are distinctly different, but it is not always easy to tell where one ends and the other begins. One of the purposes of this book is to prepare the student to read more intelligently the best literature available on economics and business. This he cannot do without knowing that the word *capital* is used differently by different writers, as above indicated. Usually the context in which the word is used will indicate the meaning intended in that particular case. Wherever in this text the intended meaning is not clearly indicated by the context, the authors have attempted to define their meaning sufficiently to minimize the danger of misunderstanding.

Capital in Interest Theory.—In giving consideration to the factors which govern the rate of interest, to which much of this chapter will be devoted, the authors prefer to think of capital as the accumulated excess of the results of production over consumption. Capital as here used is the present sum of past saving. This excludes land.

Savings arise from individuals using goods of less value than their income, the remainder usually being kept first in the form of money or a bank deposit. In time, however, these funds are used to acquire other goods, which goods are used either to assist or to support laborers while they are making more goods. These man-made goods, in so far as they are tangible goods, are subdivided into *producers'* capital and *consumers'* capital. The former refers to goods not desired for themselves but as an aid in producing consumable goods. The latter refers to the present stock of tangible consumable goods, including the more durable

items, such as houses, radios, and automobiles, as well as food supplies and the like. Some consumers' capital is used to obtain an income, such as apartment houses, taxicabs, and so on. This fact leads us to another point of view on capital, that of *acquisitive* capital. Under that term are included all tangible objects, money, and valuable rights which may be used to obtain an income. Valuable rights alone are sometimes called *intangible* capital.

THE THEORY OF INTEREST

Interest is the price of the use of capital, in some usages including and in others excluding land. It is usually computed at a rate or per cent of the face value of the capital, although for certain purposes it may be viewed as an amount of product which accrues to capital. Interest may be actually paid by a borrower to a lender, and that is *explicit* interest or *commercial* interest. On the other hand, it may be that part of the income of an entrepreneur which should be assigned as the return on his investment in capital goods and as such is known as *imputed* interest. The amount which an entrepreneur is justified in imputing to his capital as interest is determined by the rate of interest on similar kinds of investments in the market for loanable funds. As the term *interest* is ordinarily used, the capital for the use of which it is paid includes all wealth; but, when interest is considered one of four distributive shares into which all income is divided (the other three shares being wages, rent, and profits), the capital for the use of which it is paid excludes land as a natural resource. It should be carefully noted also that capital on which interest is paid, as the term *interest* is generally used, is not identical with capital as used in most discussions of what governs the rate of interest. This difference will be brought out more fully in the pages which follow.

Gross and Pure Interest.—A distinction must be made between *gross* interest and *pure* interest. Pure interest consists of the return for the use of capital as such, after allowances for risk and costs involved in making and collecting the loan are deducted. Therefore the pure-interest rate on investments of all types should be the same. The actual rate of interest paid by a borrower to a lender consists not only of the pure interest but also of a compensation for the risk which the lender or investor is taking, and the cost of managing the investments. This interest actually paid is known as *gross* interest. A close approach to an objective example of pure interest on a long-time loan would be the rate on bonds of a well-established government, such as that of the United States. In that case the risk is at the minimum and the cost of managing the investment almost nothing. Short-term interest rates which most closely approach pure interest are the rates on borrowings by our Federal government and those on call loans secured by the pledge of high-grade

stocks and bonds listed on the New York Stock Exchange. These short-time rates, however, vary greatly from time to time, for reasons which will be explained later in this chapter. When attention is turned to the field of long-time investment in private enterprise, the rate of return on corporation bonds will be higher than on the best grades of government bonds, since the former are less safe. The effect of risk on gross interest may be illustrated by the yield on bonds of different security, the yield being the percentage which the annual interest payment is of the market price of the security. During the week ending Feb. 24, 1940, the average yield on U. S. Treasury bonds was 2.32 per cent; that on prime corporate bonds 2.85 per cent; that on comparatively low-grade corporate bonds 4.82 per cent. It will be noted that each type of bond above named gave a higher yield to the investor than the preceding type, a fact showing that these types of investments have been arranged in order of the amount of risk involved, as viewed by investors on the date mentioned.

The difference between gross and pure interest should be noted in the following discussion. When we speak of interest as the amount actually being paid, we refer primarily to gross interest, but, when we use the word *interest* as referring to that share of the national income which goes to capital, we should be referring to pure interest. In practice it is very difficult to segregate from the total or gross interest the part which should properly be assigned to cover the mathematical probability of loss, and a large part of what is statistically reported as interest is for risk and would disappear if losses were deducted. For that reason statistical reports as to the part of the national income which is essentially pure interest should be accepted with caution. They are likely to overstate the amount of pure interest.

Early Views of Interest.—During long periods of history the taking of interest was looked upon as unethical. Biblical passages, statements by Aristotle, and utterances of medieval theologians were all directed against the taking of interest. These writings emphasized that money was "sterile," that it did not produce other money, and that, therefore, the borrower should not be expected to return principal plus interest. This attitude was in part justified, for in those early times loans were made primarily for consumption purposes, largely to persons who had suffered misfortunes. Accordingly, the borrower had to repay not only the interest but also the principal out of other income than that obtained from the use of borrowed funds. With the growth of the use of borrowed funds for purposes of commerce and later of industry, the general public attitude toward the taking of interest was modified. Although the church continued to issue statements concerning the immorality of interest taking—or usury, as it was called—the practice became widespread.

Productivity and Interest.—In the evolution of interest theories, it was logical that with the development of commerce and industry attention should be paid to the physical productivity of capital. Therefore an early theory of interest which justified it was one which pointed out that men's efforts resulted in so much more physical product when aided by tools that the borrower, by utilizing equipment purchased by borrowed funds, could reproduce not only the principal but in addition was fully able to pay a premium, or interest, to the lender. Because the worker was more productive with capital (other than money) than without it, this was called the *productivity theory* of interest. This productivity characteristic of capital is still recognized as fundamental in the theory of interest most generally accepted by present-day economists.

Abstinence and Interest.—The productivity theory, however, does not answer the following question: Why is there such a limited supply of capital that lenders are able to command a price for its use? To draw an analogy with our previous discussion of the price of consumers' goods, we may say that this early productivity theory took the supply of capital for granted. It examined the demand aspect of the interest problem, neglecting the causes affecting the scarcity of supply aspect. It was a short-run or market-price explanation, but not a long-run or normal-price explanation. This weakness in the explanation of interest called for a theory to explain why there was but a limited supply of capital. Such a theory, known as the *abstinence theory*, became popular after it was expounded by N. W. Senior in 1836. Senior held that individuals must be paid to save, since they prefer to consume their incomes at once. They make a sacrifice if they save a part of those incomes. Individuals in order to be encouraged to save must be paid a premium for waiting, and this is known as *interest*. It is held that if it were not for interest there would be less saving. The abstinence theory by itself was as one-sided as was the early productive theory. In the interest problem as in all problems of prices, proper weight must be given to factors influencing both the demand and the supply.

The Exploitation Theory.—Another theory which developed a considerable group of followers, though it does not contribute particularly to an understanding of present interest problems, is the exploitation theory, advanced by the Marxian socialists. That theory, vigorously enunciated by Karl Marx in 1867 and generally supported by socialists, is based on the labor theory of value, which is that the value of any good is or should be equal to the socially necessary labor involved in its production. It is maintained, however, that in a capitalistic system, the laborer receives only part of what he produces, the remainder of the value being taken by the capitalist as interest. Interest, therefore, is considered as something of which the capitalist is robbing labor.

A chief weakness of both the labor theory of value and the exploitation theory of interest is that they represent ethical judgments of what their supporters feel ought to be, or is desirable, rather than a realistic consideration of how an economic system works. They are comparable to a statement that no man ought to die until he is two hundred years of age. Actually people in general prefer present goods to future goods, in part at least for the reason that production can be carried on more effectively when working with present goods, and the bidding of borrowers against each other for the use of such present goods gives rise to interest. This desire of borrowers for present goods without waiting is so intense that lenders can secure interest. People will not freely supply present goods or tools for the use of others without being paid for such use. And because capital is productive, in the elliptical sense that labor is more productive when working with capital, the borrower can afford to pay interest. The truth of these statements has been illustrated in the history of Russia under the Soviet régime. The present rulers of Russia profess to be ardent followers of the doctrines of Karl Marx. Yet in order to secure the capital to carry on production effectively, it has been found necessary both to apply compulsion and to offer rewards in the form of interest to the citizens of the Russian Soviet state to induce them to save and to turn the control of savings in the form of money over to the state. Those who have traveled in Soviet Russia have called attention to billboard advertisements by which the Soviet government offered as much as 10 per cent interest to its citizens as an inducement to them to save and to use their savings to buy the government's bonds. It should be carefully noted that, though that which is first saved by one who saves is money, ultimately it consists of other goods or capital. He who spends his income for food and clothing puts to work those who furnish food and clothing. But when the Russian Soviet government induces its citizens to spend less for food, clothing, and amusement, to save money income, and to turn such savings over to the government so that the government with that income can hire people to make machinery and other productive capital, this procedure induces workers to produce capital goods and to save them rather than to produce goods for immediate consumption. In like manner practically all saving of money is ultimately the saving of something else than money, and the users of these other things are able and willing to pay interest because of the productivity value of their use.

The above analysis does not deny that certain capitalists may be securing a larger part of the national income than is socially desirable. It does show, however, the fallacy of the exploitation theory of interest. If interest is an inescapable part of any desirable social system, as the Russian experience illustrates, it cannot be something of which some one robs someone else. It is as logical to contend that wages are exploitation

and robbery because one person will not freely work for another without being paid, as it is to contend that all interest is robbery because one person will not freely turn the results of his savings over to another to use. This does not deny that government intervention is justified to assist in bringing about such a distribution of wealth and income that interest may be diffused more uniformly among a larger part of the total population. Such a result might be promoted, for example, by changes in our method of taxation, causing those with much income to pay taxes at higher rates than those with little income, and thus causing the ownership of property to be more evenly distributed and interest as a reward for the ownership of property to be received in more equal amounts by more people. But that would not abolish the payment of interest.

Another defect in the logic of the exploitation theory of interest is that it does not give recognition to the fact that in the payment of interest someone is paid for the postponement of consumption. Labor does not produce, at least immediately, the whole product if part of the final cost of the product is for waiting. The Russian Soviet government actually recognizes this in that it severely restricts the present-consumption activities of its citizens in order that there may be savings which may be put into capital improvements to make possible more abundant consumption in the future. It is possible for laborers to become to some extent capitalists, and to profit from interest, and also for our credit system to be improved, but it is not possible to eliminate interest, or to control successfully the rate of interest in an arbitrary manner. The exploitation theory, therefore, is untenable. Interest will be paid as long as people prefer to have a definite smaller quantity of goods immediately rather than the hope or promise of a greater quantity at a later time.

The Time-preference Theory.—Another explanation of the cause of the rate of interest has come to be known as the *time-preference theory.* The essence of this theory has already been given in our discussion of the exploitation theory. It is simply that the rate of interest is governed by the degree to which people prefer to have less goods now rather than more later. This preference may be due to the desire and ability to use present goods to carry on production, but it also may be due to other causes, such as belief in the philosophy of "Let us enjoy today, for tomorrow we may not be alive." Time preference may be made clearer by noting the analogy between things distant in time and things distant in space. Buildings, people, or other objects which are distant from us in space appear very small. Enjoyments distant from us in time appear smaller than those near at hand. Accordingly, people prefer their enjoyments in the near future, even though that means a less total of goods.

Those who defend the time-preference theory generally do not deny that the productivity of capital may influence time preference,

which results in and determines the rate of interest, but they generally contend that to say that interest rates are determined by the productivity of capital alone places too much emphasis on what is only a partial cause. They point to the person who prefers a musical instrument alone this year to both a musical instrument and a new pair of shoes next year as showing that interest is caused by the degree of preference for present goods over future goods, including consumers' goods, rather than by any rate of productivity.

One particular difference should be noted between the time-preference theory and most of the other interest theories. This theory is both a short-run and a long-run theory. It is used to explain both the immediate or market price of the use of capital in interest, and the long-run or normal price. To explain the latter, it is necessary to explain what regulates the supply of capital which is available.

In explaining the supply of capital, the time-preference theory differs but little from the abstinence theory except in emphasis. The latter theory emphasizes the immediate sacrifice made by the saver for which interest must be paid. The time-preference theory points to the choice made by the saver between fewer goods now and more goods in the future. The time-preference explanation is preferable in that it is more purely a statement of fact without any implications as to sacrifice made by savers.

The Marginal-productivity Theory.—Finally, from the earlier productivity theory of interest there was evolved the marginal-productivity theory, which again attempts to explain the market rate, rather than the normal rate of interest. As an explanation of the market rate, this is the theory most widely held among economists today. Those who hold this theory contend that the rate of interest at a given time is governed by the productivity of capital in marginal uses. By marginal uses are meant the last in order of effectiveness. Here we must go back to the law of diminishing returns. With a given supply of land and labor, additional units of capital will yield decreasing returns —that is, smaller additional returns for each additional unit of capital applied—and this will result in lower rates of interest. As more capital is saved, people must employ it in less effective uses. But, if the total supply of capital should suddenly be reduced to one-third of its present amount, the competition among those desiring capital for use in the more effective ways would result in raising the rate of interest and in making new capital unavailable in the least effective uses to which it is now devoted. Those using capital in the more effective ways could afford to pay higher rates of interest, and competition for its use would force them to do so.

The meaning of the expression *productivity of capital*, as well as the considerations in the mind of an entrepreneur when he is contem-

plating the purchase of equipment, may be made clearer by the following example: Suppose that the owner of a factory is considering whether or not to buy a machine which costs $10,000. Let us suppose that the machine may be expected to depreciate and have expenses to the amount of $2,000 per year, but that it will save $3,000 per year in other costs. In other words, the owner, after caring for depreciation and other expenses, will still be $1,000 better off by having the machine than by not having it. A saving of $1,000 per year on an investment of $10,000 is 10 per cent. Hence in such a case it would be very profitable for the factory owner to borrow money at 8 per cent interest to buy the machine. By so doing he would increase his profits $200 per year. In fact, if there were a very great number of such opportunities, the rate of interest probably would not remain at 8 per cent but would rise to about 10 per cent. Other entrepreneurs would see the opportunity to profit by borrowing and would bid up the price or interest rate on the use of capital.

Each entrepreneur tends to use additional capital until the amount expected to be added to his income by the use of that capital is approximately equal to the cost of that capital, consideration being given to depreciation, upkeep, and, of particular concern here, interest. The interest rate is expressed as a percentage of the capital investment or purchase price of the equipment bought. Interest may be the rate paid to a lender or the rate foregone when the entrepreneur uses his own funds. Where the annual cost of the use of capital and the annual amount added to the entrepreneur's income so approximately balance that the entrepreneur is not inclined either to increase or to decrease the amount of capital he uses, the point of marginal productivity has been reached.

The above analysis of the effect of the marginal productivity of capital on the rate of interest applies only to saved capital which has a value related to cost of production. It could not apply to land as a natural resource for the reason that land worth $10,000 is assigned that value because the net income from it capitalized at a certain per cent gives a capital value of $10,000. In this case the capital value is determined by capitalizing income at the going rate of interest. The rate of interest is assumed. Under such circumstances that rate cannot be the result of a relationship between the value of the land and the value of the net returns from it. To reason that it was such a result would be to reason in a circle. But the value of saved capital goods, in contrast to land as a natural resource, tends to equal the cost of production of such saved capital to representative producers. Though the value of saved capital at any given time may vary considerably from cost of production, it tends constantly to return to it. And in such a case *the relationship expressed as a percentage between the net savings in money per year from the use of such capital goods and the money value of the capital*

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goods themselves determines the maximum rate of interest which entrepreneurs can afford to pay. Entrepreneurs competing against each other for the control of capital goods will tend to bid up the rate of interest to the expected productivity value of such capital goods in marginal uses, which are at the border line between the most effective uses to which capital has not yet been put and the least effective to which it has been put.

The rate, of course, is determined not by the gains which are realized, but by those which are expected. Some bidders for capital make miscalculations and take losses. Others are better managers, or have better luck, and make pure profits in excess of the going rate of interest. There are probably very few of these bidders who receive a return from the use of capital exactly equal to the amount paid in interest. The hope of profit slightly in excess of the market interest rate, however, stimulates entrepreneurs to bid against each other for the use of capital owned by others, and the extent to which they can afford to pay interest depends upon the productivity of capital in marginal uses. The *dominating factor in determining the rate at a given time is the expected productivity value of saved capital in new marginal uses.* This is the essence of the marginal-productivity theory of interest, the theory held by most economists. It is admitted by those who hold this theory that there are many particular cases of borrowing to which the marginal-productivity method of rate determination is not applicable, particularly in consumer uses of capital. But it is believed that the rate in such cases follows the rate established by marginal productivity.

Some support for the marginal-productivity theory may be found in observing the higher rates in countries in which saved capital is scarce in comparison with rates in more developed countries with a greater abundance of saved capital. It is probable that in Soviet Russia the scarcity of saved capital, with resulting high marginal productivity, is a very important factor in explaining the high interest rates which recently have prevailed. Fear of loss, or risk, of course, is also a factor, but this fear of loss by frightening investors may result in hoarding and investment elsewhere and may create such a scarcity of capital available for borrowing that in individual cases in which no high risk is present high rates may be brought about by high marginal productivity.

The marginal-productivity theory of interest is not accepted by all economists of high repute. Some consider that it unduly emphasizes one of a number of factors which give rise to time preference and assert that the only correct explanation of the rate of interest is found simply in the degree of *time preference.* Perhaps in a practical way the most important result which might follow from whether or not this claim is true is that, if the interest rate varies with marginal productivity, increased savings, by reducing productivity at the margin in accordance

with the law of diminishing returns, should result in lower interest rates. As interest rates do tend to be higher in a country in which the supply of capital has been reduced by war, do tend to be lower when the savings in a country have increased but not many new uses for capital have been discovered, and do appear to be increased by large new possibilities of using capital effectively in production (as by important inventions), it appears that marginal productivity does exercise a sufficiently strong influence to be regarded as the determining factor on the market rate of interest. This being true, it follows that the most effective way to reduce the rate of pure interest is to encourage saving.

Does Interest Stimulate Saving?—Objections have been made to the view that people are stimulated to save by their ability to receive interest on their savings, as set forth by Senior in the abstinence theory, and to the view that the extent to which people save varies with the amount of interest they are able to receive. These objections have been expressed as follows:

> Men save with the principal in mind rather than the rate of interest. They save in order to be secure against the rainy days of sickness, accident, old age, unemployment, and similar contingencies of human existence. They save in order to heighten their feelings of importance and independence. By accumulating this world's goods, they make a bid for the esteem and perhaps the envy of their neighbors. Habit, and possibly instinct, enter into the process. Concern for one's dependents cannot be ruled out, though the supply of thrifty old maids and bachelors indicates that this is not the sole motive. Some saving is forced. Much of it is undertaken for the prosaic reason that one hopes eventually to buy something. But . . . interest rates . . . are not of major importance in explaining the thriftiness of savers. . . . The man who speeds up his saving when he notes that the interest rate has gone up one per cent, and slacks again when it falls, is as rare as the dodo.[1]

The substantial truth of the above statements may be admitted, and yet the rate of interest may influence the amount of savings which occur. This is recognized by the author quoted above:

> To say that the rate of interest has little effect on the savers is far from saying that it is an unimportant factor in regulating the supply of available capital. Interest rates regulate the amount of borrowing and lending which goes on within a society and are thus of primary importance in determining the supply of capital and the uses to which it is put. If interest rates were too low to cover the risk and expense of lending, savers would hoard their surplus or use it themselves in small individual projects. Large scale enterprise would be crippled and the surplus available for savings would be cut down. On the other hand, if the rate is unduly high, the borrowers hesitate. All bankers know this to be true. Many men who will borrow at six per cent to extend their business, to buy automobiles, or to build homes, will not do so if the rate is ten per cent. The

[1] F. W. Clower, *American Economic Review*, June, 1928, p. 274.

effect of interest in stimulating efforts to repay a debt is an additional influence on capital supply. Borrowers, whether they be individuals, corporations, municipalities, or nations, often make a real effort to retire a debt in order to cut down the interest charges. . . . *Here the interest rate exercises . . . direct effect upon savers.*[1]

Perhaps the strongest evidence that interest, including imputed interest, does stimulate savings in advanced countries is to be found in the rapidity with which increased savings have been made when the supply of capital has been very greatly reduced by war or when far-reaching new inventions have occurred. These events have resulted in increased interest rates, probably due to increased marginal productivity of capital. Such unusually high rates of interest, commercial or imputed, have usually been followed quite rapidly by increased savings and a lowering of interest rates to the rates which have prevailed before the unusual scarcity of capital in relation to the demand for its use caused rates to be increased. On the other hand, high interest rates (largely, however, for risk) do not seem to have had much of a stimulating effect on savings in very poor and backward countries, such as those of the Orient. On the whole, it appears that much saving is done without any particular consideration of the rate of interest which prevails, but that to some extent high interest rates do stimulate saving and an increase in the supply of capital, and low interest rates have the opposite effect.

Graphic Representation of Marginal Demand and Marginal Saving. The demand for the use of capital may be represented by a demand curve, as has been done in Fig. 38 by the line *DD'*. The rate of pure interest which borrowers as a whole will pay for different amounts of capital, as well as the imputed rates of interest on owned capital, are represented by the vertical distances between different points in *DD'* and the base line *OX*, as, for example, *AB*. The different amounts of capital which will be used at these different rates are represented by the horizontal distances between these same points in *DD'* and the axis *OY*, for example, *OB*. The greater the amount of capital for which a use must be found at any given time, other conditions remaining the same, the lower will be the rate of interest. Therefore the demand curve for the use of capital slopes downward to the right, as do all demand curves. In the chart the quantity *OB* of capital will be employed at a pure interest rate of *AB*, but the amount *OK* will be employed only at a rate of *RK*. The degree of elasticity of the demand for capital is purely assumed, as we have but

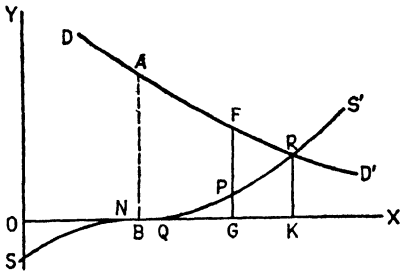


FIG. 38.—Demand and supply of capital and interest.

[1] *Ibid.*

little information on how rapidly the use of capital would increase with decline in the interest rates, provided there were no changed conditions other than a lower rate of pure interest to influence the borrowers or users of capital. In fact, in actual practice there are always other changed conditions also.

The supply of capital which will be forthcoming at different interest rates—time being allowed for saving to occur in anticipation of that rate—may also be represented by a curve as the line SS'. For the supply curve, also, the amount of capital is represented by the distance to the right from OY, and the interest rate by the distance upward from OX to any point in the curve. The supply curve SS' is peculiarly shaped to represent the various quantities of capital saved for different motives. The section of the curve SN is below OX, a circumstance which shows that savers would save the quantity ON even though they had to pay for the privilege, rather than receive interest on their savings. The supply curve from N to Q is neither above nor below OX, an indication that this much would be saved only if no payment had to be made for the privilege, but nevertheless without receiving interest. The portion of the supply curve from Q to S' represents saving which takes place only under the impetus of interest, more saving occurring at a higher rate. Therefore the total supply of capital OK will be available only if savers are able to receive interest at the rate of RK.

In the chart the demand curve and supply curve intersect at R; this shows that at the rate of interest RK the amount of capital which will be used and the amount which will be saved are in equilibrium. If there were less capital, as only OG, borrowers could pay and savers would receive a rate of FG. This would stimulate more saving, because according to the supply curve a rate as low as RK would induce saving until the supply OK was available. Any supply of capital less than OK would result in an immediate rate of interest greater than RK, which would be followed by additional saving and a lower rate at a later date. A temporary supply of capital greater than OK would result in an interest rate less than RK, which would reduce the amount of saving and increase the rate of interest at a later date. With the interest rate RK the expected marginal productivity of the available supply of capital (or current rate of time preference) is just equal to the rate required to induce the amount of saving then prevalent, so that this will be a relatively stable rate.

Interest, Savings, and Investment.—The general argument presented above is that interest rates will vary so that the amount of capital invested will equal the amount saved. In reverse it is argued that the amount saved will be influenced by changes in interest rates so that the capital supply will equal the amount which will be invested at those interest rates. Altogether the interest rate is presumed to govern the supply and

use of capital in a manner similar to the way in which commodity prices govern production and consumption of these goods.

This classical view of capital and interest has been subjected to criticism at least from Malthus's day. It has been only within the last few years, however, that these criticisms have been presented in a manner sufficiently free from obvious and glaring error to be seriously considered by most economists. Recent critics of the older view, as typified by J. M. Keynes, hold (*a*) that interest rates have little or nothing to do with savings and (*b*) that interest rates will not always adjust so that all savings will be invested. According to Keynes the rate of saving is governed by habits and conditions, "the propensity to consume," which are largely affected by the inequality in income distribution. Investing will take place only when prospective returns on the investment exceed prevailing interest rates in the loan market. Here is the catch, however, for if interest rates go below a certain low point savers will prefer to hold their funds in liquid form (bank deposits) rather than tie up their funds in permanent investment. This "liquidity preference" rate, or rate below which savers will hold funds in liquid form rather than invest, varies with good and bad business, but Keynes argues that it may be as high as 2 per cent on the average. If, then, low interest rates neither reduce the supply of savings by stimulating spending, nor stimulate the use of all of these savings through investments, we face the enigma of uninvested savings. Such unused purchasing power, it is held, may and does become a serious problem.

Much more will be said of the problem of the flow of savings into investment in the chapter on "Business Cycles and Depressions." Here emphasis should be laid on whether interest rates will equate savings and investment so that all saved funds will be used.

Money, Bank Credit, and Interest Rates.—Frequently the statement is made that an increase in the volume of money and credit lowers interest rates, and *vice versa*. What are the effects of changes in money on bank credit and, in turn, the effects on interest rates? Recalling the discussion of Chaps. XIII and XIV, we note that an increase of reserves makes possible but does not necessarily cause an increase of bank credit—at least not immediately. In reverse, however, a reduction of reserves, such as through Federal Reserve open-market operations, will reduce bank credit, particularly if the member banks do not have reserves above minimum requirements.

In order to note the effects of potential or actual changes in bank credit on interest rates, it is necessary to analyze the situation in terms of the supply and demand for loanable funds. The first effect of a distinct increase in unused bank deposits is a reduction of interest rates on high-grade loans and bonds, and if this is followed by an increase of business activity, the demand for funds will rise, and later interest rates will go up.

If, still later, the upward surge of business reaches the boom stage, interest rates will rise sharply. When a recession occurs, it is followed by a decline of interest rates on choice loans as the demand for funds recedes. Thus variations in bank credit have certain relationships to *short-term* variations in interest rates. The degree to which such changes are related as to cause and effect and the degree to which they are merely the result of the ups and downs of business cannot be discussed fully here.

There remains the question of whether created bank credit is capital. Clearly it is to the borrower, for it is as useful to him as the savings of a bondholder. But to the economy it is not capital. The more important question is, "Does created bank credit make possible a net addition to the physical capital, productive or consumptive, of our country?" The answer to this is influenced by whether the productive equipment of the economy is being fully utilized. During a war or a boom as in 1917–1920, when production was as great as our resources permitted, increased bank credit raised prices, and those whose dollar incomes did not rise so rapidly as the cost of living were able to buy less. In other words, they were forced to save, although they themselves did not own the savings. Nevertheless, the essence of saving took place, for resources were released by the reduced consumption of these groups. These resources could then be hired by those obtaining the enlarged bank credit. Under these circumstances, the increased amount of bank credit led to an increase in capital and was the means of transferring the forced savings of certain classes into the hands of the banks' borrowers. Thus forced saving created capital unless it was wasted, as in war. If, however, as is usually the situation, such excesses of credit expansion are followed later by economic collapse, the lack of capital formation during the recession may exceed the capital formation, or that wasted in war, in the boom with the result that, in the period as a whole, capital formation may be less than if there had been no credit expansion. And, from the point of view of social justice, some, though not all of those who were forced to save during rising prices, may collect redress during the collapse.

In contrast, if our productive resources are not fully utilized, as from 1930 to 1939, an increase of money or credit, *if accompanied by an increase of production,* does not necessarily force savings. In such situations, the rise in the price level should be minor. Furthermore, if the increase of money or credit is the means of putting our resources to work, such capital formation as may result does not come out of savings. It comes out of the increase in production, an increased production which, under the assumption laid down, would not have taken place otherwise. In such circumstances an increase of money and credit makes for capital formation.

Government-subsidized Interest Rates.—Proposals have frequently been made in Congress that the government should furnish all the credit

desired for certain purposes, especially farm-mortgage credit, at some such low rate of interest as 1 or 2 per cent. If an effort were made to apply this to funds for a limited use, it could be done, but the government would have to borrow at a higher rate and make up the deficit by taxing other parts of the population. The property which could be bought with funds borrowed at such low rates would increase in value, especially land, of which the value does not depend on cost of production, and the chief gains would be to the owners in debt at the time the plan was put into operation. Buyers in the future would have to pay enough higher prices to make up for the lower interest rates. If the money to be thus lent were to be provided simply by the issuance of more money by the government, and the uses to which this "cheap" money could be put were large in extent, the demand for it would be like a dog chasing his shadow away from the sun late in the evening. The greater the effort the more would it fail of attaining its purpose. The possible gains from borrowing would become greater and the demand more incapable of being satisfied the greater the amount of money or credit issued. It would end, as did inflation in Russia and Germany, in complete chaos and in the necessity of starting again with a new system of money. The interest rate fixed by economic forces cannot be legislated out of existence. A good credit system, however, can minimize those costs of credit which are due to risk, to making and collecting loans, and to other elements outside of the pure interest rate. A good credit system can, so to speak, bring the borrower and lender closer together.

Some types of government lending or of assistance in loan arrangements need not involve any subsidy. Thus, if the income from the bonds of the Federal land banks was subject to taxation, which it is not, and if farm borrowers were charged the full cost of operating the land banks and of obtaining all funds, which is not the case, there would be no subsidy. The government would be merely lending its good name to the farmers and promoting the economic transfer of the use of capital from savers to borrowers, with the effect that funds could be obtained more cheaply. Furthermore, Federal land-bank bonds can be sold rather easily, a fact which persuades the investor to accept a lower rate of interest.

Somewhat different in type is the F.H.A. plan of insured home loans. Here a fund is built up out of a small charge on those who borrow from financial institutions under the plan. From this fund the lending institution will be reimbursed for losses on such loans up to a certain percentage of the loans. The result is that interest rates (including the insurance charge) and the down payment by the borrower can both be less. This is, of course, on the assumption that the insurance charge will prove to be sufficiently high to cover losses.

Variations in Short- and Long-term Rates.—Short-term interest rates in the important *money markets* for loans for which the element of

risk is small show from time to time very marked variations, caused by changes in the degree of hopefulness of business men, speculators, and the public in general toward future prices and future business profits. This may be illustrated by comparing short-term rates for certain kinds of highly safe loans in large amounts in New York in April, 1929, with rates for the same kinds of loans in September, 1932, and in January, 1940, as shown below.

TABLE 36.—INTEREST RATES ON SHORT-TERM LOANS, 1929–1939

Item	Kinds of loans	Rate of per cent per year		
		April, 1929	September, 1932	January, 1940
1	Loans secured by prime commercial paper	6	2½	½–⅝
2	Prime bankers' acceptances	5½	¾	7/16
3	Time loans amply secured by stock and bond collateral	9	1½	1¼
4	Call loans amply secured by stock and bond collateral	10	2	1.00
5	U. S. Treasury notes, three to six months	....	3/100	4/100

The explanation of these differences is that in April, 1929, the public in general was optimistic, and expected large future profits from investments—that is, large marginal productivity—and bank reserves were so low that banks hesitated to lend further for any purpose. For all the kinds of loans above listed, the risk element is so low as to be practically absent. But in April, 1929, the demand for funds where there was large risk was so great and had been so fully taken care of that there was a scarcity of funds available for even safe loans by banks. This resulted in high rates for short-term loans of greatest safety. In September, 1932, and still more so in early 1940 in contrast, the public was pessimistic about possible profits from investments—that is, it expected low marginal productivity—and bank funds were sufficiently ample to cause banks to be willing to offer very low rates, provided the security was unquestionable *and the loan very liquid*, that is, capable of being quickly turned into cash.

Rates on long-term loans do not vary by any means as much as those on highly safe and extremely liquid short-term loans, but they are also affected by the general outlook toward a rising or falling general level of prices. A selected group of interest and discount rates and bond yields for comparatively safe investments, including two of long-term and two of short-term character are shown below as averages for certain years and months.

Item	Description	August, 1923	August, 1929	February, 1933	January, 1940
1	Yields on 60 high-grade bonds	4.98%	4.70%	5.73%	2.85%
2	Yields on U. S. government bonds	4.45	3.64	3.47	2.32
3	Rates on 4- to 6-month commercial paper	5.01	5.84	1.38	0.56
4	Rediscount rate Federal Reserve Bank of New York	4–4½	4½–6	2½	1.00

It will be noted that for each of the groups except the first—that is, high-grade bonds—the yield or interest rate was lower in 1933 and in 1940 than in 1923 or 1929. The reason is that the investments listed except the first represent in general the safest and most liquid kinds of investments for fluid funds, and that in February, 1933, investors in general were afraid of all kinds of investments except the very safest. There are three elements considered in making either loans or investments. These are: (1) yield; (2) safety; (3) liquidity. In February, 1933, investors were so much afraid of lack of safety and liquidity that they were willing to take low yields when they considered the loans absolutely safe and highly liquid. For loans and investments of a more questionable character the yields were greater than were the ones attainable in 1929. The first group above listed, consisting of high-grade bonds, yielded 1 per cent more in February, 1933, than in 1929. This is because investors had less faith in their safety in 1933 than in 1929. The yields on bonds classed as medium and low grade were in 1933 much above the yields on the same bonds in 1929, because faith in them had much declined since 1929. Expected marginal productivity from the use of capital was less in 1933 and in 1940 than in 1929, and so people were willing to take lower interest rates on lent funds where risk was not considered high; but fear of loss was so much greater that high nominal yields could be secured where the security was not of a high grade. As the expected rate of pure interest was lower in 1933, compensation for risk was the large element where high nominal rates prevailed.

Bank Rates on Small Loans Relatively Stable.—Commercial banks do not continuously adjust upward and downward their interest rates on small loans as rates change in the money markets which are more sensitive to all influences. In fact, relatively small loans by all banks and most kinds of loans to general customers by small banks are made at uniform customary rates, which are seldom changed. Where the risk is too great to be covered by such a rate, the loan is simply refused. Of such a customary rate a large part is for elements other than pure interest. This rate, however, is higher in regions where capital is scarce and risk in general great than in regions where savings are more plentiful and risk is

less. Also, in case the banks have ample funds, they will make substantial reductions from the customary rates for loans which are both unusually safe and are for unusually large amounts.

STATISTICAL DATA ON CAPITAL, SAVING, AND INTEREST

Volume of Saving.—Statistical data on the extent of saving are only fragmentary, and summaries which purport to give the percentage of the total national income which is saved are likely to contain considerable error. A large part of the savings in any one year is put into enterprises which later fail, and these savings are thereby dissipated. Municipal street railways are a good example of a kind of investment into which in years past there have been put many hundreds of millions of dollars which later became worthless. Meanwhile the savings of the people who bought such street railway securities were mostly paid out directly or indirectly in wages and salaries, which in turn were mostly spent for consumers' goods. Thus the original savings ceased to be savings for either the individual savers or the nation. Present indications are that an appreciable portion of the savings which have been put into steam railroads will suffer a similar fate. Savings put into a mining enterprise which results only in a worthless hole in the ground are not truly savings, but are simply a diversion of the temporary savings of one group of people to supply consumers' goods for another group of people. The billions invested by individuals in Liberty Bonds during the World War were largely spent by the government for war supplies which were destroyed, and therefore the savings resulted in no additions to the wealth of the nation.

One of the most ambitious statistical studies of savings in the United States is that by W. I. King, covering the years from 1909 to 1918, inclusive. King concluded that annual savings in the ten years covered amounted usually to from 12 to 17 per cent of the national income. In the very prosperous year of 1916, just before the United States entered the World War, about 27 per cent of the national income was saved, but in the war year 1918 the nation lacked 3 per cent of saving anything. An average of about 15 per cent of the national income is shown to have been saved during the years covered by the study.

King also estimated the part of the total savings which was saved by business enterprises (both incorporated and unincorporated) and kept in the business, rather than being paid out to individuals. He concluded that corporations thus saved about 25 per cent and unincorporated business another 25 per cent of the total annual savings in this country during the years studied. That left 50 per cent of the total savings as saved by individuals. Business saves more in times of prosperity and less in years of depression. If market values of the securities of corporations at the time when this is written (1939) are correct, a considerable portion of

corporation savings of the past is not permanent savings but is in a class with an investment in a mine which represents simply a hole in the ground.

In a recent study,[1] savings are estimated to have varied from a net dissaving of 6 billion dollars in 1933 to a net saving of 5.6 billion dollars in 1937. Taking the period 1933–1937 as a whole, there was an estimated net dissaving of 2.3 billion dollars.

Volume of Capital Formation.—Recent studies by the staff of the National Bureau of Economic Research provide estimates of the amount of savings actually turned into capital for various years beginning with 1919.[2] In Table 37 are summarized some of the more pertinent estimates of net capital formation or total capital produced, minus depreciation. The average net capital formation—durable and nondurable, productive and consumptive, public and private—during the three prosperity bienniums of the 1920's was 8,596 million dollars a year. The average for all the years 1919–1929 was 7,666 million dollars. In contrast, the average for 1932–1933 was (minus) 5,488 million dollars! We ate into our capital! Even in the relative good years of 1936–1937, following as they did

TABLE 37.—COMMODITY FLOW AND CAPITAL FORMATION FOR SELECT PERIODS[1]

	Average of 1922–1923, 1925–1926, and 1928–1929 (million dollars) Current Prices	At 1929 prices (million dollars)		1936–1937 average as percentage change from earlier volumes	
		Average 1932–1933	Average 1936–1937	Total	Per capita
Net residential construction	2,022	− 1,883	− 334	−116.5	−114 8
Net flow of producers' durable and net business construction	3,002	− 2,485	2,596	− 13.5	− 21.5
Net public construction	1,851	1,226	2,235	20.8	9.5
Net commodity produce	53,339	35,333	55,573	4.2	− 6.0
Net capital formation	8,596	− 5,488	7,073	− 17.7	− 25.7
Net capital formation for business use	4,362	− 4,994	5,389	23.5	11.8
Net private durable capital formation	5,024	− 4,368	2,262	− 55.0	− 59.3

[1] Data adapted from Tables 1 and 4 of Simon Kuznets's "Commodity Flow and Capital Formation in the Recent Recovery and Decline, 1932–1938," National Bureau of Economic Research, *Bulletin* 74, June, 1939.

[1] R. W. Goldsmith in *Income and Wealth Studies*, National Bureau of Economic Research, 1939), Vol. III, p. 237.

[2] See Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. I (1938).

six years of deep depression, net capital formation was only 5,389 million dollars. Further analysis of the table shows that net *public* construction in recent years has far exceeded the level of the 1930's, but that, in 1936–1937, net *private durable* capital formation per capita was 59 per cent below the earlier period. How can this be true when net business capital formation per capita was nearly 12 per cent higher. The answer is that (*a*) 1936–1937 was a period of excess inventories (84 per cent higher) and (*b*) total formation of private capital, as opposed to business capital, is reduced by the very low level of residential construction. Clearly the ups and downs of business are related to the ups and downs of net capital formation. Obsolescence may be greater than these estimates indicate.

The Trends of Interest Rates.—In order to illustrate further the forces determining interest rates, there is portrayed in Fig. 39 in graphic manner the rate on 60–90-day commercial paper from 1881 to 1939. The general movement of interest rates, as shown by this curve, was downward from 1881 until about 1915. If even earlier years had been included, as from 1830, the general tendency of interest rates to decline would have been still more pronounced. It is probable that part of this general downward movement may be explained by the decreasing risk in American investments as the country became more highly developed and came to be one of the leaders of the industrial world. Part of the decline may also be explained by the fact that from the Civil War until 1896 there was a downward tendency in the general level of all prices. However, this long downward movement without a doubt also reveals the tendency for the pure interest rate to decline with increased savings. This decline can be explained in terms of the analysis previously presented of the factors determining interest rates.

In the earlier days, capital in our country was used in the development of only the more productive natural resources. Since our own supply of capital was limited, and since European investors were unwilling to invest in this country except at rates of interest considerably higher than those that prevailed in investments of the older parts of the world, the supply curve intersected the demand for capital at a much higher point than is true at the present time. With the development of greater security of investment in this country, Europe sent an increasing amount of capital here until the period of the World War. At the same time American people were accumulating an increasing amount of capital, made possible by high incomes of our people arising from the tremendous productivity of our resources. This increasing amount of capital could be put to work only under circumstances which would yield lower returns to the entrepreneurs, their ability to pay interest thus being limited. Capital had to be employed on poorer natural resources and had to be used in extending production farther beyond the point of diminishing returns. This decline in the productivity of the additional units of capi-

tal has occurred in the face of important improvements in the technique of production and is therefore more noteworthy.

Interest rates have reached such low points in 1934–1939 (Fig. 39) that both lenders and borrowers have been much concerned about the future return on, or cost of, borrowed funds. The capacity to save is high. The demand for funds is low. Is this situation merely temporary, or does it represent a sharp accentuation of the long downward trend of interest rates? No complete answer will be attempted here. There does seem to be general agreement, however, that unless there is great destruction of capital by war, or some change in the propensity to save, there is little prospect of interest rates on long-term investments returning to the 1920–1929 level.

Oscillations in Interest Rates.—Figure 39 illustrates not only the general tendency of short-time commercial interest rates to decline but

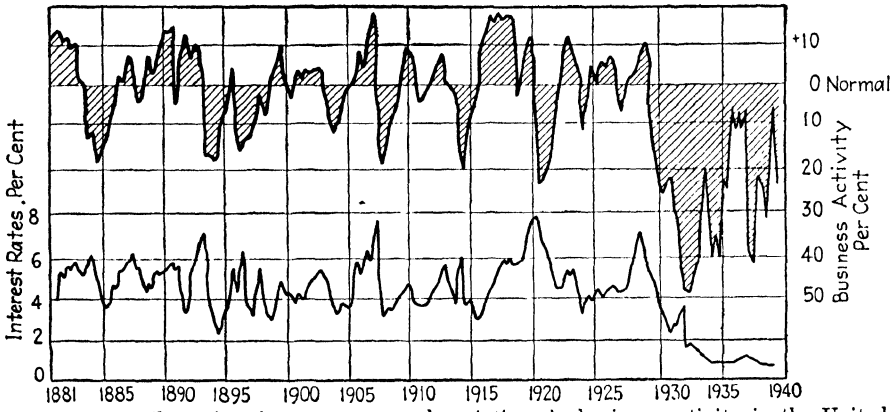


FIG. 39.—Short-time interest rates and variations in business activity in the United States, 1881–1939. (*Data from Cleveland Trust Company, Business Bulletin, July* 15, 1930, *brought up through November*, 1939, *by authors.*)

also points out the wide oscillations which have occurred in these rates from time to time. Such variations have been connected usually with those variations in business activity known as the *business cycle.* Thus interest rates rose to over 7 per cent in 1929, when business activity was about 12 per cent above normal. In the early part of 1931, when business activity, as depicted in Fig. 39, was about 30 per cent below normal, interest rates were only a fraction above 2 per cent. The Harvard Committee on Economic Research several years ago found that, in times past, interest rates usually had moved in an opposite direction to business activity about six months prior to the change in business activity; that is, they moved up when business was about to decline, and down when it was about to improve. There is, however, a wide variation in particular business cycles in the time period which elapses between changes in interest rates and changes in business activity. That such a relationship

exists seems certain, but at present it is impossible to forecast from existing interest rates when a change in business will occur, or to forecast from the existing state of business when interest rates will change.

When business has been prosperous, business men have felt that much could be gained by the use of additional capital, and therefore the demand curve for the use of capital has moved to the right. Since the quantities of capital available could not be increased rapidly, the interest rate has risen, and at the same time banks have frequently been put in a strained position by lack of reserves. Then the coming of a business depression has frequently placed many concerns in an embarrassed financial position and has temporarily increased the demand for fluid capital still further and forced the interest rate still higher. This was notably true in 1907 and 1920. The coming of a business depression, however, has soon brought with it lower interest rates. This occurred in the latter part of 1929 and on through 1932 and 1933. Business men were pessimistic about the profits to be gained by the use of additional capital, and therefore the demand curve for the use of capital moved to the left.

Since 1930, the Federal Reserve System and the Federal Treasury have exercised much influence over short-term interest rates. The prevailing low rates, however, have been largely the result of other factors. On the one hand the general uncertainty of the future of private investment has caused many investors to be unwilling to assume the risks of long-term investment and encouraged them to purchase only short-term, highly secure and liquid investments. On the other hand the large gold imports since 1934, combined with the enlargement of bank credit, has augmented artificially the supply of funds seeking short-term investments. The result is the dropping of interest rates, especially short-term rates, to unprecedented depths (Fig. 39). In fact some short-term Treasury notes have not yielded any interest to the investor. The Federal Reserve System, through methods explained in Chap. XIV can influence short-term rates, but the economic outlook will continue to be the dominant force in the demand for capital.

Thus, not only the long-time historical movements of interest rates, but also of oscillations of interest rates with the business cycle, can be explained in terms of variations in the supply of, and demand for, capital.

Interest as Part of National Income.—It seems logical that, as more capital is saved and used in production, so that each person works with more capital, a larger part of the national income should be paid in interest and a smaller part for personal services, even though the rate of interest might decline. The best statistical data available, however, indicate that for several decades preceding the depression which began in 1929 the tendency was in the opposite direction; that is, interest took a smaller part of the national income. The most thorough study of this question is reported in the *National Income and Its Purchasing Power*,

made by the National Bureau of Economic Research under the supervision of W. I. King. According to King's study, entrepreneurs and other property owners received from 1924 through 1928 about 6 per cent less of the national income than they did from 1909 through 1913, that is, fifteen to twenty years previously. In the latter years employees received in wages about 2 per cent more and in salaries about 4 per cent more than in the earlier years. The total share going to all hired employees was placed at 51 per cent of the national income in 1909 and at 57 per cent in 1926. This does not include returns from labor by those who were their own employers.

The results of the studies of another investigator of reputation as to the part of the national income paid to capital and other factors of production have been summarized as follows: "The sources of all individual incomes are personal service (physical and mental labor), returns to capital (interest and dividends or the equivalent), and rents of natural resources. The typical distribution between these items—basing our figures generally on the year 1926—is about 77 per cent to personal service, 18 per cent to capital, and 5 per cent to rents."[1] Still another group of investigators reported in 1934 as follows: " . . . roughly 80 per cent of the national income in 1929 went to reward current effort and approximately 20 per cent to owners of property."[2]

Recent Estimates.—The estimates of the national income made by the Bureau of Foreign and Domestic Commerce for the years 1929–1938 divided that income by types of payment (see Fig. 33, page 336). The division is not exactly along the lines of the four distributive shares used in economic analysis. Nevertheless, if the estimates are correct they enable us to judge with fair accuracy how much of the national income was received as wages and how much as interest and other property income during the years covered.

It will be noted in Fig. 33, that throughout the ten years, "Total Compensation of Employees" is shown as about 65 per cent of the national income paid out, and "Dividends" and "Interest" combined are shown as about 15 per cent. The remaining 20 per cent is explained sufficiently by the Bureau of Foreign and Domestic Commerce, which made these estimates, to enable us to say that about half of it was imputed wages of persons who were their own employers, such as farmers, doctors, and small storekeepers; about one-fifth of it was imputed interest on the invested capital of such persons; and the remainder was rent from the use of land and other natural resources. An analysis of the report on which this chart is based shows that if the estimates are correct the part of the

[1] M. C. Rorty, "Does Capital Earn Too Much?" *The Christian Century*, Apr. 12, 1933, p. 496.

[2] Leven, Moulton, and Warburton, of the Institute of Economics, Brookings Institution, in *America's Capacity to Consume* (1934), p. 35.

national income paid out to labor in wages (including salaries and imputed wages) comprised approximately 75 per cent of the total national income paid out. Explicit and imputed interest comprised about 19 per cent of the paid out income; and returns to owners of natural resources, or economic rent, comprised about 6 per cent of that income.

Though none of these estimates should be accepted as exactly accurate, they may be regarded as approximately so, and on the basis of them we may conclude that during these years at least three-fourths of the national income paid out by business or consumed by such independent entrepreneurs as farmers employing themselves was payment for human services—wages, in the language of economics; that about one-fifth was in the nature of explicit and imputed interest; and that the remaining 5 or 6 per cent was economic rent. Our estimate of the division of the income for property, as between capital and land, is in agreement with the estimates of Rorty, of which more will be said in the next chapter.

Agricultural Credit.—This chapter has been concerned with the general supply of capital and interest rates, without particular application to agriculture. So important are the problems of agricultural credit and interest rates that Chap. XXIV will be devoted to their discussion.

Questions and Problems

1. Distinguish clearly five different usages of the word *capital.*

2. Distinguish between gross interest and pure interest, and show why the former is often much greater than the latter. Distinguish the meanings of imputed interest and contract interest.

3. Give the origin, and point out the inadequacies or weaknesses of the abstinence and the exploitation theories of interest.

4. Explain fully the marginal-productivity theory of interest.

5. To what extent do the time-preference theory and the marginal-productivity theory overlap, and to what extent do they supplement each other?

6. Does interest stimulate savings?

7. Are savings always turned into capital? Discuss.

8. How do changes in the amount of money or of bank credit affect the rate of interest on borrowed funds?

9. Analyze and account for changes in the volume of capital formation since 1922.

10. Compare interest on several types of credit instruments in September, 1932, with rates in April, 1929, and account for the differences.

11. Summarize the most significant changes in interest rates since 1880, and account for these changes.

12. Summarize the available information on how much of our national income is paid as contract and imputed interest.

Suggested Readings

1. Frederick S. Deibler, *Principles of Economics* (1929), Chap. XX, furnishes a good brief statement of the principles which govern interest rates.

2. S. H. Slichter, *Modern Economic Society* (1929), Chap. XXVI, treats more fully the question of how much capital is saved and how much should be saved, and also variations in commercial interest rates.

3. F. W. Taussig, *Principles of Economics* (1939), Vol. II, Chaps. 38–40 and 47, gives a more extended discussion of the theory of interest.

4. H. J. Davenport, "Interest Theory and Theories," *American Economic Review*, December, 1927, is a less simple treatment in which a theory of interest which is essentially the time-preference theory is defended.

5. A. H. Hansen, *Full Recovery or Stagnation* (1938). Chapter I contains an excellent summary of the views of J. M. Keynes.

CHAPTER XVII

LAND RETURNS AND LAND VALUES

An abundant supply of rich natural resources, or land, as all such resources have been commonly designated in economics, is a basic necessity for a high standard of living. Though individual persons, and even nations, may have a high standard of living without being rich in natural resources, they can do so only through trade directly or indirectly with those who are well provided therewith. Most of the poor nations of the earth are poor largely because of poverty in natural resources, or land, in proportion to their populations. The ownership of land in the sense of natural resources should be expected, therefore, to be an important source of income. How important it is and by what laws the receipt of income from this ownership is governed are the subjects which will receive our attention in the present chapter.

The laws governing the receipt of income from land were the subject of much intense interest and study by the earliest economists. The French physiocrats, who preceded Adam Smith by several decades and who are sometimes considered the founders of economics as a science, gave a large part of their attention to the nature of income from land ownership. The fame of David Ricardo as a representative of the English classical economists rests in no small degree on his exposition of the laws of rent, or income from the ownership of land, as presented in his *Principles of Political Economy and Taxation*, published in 1817. This concern with income from land continued throughout the nineteenth century. An American writer, Henry George, won enduring fame through a book, *Progress and Poverty*, published in 1879, the major conclusions of which are based on the nature of income from land. He concluded that, because of the peculiar nature of such income, most of our social ills could be cured by a "single tax"—by which only land, as a gift of nature, would be taxed; all taxes on all improvements made on land and all other taxes would be abolished. These doctrines have but few supporters today. Nevertheless, one of the most famed of living economists, Richard T. Ely, was able to say but a few years ago:

> One may object to Henry George's teachings—as I do most decidedly—and yet rejoice at the good [of] . . . his works . . . in stimulating the thoughts and promoting the generous aspirations of the people. It would indeed not be an easy matter to overestimate the educational value of that one work, *Progress*

and Poverty. A not inconsiderable part of the wholesome growth of interest in economics is due to its publication.[1]

In recent years, other aspects of the study of economics have properly attracted more attention than the nature and treatment of income from land. Nevertheless, no understanding of our economic system as a whole is possible without an understanding of the nature of such income, including both its peculiarities and the claims in regard to it which are sometimes made, but which are not valid. Students interested in agricultural welfare certainly cannot overlook the factors governing the income from land and land values. This subject we shall consider in the following order: (1) explanation of the Ricardian theory of rent; (2) the single-tax proposal; (3) criticisms of the Ricardian theory; (4) facts concerning land values and incomes received from land in the United States.

THE RICARDIAN THEORY OF RENT

Commercial and Economic Rent.—Rent in the current language of business is any payment for the use of any durable good, regardless of whether such durable good be land, a building, a suit of clothes, furniture, a typewriter, or other object. Rent in this sense we shall call *commercial rent*, which in its final analysis contains much wages and interest. Goods for which commercial rent is paid are in large part man made, and their qualities of value are in large part the result of labor for which wages are paid. Although we have said that commercial rent is paid for the use of durable goods, some of them are durable only in the sense that they are not completely consumed during the period for which they are rented. Many of them, or parts of them, gradually wear out, and the rent paid for their use is in part a gradual repayment to the owner for the original labor cost of production and the many labor costs connected with their maintenance and management. In addition, such rent includes interest on various costs advanced by the owner. Compensation for risk is also included, but this simply means that, whereas sufficient rent is not paid for some goods to repay such costs as are mentioned above, the average rent tends in the long run to be raised sufficiently to make up for these losses. In other words, the payment for risk is, in the final analysis, largely payment for labor and interest on those units of the product which are not sold for enough to pay for themselves. Commercial rent, therefore, can be resolved to a large extent into payments, indirectly and finally, for wages and interest. It also consists in part, and in some cases largely, of payments for economic rent, which we shall next consider.

Economic rent is a form of income distinct from wages and interest and refers to income received from the ownership of natural resources or site value of land. It does not include charges for the use, upkeep, and

[1] Richard T. Ely, *Outlines of Economics* (Macmillan, 1931), p. 462.

depreciation of man-made improvements. It was economic rent to which Ricardo had reference in his theory of rent, and with it we are especially concerned in this chapter. Ricardo defined economic rent, or what he designated merely as rent, as "that compensation which is paid to the owner of land for the use of its original and indestructible powers."

Commercial and economic rent are not always easy to distinguish in practice, as is true of many other things which are essentially different. In some cases they are largely the same, that is, commercial rent may consist largely of economic rent. In other cases, however, commercial rent, even for farm land, consists to but a slight degree (or not at all) of "compensation to the owner of the land for the use of its original and indestructible powers." It should be clearly noted that economic rent accrues to a landowner who operates his own land just as truly as though he had rented it to a tenant. In the same manner as the person who employs himself may be said to receive imputed wages for his own labor and imputed interest for the use of his own capital in his own business, he may receive economic rent from his own use of natural resources owned by him.

How Economic Rent Arises.—In the explanation of economic rent and how it arises, the Ricardian theory emphasizes the differences in the productive capacity of different units of land: different pieces of farm land, different iron deposits, different stands of virgin timber, or different fishing banks. As population grows, there comes to be a distinct shortage of the better grades of land; and, as it becomes necessary to use the poorer land, there arises a surplus return to the better land, called *economic rent.*

A simplified illustration will clarify the above made statements. Suppose that a frontier community is established in an untimbered spot in a region of ample rainfall where there is but a limited amount of good land easily put into cultivation. To provide themselves with food, the pioneers will till the near-by land. As the community grows with the coming of more families and the natural increase from the high birth rate of pioneer people, the food supply must be increased. If this is attempted by putting more effort into the tilling of the land already in use, the operation of the law of diminishing returns is faced. The total production will be increased, but the added labor on the land soon will not bring forth a proportional increase in output. If, on the other hand, new land is brought into production, it will be less desirable. It may be less conveniently located or the soil may be less productive. Certainly any group will try to utilize first the most productive natural resources, with due consideration of the then available transportation facilities. Whether production be increased by intensive farming or tilling additional land, continued applications of effort will not be

rewarded with a corresponding increase in product. The added units of product are obtained only at higher production costs. As population grows, this tendency becomes more pronounced. The first applications of labor to good land yield higher returns than the later more intensive applications. Yet these lower cost units of product are just as valuable as the higher cost units, as is shown by the fact that in advanced communities, where goods are bought and sold, the high-cost and the low-cost units of product will sell for the same price. This price in the long run tends to equal the cost of producing the higher cost units of output, the production of which was undertaken only when the expansion of demand raised the price to the point that the production of high-cost units was justified. The producer of low-cost units on the better land finds that he obtains a surplus income over and above his costs of labor and interest on improvements, including such indirect costs of labor as are sustained through depreciation of machinery and other improvements. This surplus is economic rent. Because of this economic rent, the owner of land is able to charge commercial rent for its use by others. On the basis of it, he assigns a value to his land.

Factors Governing Wages and Economic Rent Further Illustrated.—Another example of how economic rent arises will be given, and this at the same time will illustrate the marginal-productivity theory of wage determination. Let us suppose that a Mr. Jones owns 1,000 acres of good farming land of uniform quality, capable of crop production with but few expenses for clearing or improvement. If he attempted to farm the entire 1,000 acres himself, let us suppose that his output of product would amount to 4,000 units. A unit may be regarded as one bushel of wheat, or one and one-half bushels of corn, or other amounts of product having about the same value. Of course, he will need equipment. Let us suppose, however, that he works alone and that the cost for a year of maintenance and depreciation of equipment, including interest and depreciation on all improvements made on the land, will be the value of 1,700 units of product. Accordingly, any cost of the land being disregarded, the net that he would receive for his labor would be the difference between 4,000 and 1,700, or 2,300 units of product. If he hires one man to assist him, let us suppose that the two together can produce 6,500 units, with costs for equipment or saved capital for the two amounting to 2,400 units, the net product for the two men being 4,100 units. The additional man, therefore, added 1,800 net units of product to the 2,300 of the first man. Let us suppose a third man to be added, and that his net addition to the product in excess of additional equipment or capital costs would be 1,400 units. Let us suppose a fourth man added with a net addition, to the product, of 1,000 units. Let us suppose a fifth would add 850 units; a sixth, 650 units; a seventh, 500 units. Because of the law of diminishing returns, the tendency would be for each additiona

man beyond a certain number to add less than the product per man of fewer men, or of the last added man, the word *last* referring to number, not time. If the population or labor situation at this time was such that seven men were eager to get jobs, the employer could pay the seventh man not more than the value of 500 units without loss from hiring him, because that would be the full value of his addition to the product. If Mr. Jones had a number of neighbors in substantially the same situation as himself, and he attempted to pay the seventh man only the value of 200 units, that man would not long remain in his employment. Competition among the various employers to whom his services would have a value of about 500 units would enable him to secure very nearly, if not fully, that wage. On the other hand, if any one of the seven men insisted on receiving a wage of 1,000 units, he probably would not be employed, because the value to the employer of the seventh man would be only 500 units, and any one of the seven is in fact the seventh. The normal situation would be for wages to settle at a figure at which all could be employed, and under the assumed conditions this would result in a wage of about 500 units to each of the men hired. Assuming Mr. Jones also considers his own labor to be worth 500 units, the total wage bill for seven men would be 3,500 units. But the total production of the seven, *in excess of capital and equipment costs* (other than for land), would be as shown below:

Man	Units
First	2,300
Second	1,800
Third	1,400
Fourth	1,000
Fifth	850
Sixth	650
Seventh	500
Total	8,500

The subtraction of the total labor cost of 3,500 units from the 8,500 units which remain after paying for use of saved capital leaves 5,000 units, which would be assigned to the land. This constitutes economic rent. This is 5 units for each of the 1,000 acres. If the product has a market value of $1 per unit, the economic rent will be $5 per acre. If this should be regarded as the normal net value of the product, and competitors for the ownership of this land would be willing to invest money at 5 per cent interest, the land would have a value of $100 per acre. Rent has been exaggerated above in amount to emphasize the principle.

Rent and the Intensive Margin.—Our understanding of how economic rent arises will be helped by an understanding of the intensive and extensive margins of cultivation. When, through the intensive use of land,

production is pushed farther and farther beyond the point where diminishing returns began, the question arises: How far will this intensive use be pushed? As long as the labor and the capital costs necessary to bring forth additional product are less than the price for which this added product will sell, the farmer will gain by more intensive production. The farmer will find a point where added costs and added value of product from more intensive cultivation are approximately equal. This point is the intensive margin of cultivation. If the price of the product is raised by an expansion of the demand, or if hired labor becomes cheaper, the intensive margin of cultivation can be extended at less output per unit of labor, and hence those units of product produced at the old intensive margin will be enabled to yield rent.

All units of product produced at a labor and capital cost (including imputed wages and interest) less than the selling price yield either economic rent or pure profit. In so far as the representative farmer may secure this excess return from the better land, the excess product is assigned to the land as economic rent. The exceptional farmer who still has a surplus after paying or allowing for the usual economic rent, as well as all wages and interest, may be said to secure a pure profit.

Rent and the Extensive Margin.—If more land is brought into cultivation, it is ordinarily less desirable land and the output per unit of labor on such less desirable land is less than on the land previously utilized. When will new poorer lands be brought into cultivation? New poorer land will be opened when the price of the product or products rises sufficiently or the cost of labor declines sufficiently to warrant the undertaking of production with less output per unit of marginal labor. New lands will be brought in until, for the output on these lands, the cost of production exclusive of costs for use of land is approximately equal to the price of the products. This point in the use of poorer land is the extensive margin of cultivation. In other words, the extensive margin of cultivation is that point in the use of poorer lands where it just pays to use them without paying for their use. All of the goods produced on the better land at lower costs for labor and saved capital yield a surplus or economic rent.

More intensive cultivation on the better lands and the extension of cultivation to poorer lands will be carried on in such relation to each other that the costs of the marginal units at the extensive and intensive margins are approximately equal. A rise in price of the product or decline in wages brings about an extension of the intensive and extensive margins simultaneously.

Economic Rent Further Defined.—Land returns or economic rent may be defined as the surplus return accruing to those units of land whose product is produced at average labor and capital costs less than those existing at the intensive and extensive margins. At these margins the

value of the product will tend to be just sufficient to cover wages and interest on saved capital, including, of course, the indirect wages and interest which are paid for such items as seed and depreciation of equipment. But the wage rate and interest rate will be the same for all parts of the output. Accordingly, the better lands will yield to the owners a surplus, which will be assignable to the land and which we designate *economic rent.*

Submarginal Production.—In response to a price increase or its expectation, either or both of the intensive and extensive margins may be extended too far. The post-war agricultural depression has clearly demonstrated that in many cases the extensive margin was extended too far and that, in some types of agricultural production at least, the intensive margin also was extended too far. Coming at a time of improvements in methods and the opening of new lands abroad, the problem of this submarginal production has been severe. *Submarginal* is used to apply to that production of which the costs other than for land exceed the price which may be secured for the product. Readjustment to this situation has been slow. The current agricultural problem shows clearly that the extension of culture is not always in perfect response to price. It may extend in the hope of a future price which does not materialize and then hang on because of unwillingness to sacrifice the *sunk capital* which would be lost by contracting production.

When culture, either intensively or extensively or both, is extended too far, the results are dire for the producers of the added units and unfavorable for all producers in those branches of production. The excess production forces down prices so that some producers, who found formerly that the price covered their costs, now produce at a loss. Other units of production formerly yielding a surplus over labor and saved capital costs, or economic rent, now receive a price which covers only these costs exclusive of costs for the use of land. Consequently, land which formerly had value is made valueless.

In the foregoing discussion we have assumed that with an increasing demand for products the increase in the use of land would be to poorer lands. This will tend to be true in so far as the earlier users of land selected their land wisely. Nevertheless, sometimes better lands are brought into use later, and hence land which previously was above the margin may be forced into the submarginal class.

Rent and Agricultural Improvement.—According to the Ricardian theory of rent, we should expect the return to land to increase with the growth of population. Such is the case in general, though technical improvements of various kinds have done much to offset this tendency.

In Chaps. II and III the effects produced upon European agriculture by the opening of the New World were considered. The settling of the Ohio Valley had a similar effect on the Atlantic coast section, particularly

on New England. In both cases the bringing in of new lands brought not higher but lower production costs, even with adjustment for transportation charges over longer distances. Since this additional production came at lower costs, the net return to the land already in cultivation was lowered. This is the outstanding characteristic of the depression which an agricultural area feels when a new and more fertile area is opened. Certain parts of American agriculture are now facing the sharp competition of newer lands abroad, particularly in wheat and beef production.

Turning to improvement in crops, cropping methods, and livestock breeds, we find again that increased production may actually take place at less cost per unit of product. Improved wheat varieties will yield from five to ten bushels per acre more than old varieties, with the same tillage costs. Disease-resisting varieties, whether they be grains or fruits, bring forth a greater harvest, year in and year out, than strains subject to disease.

What effect do these improvements have on the return to land? If improvement takes place at a rate which just offsets the tendency for the additional product required by a growing population to be produced at higher costs, the rent to land as a whole should remain unchanged. The rent will be less than would have been true if the improvement had not taken place. If improvement is at a very rapid rate, as has been true since 1910, or population increases but slowly, it is possible that the new methods will increase the output more rapidly than the population grows, forcing prices downward to the extent that both the intensive and extensive margin will have to be contracted. If the improvement has been one in transportation, irrigation, or drainage, so that new, very fertile lands are opened to farming, the land which will be forced out of cultivation may be some of that first tilled decades before, for by the process of improvement this old land has become submarginal.

If the landowner does not benefit by improvements, who does? Obviously the consumer gains, for he obtains his food and clothing at lower prices than would otherwise prevail. Farmers as consumers of farm products will gain. If the improvements enable fewer farmers to supply the same output of products, and the farmers forced off of submarginal land enter urban industry to the extent of cheapening the cost of urban products, farmers may gain also as consumers of nonagricultural products.

Farmers as landlords will not, in the long run, gain from improvements, but individual farmers as entrepreneurs do have the opportunity to gain. The individual farmer who seizes the advantage of an improved variety of wheat will find his per bushel costs are cut, whereas the effect of his higher yields, and those of the few other far-sighted farmers, on the price will be negligible. As more farmers adopt the improvement the advantage to the farmer merely as a seller declines until it is nonexistent,

though as a consumer he will continue to benefit. The farmer who builds up his land by a proper crop rotation finds his costs to be less, relative to his gross income. With the slow adoption of this type of improvement, the advantage may remain with the foresighted farmer for some time. But this gain through foresightedness is not a return to the farmer as a landlord but as an entrepreneur. The gain is pure profit, not economic rent.

Urban Site Rents.—The fundamental factor influencing the return to urban land is its location. It is true that, in order to prepare an urban site for use, outlays must be made for expensive street improvements, sewer installation, and other development costs, which are usually charged to the landowners in special assessments. Sometimes hills must be leveled, swamps filled, or other engineering projects undertaken to make the land really usable. Yet a well-located urban site may have a value far in excess of these costs and an annual return far in excess of interest on such improvement costs. This surplus return arises from the active demand for good sites and the limited number of lots which physically can exist in the desired location. Such returns for site value are economic rent.

Highest urban rents are secured for sites in the shopping and financial centers, where throngs of people congregate and pass. The demands for sites in such locations are so intense that fabulous sums are paid for ground rentals and leases. In the financial and favorite shopping and office-building districts of New York, bare land values alone run into hundreds of dollars per square foot. Lots 100 by 100 feet are valued at several millions of dollars. The explanation of value, as in the case of agricultural land, is surplus productivity. Tenants are willing to pay higher rents here rather than go elsewhere, because higher incomes can be secured by the competent in such locations. Competition among tenants for locations governs the commercial rents, and these in turn cause economic rent and land values. The net returns from buildings in such locations tend to equal only interest rates on their cost. Surplus income is assigned to the land and capitalized into land values.

Site value is fickle, being brought about by a variety of popular attitudes of mind, which are subject to frequent and radical change. Such changes cause unexpected variations, both upward and downward, in economic rents and land values. A downtown section which was the center of activity twenty-five years ago may now be an outmoded section where rents and the value of lots have fallen, whereas values elsewhere have risen. Similarly, residential districts wax and wane. The development of apartment houses in a district makes it a less desirable section for one-family houses, though a greater demand for apartment locations will increase site values. Being too near a school decreases the value of residential lots, but being too far away has the same effect to an even greater degree. The opening of a boulevard to an outlying section

raises the value of its lots, but, if the traffic becomes too heavy, that may make it a less desired residential section. All in all, location value is subject to many unforeseen and sometimes rapid changes.

Mine and Timber Rents.—Mine and timber lands differ from farm and urban lands in that they furnish a less continuous income. Farmers may "mine" their soil, and of course a timber stand may be replaced by one grown by man. But the exhaustibility and the nonreproducible character of mineral and timber resources are more pronounced than those of farm lands and urban sites, and this is of considerable social consequence. The policy of our national government until recently was to turn these resources into private hands, where, according to some conservationists, they have been largely wasted in the effort to realize a gain from them rapidly. Other critics of this procedure have laid emphasis on the undesirability of allowing a few privileged individuals to reap large profits from exhaustible resources and have urged that these should be exploited for the long-time advantage of the social group.

In the case of both mineral deposits and virgin timber, there exist wide differences in the costs of production between individual units of the resource. Those fortunate enough to have rich and accessible ore deposits and high-grade timber near transportation will receive a large surplus return in the form of economic rent above costs of exploiting such resources. In the computation of the amount of this rent, however, it is necessary to deduct from the net returns an amount sufficient to return to the entrepreneurs their costs in sinking shafts or building transportation facilities, and other developmental costs, because when once the resource is exhausted, such outlays have no salable value. Also interest and taxes on past investment, though in a year they may not be striking in amount, grow to large sums when such property is held for a long period for future exploitation.

The Capitalization of Rent.—Land values arise from the capitalization of the expected future income from that land. The market value of any given tract of land, therefore, depends on two factors, (1) the expected future income from it and (2) the rate of capitalization. Capitalization consists of assigning to the land, or other source of income, a principal value on which the income is interest. If the land of a given farm is expected to yield a return in excess of labor costs, seed, taxes, depreciation, interest on equipment, and all other operating costs, such expected excess return being estimated at $6 per acre, then a value per acre is assigned to the land on which $6 is considered interest. The assigned value, however, depends partly on the rate of interest which is expected. If the prospective buyer believes that he can secure other investments of equal safety and speculative possibilities to yield him 6 per cent but no more, he will offer for such land about $100 per acre, $6 being 6 per cent interest on $100. If he believes that other investments of equal safety

and speculative possibilities will yield about 3 per cent, he will be willing to pay $200 per acre, $6 being interest on $200 at 3 per cent.

Different individuals of course see different possibilities of gain from the ownership of the same land. From the same farm, one person may anticipate a net income of $6 per acre in excess of all costs other than the use of the land, whereas another may see less than half that probable net income. Furthermore, one person may consider that other possible investments yielding 6 per cent are equally as safe as is investment in a particular tract of land, whereas another may consider that no other investment yielding over 4 per cent is equally safe. The higher the expected net return and the lower the rate of capitalization by those persons most eager to own a particular tract of land, the higher will be its market price. What any given person, let us say *A*, with the highest estimate of value will pay will depend on what some other person *B*, an actual or potential bidder against him, will force him to pay. If *A* is an exceptionally capable farmer, he may be able under normal conditions to pay more than anyone else would pay for a given farm, to pay usual wages, and to receive, in addition to the usual rate of interest on his investment, also a pure profit. If, however, *X* also wants a farm, but if he is an inefficient farmer, it will be quite impossible for him to pay the current land prices established by competent farmers bidding against each other for ownership, and to receive in returns the current rate of wages for labor and the current rate of interest on the market price of the land.

The Ricardian theory of rent in relation to land value in brief is that land values are fixed by the capitalization of the expected economic rent at the prevailing rate of interest. Without doubt this is true in so far as it is applicable. The Ricardian theory has been the subject of much criticism in recent years. The nature of this criticism will receive further attention later in this chapter. At this point we shall merely state that the dispute is concerned for the most part, not with the validity of doctrine that land values are fixed by the capitalization of the expected net return, but whether or not that net return represents to any large extent economic rent as we have explained it. The question is: To what extent is the net return which is capitalized a return for the use of "original and indestructible powers of the soil"? Here it will suffice to say that the expected return from farm lands with extensive improvements represents more than economic rent. It represents in varying degrees—and in general to a considerable extent—interest on saved capital. Furthermore, not only money returns, but certain elements of intangible income are considered in competition for the ownership of land. Of these matters we shall have more to say later.

Quasi Rents.—Improvements on land are not made in the first instance unless it is believed that the income from such improvements will

be sufficient to pay the current rate of pure interest on the cost of such improvements after paying for depreciation and other incidental expenses. Income from improvements, therefore, is not economic rent arising from original properties of the soil or location value. It is rather imputed interest on saved capital. Furthermore, if such expected income from improvements increases to considerably more than the regular rate of interest on the probable costs of making improvements, more improvements will be made and, because of the law of diminishing utility and principle of marginal vendibility in relation to price, income from all goods of that type will decline. In all these matters, therefore, improvements are different from land as a gift of nature, and the income from improvements is different from economic rent.

From one aspect in particular, however, income from such improvements is like income in the form of economic rent. "When free capital has been invested in a particular thing, its money value cannot as a rule be ascertained except by capitalizing the net income which it will yield; and therefore the causes which govern it are likely to be akin in a greater or less degree to those which govern [economic] rents."[1]

Because of the above similarity the term *quasi rent*, meaning "as if rent," or "like rent" has been applied by Alfred Marshall to "income derived from machines and other appliances of production made by man."[2]

In discussing *quasi rent*, Marshall further says:

> That which is rightly regarded as interest on "free" or "floating" capital, or on new investments of capital, is more properly treated as a sort of rent—a *Quasi rent*—on old investments of capital. And there is no sharp division between floating capital and that which has been "sunk" for a special branch of production, nor between new and old investments of capital; each group shades into the other gradually. And thus even the [economic] rent of land is seen, not as a thing by itself, but as the leading species of a large genus; though indeed it has peculiarities of its own which are of vital importance from the point of view of theory as well as practice.[1]

THE SINGLE-TAX PROPOSAL OF HENRY GEORGE

Because of the peculiarity of income from land as a gift of nature, there has been proposed a single tax on land. Though this proposal in a crude form was made by the French physiocrats even before the time of Adam Smith, its fame rests upon the converts made to it by Henry George. Those who advocate the single tax believe that all governmental revenue should be raised by a single tax on land. The single taxers contend that economic rent is a socially created surplus, arising out of the expansion of the demand for the products of land. They interpret economic rent as an *unearned increment*, since it does not arise

[1] Alfred Marshall, *Principles of Economics*, 8th ed., 1920, p. 412.
[2] *Ibid.*, p. 74.

from any effort on the part of the landowner. The contention is that this surplus, being socially created and unearned, belongs to society as a whole and should be taken from the landowners and used for governmental purposes. Some single taxers, especially among its more recent advocates, argue simply that society should take all future increases in the value of the land when such increases are not accounted for by improvements on the land.

Weaknesses of Single-tax Proposal.—The proposed single tax on land has three outstanding weaknesses: (1) personal injustice and social detriment; (2) administrative difficulty; (3) financial inadequacy. We shall discuss these in the order named.

First, though the land values which result from the capitalization of economic rent may have been originally either a gift of nature or socially created, they were not often a gift in so far as the present owner of the land is concerned. Present owners of the land—at least to a very large extent—purchased that land and paid for the gift of nature and man-made improvements alike. Those who profited from the surplus of economic rent may be either dead or have sold their land and transferred their gains into other forms of wealth. It is the realization of this fact which leads most contemporary single taxers to propose that the government should take by taxation only the future increases in value, or future *unearned increment*, which would otherwise go to future owners. But even this proposal, assuming that it could be administered, is subject to serious objections, provided all such increment were taken. It would have a wider appeal if land income and land values were the only socially created surplus, and if it were possible to show that social progress was in no way dependent upon the private appropriation of increases in land values. In Chap. III, it was pointed out that the hope of private appropriation of increases in land value has been an important factor in stimulating the development of frontier areas and increasing the supply of materials available for consumers. Careful examination of the phenomenon of business profits will show that a very considerable proportion of the income of successful industrial and commercial enterprises does not arise from any effort on the part of the entrepreneurs but is the result of fortuitous conditions. To appropriate all gains from increases in land values and not any part of other socially created values would be an unjustifiable discrimination.

The second weakness of the single tax is that, although much of present land values may have been originally a gift of nature, it is not possible to tell in many cases even approximately how much of the present value is the result of effort by past owners—and, therefore, saved capital —and how much the original gift of nature. This difficulty is greater with developed agricultural land than with urban land, though it exists with both. Of two farms side by side, originally the same type of tim-

bered land, which have been cleared and had the stumps removed, one has eroded so badly that it is worth less than $10 per acre; the other, on account of differences in cropping methods, having been devoted largely to pasture, is worth over $50 per acre. No one can tell how much in either case is the gift of nature and how much the results of the efforts of present and past owners. The application of fertilizers, differences in cropping methods, and the like, result in differences which cannot be allocated to gift of nature and man-made improvements in such manner as to give individual justice and also promote socially desirable practices. Even if the proposal be limited to future increment, it will be impossible to segregate the part of that increment which is due to cultural practices from that due to other causes.

The third weakness of the single tax is that the best data available indicate that the total economic rent from land at present is appreciably less than the total public revenues raised by taxation. The single tax proposed by Henry George, even if the entire economic rent were taken, would be inadequate, therefore, for all present governmental needs. If the entire economic rent from land were taken by the government in taxes and no other taxes were levied, governmental expenditures would have to be materially reduced. If the economic-rent tax were levied on future increment only, there would have been practically no revenues during recent years. Agricultural land values have declined strikingly following 1920, and urban lands have done similarly during the depression period beginning in 1929. Several cities in Canada and Everett, Wash., have in the past appropriated part of the increase in land values. With the post-war depression and a decline in land values, other sources of revenue had to be found. The revenue from a single tax would tend to be opposite to the needs of the government. Land values rise most rapidly while the community is growing. As the society becomes older, land values become more constant. At the same time the old and more complex society requires more governmental activities and hence more tax revenues.

At the present time the single-tax movement has lost its original enthusiasm, and, aside from academic discussions among the single-tax group, the movement is of little practical importance. It has, however, called our attention to the fact that there are socially created surpluses which may be taxed under certain circumstances at relatively high rates without undesirable social consequences. Increasing land values may at times be considered among such surpluses.

CRITICISMS OF THE RICARDIAN THEORY

Until the last quarter of the last century, Ricardo's explanation of land returns, with slight (if any) modifications, was generally accepted by economists. Since that time criticism of the Ricardian theory of rent

has been growing, until today some economists of repute profess to have abandoned the theory altogether. We shall now consider some of these criticisms and then present the conclusions which appear to be correct to the authors of this book.

1. Effect of Improvements.—In the study of land returns and land values, there has been a tendency to overlook the share played by improvements in contributing to what appear to be both land returns and values. Rarely was agricultural land ready for the plow, except in the plains regions. Expensive clearing, leveling, draining, irrigating, and fertilizing and soil-building programs have been financed out of people's savings. Taxes have built roads. In the case of mines and timber, preliminary prospecting work must be paid for. Transportation means must be provided, or the natural resources are valueless. Urban property bears a multitude of assessments, and new developments entail carrying costs. Some critics have gone so far as to include the sufferings of pioneer life as part of the cost of development. Others have compounded interest on the original speculative investment cost of property held for a rise in value as part of the cost of opening new lands—a practice of doubtful validity.

Thus far no comprehensive factual information has shown that all of land returns and land values can be assigned as a reward for opening new lands. This criticism points out, however, that we should consider as capital all the improvements and capital costs in land development.

2. Physical Merging of Capital and Land.—Some critics have emphasized the fact that land cannot be separated physically from permanent improvements such as fertilizers or drainage systems, and that, therefore, no attempt should be made to distinguish between the return to land and the return to capital. These critics are emphasizing the physical aspects of the problem, whereas most economists now emphasize the value aspect of such problems. The question then arises: Are there distinct economic tendencies in the return to land and the return to capital?

3. Distinction between Returns to Land and to Capital.—The preceding question raises again the whole problem of whether it is desirable to distinguish between land and capital for any purpose whatever. We have already given attention to that question in the chapter on Capital and Interest, in which the peculiarities of land were considered under the heads: (1) fixity in amount; (2) immobility; (3) price determination. We shall here give this subject some further consideration.

If we look to the origin of land and capital there is an obvious distinction, but, if we look to their present economic characteristics, their marks of distinction are not so easily perceived. To the individual farmer there is no obvious distinction; for to him the acquisition of land is possible only by the accumulation of savings. He hopes to earn interest on his investment in land as well as on his investment in improvements and equip-

ment. The decision as to whether land and "capital" should be distinguished from each other should be made, however, from the viewpoint of the economic system, for it is from this viewpoint that all problems of prices (such as land rent) must be analyzed. Taking this approach, we may compare differences in the returns to land and capital (including the long-run principles involved) from the following economic characteristics:

a. Variability of Quantity.—Is the supply variable? The total quantity of land in the world is fixed, or at least it is nearly so; the quantity of capital is much more variable, depending upon the savings of the people. At any particular time the amount of land "economically available" varies to some extent. Some land in use may become idle. Irrigation, drainage, and many other modes of treating land will increase the quantity of usable land. The world as a whole has not yet brought into use all of its land resources. Nevertheless, capital scarcity by a nation can be overcome as land scarcity cannot. Japan, Italy, Denmark, England, and Germany furnish good illustrations of this. All these nations are reasonably well provided with saved capital, some to the extent that interest rates are quite low, while in others higher interest rates reflect to a large extent greater risk. Nevertheless, wages and the standard of living are much lower in all of them than in this country, because of a shortage of land in proportion to population. This is especially true of Japan and Italy.

b. Immobility.—The location of land as a gift of nature is fixed by nature. The result of savings when first saved may be placed in any location. The location of some saved capital may be changed at any time. A region short of saved capital may import it, but it cannot import land as a gift of nature, or resources.

c. Market Value and Production Cost.—Is the market value of land and of saved capital goods related to their respective production costs? At any particular time the value of any capital good or tract of land varies with its present and prospective earning power, being arrived at by capitalizing prospective earning power at the prevailing rate of interest. Therefore the value of a capital good may be less than its cost of production adjusted for depreciation. Since a capital good once constructed will not be immediately destroyed if it is not so productive as was anticipated, it is possible for the value of the relatively durable capital goods to remain indefinitely below the cost of production. Similarly, the value of capital goods may be at times above cost because of increased demand and because of the fact that saved capital cannot be brought into existence instantaneously.

Over a period of time there is a strong tendency, nevertheless, for the value of capital goods to equal their cost of production. Persons who conduct their affairs on business principles will not make extensive

improvements such as drainage, stump removal, and fertilization on land when they can see that such improvements are not adding enough to the value or output of the land to cover the cost of the improvements (including imputed interest on that cost). On the other hand, when the improving of land adds more to the net returns than the total cost for improvements, more land will be improved. Over a period of time the value of capital goods tends to equal their cost of production, adjusted for depreciation, even though at a particular time it may depart considerably from cost.

Land once brought into use will sell at a price determined by its present and prospective earning power. Land excluding improvements has no production cost. The value of land depends solely on its desirability, which is primarily a matter of earning power.

d. Return as Interest on Cost.—As a corollary of the preceding point, we may ask the question: Does the return yield interest on the cost of production? At a particular time the return on the cost of capital goods may vary from a large loss to a large percentage of gain. But over a period of time there is a tendency for saved capital goods to yield interest on the costs of their production. On the other hand, land returns are not in any way related to interest on the costs of bringing this land into production. The valuation process in the case of land runs from earnings to value in the long run as well as in the short run.

e. Conclusion.—From the preceding discussion, it should be apparent that the similarities between land and saved capital occur mostly in the short run and the differences in the long run. Though there are significant differences between them even in the short run, such differences are more numerous in the long run. Especially significant is the tendency for land returns and land values to rise with the passage of time if population increases, in contrast to the tendency for the value of capital goods to equal cost. The social significance to a nation of an abundance or a lack of fertile land or natural resources can hardly be overemphasized. In comparing land and saved capital, we may again use the analogy of day and night. Though they shade gradually into each other, they are essentially different.

4. Is Economic Rent a Cost of Production Which Affects Price? Opportunity Cost.—No part of the theory of rent as explained by Ricardo has led to more acrimonious discussion than his explanation of the relation between economic rent and the price of the product. At the time when Ricardo wrote, it was widely asserted by business and political leaders in England that the high price of grain then prevailing in that country was due to the high rent charged by English landlords. This Ricardo denied. He asserted: "Corn is not high because a rent is paid, but a rent is paid because corn is high." In general the causation process was explained as follows: Increased demand for grain required more intensive cultivation

and the spreading of cultivation to poorer lands. Farmers must hope to secure enough for their products to pay their costs of production. Therefore costs at the intensive and extensive margins tended in the long run to equal price. But rent was not a part of these marginal costs. Therefore it was not a price-determining cost. Grain would be no cheaper if landlords would forego the whole of their rents, though tenant farmers would gain and landlords would lose. Accordingly, the generalization was reached that (economic) rent was not a cost which affected price.

This broad generalization has been much disputed. The merchant considers rent, including economic rent, as much a cost which must be covered if he is to continue in business as his other costs. As all merchants must pay rent, would competition not result in lower prices if such rents did not have to be paid? How then can economic rent be any less a price-determining cost than other costs? These questions indicate in a general way the nature of the dispute.

The apparent contradiction between the Ricardian doctrine and the workings of everyday business is largely the result of attributing to Ricardo statements which he himself did not make. In the first place, Ricardo emphasized that by rent he meant only that which is paid for the use of the "original and indestructible powers of the soil," including location or site rent but not a return for improvements. The latter return, which economists now call interest, Ricardo called profits. Second, when he said that rent was not a cause of the price of corn he assumed a given demand, not only for corn as a particular grain, but for all products which were produced on land of the kind on which corn was produced. In brief, his point is that, given a certain demand for the use of land, economic rent is a result, and that prices of products would not be different if landowners did not charge occupants that part of the commercial rent which represents economic rent. In this position he was substantially correct.

The individual merchant realizes that he could sell more cheaply if he did not have to pay rent. He, therefore, asserts that he would do so. Assuming, however, that he had no more competition, it is very questionable whether he would. With a strong demand and little competition, the probabilities are that he would charge about all that the traffic would bear. Of course, if several possible new competitors could secure rent-free sites near the present merchant's location, where the demand for goods is so intense that high rents have resulted, and the present occupant of that location would at the same time have his rent removed, then competition would result in lower prices. But high rents for mercantile sites exist because of lack of sites to meet the demand. More competition cannot come without more sites, and there are no more sites in those locations.

Sites for one kind of business can, of course, be made available by the withdrawal of some other kind of business. This would leave more sites for the kind of business remaining, and with the same demand for the goods furnished by that kind of business there would be more competition, and both rents and prices would come down. The merchant would explain that prices were lower because of lower rents. They would in fact be lower because of more competition which the more abundant sites permitted.

An upstairs store on a busy city street advertises that "We sell cheaper because our rents are less," or to prospective purchasers of suits, "Walk upstairs and save $10." The upstairs store may sell more cheaply, though it does not necessarily do so. Rents on the ground floor are higher; but the higher rents on the ground floor result either from the ability of stores in these locations to ask higher prices and still make sales, or from their ability to make more sales than can be made at the same prices by stores in other locations where rents are lower. If a store which is paying a high rent had its rent reduced without more competition, it is very questionable whether it would sell at lower prices.

The demand for land for one use affects the amount of land available for another use, and therefore the prices of goods resulting from that other use. In a congested downtown region in a large city, the demand for street-level locations for clothing and similar stores may reduce the street-level locations available for restaurants to the extent of causing higher prices for food in such restaurants. In such a case it would not be incorrect to say that part of the unusually high rent paid by the restaurant keeper tends to be added to the prices of the goods he sells. This, however, is not contradictory to the Ricardian doctrine.

The principle just illustrated has been stated in a generalized manner by saying that the part of rent paid for a given use which could be obtained if the land were devoted to some other use tends to be added to the price of the good for which the land is used. This is called an *opportunity cost*—that is, a cost based on the opportunity to use the land in some other way—and such opportunity cost tends in the long run to be added to price. Thus the opportunity to use land for wheat production, in so far as it results in less land being available for corn, will tend in the long run to decrease the amount of land devoted to corn and to increase the price of corn. This also has been expressed by saying that the part of the rent of land devoted to a particular kind of use which exists at the margin of substitution to another less intensive or lower use tends to be added to the price of the products for the production of which it is used. Opportunity costs which are necessary to attract land from some other uses to the production of a particular good tend to be added to the price of the product for the production of which they

are used. This statement is, however, quite consistent with the Ricardian doctrine.

LAND INCOMES AND LAND VALUES IN THE UNITED STATES

How great are the returns from the ownership of land in the United States? How does income from land ownership compare in amount with incomes from other sources? What is the total market or imputed value of land as compared with the market or imputed value of saved capital? What has been the recent tendency of change in land values, especially farm-land values? Are there elements in the determination of farm-land values other than those mentioned in the preceding pages? What are the present indications in regard to such values in the future? To these questions we shall now give brief attention.

Land Income and Values Compared with Capital Income and Value.—Because of the intermingling of land and saved capital, no accurate segregation of land income and value from the income and value of saved capital is possible. Few estimates have been made in which such a segregation has been attempted. Among the most thoroughgoing estimates published is that of M. C. Rorty, made in 1933, but based upon values for the year 1926.

In making his estimate, Rorty started with the Census figure of 321 billion dollars for the total wealth of the United States in 1922. From this, 62 billions was deducted to cover tax-exempt real estate, gold and silver coin, clothing, furniture, automobiles, naval vessels, etc., 259 billions being left for privately owned land and capital. To that was added an estimate for growth from 1922 to 1926, the total figure for 1926 being 319 billion dollars for all privately owned natural and saved capital. Of that amount 78 billions was estimated to represent natural resources and 241 billions saved capital. The income from natural resources in 1926 was estimated at four billion dollars; that from saved capital at 13.6 billions, with an additional income of 1.5 billions from interest on government borrowings. The four billion dollars estimated income from privately owned natural resources represented approximately 5 per cent of the national income for the year, as compared with 18 per cent of the national income received from the ownership of saved capital and 77 per cent from personal service, or wages (as the term is used in economics).

The division of privately owned land or natural resources by classes, with the values of each class and incomes received from each class as estimated by Rorty, is shown in Table 38.

Rorty's estimates of some of the classes of saved capital and of income received from them are of interest in comparison with these estimates of land values and income from land. First, value of farm capital or improvements, excluding bare land and also residential buildings, was estimated at 24 billion dollars and the income from such capital at 1.4

billions. It is not known whether or not Rorty included costs of clearing and stump removal with capital or improvements. The method of treating this would make a great difference. Second, value of all residential buildings, including farm residences, was estimated at 83 billion dollars and income from such buildings at 4.2 billions. It should be noted that this alone exceeded all natural resources, both in value and income yield. Third, manufacturing capital, consisting of buildings, equipment, and inventory, but excluding land, was estimated at a value of 46 billion dollars and income from it at 2.8 billions. Fourth, capital value of railroads and other privately owned public service companies, excluding land, was estimated at 51.5 billion dollars and income from such capital at 3 billions. This class, therefore, was estimated to have received an income three-fourths as much as all land considered as a natural resource. Other classes were of less importance. Commercial and miscellaneous capital were combined and together exceeded farm capital in both value and income yielded.

TABLE 38.—ESTIMATED CAPITAL VALUES AND INCOME FROM PRIVATELY OWNED LAND AND OTHER NATURAL RESOURCES IN THE UNITED STATES AS OF 1926[1]

Use of lands	Capitalized value (million dollars)	Income or rental value (million dollars)
Farmlands and wood lots, less improvements (buildings, fencing, drainage, etc.)	30,000	1,500
Land used for residential purposes	20,000	1,000
Land used for manufacturing purposes	3,000	150
Land (other than highways) used by railroads and other public service companies	4,500	230
Land used for commercial and miscellaneous purposes	14,000	700
Mineral, oil, and gas deposits (income or rentals include depletion allowances)	4,200	280
Forests (incomes include depletion allowances)	1,200	80
Water powers	1,300	80
Total	78,200	4,020

[1] M. C. Rorty, "Does Capital Earn Too Much?," *The Christian Century*, April 12, 1933, p. 495.

Though Rorty himself claimed no close accuracy for his estimates, the methods by which they were made give assurance that they are at least much more than a guess, and the fact that capital income was estimated at more than three times the income to natural resources is significant. It is of special significance that income to resources was estimated at only 5 per cent the national income. The fact that farm-land values without improvements, according to Rorty, constituted 38 per cent of privately owned natural resources may also be of interest.

Farm Real Estate Values.—The values of farm lands and buildings, separately and together, have been reported in recent Census enumerations of agriculture. Land values in the Census include all improvements other than buildings. Average farm-land values, per acre, excluding buildings, increased from $15.57 in 1900 to $32.40 in 1910, an increase of 108 per cent. From 1910 to 1920, they again nearly doubled, rising to $57.36 in the latter year. Building values increased from $4.24 per acre in 1900 to $7.24 in 1910 and $12.02 in 1920. Since 1920 there has been a marked decline. Values per acre of land, excluding buildings, were $40.81 in 1925 and $35.40 in 1930, the latter figures being only 62 per cent of the 1920 value of $57.36. The combined value of farm lands and buildings according to the Census was 17 billion dollars in 1900; 35 billions in 1910; 66 billions in 1920; 48 billions in 1930; and 33 billions in 1935. It should be noted that a considerable part of the changes in the values of farm land and of buildings as above quoted represent only oscillations in the value of the dollar.

Values per acre are strikingly different in different parts of the nation and do not correspond at all closely to the costs of bringing the land into use. Values of farm real estate, that is, both land and buildings, for the year 1930 are shown graphically by counties in Fig. 40. The value per acre of land excluding buildings in Iowa was over six times that of Arkansas, though the cost of bringing the land into use had been less in Iowa than in Arkansas. In 1920 the Census value of Iowa farm land, excluding buildings, was over one-seventh of the value of the farm lands of the nation. Later events, however, proved that Iowa farmers in 1920 had overcapitalized the values of their lands even more than had the farmers of the nation as a whole, and the Census of 1930 showed Iowa farm lands valued at about one-eleventh of the value of the farm lands of the nation, excluding buildings in both instances.

Changes since 1912 in the value of farm real estate for the nation as a whole, as well as some of the factors which have brought about these changes, are shown graphically in Fig. 41. It will be noted that in 1920, farm real estate, including both land and buildings, had a per acre value of about 165 per cent of its 1912 value. In 1932 it had declined to about half of its 1912 value. Farm real estate rose in value as prices of farm products rose, though as the figure shows, real estate values rose more slowly than either farm wages or farm taxes. Although the ratio of prices received by farmers to prices paid rose by 1917 to more than 120 per cent of the 1910–1914 ratio, indicating a large increase in the net return to farm land, the peak high prices to which farm real estate was advanced were never justified by even these enlarged land returns. The forces justifying a reduction in the value of farm real estate began as early as 1917, but the reduction in real estate values did not begin until 1920. During the early 1930's the forces justifying a reduction moved much

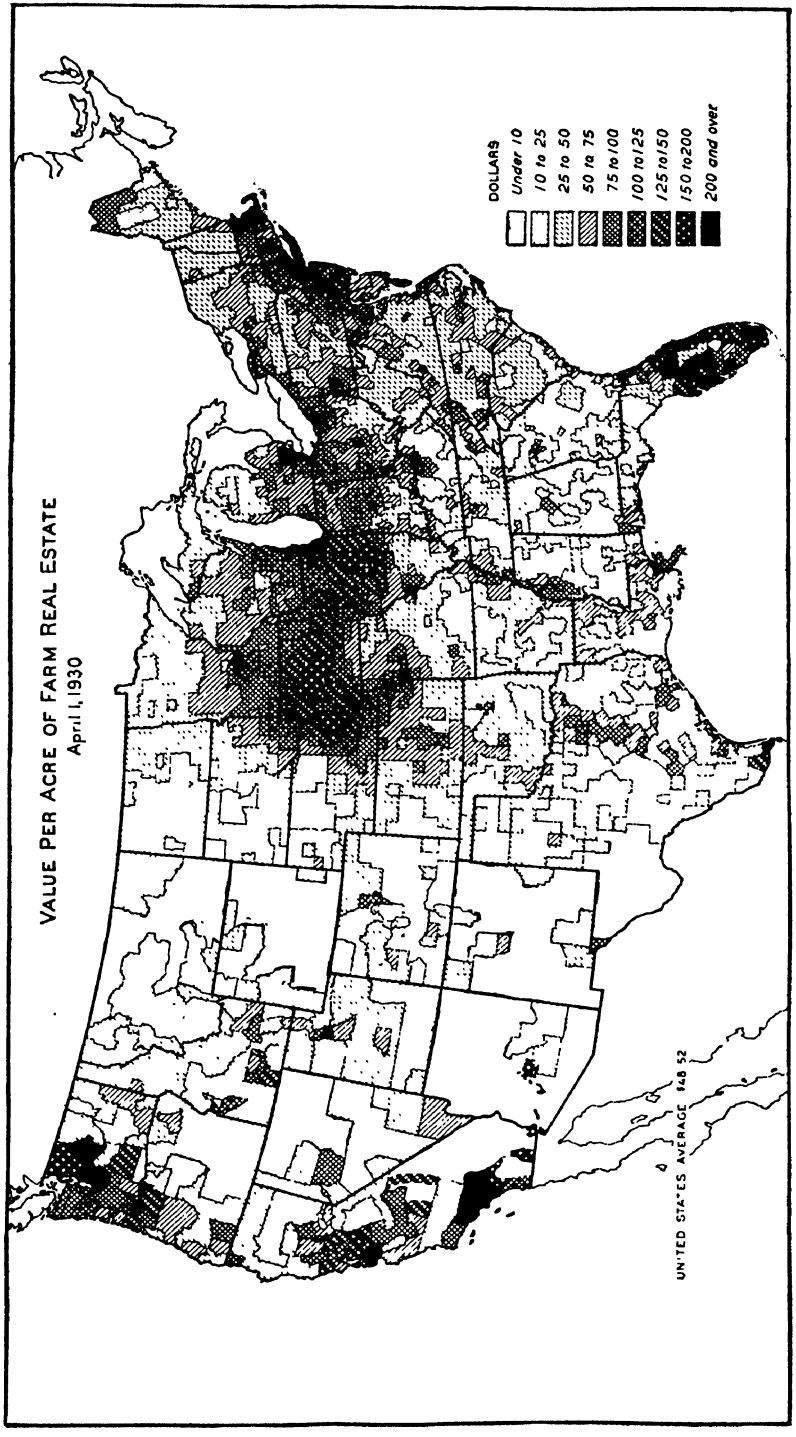


FIG. 40.—Farm real estate values per acre by counties, April 1, 1930. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

farther than did the reduction in values. In fact, on the basis of prices for farm products in relation to prices paid, and farm wages and taxes, there was during 1932 and 1933 justification for very little capitalized value for farm lands. Values of land declined slowly because of the hope that the forces working for a reduction, especially the ratio of prices received by farmers to prices paid, would be changed. From 1933 to 1939 prices of farm lands moved moderately upward.

The apparent tendency to overcapitalize farm lands, giving to them a value above that seemingly justified by business principles, is probably due to a number of causes. Among these appear to be the following: (1) Farming is not only a business but a way of living; that is, a farm, in addition to being a source of money income, is also a home. (2) The long continuance of the increase in the land values which began about 1900

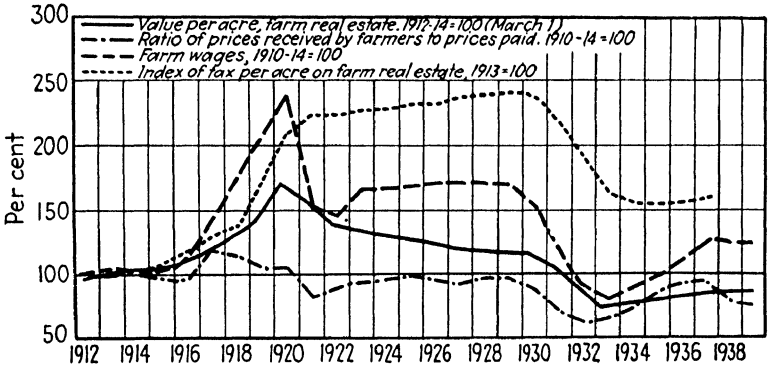


FIG. 41.—Ratio of prices received to prices paid, farm wages, taxes per acre on farm real estate, and value per acre of farm real estate. (*From "The Farm Real Estate Situation, 1938–39" U. S. Department of Agriculture, Circular No.* 548, *p.* 14.)

made farmers think that this increase would continue indefinitely. (3) There appears to be a deep-rooted desire in human beings to own real estate, especially farm real estate, due at least in part to a feeling that it is a tangible form of property which, though it may decline in value, will not entirely disappear. (4) Farming appears to offer a security and certainty of some income, even though it may be little, which urban employment does not offer. (5) The door of entry to many kinds of urban employment is closed by some device or other. Anybody may farm. Without doubt other reasons could be added to the above list.

The Future Outlook.—Future values of farm lands are dependent on factors which are at present uncertain. In the short-run future, the most important of these is the ratio of prices received by farmers for commodities sold to prices paid for the commodities and services which farmers must buy. Causative factors back of that ratio are numerous. To influence these factors to the advantage of agriculture constitutes in general what we call the agricultural problem. Some aspects of that

problem we have considered, but a number of its features are yet to be discussed in the following pages. Now that governmental control of agriculture has become a major policy, the prices received and paid by farmers depend in part on the course and success of political action. How present governmental programs will affect agriculture (on the assumption that these general programs will be followed for an extended period) will receive special consideration in several later chapters.

In the long run the future value of farm lands will be affected by all the factors affecting it in the short run and in addition will be influenced greatly by the future rate of population increase. A large and rapidly growing population means higher land values. A declining rate of population growth and improved technique of production tend to reduce land values. High land values alone, however, by no means indicate prosperity. High land values caused by over-population and extremely low wages at the intensive and extensive margins of cultivation are not to be desired.

The Tenancy Problem.—In 1935 tenants other than owners operated 42.1 per cent of the farms of the nation. Tenancy is most common in the South and in those older areas of the North where land values are highest. In most of the states of the far South over 60 per cent of all farms were operated by tenants. In Mississippi it was 70 per cent. The percentages for some other states were: Iowa, 50; Nebraska, 49; Maine, Massachusetts, and New Hampshire, 7 or less; California, 22.

Tenancy does not represent the ideal type of rural life. Its causes, however, need to be considered. In the South it could hardly be expected that former slaves and their descendants could quickly become owners in large numbers. In the North, tenancy frequently arises when an owner-operator moves to town as he becomes older and rents his farm to a younger man who does not yet have sufficient capital to buy a farm. Dr. H. C. Taylor, somewhat in defense of tenancy, says: "Farm tenancy is an institution which provides for getting the land into the hands of those who are in a position to cultivate it, but who are unable to buy farms."

The complete abolition of tenancy does not seem possible and it is questionable whether it is desirable. Its evils should, however, be avoided, and every possible effort should be made to retain the agricultural ladder by which the worthy young man may rise from the position of a worker for hire, through that of tenant, to land ownership. The evils of tenancy grow out of a lack of interest by the absent landlord in community welfare; and a lack of interest by the tenant in the farm. The latter results largely from a feeling that the tenancy is only temporary. The form of the rent contract or lease has much to do with the degree to which tenancy is an evil. For more complete discussion of the social aspects of tenancy the reader is referred to books on rural

sociology, and for a consideration of desirable leases to texts on farm management.

Questions and Problems

1. Distinguish between commercial rent and economic rent.

2. Define the intensive and extensive margins of cultivation, and show how they are related to economic rent.

3. How do agricultural improvements affect farmers as landlords? In other ways?

4. Explain the statement that land values result from the capitalization of rent, and show to what extent it is true or not true.

5. Explain *quasi rents* as that term was used by Alfred Marshall. Why is the term appropriate?

6. Explain the arguments in favor of the single tax made by the followers of Henry George, and point out the weaknesses of the single-tax proposal.

7. What criticisms have been made against the Ricardian theory of rent, and to what extent are these criticisms valid?

8. What is meant by opportunity cost?

9. Is economic rent a cost of production which affects price? Explain fully.

10. Summarize M. C. Rorty's conclusions as to the amount of income received by owners of land and of other natural resources from such ownership in the United States, and explain how these estimates were made.

11. Summarize the history of farm-land values in the United States since 1900.

12. What is meant by the statement that farm-land values tend to be over-capitalized? Is it true? If true, what are the reasons? If untrue, show that such is the case.

13. What are your conclusions as to probable future tendencies as to land values in the United States and the reasons for these conclusions?

14. What lands have in your opinion the best, and what lands the poorest, possibilities of increase in value in the future, and why?

15. To what extent is it true that an abundance of natural resources is essential to a high standard of living?

Suggested Readings

1. Frederick S. Deibler, *Principles of Economics* (1929), Chaps. XVIII and XIX, contains a well-balanced treatment of the principles of income related to land.

2. Richard T. Ely, *Outlines of Economics* (1930), Chap. XXII, is a well-written discussion of land returns in which the Ricardian theory of rent is criticized and the cost of bringing land into use is emphasized.

3. Richard T. Ely and E. W. Morehouse, *Elements of Land Economics* (1924) is a relatively simple treatment of the subject indicated by the title.

4. "The Farm Real Estate Situation 1938–1939," *Circular* 548, U. S. Department of Agriculture, gives an abundance of information about the subject indicated in the title. Similar circulars of about fifty pages are issued for other years.

5. Fred R. Yoder, *Agricultural Economics* (1929) contains a good brief discussion of the social aspects of tenancy.

6. H. C. Taylor, *Outlines of Agricultural Economics* (1931) treats tenancy at length, over one-fifth of the book being devoted to it.

7. F. W. Taussig, *Principles of Economics* (1939), Vol. II, Chaps. 44–46, furnishes an excellent review of both rural and urban land values and returns.

8. Richard T. Ely and George S. Wehrwein, *Land Economics* (1940) treats comprehensively the nature of land and the economic aspects of land use. It contains a lengthy bibliography of the literature on land economics.

CHAPTER XVIII

RISK, RISK BEARING, AND PROFIT

The principles governing the returns to land, labor, and capital have been studied in the three preceding chapters. The return to the entrepreneur, pure profit, is closely related to risk and risk taking. Consequently, before turning to the principles governing the entrepreneur's return, we shall note the major types of risk and consider to what extent they may be avoided or shifted by the entrepreneur.

All economic activities involve risk or the possibility of a monetary loss in the form of a loss of capital or of income, whether the income be interest, rent, or wages. Each individual attempts, as far as possible, to eliminate risk through prevention, as by fireproof buildings, or market information, or whatever method is applicable to the risks he faces. Some of the risks which the individual cannot eliminate, he will, if farsighted, attempt to transfer to a larger group through some such device as insurance. Those risks which can be neither eliminated nor transferred must be assumed.

It is the function of the entrepreneur primarily to assume risks under the capitalistic system, though a certain amount of risk is faced by the landowner, the capitalist, and the laborer. No bond is so safe as not to entail risk, though before the bondholder of a corporation will suffer a very large loss, the stockholder usually will have lost his entire equity. Labor's risks are those of injury, sickness, and unemployment, the last risk in particular still being borne by the individual laborer. Here we are concerned chiefly with the risks of the entrepreneur. As the organizer of the business and the residual claimant to earnings and assets, he is the first to feel the loss coming from the realization of risks, but he is as well the one who gains from the successful avoidance, transference, or assumption of risk.

THE ELIMINATION OF RISK

Types of Risk.—The uncertainties of economic activity may be divided into three types: (1) Risks arising from natural factors—such as fire, wind or other weather forces, earthquake, disease, or insects—pervade all business activity and to a marked extent agriculture. (2) Human risks arise from the nondependability of human beings. Most accidents are ultimately traceable to carelessness or indifference. Dishonesty of employees or others with whom one has business relations

sometimes occasions large losses. (3) Market risks are the uncertainties as to the prices of cost factors and, more frequently, of selling prices and sales volume. This form of risk is of particular concern to us here, for it must be assumed in a large part by the entrepreneur, or in certain cases by labor or other productive agencies. The frequency of adverse market conditions is highly characteristic of the capitalistic system.

Natural Risks.—The avoidance of natural risks requires the application of the latest scientific discoveries to economic activities. Most fires arise either from carelessness or from the use of faulty construction or of improper materials. Buildings constructed to entail the minimum of fire risk are more expensive in the first outlay but not always over a period of time. Properly built machinery will do much to reduce the accident rate. Students of agriculture are informed on the latest methods of preventing the ravages of insects and disease. Sickness and death are often unnecessary if the best of medical knowledge has been applied in living. A considerable portion of the risks arising from natural factors can be avoided by intelligent action; a considerable part of the remaining risks may be transferred through various forms of insurance, and the remaining portion must be assumed.

Moral Risks.—Again the elimination of moral risks calls for thoughtful foresight. Part of the unreliability of employees arises from the way in which the employer deals with his men. The whole philosophy of personnel work, the selection of the man to fit the job, placing on him responsibilities according to his ability, advancing him both in position and in salary according to merit, and the general attempt to obtain his hearty cooperation by dealing with him not as a machine but as a human being will do much to eliminate the possibilities of misconduct or inefficiency on the part of the employee. Losses arising from the breaking of the intent or letter of contracts for purchase and sale may in part be avoided by investigating the credit standing of those with whom business is done, as their record is given by local credit bureaus or such national organizations as Dun & Bradstreet's. The proper drawing and executing of contracts call for expert legal talent, and it is false economy to try to avoid such expense. Contracts for sale of farm products, particularly of perishables, often have "loopholes" which on occasion may work to the detriment of the farmer. Again, there is opportunity to insure against some moral risks which cannot be avoided; others must be assumed.

Market Risks.—Thus far but little progress has been made in eliminating market risks. The best method of minimizing these risks is through the gathering and analysis of the best available information on those factors which bear on costs and selling prices, and the adjustment of business plans according to the conclusions reached. In Chap. VII, the problem of forecasting the probable movement of prices of farm

products, particularly by means of the government outlook reports, has been discussed. Since the producing unit in agriculture is very small, the individual farmer is not in a position to make such studies for himself. Commercial research, however, is carried on on a large scale by many industrial corporations and forms a factual basis for their business plans. In addition, specialized business and economic research agencies supply information to business concerns in return for sizable fees. Business has been trying in this manner to minimize price risks. In addition, industry has long sought to reduce market risks through open or secret price agreements and provisions for control of output. Under the NRA program, business attempted by these methods to reduce market risks. However, a new risk was inevitably introduced: the uncertainty of the effect on particular businesses of the increased social control brought by the new legislation.

It cannot be emphasized too strongly, however, that, by and large, market risks remain; they cannot be avoided or even transferred to others. The majority of such risks must be assumed. The best available information concerning the market outlook and the most keen analysis of it cannot lead to conclusions with mathematical certainty. Many of the forces are unmeasurable, many statistics are inaccurate, others incomplete, and in some fields no significant quantitative information exists. Finally, we must recognize that, in a dynamic system such as ours, new and powerful forces spring up without warning, to bring results different from the anticipations of the forecaster and to disarrange plans laid on the basis of his forecasts.

RISK TRANSFERENCE: INSURANCE

The most extensive device for the transferring of risks, particularly risks arising from natural factors, is insurance. The loss is by this means equalized, being in part shifted from the individual who actually realizes the loss to a large group whose members all face the possibility of loss but few of whom actually experience it in a given year.

Principles of Insurance.—Insurance involves the periodical payment of a relatively small sum by the insured, who is facing a large risk, which risk may never be realized, or if so, at some uncertain time, in exchange for the certainty that if the risk is realized he will be compensated to the amount provided for in his policy. This does not indicate that the risk is eliminated, but rather that the individual upon whom the risk may fall is relieved of much of the financial burden in case the risk is realized. The burden of the risk is borne by a large group of those who may be subject to it, through their contribution in the form of premiums to provide a fund from which compensation is paid to those who actually suffer the loss. All of those who carry insurance must collectively pay

not only for all losses sustained but, in addition, for all the costs of administering the insurance.

In order to be properly insurable, a risk should have the following characteristics. First, it should be one which results in loss with sufficient regularity for an intelligent estimate to be made of the probable loss to be suffered by a group of risk takers during a given period of time, such as a year. Life insurance has this quality to a high degree. Death is so constantly occurring in any large group of human beings that the average death rate per 100,000 people varies relatively little from year to year. Regularity will obtain only where large numbers are involved. The death rate of a particular thousand people will vary from year to year, but the average death rate per thousand in the whole of the United States is quite stable. Irregularity in the occurrence of damaging storms makes hail damage a less insurable risk. Second, the risk must be such that the occurrence of the event insured against in one case cannot bring that same event to pass in any great number of other cases. A fire insurance company carrying a large part of its insurance in one city would be forced into bankruptcy by a city-wide conflagration, and the insurance policies would be of little value to the insured. Several fire insurance companies were unable to meet all of the payments to policy holders who lost property in the San Francisco fire of 1906. Again, hail insurance has frequently failed because an undue proportion of the policyholders had their crops in the same general locality of a single hail storm, and this resulted in too high a percentage of loss at one time.

Practically all large commercial insurance companies today determine their rates not upon the experience of the immediate past but upon the experience over a long period of years, assuming that a large number of years brings a large variety of circumstances and therefore brings into play all of the forces that probably will be present in any particular future year. *Fixed premium* life insurance rates are based on such extensive experience. They are computed by the mathematical theory of probability, which, when applied to the experience with a particular risk, shows the probability of the occurrence of that risk during any particular period. Experience tables have been kept which show the death rate per thousand in the United States, or in designated geographical regions, and by applying the mathematical theory of probability to these tables, the degree of probability that a particular person of a particular age will die in a particular year can be determined. In order that the theory of probability will work out accurately in the actual experience with losses, it is necessary that the insurance company shall have a large number of policies outstanding. When only a small number of cases are considered, it is possible for the losses to be considerably greater or less than those which would be anticipated according to the probability tables. In fields other than life insurance the rates have not been worked out with

such mathematical accuracy. Yet the principle of estimating the average loss under given conditions is basic in determining all kinds of *fixed-premium* rates.

Life Insurance.—Although life insurance is usually a personal and not a business matter, it is of such widespread use and the understanding of its basic principles so important to every person that a brief discussion of the nature of life insurance, the different kinds of policies, and the determination of rates will be presented here. Every person faces death at some time, but it is the premature death of those who have family or other responsibilities which brings the need of insurance. Parents insure to protect their dependents; corporations sometimes insure executives in order to be compensated for the loss of their services in case of death; individuals without dependents insure in order to provide for sickness and burial expenses; wealthy people insure in order to provide ready cash for expenses involved in the administration of their wills. When we consider that the total life insurance outstanding in this country in 1938 was approximately 111 billion dollars, or about one-third of our estimated national wealth, we may realize the extent to which people have assumed the responsibility of providing funds needed in case of their death. Not only should we recognize the significance of these data as relating to insurance, but we should also recall that most life insurance embodies a form of saving, and that the privilege of borrowing on insurance policies has tided many people over a period of financial stress, having been the financial savior of many thousands from 1930 to 1933 in particular.

Dr. S. S. Huebner, a leading authority, says, "From the standpoint of the individual, life insurance may be defined as consisting of a contract, whereby for a stipulated compensation, called the premium, one party (the insurer) agrees to pay the other (the insured), or his beneficiary, a fixed sum upon the happening of death or some other specified event."

The insurer is either a stock company or a mutual organization. The latter is considerably the more important in life insurance, whereas in most other types of insurance stock companies are more important. The company is restricted by law concerning the type of its investments, the tendency being to restrict these investments to good bonds and first mortgages on improved real estate.

Premium Rates.—Life insurance rates of the usual fixed type are based on what it is estimated will be necessary to pay death claims and operating costs. Thus, as a person becomes older, insurance rates, if based on the risk for the year, would become higher each year and for very old people would be prohibitive. Instead, most companies, known as *legal-reserve* companies, have worked out a system of *level premiums.* Under this system the rate remains the same throughout the life of the policy, although the rate paid by a particular person depends on his age at the time he became a policyholder. Under this system, the premium in

the earlier years is in excess of the cost of death claims and operations at that time, the remaining portion being set aside in a reserve to accumulate at from 2½ to 3 per cent interest and thus to provide funds for paying the larger death claims arising at older ages, when the premium income will provide less than funds necessary to meet death claims. Altogether, the level-premium system works more satisfactorily.

Two of the elements entering into premium rates have already been discussed: the expected mortality, and the amount necessary when compounded at the 2½ to 3 per cent which may be expected to be earned in interest on reserves to meet death claims when the insured become older. The third factor is *loading*, or the selling and operating costs of the insurer. Further discussion of rates will be made in connection with the leading types of policies.

Types of Policies.—The legal and actuarial advisers of insurance companies have devised a variety of policies—most of them intended to meet special needs of the insured, but some appear merely to provide something different as an aid to the salesman. Recently there has been a tendency toward simplification and the four major types of policies, which are listed in Table 39, contain most of the essentials of all policies.

TABLE 39.—ANNUAL PREMIUM RATES PER $1000 INSURANCE ON FOUR TYPES OF POLICIES AT SELECTED AGES OF INSURED

(Representative Mutual Company)

Age of insured	Type of policy			
	Whole life	Twenty-pay life	Five-year term	Twenty-year endowment
15	$16.63	$26.33	.....	$47.80
20	18.37	28.29	$10.23	48.36
25	20.55	30.63	10.61	48.86
30	23.31	33.44	11.55	49.57
40	31.56	41.10	13 28	52.33
50	46.36	53.86	19.95	59 87

First, the whole- or ordinary-life policy calls for payments each year during the life of the policy. It does, however, build up reserves which may be converted into extended insurance for some years after payments are discontinued. Probably half or more than half of all insurance is of this kind.

Next there is the limited-pay life policy. With the twenty-pay life policy, for example, the insured will make not more than twenty annual payments, even though he may live for fifty years and continue to be insured until death. Therefore the twenty premiums must be sufficiently large to build up a reserve adequate to provide for expected death pay-

ments for all the years after income from premiums has ceased. The premium on a twenty-pay life policy for a person insured at the age of twenty is shown in the table as $28.29, or 54 per cent more than the $18.37 premium for an ordinary-life policy.

Term insurance, a third kind, is similar to limited-pay life in that premium payments continue only for a specified number of years; but it differs sharply in that the insurance ceases to be in force at the end of the term specified in the policy, whereas the limited-pay life policy continues in force until the death of the insured, provided premiums are paid for the number of years specified. Since the insurer's liability ceases at the end of five years in the case of a five-year term policy, relatively little must be laid aside as a reserve during the early years of the policy, and, therefore, term-insurance rates consist almost entirely of loading and the actual mortality costs in the given years. The premium for a one-year term policy does not include any assignment to reserve. Term policies are designed to provide the maximum of protection for the minimum of cost for a limited period, but the purchaser should realize that at the end of the term he no longer has any insurance, and that in order then to obtain protection he must be able to pass a medical examination and must pay the premium rate for his attained age.

The endowment policy, of which the twenty-year type is the most popular, combines the features of the term policy with a savings contract. Under this policy the face value will be paid upon the death of the insured, or, if the insured still lives at the termination of the contract, let us say twenty years, the face value will be paid to him at that time. With a twenty-pay policy, in contrast, the face value is paid only at death. With the endowment policy, the insured is without insurance after the maturity of the policy, though he has received the face value as a cash settlement. The rates charged on endowment policies are the highest of any of the ordinary types of contracts, for the reserve must be large enough in twenty years to equal the face of the policy. The peculiar advantage of the endowment policy to the insured lies in the incentive to save and in the relatively safe investment of the savings. The disadvantage of endowment policies lies in the fact that at the expiration of the contract the former policy holder must pay the higher rates of his advanced age in order to obtain continued insurance—if, in fact, his health is such that he is still insurable.

The proper type of policy to be selected by the insured depends upon the insured's needs. Those seeking insurance should become acquainted with the features of the various policies and compare them with the kind of protection desired. Then a reputable agent of a reliable company should be consulted.

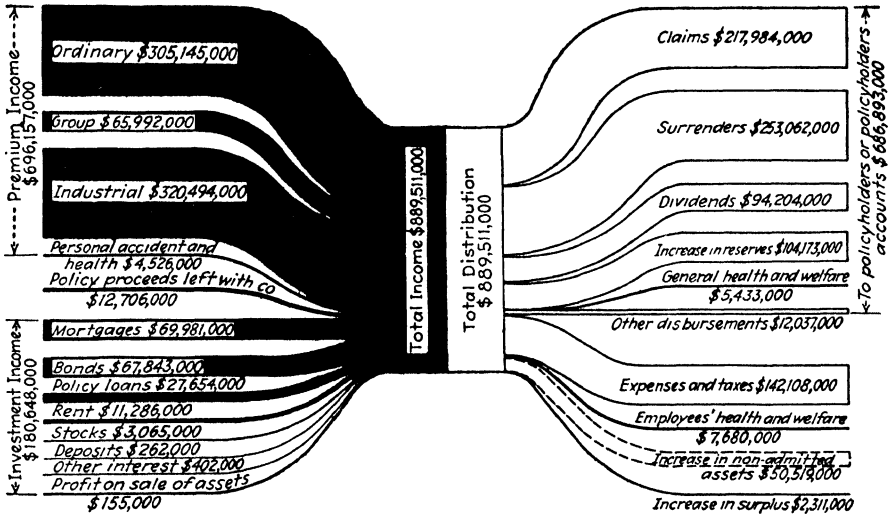
Policy Dividends.—Participating policies of stock insurance companies and all policies of mutual companies provide that the insured shall share

in any savings which arise in the cost of operations and from low mortality or gain from unexpectedly large earnings on investments. Rates charged by mutual companies are based on the assumption that people will die as rapidly as indicated by the American Experience Table of Mortality, but, as a matter of fact, insured people, being selected by medical examination, are longer lived, and mortality usually runs from only 50 to 70 per cent of that indicated by this table. Again, rates are based on the assumption of earning usually from 2½ to 3 per cent on invested reserve funds, whereas actual earnings are usually well in excess of 3 per cent. Often the estimated loading or operating expenses are larger than actual operating costs. In a mutual company the funds saved by low mortality or operating costs or gained by high earnings on investments are divided among the policyholders as dividends. Sometimes contracts issued by stock companies provide for some participation by policyholders. Usually, however, stock companies prefer to estimate these savings in advance and charge lower premium rates in the first instance to the policyholder. Ordinarily, the contracts provide for four alternative methods of using the dividends, the insured having the privilege of selecting the method to be used. The dividends may be withdrawn in cash, they may be used to reduce premium payments, they may be used to purchase additional paid-up insurance, or they may be left to accumulate with interest.

Net Cost.—One of the important facts to be examined by a prospective policyholder is the net cost of a policy, especially as between different companies. Net cost is usually calculated over a ten- or twenty-year period. It consists of the total premiums paid, minus dividends received, minus the cash surrender value at the end of the ten or twenty years, the last mentioned being the amount which the company will pay the insured if he is still living and decides to surrender his policy at that time. According to the rates cited in Table 39, the premium on ordinary life at the age of twenty would be $18.37, or a total of $367.40 in twenty years of premium payments. According to the last twenty years' experience, dividends would total $160.28, and the cash surrender value as specified in the contract would be $192.04. Thus the net cost for the twenty years, exclusive of interest on the premiums paid, would be $15.08, or 75 cents per year. In nonparticipating policies, net cost would be total premiums minus surrender value. In the comparison of participating and nonparticipating policies, it should be remembered that the amount of dividends under the participating policies is uncertain. It may be more or less than shown by past experience. Net cost, as above explained, leaves out of consideration the fact that the insurance company has had the use of the money paid as premiums by the insured, which is a source of considerable income.

A Large Life Insurance Company.—A more realistic understanding of the operations of a large life insurance company may be secured from the

diagram below, representing the income and disbursements of the Metropolitan Life Insurance Company, the largest life insurance company in the world, for the year 1933. This diagram is reproduced with permission from *Fortune* magazine for August, 1934, in which the operations of this company are described with considerable detail. The Metropolitan is a mutual company, and as represented in the diagram dividends to policy holders represented a substantial part of its disbursements. The payments on "surrenders" refer to payments of accumulated reserves to policy holders who discontinued their insurance. It will be noted that about 78 per cent of the company's income was received from



policy holders and about 20 per cent as a return on investments of reserves. It will also be noted that payments to policy holders and reserves for their account took 77 per cent of total income. Expenses and taxes and expenditures for employees' health and welfare combined amounted to approximately 150 million dollars out of total income of 889 million dollars, that is, to 17 per cent of income.

Policy Features.—Authorities on insurance have listed five features which all life insurance policies should include: (1) The insured should have the right to change the beneficiary. (2) The insured should have the right to borrow against the policy or to surrender it and obtain approximately the full reserve in cash. (3) The policy should be incontestable after two years except for nonpayment of premium. In other words, the company should not have the right to refuse payment of death claims because of inaccuracies in the medical examination or in statements by the insured. (4) The contract should include waiver of premium, or a provision that, in case of the total disability of the insured,

the company will pay his premiums and thus keep the contract in force. (5) Extended insurance should be provided for automatically if the insured becomes delinquent in his premium payments while his policy has a surrender value but he does not surrender his policy. Thus the insurance on his life would be extended for such a period as accumulated reserve and dividends will purchase the protection.

Property Insurance.—Farmers may carry property insurance of one or more of the following kinds: fire (including lightning), windstorm, crop other than from fire loss or theft. Fire and crop insurance will be discussed sufficiently to give the general principles and practices. Some of the other types of insurance will be discussed very briefly.

Fire insurance companies may be of two types: stock companies organized for profit or mutual companies formed by those facing the risk. The stock companies are predominant, although mutual companies antedate the stock companies and have shown a rapid growth in recent years.

Rates for Fire Insurance.—Fire insurance rates have not been worked out with as great exactitude as have life insurance rates. This fact arises from (1) the lack of adequate data on property loss experience and (2) the wide diversity in types of property insured, conditions surrounding the property, and the fire-prevention equipment at hand. Progress is being made toward basing rates on experience, but at present the rates are being based primarily on the collective opinion of experts. To be sure, these experts are guided by rating systems, but the element of personal judgment remains.

The expert raters start with a *key rate* and modify the rates for conditions which affect the fire hazard. This "basic rate" in a particular city or community will vary from a standard basic rate for the country as a whole according to factors contributing to fire hazards. Additions or deductions will be made for particular pieces of property according to the type of construction, kind of materials, size of the building, use of building, exposure to fire from outside, and fire-prevention and fire-fighting equipment at hand. In making the variations from the *basic* or the *key* rate, the expert raters cannot be influenced too much by one year's experience. The average experience of several years is more reliable.

The fact that these fire insurance rates are not the result of careful mathematical analysis of experience with losses leads to the possibility that the rates applied in a particular case may depart from the amount necessary to pay operating costs and to build up a fund to pay losses. It is possible that the isolated position of farm buildings more than offsets the effect on fire hazard of the absence of fire-fighting equipment and that, therefore, the risk is less than in cities. If the commercial companies have not given sufficient weight to the isolation of farm buildings, the

rates of farmers' mutual fire insurance companies can be lower than are those of commercial companies.

A difficult problem arises from the moral risk, the possibility that the insured will burn his property when its market value comes to be less than the amount of the insurance. The moral risk becomes particularly great during times of deflation, as in 1920–1922 and 1930–1933. The insurance companies try to reduce this moral factor by investigating the character of the insured, by avoiding overinsurance and by aggressive prosecution of all cases for which there is evidence of arson. As only losses suffered can be collected, property should not be overinsured.

Farmers' Mutual Fire Insurance.—Mutual fire insurance has been one of the most successful cooperative enterprises undertaken by farmers. Rates charged by farmers' mutual fire insurance companies are usually considerably less than the rates charged by stock companies. An investigator for the Federal government reported in 1916 that "in a number of the States where farmers' mutual insurance is most highly developed, the average cost of insurance for all these companies in the State has fallen well below one-half of the rates quoted by commercial concerns, or the so-called bureau rates."[1] In 1937 the rates charged by mutuals averaged 24 cents per $100 of insurance and ranged as averages for states from 13 to 54 cents per $100. The total volume of risks carried by farmers' mutual fire insurance companies rose from 5 billion dollars on the books of 1,883 companies on Dec. 31, 1916,[2] to more than 11 billion dollars on the books of 1,924 companies by the close of 1937.[3] Losses paid in 1937 totaled $18,923,397.

There is a wide variation in the geographical area covered by particular farmers' mutuals. In 1936, of 1,843 companies reporting, 385 indicated that their business territory was a township, 1,270 covered a county, and 188 stated they were on a state-wide basis. Recently there has been a tendency for companies operating on less than a county basis to be replaced by county units. Too small units do not carry sufficient diversity of risk or financial strength to lead to their success. On the other hand, too large units may suffer from the fact that they must have salaried officers, whereas in many smaller mutuals much of the administrative work is performed almost gratuitously. This fact, if such administration is efficient, reduces the insurance costs materially.

Concerning the scope of the insurance contracts issued by farmers' mutuals, the most general practice is to cover loss from fire and lightning.

[1] U. S. Department of Agriculture *Yearbook of* 1916, p. 428.

[2] These data, as well as most of the information on the activities of farmers' mutual fire insurance companies contained in this section, were obtained from V. N. Valgren, "Problems and Trends in Farmers' Mutual Fire Insurance," Farm Credit Administration, Cooperative Division, *Bulletin* No. 23.

[3] Data supplied by V. N. Valgren.

Some mutuals include windstorm in a *combined-protection* policy. Other companies write fire insurance separate from lightning losses.

Funds to pay for losses are frequently not collected in advance but are obtained by assessments on members in the event of loss. It is becoming increasingly the practice to levy assessments but once a year and thus avoid the aggravation of irregular, and perhaps more frequent, requests for payments by members. The advance assessment, or charges based upon estimated needs, has the advantage of availability of funds to meet losses and avoids the cost—and perhaps risk of nonpayment—of levying an assessment for losses already sustained. In addition to levying advance assessments sufficient to cover usual losses, many mutual companies have built up reserves to cover unusual losses.

That farmers' mutual fire insurance is a successful plan is indicated by the low average cost of 26 cents per $100 of insurance carried by those companies reporting in 1926 and of 24 cents per $100 in 1937. At such rates, the cost of transferring an important risk of the farm enterprise is reduced to such a low point that farmers cannot afford to assume the risk individually. Fire-loss risk then ceases to be an uncertain element in the success of the farm enterprise and becomes a production cost of known amount.

Despite the availability and relatively low cost, not all farmers have transferred fire risks to either stock or mutual insurance companies. V. N. Valgren has estimated that the total fire insurance carried by farmers in mutual companies at the close of 1935 amounted to over 11 billion dollars and that this was sufficient to cover at three-fourths of its value more than half the farm property in the United States that is insurable against fire. Further analysis shows that, whereas in the East, the Middle West, and the Far West insurance on a farm property subject to fire is the general practice, such insurance is the exception in the cotton states.

Crop Insurance.[1]—The predominant factor in variation in the production of most crops is the variation in yields. The intelligent farmer takes all of the steps he can to prevent loss from the elements, disease, or pests, but a large risk of losing part or all of his crops remains. Ordinarily, farmers assume this risk, which, if the outcome is unfavorable, may include not only the loss of profit but may be so severe as to include the loss of labor and capital spent toward the production of a crop. To a limited extent, farmers have the alternative of insuring against crop damage.

[1] Crop damage from fire is not included in this section. More complete discussion of crop insurance is contained in V. N. Valgren, "Crop Insurance: Risks, Losses, and Principle of Protection," U. S. Department of Agriculture, *Bulletin* 1043, 1922. Most of the material contained in this section was obtained from the above bulletin.

Crop damage by hail was the first crop risk to be insured. By 1919 total hail insurance amounted to about 560 million dollars, of which half was issued by stock companies and half by farmers' mutuals and state hail insurance departments.[1] Some fire insurance has been issued on standing grain in those states in which grain is not harvested until quite ripe, as is required when the combined harvester is used. In 1917 a more general form of crop insurance including losses from drought was issued, with disastrous results to the insurers and insured. The experiment had to run the gauntlet of inauspicious circumstances, for a severe drought struck the Northwest, in which region the insurance was issued. Beginning in 1920, some crop insurance was issued which protected the farmers against certain specific hazards to their crops, with hail loss carefully excluded.

The Agricultural Adjustment Act of 1938 authorized the establishment of a system of crop insurance for wheat farming. Farmers who enter the plan are, in case of a yield which is less than three-fourths of their nine-year average yield, compensated for this difference by a payment in wheat or in money equivalent. The rate charged the farmer for the insurance is based upon an average of his nine-year loss experience and of the loss experience of all wheat farmers in his county. In all cases, loss is measured by the difference between three-fourths of average yields for the nine-year period and the yields in below-average years. Farmers may pay their premiums in wheat or money equivalent. In all cases the Federal Crop Insurance Corporation is to store in terminal markets an amount of wheat equal to the premium payments times prevailing wheat prices at time of payment. In turn, if losses are paid in cash, not in wheat, the Corporation is to dispose of the wheat equivalent. Thus the storage of wheat during good crop years and the disposal of wheat during low-yield years is supposed to provide a more steady domestic wheat supply. This is a feature of the much-publicized "ever-normal granary," which is described more fully in Chap. XXVI.

Though this Federal crop-insurance program covers the nation and thus will have less widely fluctuating yield experience than did local mutuals, its rates are not yet based on long experience. The program is, however, too new to permit mature judgment of its operations.

With respect to crop insurance, the following question arises: Assuming that the insurance plan is sound, against what crop-loss risks should the farmer carry insurance, and how much should he carry? This question is so excellently answered by V. N. Valgren that his statement is quoted here at length:

> The need of the farmer is a form of insurance that (1) will safeguard him as far as practicable against all unavoidable losses which would seriously cripple him, and (2) can be obtained at a cost or premium which he can afford to pay.

[1] V. N. Valgren, U. S. Department of Agriculture, *Bulletin* 1043 (1922), p. 16.

This means, in the first place, that the protection must be limited to actual loss of a material part of the investment in a crop, reasonable compensation for the farmer's labor, and a fair rental of the land being included in such investment. . . .

. . . A greater or less proportion of the amount contributed by the insured as premiums must be used to meet the expense of conducting the business, or, to carry out the figure, to overcome the frictional element of the insurance machine. It is, therefore, possible in the long run for an insurance company to pay back in indemnities to its members or patrons only a materially smaller amount than the sum collected from the insured in the form of premiums.

The important fact to be made clear may be further explained by pointing out that, covering a period of years, a farmer ordinarily secures a greater net income by carrying his own risk than will accrue to him if he purchases any form of crop insurance from year to year. This is true, however, only on condition that no loss suffered is sufficiently serious to cause him to lose his farm or to handicap him in his farming operations. It must be concluded, therefore, that insurance is to be recommended against such crop losses as would seriously cripple the farmer. On the other hand, it is a form of extravagance to insure against such losses as he can bear without undue inconvenience.

It may be laid down as another principle that the ideal crop insurance will, to the extent indicated, provide protection against all unavoidable hazards to which the crop is subject. If one of these hazards is left unprovided for in the insurance contract, the insured may lose his crop from that hazard and find himself worse off for having carried insurance by the amount of premium paid or premium obligation assumed.[1]

Other Types of Property Insurance.—Windstorm insurance has developed in a manner similar to fire insurance. Farmers' mutuals, either special windstorm insurance companies or the fire insurance companies, carry most of this insurance. Sometimes windstorm coverage is part of the so-called *combined protection.*

Livestock insurance, other than from loss by fire and lightning, has made little progress in this country in comparison to the development in Europe. V. N. Valgren offers two reasons for this situation:[2] (1) This form of insurance faces to an unusual extent the moral hazard of neglect in the care of the animals or even outright fraud. (2) American farms are relatively large, so that each farmer has a sufficient number and variety of livestock that he can carry the risk of the loss of one or a few animals without financial embarrassment.

In recent years the rapid growth of automotive transportation has brought new risks for collision and liability, both of which are insurable. Stock companies in this field have tended to base their rates on urban

[1] V. N. Valgren, *op. cit.*, pp. 18, 19.

[2] See the address by Valgren before the 1931 meeting of the American Institute of Cooperation. Much of the material on the use of miscellaneous forms of insurance presented in this section comes from this address.

conditions. The theft and collision risks in particular are much less in rural areas. This has left the door open for farmers' mutual automobile insurance companies to insure at lower rates. Concerning these mutual organizations, Valgren states:

> In the last 10 years a number of specialized farm mutual automobile insurance companies have been organized, particularly in the Middle West, and in some of the states in this section it seems probable that fully one-half of the farmers now carry relatively complete automobile insurance. The largest of these farm automobile mutuals now operates in a score of states, and insures nearly 300,000 farmers. Two others, one operating in nine states and the other in eight, have each about 75,000 policies outstanding. Several such mutuals operating within single states or a few selected counties have also built up very substantial memberships. The state units of the national farm organizations have played a large part in this development of farmers' mutual or cooperative automobile insurance.

Workmen's Compensation Insurance.—All but four states had Workmen's Compensation Acts by 1932. Such acts provide machinery for raising and administering funds for the paying of injured workers or their dependents. Though relatively few states require employers to abide by the act, they frequently strip them of their ordinary legal defenses in case of a damage suit by an injured workman, and this, in effect, forces employers to comply with the compensation act. These compensation acts rarely cover agricultural workers. Since industrial accidents are a fairly recurrent risk, employers may insure against liability for payments to employees or their families as compensation for accidents either in a private insurance company, in a state insurance fund, administered by a state commission, or in some cases carry the insurance themselves. The funds to pay the insurance premiums may be raised either by contributions by employers alone, by contributions by both employers and employed, or entirely from deductions from wages. The purpose is to pay the injured a sum equal to a fraction of his wages during the period of disability or, in the case of death, to pay his dependents a sum equal to his earnings for a certain specified period. In addition, the employer is expected to meet all necessary medical expenses.

"Unemployment Insurance."—This term is placed in quotation marks because it is not properly insurance, since it does not occur with fairly predictable regularity. The building up of a fund from which wages shall be paid in event of unemployment is more properly called a *system of unemployment reserves.* Plans of this kind have been used on a national scale in Europe and Australia for some decades and on a voluntary basis among many individual corporations in this country. The Social Security Act of 1935 set up a comprehensive system of unemployment reserves in the United States.

RISK TRANSFERENCE: HEDGING

In the case of the more staple agricultural commodities, the device of *hedging* has been developed for purposes of transferring the risk of price fluctuations from the individual owner of such commodities to the general speculative market. The commodities in which hedging operations are conducted on a large scale are cotton and wheat, although hedging transactions also take place in silk, coffee, butter, eggs, some pork products, and, in fact, in any commodity for which a *future* market exists.

Organized Exchanges.—Preceding the discussion of hedging, certain of the practices and terms used in trading on the organized exchanges must be explained. Trading in wheat on the Chicago Board of Trade will be used as an example. The Chicago Board of Trade is a corporation organized under the laws of the state of Illinois. It has about 1,600 members, nearly one-fourth of them brokers who buy and sell on the board mostly for other people. Outside of the general provisions of its charter, of Illinois law, and of Federal regulations, the board is self-governing and sets up provisions controlling the transactions in grain. Following 1929, the Federal government has come to exercise more detailed control over speculative transactions.

Wheat is classified into a number of contract grades, any one of which may be delivered on a sale on the board of trade. In the case of some of them the buyer must pay a premium, and in the case of lower grades the seller must accept a discount. The premiums are usually less and the discounts more than prevail for these grades of grain when purchased for milling. The board has made this provision to prevent "corners" or the control of the available supply of contract wheat by one person or a small group. Since almost any kind of wheat can be delivered, a successful "corner" would involve the control of the supply of all grades, which is almost impossible.

Trading on the Exchanges.—Transactions may be in *spot* or *cash* wheat, which is wheat sold for immediate delivery, or in *futures*. The future contract is an agreement between the buyer and the seller whereby the seller agrees to sell, and the buyer to purchase, a certain number of bushels of wheat in a certain month at a certain price. Those who enter into future contracts rarely expect actually to deliver wheat or accept delivery of wheat. The buyer expects to resell and the seller to *cover*, or offset his sale of a future by the purchase later of an equivalent future.

Thus there exist on the Chicago Board of Trade two markets for wheat, the *spot* or *cash* market and the *future* market, which tend to move up and down together with a fairly constant difference in price, or *spread*, between them. Usually the future price for future months in the same crop year is above the spot price by approximately the cost of carrying

wheat to the delivery date on the future contract. The spreads may, however, become larger, as in the fall of 1931, when spring futures were 18 cents a bushel above cash wheat, or over twice the usual spread. Again, the spread may become smaller than usual or, in extreme cases, the future may become less than the cash price. The existence of both a spot and a future market for wheat, the practice of covering on future contracts, and of a fairly constant margin between spot and future prices, are essential in the hedging process.

Hedging Explained.—Hedging is the attempt to transfer to the general speculative market the price risk involved in a transaction in actual goods by means of a purchase or sale in the futures market. If the spot transaction has been a purchase of wheat, the buyer will sell a comparable amount of futures. The hedge will be completed when the person undertaking the hedge sells the actual wheat and buys a futures contract to cover the one sold previously. If a miller has sold flour for delivery at a later date but does not possess the wheat from which it is to be milled, he will protect himself by a purchase of wheat on the futures market. When he buys actual wheat later to grind into flour, the miller will sell a futures contract to cover the one bought earlier. Thus the hedge is completed. Every completed hedge involves two purchases and two sales. If the spread between the spot and future prices remained unchanged, neither of the above dealers in actual goods should either obtain a speculative gain or take a speculative loss. The hedging process will be illustrated by the transactions undertaken by a cooperative elevator in order to avoid price risk.

Suppose the manager of a cooperative elevator wishes to hedge the wheat which the farmers are delivering to the elevator. The cooperative does not wish to take the risk of a decline in the price of wheat before this wheat is sold to millers, exporters, or others. The elevator is receiving wheat which, for our purposes, amounts to a purchase of spot wheat. To protect the cooperative against a price decline, the manager then sells March future wheat equal to the day's deliveries, let us say 10,000 bushels. Suppose that the terminal price for spot wheat at this time was approximately 95 cents and that the manager sells a March future of 10,000 bushels at $1.03. And now suppose that, by the time the manager is able to sell this actual wheat, the price for spot wheat has declined 5 cents, that is, to 90 cents, terminal-market-point basis. This price is 5 cents less than the price prevailing at the time the wheat was delivered to the cooperative elevator, and there is a loss on the transactions in spot wheat. Now, however, the manager buys a March future of 10,000 bushels at 98 cents, or 5 cents per bushel less than the price at which he sold the March future at the time he bought spot wheat. Thus the loss of 5 cents per bushel, taken on the transaction in spot wheat, is offset by the gain of 5 cents per bushel in the transaction in future wheat.

Thus the burden of price risk was transferred to the general speculative market. The hedging transaction is summarized below:

Spot Transactions	
Received Sept. 3 10,000 bu. wheat; current price....	$0.95 per bushel
Sells Sept. 23 10,000 bu. actual wheat.....	0.90 per bushel
Loss on actual wheat.....	$0.05
Future Transactions	
Sells on Sept. 3 10,000 bu. March futures at.....	$1.03 per bushel
Bought on Sept. 23 10,000 bu. March futures at.....	0.98 per bushel
Gain on futures.....	$0.05

If the price of actual wheat had risen, say to $1.01 per bushel, then a gain of 6 cents per bushel would have been possible by holding the wheat. By hedging, however, this gain would be offset by a loss of 6 cents a bushel on the future transaction, the elevator being forced to buy a future to cover at $1.09. This assumes that the spread between spot and futures remains constant.

Perfect and Imperfect Hedges.—Hedging is widely used by buyers, exporters, and processors of staple farm products, even though it does not always permit the transference of all risk due to price fluctuations. If the spread between spot and future prices remained unchanged, it would be possible for dealers in these goods to avoid speculative losses or gains by hedging and to concentrate their attention on the conduct of their business for the ordinary business profits obtained in their activity. But, because these price spreads become narrower or expand from time to time, those who hedge do on occasion take appreciable speculative losses or receive speculative gains. Nevertheless, though the usual hedge is not perfect, in most cases the speculative gain or loss is less than it would be if no hedging were attempted. Recently there has been complaint that governmental activities with respect to agriculture and trade in farm products have tended to make hedging a more uncertain means of risk transference.

Risk Transference through Contracting.—There are frequent opportunities for a particular enterpriser to transfer risk to others through advance contracts for purchase or sale at a specified price. The successful bidder on a large building contract often protects himself through subcontracts for plumbing, for lumber, for electrical work, and so on. Farmers may contract for the sale of some products prior to harvest or even prior to planting. This largely relieves the farmer of price risk and is a general policy in the growing of sugar beets and often in the growing of products for canneries and of high-grade seeds. Labor agreements covering wages, although they are not enforceable, remove some risk, the amount depending on the moral influence of the agreement on laborers and their leaders.

Much of price risk could be transferred if enterprisers produced only upon previous order and did not produce in anticipation of sale. This, however, is largely impossible in farming because of the long period between the initiation of production and its culmination. In manufacturing it is unsatisfactory because it tends to amplify seasonal swings in production and because of the general disinclination of retailers and wholesalers to order sufficiently in advance. Certainly the consumer will not anticipate his wants to any large extent.

Summary.—Entrepreneurs are constantly seeking to avoid or transfer the risks of economic activity. Many devices, notably insurance, have been developed to this end and have reduced the risks faced in earlier times. But many uncertainties remain, particularly those that have to do with the market, and the task of assuming these risks falls on the entrepreneurs. Not content with this situation, entrepreneurs continually attempt to make future prices more definite through agreements among competitors. The urge to such action was evidenced by the widespread desire of business men to have the anti-trust laws "liberalized" and by their strong approval of those parts of the National Industrial Recovery Act which offered the possibility of price agreements.

THE THEORY OF PROFIT

The theory of pure profit, or return to the entrepreneur after the returns to all of the other factors of production have been deducted, has been presented at several points throughout the preceding chapters. The reader should review especially the pages in Chap. IV which explain the different uses of the term *profit*. Pure profit is the residual left after all costs of doing business, including imputed wages and interest, and imputed rent, have been subtracted. That not all enterprisers receive such a profit is evident. But equally obvious is the fact that some do. What characteristics of the entrepreneur or what economic circumstances make it possible for some entrepreneurs and not others, to receive pure profits? In attempting to answer this question for competitive conditions, some economists have emphasized superior management as the source of profits. Other writers emphasize successful risk taking, most of which success is a matter of good fortune, as giving rise to profits. Monopoly profits are somewhat distinct in origin.

Profit and Managing Ability.—Two entrepreneurs who buy their cost factors in the same market and sell their product in the same market may have widely differing net incomes from their enterprises. The matter of management appears, therefore, to be significant in understanding the return from independent enterprise. Some enterprisers use less of the cost factors to get the same product than do their competitors. Or they may use the same amount of the factors but bring out a product of higher quality which commands a higher price.

The return for superior managerial ability has been likened to rent, in that it is a surplus due to superior managerial ability and there is thus a so-called *rent theory of profit.* Again it has been held to be only a wage payment for unusual skill. Certainly such ability is relatively rare, and the degree of ability of different managers varies widely. To this extent the return is similar to economic rent. Management in large corporations, however, is hired and is paid a wage, even though that be an enormous salary. If superior management is considered the only or major source of pure profit, and if the hired manager is paid a wage approximately equal to this profit, then the owners of the stock as entrepreneurs do not receive pure profit. There is a growing feeling among economists, as well as among the American people at large, that excellent managing ability is not so rare as was once thought to be the case, and that a salary of several hundred thousand dollars per year for a corporation executive is not warranted. The widespread popular indignation at the salaries and bonuses paid executives of business and financial corporations in 1929, as exposed by Senatorial committees, illustrates this point of view.

The Corporation and Pure Profit.—The complexities of analyzing the source of pure profit under the corporate system as opposed to the individual enterprise have already been indicated but should be studied further. Do the stockholders of a corporation receive profits which may arise from superior management? Asking the same question in a different form: Do the stockholders manage a corporation? Outside of the cases of small closely held corporations, the day-to-day direction of the corporation is done by hired executives. A large part of the stockholders, through the fact that they either do not have the voting right or do not exercise it, do not even have a part in the selection of the directors, who in turn select the corporation's officers. The stockholders in such cases influence management only by buying or refusing to buy the corporation stock, and to a more limited extent by holding or selling such stock as they have bought. The directors have the opportunity actively to direct the corporation but as a matter of fact largely confine their activities to passing on the policies proposed by the hired executives. The directors' part in management is largely in the selection or replacement of officers.

The extent to which profits which accrue to the rank and file of stockholders are for their managing ability is distinctly limited. They may in certain cases receive such returns though they do not direct the corporation, because of the fact that, though those in active direction are able men, they at times do not receive salaries in proportion to their abilities. The average stockholder is a capitalist who assumes greater risk than the bondholders, and among those risks is the uncertain quality of the corporation's management.

Profits and the Farmer.—In fields of economic activity, such as agriculture, in which the relatively small individual enterprise is more frequent, there exists a more direct relationship between managerial skill and profits. Though the return to agriculture as a whole is not large, there is often an opportunity for the able farmer to make a return above costs and rent for his land. In spite of paying approximately the same for labor, capital, and materials, and selling at about the same price, the successful entrepreneur must obtain profits through more efficient uses of his resources. In cases of merchants and similar business men, salesmanship as a means to large volume is also important. The significant point is that in these cases the owner and manager are one.

Profit and Risk.—Another principle widely advanced to explain why certain entrepreneurs obtain profits is that profits are the return for successful assumption of risk. The particular risks upon which emphasis is laid are the market risks. The successful entrepreneur will ordinarily attempt to eliminate or transfer as much risk as possible, as explained earlier in the chapter. But it should be clear from facts and principles presented earlier in this book that a large part of the variations in market conditions are beyond the foresight of even the most able entrepreneur. Either market success or failure, aside from the extent to which their occurrence can be governed by business ingenuity, is often a matter of luck. Fortuitous events deliver profits to those enterprisers whose activities are in fortune's path, whether deserving or not. Unfortunate events bring failure upon those whose economic activities are affected by these events, including, though less often, able entrepreneurs. It is thus emphasized that pure profits consist in many cases of fortuitous, or chance, gains.

Profits in the Large.—It is quite probable that, when the whole of business activity is viewed, profits of the successful are offset or more than offset by the losses of others, so that in the aggregate no pure profits are obtained. In this connection it is significant that M. C. Rorty in his study of the functional distribution of the national income did not present any return to entrepreneurship as a factor of production. The popular inclination to call attention to large profits rests on the tendency to emphasize the successful without realizing the high proportion of business ventures which fail. Even in the prosperous year of 1929, Bradstreet's reported 374 business failures in the week ending June 1, and for the week ending Jan. 21, 1932, there were 855 failures. From 1922 to and including 1931, from 4,000 to over 7,000 farmers were declared bankrupt each year.

What, then, is the function of pure profit if in the aggregate it does not exist? It does arise in some cases; in fact, in sufficient cases to encourage men to undertake private enterprise in the hope of obtaining high returns. As it was expressed in Chap. IV, profits serve as the laurel

wreath for which many runners enter the race, yet only the few obtain the prize. But that many enter the race is necessary for a private-property economy, for thereby the economic system gets its momentum, its employment of labor and the other factors, its production of goods, and its distribution of income. The opportunity for the successful entrepreneur to obtain a pure profit is essential as long as an economic system is primarily one of free enterprise and private property and business undertakings face the possibility of loss.

Questions and Problems

1. Distinguish three general classes of risks. By what means may each type be (*a*) avoided or (*b*) transferred?

2. Distinguish the risks which are frequently insured from those which are not ordinarily insured.

3. What factors are considered in determining the rates on an ordinary-life insurance policy?

4. Compare the chief features of each major type of life insurance policy. Explain how these features affect the premium rates of each type of policy.

5. To what factors may be attributed the success of farmers' mutual fire insurance companies?

6. Investigate farmers' mutual fire insurance in your state. Compare the rates charged with those of stock companies in your region and with the average rate charged by mutuals in the United States.

7. What are the difficulties faced in crop insurance?

8. Show how a wheat buyer who purchases 10,000 bushels of wheat at the country point on Sept. 5 and sells at a terminal market on Sept. 20 may largely protect himself during this fifteen-day period against a loss arising out of a decline in wheat price. Trace all the transactions with assumed prices.

9. Why do certain enterpreneurs receive pure profit?

10. What is the economic function of pure profit under capitalism?

Suggested Readings

1. A. H. Mowbray, *Insurance* (1930) contains a full statement of the principles of insurance and a description of all forms of insurance.

2. S. S. Huebner, *Life Insurance* (1929) is a standard treatise on that phase of insurance.

3. V. N. Valgren, *Farmers Mutual Fire Insurance in the United States* (1924) is a most complete study of this subject to the date of its publication. "The First 100 Years of Cooperative Farm Insurance," by the same author in *American Cooperation* 1938, published by the American Institute of Cooperation, Washington, D. C., and Farm Credit Administration *Bulletin* No. 23 summarize developments to 1938.

4. V. N. Valgren, "Crop Insurance, Risks, Losses and Principles of Protection," U. S. Department of Agriculture *Bulletin* 1043, 1927, describes the problems of, and experiences with, crop insurance.

5. C. O. Hardy, *Readings in Risk and Risk-Bearing* (1924) discusses many phases of business risk.

6. F. W. Taussig, *Principles of Economics* (1939), Vol. II, Chaps. 48–51, contains a much more complete discussion of profit than is included here.

CHAPTER XIX

INTERNATIONAL TRADE AND AGRICULTURE

International trade is based upon the law of comparative advantage. Although governments place such restrictions on international trade that this law has less opportunity to work when economic relations cross national boundaries than when they are within a political unit, yet the volume of the world's trade indicates that all of the tariff barriers and other restrictions practiced by national governments have not entirely contravened the working of this basic economic law. Certainly our standards of living would have to be much reduced if we did not carry on the international trade which we do.

Though international trade is not so important to a country such as the United States as it has been to countries with such limited varieties of resources as Denmark and Switzerland possess, it is of much significance to our people both as buyers and as producers. Again, foreign trade is of less importance to this country than to such a nation as England, which receives much of its food from abroad, and in which many people make their living by importing raw materials and manufacturing them for export, by performing transporting and financing services, and from earnings on foreign investments. It is true that in typical years for several decades, only about 10 per cent of our production was sold abroad. But the small size of our exports in proportion to our production should not be misinterpreted, for the 10 per cent exported is, so far as American industries are concerned, an important part of the production. If we were to lose permanently this 10 per cent, it would make a tremendous difference to the industries which largely supply the exported goods—at least until our whole economic life had been so adjusted that many now employed in those industries had found employment in industries producing goods for domestic consumption. Forty per cent of our total exports in 1929 were from the farms producing cotton, wheat, tobacco, and hogs, and from the relatively few industries manufacturing automobiles, petroleum products, rubber products, and electrical equipment. In order to supply only the domestic market, these farms and factories would have to curtail their output of these goods more than 10 per cent. In some cases, they would have to reduce their output more than 50 per cent. Aside from the producers' interest in exporting, there is the less popularly recognized, but more important, consumer interest in importation. From the national point of view, the real advantage

of exports is to secure imports. If we were to consume only domestic products—a logical coincidence of nonexportation—consumers would pay much more for rubber, sugar, silks, wool, a number of metals, and a great many other products in daily use. Others we should have to forego altogether.

TECHNIQUE OF INTERNATIONAL PAYMENTS

Domestic and Foreign Exchange Compared.—Payments between individuals residing in different nations involve in general the same underlying principles and methods as underlie the making of payments between a debtor and a creditor within the same country: that of transferring money, or a right to command money, such as a check, from the debtor to the creditor. But in the actual technique of making payment between residents of different countries, complications enter, tending to make the whole process of international payment appear mysterious.

First, whereas payments between individuals in the United States are in terms of dollars, payments from an Englishman to a resident of this country must be transferred from pounds, shillings, and pence into dollars; from an American to a Frenchman, from dollars into francs, and likewise for other currencies. From the use of different monetary units, the question arises of how pounds sterling or francs or marks or yen, or whatever the currency may be, are transferred into dollars, or dollars into these other currencies. All payments to persons in other nations require a transfer from one currency to another.

Second, there does not exist an international clearing system—acting as does the par check-collection system in this country. As a result, there has been built up a complicated mechanism of various types of bills of exchange, the buying and selling of *exchange*, and of occasional international gold movements to settle balances. There are those who hope that eventually the Bank for International Settlements at Basel will come to act as an international clearing agency, with the use of a method similar to that of the gold settlement fund in this country.

Third, countries frequently have different monetary standards or systems. Though most countries have until recently been on some form of the gold standard, now, whether on a modified gold or on a paper standard, the countries' currency systems are dominated by governmental management. Our procedure here will be to consider payments between countries without regard to the type of money systems involved. Then brief consideration will be given to the effect of the gold standard and of the paper standard on the rate of exchange between countries.

Paying for Imports.—The description of methods of paying for imports presented below would be applicable to the United States at the present time. In some other countries, however, notably Germany, the importer would have to obtain governmental permission to buy abroad.

All kinds of meticulous controls, too numerous to describe here, characterize the international trade relations of countries of continental Europe, even in peacetimes.

There are a number of ways in which the details of paying for imports may be handled, although they are all the same in principle. One of the most common ways will be here described in its general features. Suppose that an American silk factory, John Jones & Company, wishes to buy a shipment of raw silk from Japan. Unless this importer and the firm in Japan have had long and satisfactory business relations, the Japanese firm in making the sale would require the importer to arrange at his bank for a commercial letter of credit. By such a letter of credit the bank guarantees the credit of the importer by agreeing to accept a draft on the bank for the purchase of certain goods by the importer. The importer may wish to have the silk for two months before paying for it, during which time he expects to make it into cloth and sell it. In that case the letter of credit will authorize the Japanese exporter to draw at 60 days sight on the American bank, let us say on the First National of Paterson, N. J., for $100,000 for the purchase of silk by John Jones & Company. The Japanese firm is furnished a copy of the letter of credit. After the silk has been loaded the selling firm draws a draft on the First National Bank for $100,000, 60 days' sight. The bill of lading, insurance certificate, and other documents are attached to the draft, and, ordinarily, the exporter will then sell this *documentary bill* to a bank in his country, guaranteeing the draft by endorsing it. He will receive Japanese money, or yen. The price he will receive will depend on the time the bill has to run, 60 days from sight in this case, and the general situation as regards the supply of and demand for United States funds in Japan. The Japanese bank which buys the draft uses it to build up its dollar account in New York. It will send the draft to its correspondent bank in New York, which will present it to the First National Bank of Paterson for acceptance. The latter, after checking signatures, the letter of credit under which it was drawn, and so on, signs across the face and the draft becomes an *acceptance*, being in effect a note. The Paterson bank receives the bill of lading, which it turns over to the importer, so that he may obtain the goods when they arrive. A few days before the acceptance is due, the First National Bank expects the importer to pay the bank $100,000. When the due date arrives, the draft is presented to the First National Bank for payment. It is paid and the funds are credited to the Japanese bank. That bank now has a dollar credit in New York, against which it may sell drafts to Japanese importers who wish to buy goods requiring payment in dollars in this country.

The transaction above has been described as being carried on in dollars. Under certain circumstances it might be in pounds or in yen. Furthermore, the draft might be a demand draft, in case the importer

was required to pay cash on delivery, not a *long bill*, a term used to describe drafts payable at 60 or more days from sight.

The price quoted to a buyer will of course depend on the promptness with which he pays. Goods sold on 60-day drafts or other long-credit terms will call for a higher quoted price than those sold on sight drafts, as the seller if he wishes cash immediately will have to take a discount on his draft to cover interest to the bank.

Receiving Payment for Exports.—Suppose an American exporter has sold 20,000 bushels of wheat to an English importer at three shillings per bushel on board ship (f.o.b.) at an American port. The American exporter will draw a draft on the English importer's bank, say Barclay's, for 20,000 times three shillings, or 3,000 pounds sterling. In March, 1940, the New York quotation on sterling was about $3.70. The exporter will take the draft with the bill of lading and an insurance certificate attached to it to his own bank and there sell it for the current price for sterling in New York, which we shall assume to be $3.70 or $11,100 for a 3,000-pound draft. The bank pays the exporter dollars and sends the draft to England, where in the course of time it is collected and the American bank is credited with a deposit of pounds sterling for the face of the draft. The American bank now has in an English bank this deposit against which it may draw its own drafts in favor of Englishmen in pounds. American importers of English goods, therefore, buy drafts from this American bank, paying dollars, and send these drafts to Englishmen, who receive payment in pounds for goods sent to this country. Such drafts are, so to speak, checks against the American bank's English account.

Payment through the Use of Bank Accounts.—The process of international payments is a matter of the transfer of the rights to bank deposits from the debtor or his bank, to the creditor or his bank. A bank dealing in foreign exchange is in the market for drafts drawn on foreign financial centers, which when purchased are used to build up the bank's foreign account, against which the bank will sell drafts. In turn, those of the bank's customers who are importers, or debtors for some other reasons—such as for the purchase of foreign securities—or who wish to travel abroad, will need drafts on the proper foreign financial centers in order to obtain foreign funds to make their payments abroad.

The whole process, then, is one of building up and tearing down bank deposits in the proper financial centers. If the accounts of American banks in London are getting low, American exporters having for sale sterling exchange (pound drafts) drawn on Englishmen will secure a higher price in New York, as banks are eager to send such drafts to London for collection in order to build up their London accounts. At the same time persons in New York wishing to buy sterling exchange in order to make payments in London will have to pay a higher price, as

the banks are not desirous of reducing their London balances. Although payments between countries could be made by shipping gold, the large amount of payments makes this impossible to any great extent. Accordingly, banks are required constantly to balance their sales of drafts with their purchases of drafts.

THE BALANCE OF INTERNATIONAL PAYMENTS

Credit and Debit Items.—In considering the balance of international payments, we must take into account not only payments and receipts from commodities but also payments and receipts from the sale of securities, earnings on investments, travelers' expenses, etc. The total *trade* is divided into two classes: (1) the things for which we are to receive payments, and (2) the things for which we must make payments. Although at times the former are called exports and the latter imports, the terms *credit items* and *debit items*, respectively, are more accurate.

The major types of items entering into the international balance of payments, and the estimated credit and debit amounts of each of these items for the years 1928 and 1938 are presented in Table 40. The year 1928 represents the situation during the prosperous post-war years, whereas the data for 1938, a year of fairly low activity, show the changes wrought by nearly a decade of domestic and international economic and political strain. Data for 1932 would have shown a much lower value for each item and particularly so for merchandise trade. In addition to the estimated debits and credits arising out of each type of transaction, Table 40 shows the balance, that is, whether this country had an excess of credits or debits for each item.

The principal items in this table should be noted. Payments for merchandise or commodities composed approximately one-half of the total transactions in 1928 and apparently about the same part of the total in 1938. The next largest class of transactions arose from movement of capital, or the borrowing or lending of funds. Of next importance were interest payments on borrowed funds and tourist expenditures.

Too frequently in popular discussions trade in commodities is discussed as though it composed the whole of the international transactions which cause us to make payments abroad or allow us to receive payment. But the balance of payments is concerned equally with the remaining items in Table 40, the so-called *invisible trade* in services, securities, tourist expenditures, etc. Transportation services rendered by Americans to foreigners, such as the carrying of freight or passengers, require foreigners to pay money to us. On the other hand, if our goods are transported in foreign ships we must pay for this service. The large debit items for immigrant remittances and tourist expenditures are significant and peculiarly American. The former item will probably be of decreas-

ing relative importance in the future; the latter varies widely from year to year as conditions affect travel.

International movements of *capital* have taken on a new meaning to this country with our post-war creditor position. Imports of capital,

TABLE 40.—ESTIMATED BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES, 1928 AND 1938*
(Millions of dollars)

Item	Classes of international transactions	1928			1938		
		Receipts from foreigners for "exports" (credits)	Payments to foreigners for "imports" (debits)	Net credits (+) or debits (−) (balance)	Receipts from foreigners for "exports" (credits)	Payments to foreigners for "imports" (debits)	Net credits (+) or debits (−) (balance)
1	Merchandise, including silver and the fuel sold to foreign ships	5,334	4,497	+837	3,187	2,231	+ 956
2	Freight and shipping	232	227	+ 5	113	155	− 42
3	Insurance transactions	80	70	+ 10	†	†	†
4	Tourist expenditures	168	782	−614	159	516	− 357
5	Immigrant remittances	28	217	−189	35	150	− 115
6	Charitable, educational, and other contributions	.....	52	− 52	.....	40	− 40
7	Interest and dividends	882	359	+523	549	216	+ 333
8	Government transactions (including war-debt receipts)	263	110	+153	34	98	− 64
9	Miscellaneous services (including motion-picture royalties)	116	59	+ 57	191	60	+ 131
	Total trade and service items	7,103	6,373	+730	4,268	3,466	+ 802
10	Long-term capital movements	2,916	3,652	−736	1,724	1,701	+ 23
11	Movement of short-term banking funds (net)	.....	226	−226	‡	‡	+ 295
12	Miscellaneous capital items (net)	.....	.....	.....	‡	‡	+ 12
	Total capital items (net)	2,916	3,878	−962	‡	‡	+ 330
13	Gold shipments and earmarked gold (net)	629	357	+272	‡	‡	−1,640
	Grand total, all items	10,648	10,608	+40§	‡	‡	− 508§

* Data for 1928 from Table 509, *Statistical Abstract of the United States*, 1929, and for 1938 from Table 1 of *The Balance of International Payments for the United States in* 1938 (U. S. Department of Commerce).

† Approximately in balance; debits and credits not available.

‡ Items for which debits and credits are not available are not included, but the balances of these items are included in the balancing of all items.

§ Net errors and omissions, unreported stabilization-fund operations (1937 only) and other transactions "not exactly reflected for balance-of-payments purposes in the reported figures. Since the active portion of the stabilization fund is limited to $200,000,000, fund operations would not affect the size of the residual either way by more than this amount."

amounting to 2,916 million dollars in 1928, attracted by the speculative profits expected to be earned here in that and the following year, are classified under those things for which we are to receive payments, since

foreigners investing in this country purchase securities here and by so doing give American corporations and governments the right to draw on foreign nations. On the other hand, exports of *capital* are listed under those things for which we must make payments, since American investors must buy drafts, or exchange, to pay for purchases of foreign stocks and bonds. The exportation of *capital* from the United States in 1928 equaled 3,652 million dollars or 736 millions more than foreigners invested in the United States. The 1938 credit balance of 330 million dollars on capital account plus 1640 millions of gold arose from the receipt of frightened European capital. Much of this capital was sent from England and will probably be used up in purchasing supplies if the war which began in the fall of 1939 proves to be a prolonged contest.

Receipts of dividends and interest on American investments abroad is a credit item, giving us the right to demand payments from other countries. This item was of growing significance in the years from 1920 to 1929 with the rapid increase of American foreign investments, our demands on foreigners for interest reaching the enormous sum of 882 million dollars in 1928. On the other hand, the payment of dividends and interest to foreign holders of investments in this country is included in the debit column, since foreigners have the right to receive payments from American industries and governments. This item, totaling 359 million dollars in 1928 and 216 millions in 1938, is not so large as prior to the 1914–1918 World War, because a large amount of the European capital which had been utilized to develop American industries was withdrawn during the war, the investments being sold and the proceeds used to buy war supplies in this country.

All of the other items in the balance sheet are self-explanatory except gold shipments. As will be explained later (pages 454–456), the gold movements tend to move to balance the other transactions. If exact and complete information were available, total credits would exactly balance total debits in each year. The failure of listed credits and debits to be exactly equal in any year is explained as due to errors and omissions.

Price of Bills of Exchange.—There exist fairly constant margins between the prices charged for various types of bills of exchange—demand drafts, time drafts or long bills, commercial bills, bankers' bills—margins which depend upon the time period that will elapse between acceptance and payment and upon the risk involved in the transaction. Here we are not interested in the details of the differentials existing between rates on different kinds of *bills* but in the up-and-down movement of the exchange rates in general. Fundamentally, oscillations in the price of all kinds of bills will be in sympathy with the rates on bankers' demand bills—or drafts by banks on foreign accounts to be paid upon presentation. In studying the oscillation of exchange rates, therefore, we shall concentrate upon the price of this type of exchange.

In a manner basically similar to other prices, the prices of bills of exchange are the result of supply and demand. This principle is true irrespective of the monetary standards used by the countries between whom the payment is being made.

The supply of exchange is the amount of demand claims which the country in question has against the rest of the world. These claims arise out of the credit items in the nation's international balance sheet. Thus in 1928 the total of goods, services, and securities, sold and other credit items except gold of the United States equaled $10,019 million (Table 40). Foreign purchasers or debtors paid by transferring to us either credits in their own banks or credits which they owned in our banks.

The demand for foreign exchange arises from the claims which the country in question must pay currently to the rest of the world. These debts arise out of the purchases of commodities, services, and securities, and out of other debit items in the nation's international balance sheet. Thus in 1928 the United States was expected to pay $10,251 million to foreign countries for debits other than gold imports. These payments were made by transferring to foreign creditors the balances held by our banks in foreign banks or by crediting foreigners with deposits in our banks.

If a country's debit items exceed its credit items, it is being called upon to pay more than the claims it is accumulating against other countries. Its bankers' foreign balances are being depleted and these bankers become less eager to sell foreign exchange. At the same time, the excess of debit items means that bankers are more eager to buy exchange. They will bid up the price of drafts drawn on foreign financial centers. In other words, it will take *more* units of the domestic money to buy a draft drawn in the *same* number of units of foreign currency. The foreign-exchange value of the domestic currency has declined. Obviously, the reverse of the above-mentioned movement of exchange rates would develop if the country's credits exceeded its debits; the foreign-exchange value of its currency would rise.

The preceding explanation has been in terms of the effect on the price of exchange of a given country's credit and debit transactions with the *whole world* and not with a particular country. That this is the correct analysis and that a country's balance of payments with the whole world and not with a particular foreign nation governs exchange ratios is brought out by the following illustration. Though in 1937 the United States bought 52 millions more of goods from Brazilians than we sold to them (with but small other credit items), this adverse balance of transactions with Brazil did not necessarily force the dollar to fall in exchange value relative to the Brazilian milreis. The Brazilians were glad to take in payment credits in London which we could transfer to them because for many years we have annually had a large credit balance in

our trade with Great Britain. The Brazilians could use these English credits to buy the manufactured goods of the British Isles. Illustrations, involving possibly four nations, could be multiplied and all show the process of payment through the transfer of credit balances by the debtor nation to whatever nation it is necessary to make a payment. *Thus the results are similar to domestic bank clearing explained on page* 300, *even though there is not the smooth action of a clearing house.*

Arbitraging.—This process of indirect payment and its effect on exchange rates is shown more clearly by the practice of *arbitraging.* Suppose that sterling (drafts on London) rises, but that francs do not. It is not necessary that an American buy a draft direct on London in order to pay a debt in the latter city. He may find it cheaper to buy a draft on Paris and with it have his bank's Paris correspondent buy a draft on London. Thus the American's debt is paid by a roundabout process, but the effect is to raise exchange rates in New York on Paris, and Paris on London. In practice this operation, known as *arbitraging,* is not carried on by American debtors but is carried on by foreign-exchange brokers in New York. The activities of these arbitragers keep such a harmony among exchange rates that the individual debtors will rarely, if ever, find an advantage in indirect settlement. Of greater importance, however, is the fact that the up-and-down movement of the foreign-exchange value of each country's currency will reflect its balance of payments with the rest of the world.

Limits on Exchange-rate Fluctuations.—How far can the exchange value of a country's currency vary? Are there any self-corrective forces put into motion by the rise or fall of a country's exchange rates? Basically the answer to these questions is the same irrespective of the monetary standards involved. There is, however, some difference in how checks on exchange-rate fluctuations operate according to the monetary standards of the countries involved, as is explained on pages 454 to 458.

The most obvious corrective force is the effect of exchange-rate fluctuations on the profitableness of the purchase or sale of the various items entering into international transactions. For instance, if, as a result of an adverse balance of payments, the British pound declines, say from $4.85 to $4.75, everything bought abroad (visible or invisible items) by the British will tend to cost them .10/4.85 or 2.06 per cent more. At the same time, everything sold by the British will tend to cost the foreign purchasers approximately the same percentage less of their own money. There should be a tendency, therefore, for the British to buy less and sell more. The balance of payments should swing toward Great Britain, and the supply of exchange rise and the demand fall. Then the pound sterling should rise in exchange value.

Whether or not variations in exchange rates will be corrected by the effect of the slightly lower-valued pound on the profitableness of buying

and selling by the British depends upon the degree of the exchange-rate fluctuation compared to the nature and strength of the causes leading to the original unbalance in Britain's international transactions. If all that is needed is some slight change in the relative profitableness of the import or export of commodities or of securities, for instance, the small exchange-rate fluctuation should correct the adverse balance. If, on the other hand, there is at work some such strong force as the fear of the future of the British currency, as during the summer of 1931, or a desire to move funds from the zone of threatened war, as in the fall of 1938, then no slight variations in exchange rates can balance England's foreign transactions. In such cases, fearful capitalists will purchase drafts on supposedly safer financial centers abroad even though they have to pay an unusual price for these drafts. The resulting tremendous debits under such items as "international movement of capital" and "changes in international banking accounts" will continue until the fear has passed. At such times speculative sales of exchange will accentuate the decline of the currency of the country which is suffering the excess of debit items.

Though the sharpest and only slightly self-corrective variations in exchange rate come from the movement of fluid capital, other items in international transactions may upset the balance and be corrected but little, if at all, by the consequent fluctuations of exchange rates. Thus a nation at war nearly always increases its commodity imports sharply and buys needed materials with little regard for cost. Or an agricultural country such as Argentina may find that its normal income from wheat exports is cut sharply by low prices or a crop failure. Or an old creditor country may find that a sharp drop has occurred in the earnings on its foreign investments while it continues to import heavily of food and other raw materials.

Foreign Exchange under the Gold Standard.—Now we have reached the first point in our discussion at which it is relevant to consider the effect of the prevalent type of monetary systems on foreign-exchange-rate fluctuations. Of particular importance is the question whether two or more of the countries involved have monetary systems under which they permit the free import and export of gold. If so, the international movement of gold will place checks, possibly only temporary, upon the oscillation of the exchange rates among these gold-standard countries. Furthermore, gold movements sometimes, but not always, correct the fundamental cause of variations in these exchange rates, as is explained on pages 456 and 457.

The equilibrium point for the exchange rates among gold-standard countries is the *mint par of exchange.* This is the ratio between the gold content of the monetary units of the countries. Thus in October, 1938, the dollar contained 15.238 grains of gold (nine-tenths fine) and the belga of Belgium 2.583 grains. The mint-par dollar of a belga was 16.95 cents

because a belga represented as much gold as that part of a dollar. It is difficult to give a table showing mint pars between the United States and other countries at this writing. Mint pars with such countries as Germany, where foreign exchange is meticulously controlled, mean little. And the *nominal* mint pars between the present dollar and the gold content which held for the pound when England left the gold standard in 1931 is meaningless. If these countries later return to gold, there is little chance that they will do so without reducing the gold content of their monetary unit in a fashion comparable to the 40.94 per cent reduction in the gold content of the dollar or the 28 per cent reduction in the belga—changes which have taken place since 1933.

The *market* exchange value, even of a gold currency, will vary from the mint par according to the supply of and demand for exchange as explained in the preceding sections. There is this significant difference, however, that when the price of a draft on a foreign gold-standard country rises to the point where it is cheaper to ship gold, the consequent shipment of gold stops, at least temporarily, the rise of the foreign exchange. Thus there is a definite limit to these fluctuations as long as the countries involved remain on the gold standard. When the price of belga drafts rose above the point of mint par plus the cost of obtaining and sending gold to Belgium, gold was exported by banks to build up their accounts abroad. Thus if the handling and shipping costs were 0.0005 cent per belga, the insurance charge 0.00011 cent, and the loss of interest in transit another 0.00035 cent, and the Treasury's charge for selling gold ¼ of one per cent or 0.04238 cent, these added to the dollar price of the gold in a belga, or 16.95 gave a total cost of getting the gold in a belga to Belgium of 16.99334 cents. This was the *gold-export* point on belgas. In converse, when the dollar price of belgas dropped below mint par by an amount greater than the cost of bringing gold from Belgium, exchange rates reached the *gold-import* point. Of course, when belgas were falling in New York, dollars were rising in Brussels and our gold-import point was the Belgian gold-export point.

Clearly, exchange rates among gold-standard countries can go but little beyond the *gold* points as long as the country or countries with the adverse balance of payments permit gold exports. Here we have the first unique characteristic of exchange among gold-standard countries, *viz.*, that as soon as exchange rates fluctuate a small amount (to the gold points) a *commodity, gold,* is *automatically* exported by the debtor nation in sufficient quantities to balance that country's payments, or until it leaves the gold standard. Under paper, no one commodity so automatically moves, and it is only the increased profitableness of selling any or all commodities and services and increased cost of purchase, as explained on pages 453, 457, and 458, which checks variations in the exchange value of paper-standard currencies.

The Correctives of Exchange-rate Fluctuations under Gold.—Because one of the supposed merits of the gold standard is the stability of foreign-exchange rates, it is desirable to examine more extensively the manner and extent to which gold movements correct exchange-rate fluctuations. Obviously, the small changes in exchange rates affect the profitableness of import and export, the cost of foreign travel, the desirability of the purchase or sale of foreign securities and so on, under the gold standard, as under any standard. In this way exchange fluctuations under any monetary standard provide some control on themselves.

In addition, the automatic movement of gold which builds up the foreign balances of the gold-exporting country and thereby increases the supply of exchange provides some check on exchange-rate fluctuations. It is true that the export of an *increased* equivalent value of wheat or automobiles or securities, made possible by a decline in the exchange value of the country's currency, would enlarge the supply of exchange. But under gold, to the increased export of commodities, etc., *is automatically added the export of gold.*

If a country's adverse balance of payments is large, it may soon run out of gold. Probably only the United States has gold in excess of one year's foreign payments. Certainly few countries now, or ever, possess gold equal to their international transactions for any extended period of time. The free export of gold, however, should not merely temporarily augment the supply of exchange, but should correct the cause of the adverse balance of payments. This, indeed, is claimed for the gold standard, in what is called the Ricardian theory of gold movements.

Ricardian Theory of Gold Movements.—According to the Ricardian theory the most basic exchange-rate corrective which is presumed to operate under gold is the effect of gold movements on bank reserves and bank-credit superstructures. Ordinarily, it is held, a credit expansion and price level above other countries are what lead to an adverse balance of payments. High prices encourage increased commodity imports and decreased exports. Abundant credit with low interest rates will encourage capital exports and the purchasing of foreign securities which are debit items. If, then, gold is exported, reduced bank reserves force a reduction of credit and of prices. At the same time the countries receiving the gold are in a position to expand their credit with consequent effects on prices and interest rates.

When one considers the changes in nations' international transactions and in their credit and price structures, one sees that the Ricardian principle can operate only to the extent that the following two situations exist. First, changes in such items as commodity movements must be based on changes in relative price levels, and changes in capital movements must arise from new relations between capital-earnings possibilities in the countries. If, however, increase of commodity imports arises from the

exigencies of war, gold exports will probably not reduce the increased commodity imports. Or if the capital exports arise from fear of the political or economic soundness of the country, the consequent credit restriction and rise in interest rates may not check the flight of capital. In fact, they may speed the flight of capital because of fear of safety of the principal. France experienced such a flight at various times between 1934 and 1938. Second, even if the adverse balance of payments has been caused by overexpansion of credit and high prices, *gold movements can correct this situation only if the gold-exporting country contracts its bank credit and the gold-importing countries expand their credit superstructures.* Under the present-day policies of central banks and national treasuries, however, it frequently happens that the controlling agencies prevent either the contraction or the expansion, or both. In such situations the maladjustments continue until the country with the adverse balance puts an embargo on gold exports or reduces the gold content of its currency. *Clearly there often exists a conflict between national monetary and credit policies and the presumed self-corrective character of the international gold standard.*

Limits of Variation of Exchange Value of a Paper Currency.—The fluctuations of the exchange value of the currency of a paper-standard country will not be corrected by either (*a*) the automatic movement of a commodity (gold) to change its supply of foreign exchange or (*b*) the effect of these gold movements on bank reserves. At the same time a paper-currency country may be subjected to effects of a war, and, sometimes to a greater extent than a gold-standard country, to the effects of fluid-capital movements which arise from fear of safety of principal. All these considerations should not lead to the conclusion, however, that there are no forces tending to limit movement of the exchange value of paper currencies. Nevertheless, aside from the effect of the exchange-rate fluctuations on reversing the profitableness of some of the transactions in the nation's balance sheet, *exchange rates of paper-standard countries are influenced by the control of that country's currency.*

A paper standard implies a detailed control of money and credit by the central bank or national treasury or both. This control affects exchange rates most significantly through the monetary authorities' influence on the domestic price level. If they maintain their price level in harmony with other countries, no change in commodity trade should result to affect the supply and demand for exchange and the price of exchange. Of course, if the paper-standard country increases its money and bank credit to finance a war, as did the Allies from 1914 to 1918; to rearm, as did Germany after 1933; or to expand fixed capital, as did Russia under the Five-year Plan; then there will be a tendency for prices to rise above those of other countries and for imports to grow relative to the change of exports. *If this change in commodity trade is permitted,* that is,

if no direct or indirect controls are placed on imports or no subsidies on exports, then the exchange value of the country's currency will decline, as did the value of the pound and the franc during the 1914–1918 World War. It is possible, on the other hand, for the control authorities to reduce their currency and credit, as England did before returning to gold in 1925, and with the consequent effects on commodity trade and exchange rates. In fact, during the 1914–1918 World War, prices in Sweden in paper kronen rose less than in gold-standard countries and the paper kronen commanded a premium in gold!

The effect of changes in relative price levels of countries on their commodity and service trade and hence on their exchange rates has led to the doctrine of *purchasing-power parity*. This doctrine holds that the equilibrium exchange rate between countries, if one or more of them is on a paper standard, is determined by the relative domestic purchasing power of their currencies. Clearly in so far as exchange-rate variations result from changes in price levels, this is true of gold currencies also. The significance of the principle lies in the effect of domestic monetary and credit policy on exchange rates.

In most instances the exchange value of paper currencies has been particularly subjected to the effects of movements of fluid capital. In a large part, this experience has been due to the fact, as Professor C. R. Whittlesey says, that paper has been tried when gold had already failed to meet the political or economic stress. Consequent domestic uncertainty has often led to heavy capital exports. Such marked increase in the demand for foreign exchange can be stemmed only by those steps which will restore confidence in the future of capital if left at home or by exchange control.

Exchange Control.—The discussion of the causes of marked and prolonged lack of balance in a country's international payments indicates why countries often resort to *exchange control*. Broadly speaking, *exchange control* refers to any steps taken to affect either the supply of or the demand for bills of exchange. The methods of exercising such control include restricting the uses for which exchange may be secured. Sometimes the *objectives* of the control also include the influencing of particular debit or credit items, such as capital movements, because control of that particular item seems necessary for purposes of the government.

Since the 1914–1918 World War, in particular, countries have frequently experienced a strong and continued adverse balance of payments. If on gold, sometimes the correctives described on the preceding pages were ineffectual—sometimes not desired. Governments or central banks of countries nominally on the gold standard sometimes feel forced to purchase or sell exchange to control its price or directly limit the demand in order to prevent the depreciation of their currencies. In the latter case they, in reality, leave the international gold standard. When

countries are *forced* to leave gold the tendency toward an adverse balance of payments is often aggravated and the pressure to control exchange is amplified. Under such conditions as have existed after 1931, nearly all countries have exchange control of some type and of varying degree. Even when the United States again returned to the international phase of the gold standard in 1934, the Treasury was equipped with a giant fund to engage in the purchase and sale of exchange, if necessary.

The variety of systems of *exchange control* which have been evolved cannot be described here. They all lead to essentially the same result: they aim to affect the supply of or the demand for exchange, or both. The most extreme controls, or even the milder controls in part, are a result of the disordered state of international finance and trade. In a more permanent sense, some degree of exchange control is the logical consequence of the world trend toward interference with the "orthodox" gold standard, particularly in preventing price levels from being sensitive to changes in gold reserves and of the trend toward managed monetary systems. Certainly a scientifically managed paper standard involves some form of control over exchange rates.

What Constitutes a "Favorable Balance of Trade"?—In the popular mind international trade consists of exports and imports of merchandise, or of the visible items. And, at least from the days of the mercantilists, the popular belief has been in the desirability of an excess of visible exports over imports, the difference to be paid in gold. But, when both visible and invisible items are considered, the debit and credit items of a country's balance sheet will approximately balance.

However, the fact that all payments for both visible and invisible items tend to balance does not answer the question, Is an excess of merchandise exports over imports desirable? No correct answer can be given which will apply alike to all periods of a nation's history. The answer depends on the stage of development to which the nation has progressed, for at certain stages a "favorable balance" is its normal condition, whereas at other stages an "unfavorable balance" is to be expected and is not undesirable. The only occasion for anxiety would arise out of a rapid change from favorable to unfavorable or *vice versa*, or the existence of a heavy unfavorable balance when the country's stage of development calls for an excess of exports. Equally unfortunate would be a favorable balance when the nation's position dictates an excess of merchandise imports—a question now before this country. The stages in the evolution of a nation's international trade in merchandise may be illustrated by our own history. By doing this one can demonstrate the present position of the United States with respect to imports and exports.

1. *The Debtor Period.*—In the early history of our country, from colonial days to about 1875, we had an almost continuous excess of imports. During this period we were establishing our basic industries

and developing our natural resources. We bought abroad vast quantities of equipment and manufactured goods. The surplus imports were bought with the earnings of our merchant fleet and by the borrowing—that is, by the investment of foreign capital in our securities, particularly to finance our railroad building. Payments of interest and dividends to foreigners were less than the annual increase in investment in our country by foreigners.

2. *Transition Period.*—From 1875 to 1914 our excess of visible exports represented mostly the huge sums we had to pay annually as interest to foreigners on their investments in this country. Even though some foreign loans were repaid prior to 1914, this return of *capital* took place at an accelerated pace between 1914 and 1920, when within this short period we reversed our position from that of a debtor to that of a creditor. The sacrificing of American investments by citizens of warring Europe at the opening of the war, plus *an excess of commodity exports from* 1914 to 1920, *amounting to about* 20 *billion dollars,* made this rapid transition possible.

3. *Capital-exporting Period.*—The end of the World War period saw the United States entering another stage, that of a capital-lending country. Loans to rehabilitate Europe and develop industries in South America and Asia were made in such large quantities that our foreign investments were estimated to be about 14 billion dollars at the end of 1931. The purchase in this country of foreign securities required us to buy exchange to make payment or gave foreign countries the right to draw on us. As a result of this exports have left our shores not as gold but as goods. This factor did much to stimulate our exports from 1920 to 1929, a period in which Europe could not have purchased heavily from us if we had not lent her the means of purchasing.

4. *Interest-receiving Period.*—A country which lends heavily abroad cannot expect, however, to remain permanently in the so-called "glorious" condition of a favorable balance of visible trade. Our debtors' annual payments of dividends and interest to us in excess of our payments to foreign investors in this country totaled 523 million dollars in 1928. As additional foreign investments are made, the annual earnings on foreign investments reach a sum larger than the annual increase in the foreign investments which the citizens of a country are willing to make. When this situation is attained, the normal position of a country's visible balance of trade is an excess of imports. The United States is approaching, or has reached, that stage, and its arrival should not be reviewed with alarm. England and France have been in that position for many decades. Germany was strongly in that position prior to the World War. England for many years has normally imported 20 per cent more merchandise than she exported. As creditors these older nations have had the newer parts of the world working for them. If we are to receive inter-

est on our present large foreign loans without further lending on a large scale or an increase in such invisible items as tourist expenditures, we must accept a change in our past excess of merchandise exports over imports.[1]

The term "favorable balance of trade" is used in popular language to refer to an excess of commodity exports over imports. As thus used the term is very misleading. There is not necessarily anything either favorable or unfavorable about commodity exports being greater or less than commodity imports. It depends on the circumstances. An individual would not regard the ability continually to buy more commodities than he needs to sell as "unfavorable." Neither should a nation.

Tariffs, Foreign Investments, and Exports.—How has it been possible for the United States, a creditor country, to continue to have a "favorable" visible balance of trade in the post-war period? Two factors have contributed. First, the rigid protective-tariff policy has acted as a

[1] L. H. Bean summarizes the history of our balance of merchandise trade and the present condition as follows:

How the United States Changed from a Debtor into a Creditor Nation

	Period	Foreign trade	How principally balanced
1	1779–1820	Excess of imports	By profits of our merchant marine
2	1821–1837	Excess of imports	By inflow of foreign capital
3	1838–1849	Excess of exports	By our interest payments on foreign loans
4	1850–1873	Excess of imports	By inflow of foreign capital
5	1874–1895	Excess of exports	By our interest payments on foreign loans
6	1896–1914	Excess of exports	By our interest payments, and tourist expenditures and immigrant remittances
7	1915–1918	Excess of exports	By public and private loans to foreign countries
8	1919–1921	Excess of exports	By public and private loans and credit extended by exporters
9	1922–1924	Excess of exports	By foreign investments in the United States
10	1925–1929	Excess of exports	By private loans and tourist expenditures
11	1930–1932	Excess of exports (much diminished)	By credits extended by exporters and tourist expenditures

"Since the Civil War the United States has exported more than it has imported. Up to 1915, the excess of exports mainly represented the payment of interest and capital on foreign investments in American agriculture, industry, and transportation. During and after the war the United States invested large amounts in Europe. As a result, the excess of exports over imports continued; but the financial basis of the trade movement changed. We had become a creditor nation. Our export balance came to represent loans instead of debt payments to foreign countries. The previous debts had been largely paid off. In other words, we ourselves provided the money to pay for our exports. The alternative, which we declined to consider, was to receive foreign goods in payment."—From *Economic Trends Affecting Agriculture* (U. S. Department of Agriculture, July, 1933), p. 24.

damper on imports, even though a large and growing part of our imports represented payments of interest to us by foreign industries and governments. Second, this was the period of rapid investment abroad by our people, the capital-lending stage as explained above. We advanced the funds to peoples of other nations to create the necessary exchange with which they could pay interest and buy a large volume of American commodities. During the period from 1922 to 1931, inclusive, we earned on our foreign investments the sum of 4,985 million dollars, or an average of 499 millions per year in excess of the earnings on investments in this country held by foreigners. This yearly sum plus an average annual balance in our favor of 687 million dollars for merchandise exports in excess of imports could not have existed side by side had it not been for the huge sum Americans were investing abroad. During this period, we invested abroad 4,936 million dollars in excess of what foreigners invested here, a yearly average of 494 millions. During these years our net tourist expenditures abroad averaged 295 million dollars a year. These 4,936 millions of net foreign investment of American capital plus tourist expenditures largely account for the fact that the people of other nations were able to pay to us the sum of 4,985 million dollars as earnings on private investments plus 1,955 millions of war-debt interest and principal and in addition to purchase from us more commodities than we purchased from them. When we ceased to be willing to make large foreign investments the foreign nations began to default in interest and principal payments of their earlier debts and our exports also declined.

FOREIGN TRADE OF THE UNITED STATES

Total Exports.—In terms of current dollars, the United States foreign trade in merchandise, both exports and imports, increased quite consistently from 1890 until 1929, as shown in Table 41. A portion of this increase, however, represented only the general upward movement of prices. In order to eliminate the effects of changing price levels during the major price oscillations since 1913, the exports and imports from 1913 to 1938 are presented in the last two columns of Table 41 as an index of physical quantity. The physical quantity of exports from 1921 to 1931 averaged one-third above 1913, though exports in dollars' worth in the later period were about one and three-quarters those of the earlier period. Exports during the 1930's in physical volume were back to the 1913 level.

The exports of merchandise have consistently exceeded imports in value, but the difference became especially marked during the World War period. Between 1915 and 1920, inclusive, the excess of exports averaged about 3,200 million dollars a year, whereas from 1921 to 1930, inclusive, it was about 850 millions a year.

TABLE 41.—EXPORTS AND IMPORTS OF MERCHANDISE AND BALANCE OF TRADE OF THE UNITED STATES, 1901–1938[1]

Yearly average or year	Exports (million dollars)	Imports (million dollars)	Excess of exports (million dollars)	Indexes of quantity (1923–1925 = 100)	
				Exports	Imports
1901–1905	1,454	972	482		
1906–1910	1,779	1,345	434		
1910–1914	2,166	1,689	477		
1911–1915	2,371	1,712	658		
1913	2,484	1,793	691	84	66
1915–1920	6,251	3,358	3,165		
1921	4,485	2,509	1,976	106	79
1925	4,910	4,227	683	115	110
1926–1930	4,777	4,033	744	122	116
1929	5,241	4,399	842	132	131
1932	1,611	1,323	288	69	79
1931–1935	2,025	1,713	312	76	92
1937	3,345	3,084	261	105	131
1938	3,362	2,331	1,031	115	110

[1] *Trade Information Bulletin* 839, Tables 1 and 9, U. S. Department of Commerce.

Of our total production of movable goods the percentage exported varied from 12.8 per cent in 1899 to 9.7 for 1909, rose to 15.7 in 1919, and averaged about 10 per cent for each biennial period from 1921 to 1929, inclusive.

Agricultural Exports.—In Table 42, agricultural exports are shown in *dollar value* and as a percentage of all exports. Agricultural exports have formed a declining percentage of the total exports of merchandise from the United States. Whereas from 1800 to 1905 agricultural exports

TABLE 42.—VALUE OF AGRICULTURAL PRODUCTS AND PERCENTAGE OF TOTAL EXPORT OF THE UNITED STATES, 1896–1937[1]

Yearly average	Agricultural products		Year	Agricultural products	
	Value (million dollars)	Per cent of total		Value (million dollars)	Per cent of total
1901–1905	875	61.3	1922	1,884	50.0
1906–1910	964	55.1	1924	2,110	46.9
1911–1915	1,159	49.7	1928	1,863	37.0
1916–1920	2,642	42.1	1930	1,201	31.8
1921–1925	2,013	46.7	1932	662	42.0
1926–1930	1,692	36.1	1934	733	34.9
1931–1935	732	36.8	1937	795	24.1

[1] *Trade Information Bulletin* 839, Table 10, U. S. Department of Commerce.

totaled 61 per cent of the value of all exports, this percentage fell consistently until the war period of 1916 to 1920 (when it was 42 per cent), rose to 47 from 1921 to 1925, and then fell sharply to 36 per cent from 1926 to 1935. In 1937 it was only 24 per cent. Prior to 1920 the declining proportion of agricultural exports did not represent a decline in the value of those exports but indicated that exports of nonagricultural products were growing more rapidly.

In Fig. 42 the data for agricultural exports have been divided by the Bureau of Labor Statistics' index of wholesale prices, with 1926 prices equal to 100. Thus adjusted, the data indicated that agricultural exports

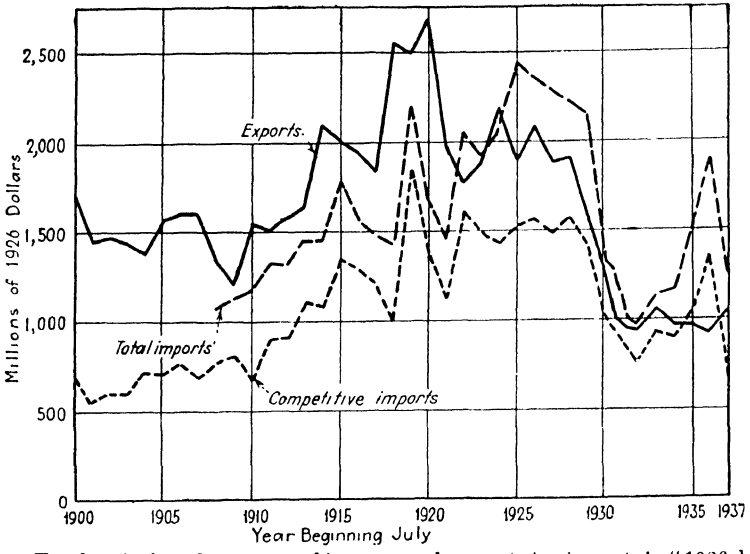


FIG. 42.—Total agricultural exports and imports and competitive imports in "1926 dollars," in the United States, 1900–1937.

reached their peak in 1920–1921. The exports from 1922 to 1930 averaged about one-third greater than before the war but during the 1930's were below the pre-war volume. Note the sharp increase in imports in 1936, while exports remained at the depression low—a result of years of domestic drought.

In Table 43 is shown the change in *physical volume* of agricultural exports in total and by commodity groups from the crop year 1909–1910 to 1937. As is shown in the first column of this table, total agricultural exports reached the highest point during and just after the 1914–1918 World War. Though in the decade prior to 1930 the physical volume of agricultural exports had averaged nearly 20 per cent above the 1910–1914 volume, by 1931–1932 exports had fallen to a point 15 per cent below 1910–1914. Part of the low agricultural exports from 1929 to 1931 was due to the stabilization operations of the Farm Board, which kept the

domestic prices of wheat and cotton above the world price and thus prevented exports.

Figure 43 shows that five groups of commodities accounted for nine-tenths of the volume of agricultural exports in 1928 and in 1936. Of these commodities cotton easily ranks first, with value of exports averaging between 800 million and 1 billion dollars from 1921 to 1929 and equaling 861 million dollars in 1928–1929, or 46.6 per cent of total agricultural exports. Grain and grain products ranked second in 1928–1929 but last in 1936–1937. The remaining three groups of major exports in 1928–1929, in order, are as follows: meat and meat products, 188 million; fruits, 149 million; tobacco, 148 million dollars. Tobacco ranked second in 1936–1937.

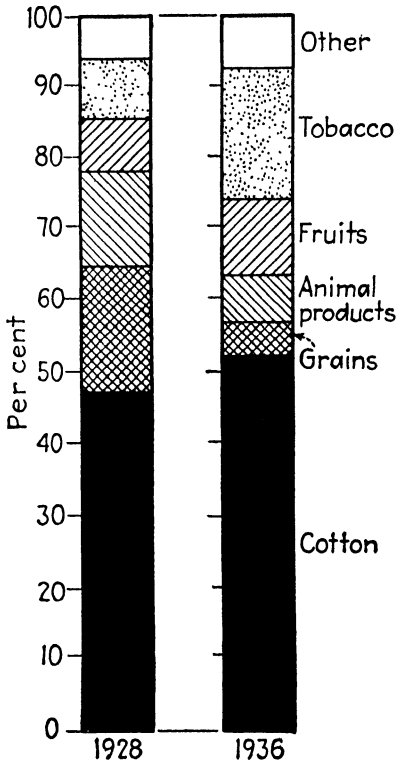


FIG. 43.—Percentage distribution of agricultural exports by commodity groups, 1928–1929 and 1936–1937.

The indexes of the physical volume of agricultural exports presented in Fig. 42 show that total exports reached their lowest point in 1936. This situation was contributed to by the drought of that year but is also partially explained by the effect of government action and selling resistance by farmers which held prices in this country above world prices. The indexes in Table 43 do not indicate the relative importance of the various commodities exported, but only the changes which occurred in each group of exports as compared to the exports of these respective commodities from 1910 to 1914.

The exports of fruit have increased the most consistently and rapidly; nevertheless, in the banner year of 1928–1929, these exports amounted to only about 8 per cent of the value of all agricultural exports. Likewise, the exports of dairy products, which rose rapidly during the 1914–1918 War and long remained considerably above the pre-war level, are minor in total value of exports. Exports of grain and meat and meat products have been declining since the war. Both were low in 1936 because of the drought. Cotton exports have risen to the pre-war level only once since 1913–1914 and since 1933 have been affected by the government program for holding domestic prices above world prices.

TABLE 43.—INDEX NUMBERS OF CHANGES IN UNITED STATES AGRICULTURAL EXPORTS, 1910–1938[1]
(Base 1909–1913 = 100)

Year beginning July	All commodities	All commodities except cotton	Cotton fiber	Grains and products	Cattle and meat products	Dairy products	Fruits	Tobacco
1910	92	92	91	85	104	93	89	90
1915	118	184	70	237	164	479	109	113
1920	127	212	64	329	154	524	108	129
1925	106	123	93	117	114	327	211	137
1932	85	64	100	42	63	74	255	102
1936	56	39	69	20	*	*	192	106
1938	63	88	44	124	*	*	316	121

[1] *Foreign Crops and Markets*, Bureau of Agricultural Economics.
* Discontinued.

Importance of Exports to American Agriculture.—The data presented in Table 44, which indicate what proportion of the total production of farm products was exported, show that the percentage exported varied from 15.6 per cent in 1921 down to 6.5 per cent in 1932.

TABLE 44.—GROSS INCOME FROM FARM PRODUCTION, FARM VALUE OF EXPORTS AND RATIO OF EXPORTS TO PRODUCTION, UNITED STATES, 1921–1932[1]

Year	Gross income from farm production (million dollars)	Approximate farm value of exports (million dollars)	Ratio of exports to production (Per cent)
1921	8,927	1,390	15.6
1923	11,041	1,427	12.9
1925	11,968	1,464	12.2
1927	11,616	1,528	13.2
1929	11,918	1,215	10.2
1931	6,911	467	6.7
1932	5,143	.....	6.5

[1] *Economic Trends Affecting Agriculture*, 1933 (U. S. Department of Agriculture).

Another method of indicating the importance of the export market is to note what acreage is required to produce commodities for the export market. In Fig. 44 the width of the bands shows the number of acres required at average yields to produce the volume of the specified commodity or commodities exported in a given year. According to this chart, American agriculture exported a quantity of goods from 1918 to 1928 which compared very favorably with pre-war exports, a point which is further evidenced by the index of agricultural exports in Table

43. Over 40 million acres out of a tilled area of about 360 million acres were used to produce articles to sell abroad. Beginning with 1914, wheat seems to have been the chief supporting influence, although fruit would

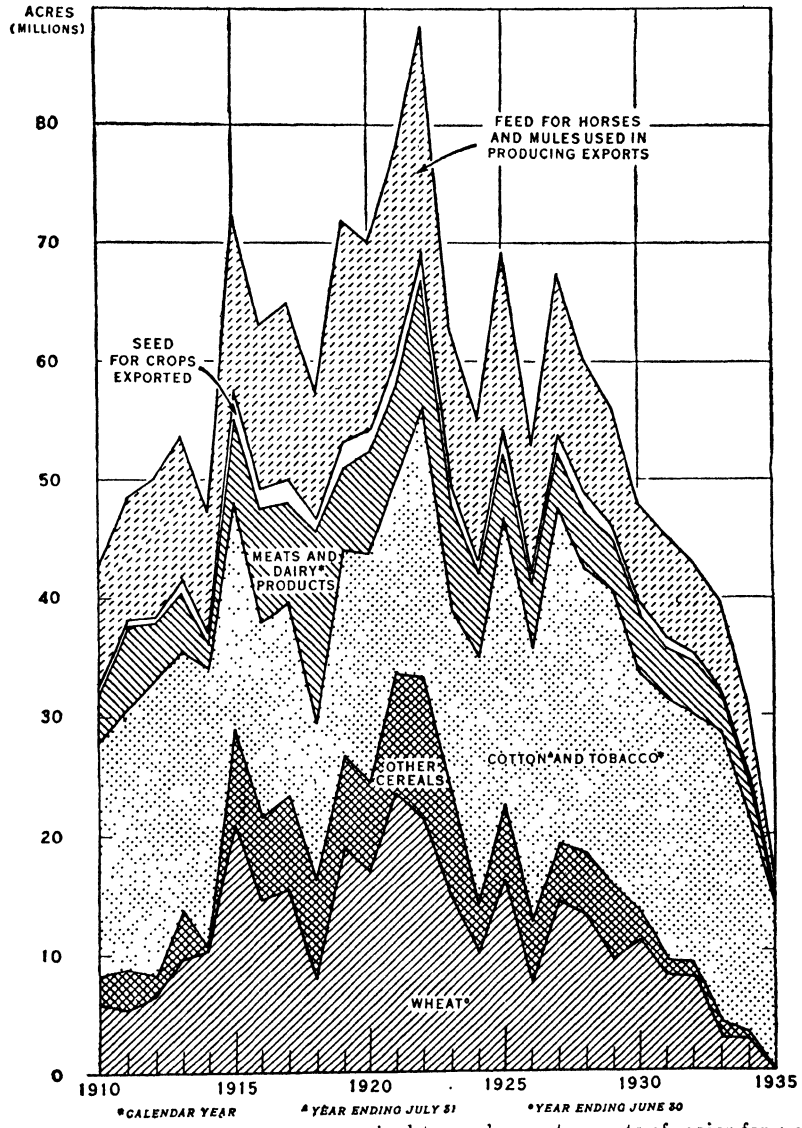


FIG. 44.—Approximate crop acreage required to produce net exports of major farm products, 1910–1935.

have shown an increasing acreage required for export production. The narrowing of the bands representing the acreage used in producing for export meat and dairy products, and cereals other than wheat, is significant in understanding our present export situation. Of importance is the

fact that by 1930 the total acreage required to produce the goods sold in the export market had fallen to the lowest point since 1910. Figure 44 shows that this acreage declined further each year to and including 1935. Inability to continue selling in the export market what had previously been sold there was contributing greatly to the agricultural depression. The precipitous decline in 1934 and 1935 was the result of the drought.

Agricultural Imports.—Agricultural imports have remained about a constant proportion of total imports since 1910, varying between 48 and 65 per cent of all merchandise received from abroad. If the growing item of rubber were excluded, agricultural imports would be a declining share of all imports. As compared to agricultural exports, a great many imports do not compete with products of domestic farmers, and therefore the data in Fig. 42 are adjusted not only for price-level change but also exclude five of the non-competing items—rubber, coffee, tea, cocoa, and spices—which, although produced on plantations and farms, are quite distinct from our farm products. Silk, however, is not excluded. With only the above listed five items omitted, agricultural imports were, until 1930, only three-fourths as great as exports. Agricultural imports (whether competitive or non-competitive) have tended to increase relative to agricultural exports since 1921 (Fig. 42).

In recent years, however, even non-competitive imports as above defined have exceeded agricultural exports. The leading agricultural products imported in value in excess of 100 million dollars per year are ranked as follows: raw silk, coffee, rubber, sugar, molasses and sirups, oil seeds and oil seed products, and hides and skins. Five items—silk, wool, sugar, hides and skins, oil seeds and products, all to some extent competing imports—composed 40 per cent of all agricultural imports in 1930–1931.

THE FUTURE OF THE FOREIGN TRADE OF THE UNITED STATES

In contrast to most of our past in which we enjoyed a growing foreign trade, the future of our foreign export market, particularly for farm products, is highly uncertain. If the only force affecting that trade were to be comparative advantage, some quite accurate prophecies could be made. But with the growth of social control over trade, both here and abroad, not simply in the form of tariffs but also by quotas and other restrictions, not only imports but exports become subject to the uncertainties of the future direction of that control—whether it will be to foster national self-sufficiency or to seek the advantages of international specialization and trade. The future of our agricultural exports will depend largely upon the import policy of foreign countries and upon our willingness to buy from other countries. In addition, our agricultural exports will be directly influenced by the presence or absence of government policies which tend to keep domestic prices of exportable articles

above the world level. Finally, our exports will be influenced, at least temporarily, by such government action as export subsidies.

Comparative Advantage.—The comparative advantage of a country in producing certain goods changes from time to time; and, if free trade prevails, the nature of that country's exports and imports will change accordingly. In part, the shifts in relative advantage may come from technological advances, from the discovery of new resources, or even from changes in demand affecting the scale of operations. In part, also, these changes of a nation's comparative advantage in the production of certain goods are an accompaniment of that country's transition from a new region producing primarily raw materials to the status of a highly industrial area. In the former stage of development, exports tend to be of raw materials and imports of manufactured goods. Usually, in a highly industrialized nation, the character of the foreign trade is the reverse of the above.

In the case of the United States, we can at present note the tendency for agricultural exports to form a diminishing part of total exports. Yet on the grounds of comparative advantage, cotton, hogs, tobacco, high-grade fruits, some grains and some other products should continue to be exported in large volume in the future. The manufactured products exported should continue to be those in which this nation is relatively superior—standardized articles produced on a large scale.

There is some possibility that agricultural imports might exceed agricultural exports in the future if tariffs were very low, though not to the extent that has been true in the history of most industrialized countries. In the absence of tariffs, wool and sugar, frequently beef and some dairy products, among other farm products, would enter in large volume, in addition to the present long list of tropical products. However, with our population sparse relative to our tillable land, we should probably not come to depend on importing the raw products of the farm to the extent that is true of countries of Western Europe. Imports of manufactured goods, if trade were free, would consist of articles adapted to the resources, technology, or artistic abilities of foreign peoples but would rarely be standardized goods adapted to our large-scale production, based on abundant resources of raw materials.

Social Control: the Tariff.—All considerations of the character and volume of foreign trade are subject to the effect of import restrictions of all kinds and, to a lesser extent, of the newer policy of production control. Therefore the further consideration of foreign trade, particularly its prospects, must rest until the tariff problem is discussed. This is the subject of the following chapter.

Questions and Problems

1. Discuss the degree of importance of foreign trade to this nation as a whole and to a number of particular industries.

2. Explain the technique of international payments by showing how it consists mostly of building up and tearing down bank balances. Define a letter of credit and a long bill, and show how they are used.

3. List in order of importance five invisible items in the international balance sheet, and explain their origin. Which of these items showed the greatest changes between 1928 and 1932? Why?

4. Define and explain the gold-import and export points, and explain arbitraging.

5. In what ways does the fact that countries are on the gold standard affect the movements of the exchange value of their currencies?

6. Under what circumstances is a so-called *unfavorable* balance of trade of advantage to a country?

7. Explain the differences in the conditions which resulted in our "favorable" balance of trade in 1908 and 1928.

8. How important is the export market to American agriculture? Give specific information.

9. Summarize the changes in both quantity and kind which have occurred since 1910 in our foreign trade in agricultural products.

10. How would agricultural welfare be affected by a cessation of both agricultural exports and agricultural imports? In answering show that you know what our chief agricultural exports and imports are.

Suggested Readings

1. Ira B. Cross, *Domestic and Foreign Exchange* (1923) treats thoroughly the technique of foreign exchange.

2. A. A. Dowell and O. B. Jesness, *The American Farmer and the Export Market* (1934) is a volume of factual information on the relation of the export market to American agricultural prosperity.

3. Paul Einzig, *Exchange Control* (1937) contains a brief description of exchange-control devices and the effects of such policies.

4. *Summary of United States Trade with the World*, issued annually by the U. S. Bureau of Foreign and Domestic Commerce, provides the most essential data wherewith to keep up to date the statistical material in this chapter. Other data are provided in the section on "Foreign Trade in Agriculture" of *Agricultural Statistics*, issued annually by the U. S. Department of Agriculture. Current data are given monthly in *Foreign Crops and Markets*.

5. F. W. Taussig, *Principles of Economics* (1939), Vol. I. Chapters 31–33 contain a good exposition of foreign exchange. Chapter 33 on Dislocated Exchanges is particularly recommended.

6. Among the recent comprehensive treatises on foreign trade are Jacob Viner, *Studies in the Theory of International Trade* (1937), G. Haberler, *Theory of International Trade* (1936), and P. J. Ellsworth, *International Economics* (1938). Only the last named is recommended for beginning students.

7. F. A. Southard, Jr., *Foreign Exchange Practice and Policy* (1940) treats, in a readable fashion, foreign exchange under present disturbed conditions.

CHAPTER XX

THE TARIFF AND THE FARMER

Protective tariffs are among the devices which a government has at its disposal to stimulate or hinder the production of certain commodities within a country. Duties levied on goods entering a sovereign political unit may be designed primarily to yield revenue, or they may be levied on selected goods at such rates as to protect domestic producers of these goods either partially or entirely from foreign competition in the domestic market. The internal-tax system of a nation also may be so devised as to stimulate the production of certain goods which are desired, or, on the other hand, to force off the market undesirable commodities. The United States government, for example, levies a high tax on all phosphorus matches moving in interstate commerce, and as a result the phosphorus match industry has been destroyed. The government may stimulate the production of goods within its boundaries by bounties on desired articles, though this has not been a favored method of government assistance in this country. A bounty on sugar was provided by the Tariff Act of 1890, but it was replaced by an import duty in 1894 and 1897. The most frequent device used to stimulate a particular domestic industry at the expense of other industries has been the protective tariff.

TARIFF ARGUMENTS

Protection and Free Trade.—The protective tariff calls for the adjustment of duties on imports in such a manner as to give the domestic producers of certain commodities a favored position in the domestic market, compared to their position prior to the tariff. If the customs duties on the particular imported goods are placed very high, the result will be to exclude such goods entirely and to leave all of the domestic market for these goods to domestic producers. Such a tariff may be called a *prohibitive tariff*. It will, of course, yield no revenue, since no goods enter and pay the duty. A tariff may not be entirely prohibitive and yet may so decrease and restrict imports as largely to protect domestic producers from foreign competition, domestic producers thus being enabled to charge higher prices than would otherwise prevail. A tariff may to some extent yield revenue and to some extent be protective. Nevertheless, in so far as any tariff is protective, it must keep foreign goods out, and only goods which enter yield revenue.

Opposed to those who believe in a protective tariff are those who believe in free trade. The doctrine of free trade is not contradictory, however, to a *tariff for revenue only.* The free trader does not argue that no customs duties should be levied, but only that the purpose in levying these duties should be to obtain revenue, not to protect a domestic industry against foreign competition. For this purpose customs duties must not be so high as to be prohibitive. They should also be levied on commodities which are not domestically produced and which, therefore, will continue to be imported in large volume in spite of the duties, or there should be on the domestic production of the commodity an excise tax equal to the duty on imports. Thus a tariff for revenue only can become an important and fairly stable source of revenue for the government.

Points of View.—The tariff problem has been the source of bitter controversy in American politics since 1824. Not only has the controversy been carried on in the halls of Congress and in the campaigns of the political parties, but it has been a topic of heated discussion among individuals. That this problem has been so long discussed, and that the discussion has not resulted in any approach to unanimity of opinion, may be explained to some extent by the fact that the disputants fail to realize to what an extent their stand on the question depends upon the particular objectives which they have in mind. One person may be arguing consciously or unconsciously from the viewpoint of his interests as the producer of a protected item, whereas his opponent may be considering his interests as a producer of an exported article. Under such circumstances, agreement is hardly possible.

To the authors it seems that the various points of view from which the tariff problem may be attacked may well be classified in the following manner: First, there is the contrast between the point of view of individuals interested in their personal economic advantage and that of those interested in the welfare of the nation as a whole. These two points of view are frequently confused in all economic problems, not only that of the tariff. Second, a confusion arises concerning the effect of the tariff in the long run and in the short run. Frequently in a discussion one person will be interested in the immediate effects and the other in effects that will hold true after a period of time, neither one of them in fact realizing fully his own point of view, or the contrast between himself and his opponent in this respect. Third, a confusion frequently arises between the economic and the political considerations involved in the protective tariff. We shall now turn to a discussion of the case for protection and then the case for free trade, attempting to emphasize in each case the conflicting points of view upon which the various arguments are based. Any conclusion which may be arrived at concerning the tariff issue can be only from a given point of view.

The Case for Protection; Economic Considerations.—Five arguments are much advanced by those who favor the protective tariff. Four of these are advanced from the viewpoint of the long-run welfare of the nation as a whole, the remaining one being concerned with the short-run situation. We shall first state these arguments.

1. *Diversification of Industry.*—It is argued that the protective tariff stimulates the diversification of industries, which is taken for granted as an advantage. Instead of specializing in the production of those goods for which the nation is particularly adapted, the protective tariff results in the producing effort of the people being spread over a larger number of industries, some of which can exist only because they are protected. Therefore, it is claimed, each person will be able to find in this diversified field of industries the occupation which fits his particular aptitudes and interests and will be more productive. With this policy, industry in each country will be more diversified than it would be with free trade.

A corollary to the argument for diversification of industries is the contention that the nations which produce exclusively those commodities in which they have the greatest competitive advantages will exhaust their richest natural resources, particularly timber and minerals. In recent years, those supporting this contention have used Great Britain as an example. They point out that the free-trade policy pursued by Great Britain from about 1850 until recently stimulated her industries connected with coal and iron to the extent that she has utilized a large part of her best available deposits and now faces higher costs of production at a time when new and strong competitors have arisen in America and in Continental Europe.

2. *The Home-market Argument.*—This argument is an appeal directed to those whose products do not directly benefit from a protective tariff and is to the effect that such persons should favor a tariff on other products, as this will promote other industries and the people engaged in these protected industries will then form a large home market for all products. This argument has been particularly directed to the farmers of America who produce exported commodities, such as cotton and wheat, as a reason why they should support a protective tariff on such industries as those of manufactured textiles, steel, and cement. It is maintained that protecting some products against foreign competition has not only brought a larger home market for nonprotected products than would otherwise have resulted, but, further, that a home market is superior to a foreign market. The former, it is insisted, will not be disturbed by international difficulties, such as wars, foreign tariffs, and the disruption of financial systems of importing countries. The foreign markets for many products were materially curtailed after 1929 by currency difficulties abroad, by import quotas, and by new and higher tariffs.

All of these defects, it is asserted, are avoided when agriculture, for example, has a large and certain domestic market.

3. *Infant Industries.*—The infant-industries argument is that new industries need protection during their infancy while they are becoming established. This argument has received wide support, not only in the public mind, but from some economists. Years are required to establish in an efficient manner the internal organization, the sources of supply, and market connections for new enterprises. This is particularly true when such industries are being established in a locality distant from plants of a similar kind already in operation. It is held that, if these newly established industries can be fostered through their infancy by protection from competition, they may then be able to compete on an equal basis with the established plants of foreign countries. It is urged that, unless protection is given, private enterprises will be unwilling to run the risk of failure during the trying period in which an industry is being established. But, if protection is granted and if the new industry becomes firmly established, the result, it is said, will be beneficial not only to those interested directly in that industry but to the nation as a whole.

4. *Wages and Standard of Living of Labor.*—It is argued that the protective tariff prevents the jeopardizing of the standard of living of American labor through the importation of the products of cheap foreign labor. It is maintained that the American rural and urban laborer receiving from $2 to $8 per day should not be called upon to compete with the Chinese coolie who is paid only a few cents a day. Laborers in Europe also receive much lower wages than those which prevail in the United States. The advocates of the protective tariff maintain that high wages in the United States have resulted from the protective tariff. This contention added to the idea that industrial prosperity and full employment are dependent on the tariff has been summarized in the slogan "the full dinner pail." Associated with the wages argument is the "standard-of-living argument," which holds that our standard of living will be lowered if we import goods from countries with a lower standard of living than prevails in this country.

5. *Rights of Established Industries.*—Let us turn now to an argument which is based primarily upon the short-run economic welfare of the nation. The protectionist contends that industries already established in a country deserve protection against any new competition which may arise from abroad. Refusal to protect existing industries in the domestic market will result in forcing some of these industries to reduce their number of employees and their purchases of raw materials, and eventually will force domestic plants out of production. During this period of readjustment, not only will entrepreneurs and laborers suffer in the industry from which the protection has been removed, but the

consequent derangement of business relations and loss of purchasing power will affect the whole of the nation. It is contended that the welfare of the nation as a whole demands that present industries be protected from this unfortunate competition, at least until such time as they will be able gradually to go out of that business or else to intrench themselves more firmly to meet the new competition.

Political Considerations. 1. *Self-sufficiency.*—The outstanding argument of a political character advanced to support protection is that it is necessary for a nation to maintain its self-sufficiency. Each nation which is to be a strong power in time of war should produce within its boundaries, if possible, all of the necessary materials for the conduct of a war. For decades prior to the World War the tariff policies of some European nations, notably Germany, were influenced greatly by the desire for military strength. The protective tariff is a useful tool in stimulating the production of necessary materials which would otherwise be imported from abroad. This argument is based upon the assumption that international relations will be such that nations must preserve themselves in a position to conduct successful military operations.

2. *Necessity for Bargaining Purposes.*—Conceding the fact that we live in a world in which nations levy tariffs one against the other, it is maintained that it would be highly disadvantageous for a particular nation to go on a free-trade basis. It is held that it is necessary for this country to maintain a protective policy in order to retaliate against those nations which levy heavy duties on its products and to force such nations to lower tariff schedules. In the actual working out of the tariff policy of the United States, retaliation has not been used to the extent that it has been by several European countries, notably France.

Group Interests in Protection.—The above stated economic and political considerations advanced in favor of protection are those which have been most frequently presented in discussions of this subject. These arguments take the group viewpoint, and this would indicate that those who support protection by such arguments are doing so for the welfare of the country as a whole. However, when one examines the economic interests of those who argue for protection, and, more particularly, when one examines the influences which are brought to bear on Congress relative to the protection of certain products, the conclusion must follow that the support for tariff protection comes from those groups who gain by protection, particularly in the short run. New industries are not sufficiently strong to secure protection by themselves, but, by combining with other groups, they attempt to obtain protection for a wide list of commodities. It appears that the arguments advanced by those who profess to look at the question from a social viewpoint are not always the real motives in the minds of the persons who issue propaganda to obtain votes for their cause.

The Case for Free Trade: Economic Considerations. 1. *Comparative Advantage.*—The primary economic foundation of free trade is the law of comparative costs. Each nation with free trade tends to concentrate upon the production of those goods in which it has the greatest relative advantage or the least relative disadvantage, with the result that production the world over is more efficient than it would be without specialization and trade. The standard of living of each nation depends upon the amount of goods it produces or secures in trade. Specialization according to comparative advantage will increase the production and the standard of living of every nation. The fact that a domestic industry needs protection indicates that that industry is less efficient, comparatively, than other industries in its country. If trade were not advantageous, it would not be carried on. The consumers of the importing country must pay higher prices for protected products than would be necessary if free trade prevailed. The buying power of the consumers in the importing country is also lowered because they are producing in relatively inefficient industries, and because the buying power of a people depends on its productivity. The protection of a certain industry, then, is at the expense of the great mass of consumers. Specialization and trade offer the same advantages among nations as among different people and regions within the nation.

Aside from the law of comparative advantage, the case for free trade consists largely of a series of answers to the arguments for protection. The burden of proof is on protection, or interference with trade, and the program of the free trader is to disprove the protectionist's arguments.

2. *Destruction of Certain Resources.*—The protectionist's argument that the protective tariff preserves natural resources is, according to the defenders of free trade, a boomerang. The latter acknowledge that the protection of industries will prevent a country from using up rapidly its best natural resources. On the other hand, those working in industries using these best resources are usually well able to compete and hence are on an export basis and not benefited by protection. Meanwhile, there is no assurance that a country, once entered upon a protectionist policy, will do so in such a manner as to preserve its most needed resources, for the protectionist program generally is extended in such a manner as to exhaust important natural resources which would have been preserved under free trade. An excellent example of this is the protective tariff on manganese. This metal is one of which our supply is very limited, and it is highly essential in the production of steel. By a protective tariff on this metal we encourage the exhaustion of our limited known deposits and may find ourselves in the future unable to meet our needs for manganese in case of war.

3. *Home Market Inferior.*—The home-market argument of the protectionist has been the subject of bitter attack. It is acknowledged

that protection may stimulate an increase in the part of population employed in certain industries. But this does not furnish an additional market—merely a different one. And the market which is thus provided, stimulated by protection, is inferior to the foreign market which would be established under free-trade conditions. Under free trade the best market will automatically be found. The best market is that market which gives one the most goods in exchange for his goods. Protection establishes a domestic market made up of people working in inefficient enterprises, and therefore these people have less buying power. Of great significance also is the fact that the buying power of the foreign market for American goods is limited by protection, since the purchasing power of foreign countries in the aggregate for American goods is limited by their volume of exports to America. Since foreign trade is fundamentally a matter of barter, foreign nations will not continue to buy from us except to the extent that they can sell to us. We can collect for our exports only by buying abroad, and there is no advantage in selling unless one receives something in return for what he sells. Exporting industries lose by protection for other industries, inasmuch as their costs are increased and their foreign markets are impaired.

4. *Infants Forever.*—Although economists have supported the principle of the protection of infant industries, American experience with protection has caused many to lose their faith in the actual operation of that principle. It is difficult to determine what is an infant industry, for the various factors which may contribute to the permanent success of a new industry cannot be known with sufficient accuracy for Congress to be able to decide whether an industry will be self-supporting after a period of time. Of more influence in turning people against the infant-industries argument has been the fact that those industries which have asked for protection in the United States as being infant industries are still infants after the passage of scores of years. They do not seem eager to throw aside infant clothing and assume manly stature. This attitude is to be expected, since they gain by protection and cannot be expected voluntarily to give up that protection, and hence they continue to bring all possible pressure to bear in order to maintain protection.

5. *Protection Lowers Living Standards.*—To argue that free trade would lower the standard of living of the American working man is to deny the principle of marginal productivity in relation to wages. Wages of foreign workmen are low because of low productivity. The real wages of the American working men are high because of the rich resources of our country, relatively few laborers, and the general efficiency in production by American labor. Protection for industries which otherwise cannot compete turns labor into inefficient industries and lowers the general level of wages and the standards of living.

That employment is provided in protected industries is inconsequential when one considers that under free trade the same labor could be employed more productively in our industries of comparative advantage, producing more goods for export. The money wages of labor may under certain conditions be raised by protection, but this is more than offset by the higher cost of living made necessary by the purchase of high-cost domestic goods. Real wages are reduced. The condition of labor would be improved by free trade. One is not injured by trading with a person who has a lower standard of living than he has, if both parties in the trade secure more goods as a result of the trade. How more goods are secured through trading has been shown in our discussion of the law of comparative costs on pages 135 to 143.

6. *Protection Fosters Monopoly.*—An argument particularly popular in the "trust-busting" days from 1890 to 1910 was that the protective tariff fosters monopoly. In case a high tariff is in effect, it is necessary to control only a dominant portion of the domestic production in order to exercise a degree of monopoly power. A notable example of a monopoly which took advantage of this opportunity was the American Sugar Refining Company prior to 1915. The opposition to the tariff as a parent of monopoly became so strong in this period that in 1908 even the Republican party pledged itself to lower rates.

7. *Proposed Gradual Revision Downward.*—The free traders do not propose that a nation which has followed high protection for a long time shall go suddenly to a complete free-trade basis. Such a drastic change would disrupt existing industry with unfavorable results. They do object to the continual upward movement of rates. They strongly urge the gradual downward movement of rates in such a manner as not severely to disrupt already established enterprises. They point out also that increasing tariffs are detrimental to industries which must sell largely in export markets.

Political Considerations. 1. *Cause of International Difficulties.*—According to those opposed to the protective policy, the tariffs have been and are an important cause of international difficulties. Countries which should, according to the type of their natural resources and industries, engage in international commerce, prefer rather to set up tariff walls and stimulate inefficient industries within their boundaries. Notable examples are the small nations of Central Europe, carved out of old empires or reframed by the Treaty of Versailles. Their new political boundaries cut across old lines of trade, but nevertheless tariff walls are set up along political lines. In establishing such tariffs, nations incur the ill feeling of the countries whom nature has favored with certain natural resources. Retaliations occur. Tariff walls become higher, and the result of the whole situation is international ill will.

Partly in retaliation against the tariff policy of the United States, particularly the tariff of 1930, European nations revised upward tariff rates on American products, notably automobiles and a number of farm products.

2. *Legislative Difficulties.*—The free trader emphasizes the log-rolling, unscientific way in which tariff laws are enacted. Even if Congressmen tried to base their votes upon the merits of each petition for protection, they would be unable to familiarize themselves with the accuracy of the claims made for actual or proposed import duties on the thousands of items included in a tariff act. As a matter of fact, members of Congress are not free to act on the merits of tariff requests. "Statesmen rarely stay in Washington." Those in legislative bodies must follow the wishes of the dominant group of their respective constituencies. In his moves to obtain tariff protection for constituents, the Congressman finds that working for these rates alone will not bring results. Relatively few Congressmen are concerned with a particular rate. Each legislator usually finds that, in order to obtain support for a rate on a particular commodity, he must make trades: exchange his support of rates sought by other legislators for their support of his tariff requests. Not only is this a much criticized legislative practice, but it prevents the consideration of tariff rates on their merits. The final result of this *trading system* is a greater sum total of protection.

Group Interest in Free Trade.—As is true in the case of protection, the majority of the people who support free trade do so because it appears to them to be to their economic advantage. This fact is clearly brought out by the division on the tariff issue which has occurred between the southern states and the northern states and between different economic groups within these major sections. The established attitude of the cotton- and tobacco-producing states of the South has been for free trade. On the other hand, industrial leaders in the manufacturing states of the North and the East who felt that their industries required protection have been opposed to free trade. Even within the free-trade South, the sugar-cane producers of Louisiana desire protection. On the other hand, some of the Northern manufacturers of automobiles and electrical products have come to be opposed to our protective policy, because they feel it reduces the foreign market for their products.

The Economists' Stand.—Most economists are in favor of free trade in principle, although they realize the impossibility of transferring a country of established protective practice to a free-trade basis within any short period of time. Furthermore, they recognize that some protection may be justified for industries essential in case of war. The economists, from the nature of their outlook on current problems, are concerned with the social viewpoint, not with the advantage or disadvantage of protection to particular groups. They attempt to study

the effect of trade restriction on the nation as a whole and in general conclude that it is undesirable.

The major reason for the attitude of economists is their realization of the relation between the free operation of the principle of comparative advantage and the standard of living of a nation. To reward inefficiency in any manner detracts from that standard of living, an effect distasteful to those interested in the economic welfare of the great mass of the people.

Economists are in strong disagreement with the contention that the tariff protects the American standard of living. The standard of living is the result of efficiency, not of rewarding inefficiency through a tariff. The low wages of the Chinese arise from the low output per man. If the reader will turn back to the brief description of Chinese agriculture (pages 145 and 146), he will see why wages are low in China. Of particular significance are the data on page 146, giving the labor requirements for the production of certain goods in China as compared with this country. These show that for a given product the Chinese must expend from twelve to fifteen times the human labor required in this country.[1] And the only fields of activity in which foreign nations can compete with us effectively are those to which their natural resources are unusually well adapted, as sugar in Cuba; those in which they have developed unusual skill, as in the making of certain style goods in France; or those in which hand labor in large amounts is still necessary, as in the production of raw silk or certain kinds of toys. In industries to which our resources are adapted or in fields of activity in which machine processes can be used, we have little to fear from foreign competition in our markets, and it is because of our high production in these industries that our employers are able to pay and do pay high wages, and that we are able to have a high standard of living. It is to our economic advantage to concentrate upon such industries if our comparative advantage is greater in them than in other industries. If we were in general less efficient in production than foreign nations, our standard of living would of necessity be lower than theirs.

THE PRESENT TARIFF PROBLEM

More or Less Protection.—The issue at present is not between protection and complete free trade, but rather a question of more or less protection. Few persons would argue that we should at once abolish entirely our protection policy. To do so would disrupt so many of

[1] Because the American farmer uses more machinery, the making of which involves labor, these data do not accurately represent the full amount of human labor directly and indirectly involved in producing farm products in these two countries. Even with due allowance for the labor used in making machines, however, the output per man in agriculture is a number of times greater in the United States than in China.

our basic industries as to be disastrous not only to those engaged in the industries now protected but also to many other persons in this country. The present issue is between more protection and less protection as a general policy and is further concerned with the treatment of particular commodities in the light of the policy adopted. The free trader argues that we should gradually move toward less and less protection. Just how to adjust rates downward has always been a problem, but it has been suggested that we may adopt the principle used in the Compromise Tariff Act of 1833. This act provided that all tariff rates in excess of 20 per cent ad valorem should be lowered by 10 per cent of such excess every year until 1842, when no rate would be in excess of 20 per cent. Thus, protected industries were forewarned as to what the rates would be in each of the years of the decade. It was then up to these industries to adjust themselves accordingly, or else to liquidate.

Of growing significance in the current tariff issue is the relation of our import restrictions to our foreign market. Until recently we did not feel the need of stimulating exports; that matter took care of itself quite well; but in the minds of business men, financiers, and even of the populace, as witnessed by discussions in recent campaigns, interest in the subject of the export market has been increasing. Such a discussion falls back upon the old principle that "the nation which will not buy cannot continue indefinitely to sell." We cannot collect for foreign sales except in goods. Selling without buying abroad brings about results which cause export sales to decline. Accordingly, the export industries suffer from a protective policy.

The Basis of Particular Rates.—The fact that the present issue is between more or less protection was well brought out by the tariff arguments of the 1932 campaign. Neither major party contended for complete free trade; one argued for a tariff which would equalize production costs here and abroad and the other for a tariff which would place foreign and domestic producers on a plane of competitive equality.

The argument for a tariff which equalized production costs here and abroad first gained prominence in connection with the Tariff of 1909 and was reaffirmed at the time of the passage of the Act of 1922. In order to determine production costs both here and abroad, Congress was to be aided by a tariff board or commission. Furthermore, each of the above laws provided for changes in the rates to be made by the President —in the former law in order to retaliate against countries which discriminated against our exports, and in the latter law in order to equalize production costs here and abroad. Three objections have been raised to the theory of equalizing costs at home and abroad: (1) It is difficult to determine production costs, particularly those abroad. (2) Costs vary widely between producers in the same industry, and hence the question of whose production costs are meant is raised. (3) If the

tariff on any good is fully equal to the difference in the cost of producing that good in this country and abroad, practically all trade in that article will cease. A tariff truly equal to the difference in cost of production is a prohibitive tariff.

For many decades the Democratic party has supported a *competitive tariff*, under which "rates should be fixed at a point where foreign competition may be effective, thereby preventing the growth of monopoly. In the words of President Wilson, 'the object of tariff duties henceforth laid must be effective competition, the whetting of American wits by contest with the wits of the rest of the world.'"[1]

In Congress, the voting on tariffs on particular goods frequently crosses party lines. Congressmen tend to vote according to how particular rates are regarded by their constituents, or as they are led to do by trades in order to obtain protection for their constituents.

The Tariff Commission.—Careful students of the subject quite generally agree that one of the unfortunate aspects of the protective tariff is that actual rates are the result of political maneuvering. Some such persons have hoped that Congress would lay down the general principles which should govern tariff rates and then leave the actual determination of the duties to a nonpolitical administrative agency. To investigate production costs, prices, market conditions, and so on is the task of a specialist.

The first major step in this direction was taken in 1909, when a Tariff Board was established as an aid to the President in administering the provision whereby he was authorized to increase by as much as 25 per cent the rates on goods coming from countries which discriminated against our exports. This board was not continued by the Democratic Underwood Tariff Act of 1913. But it was revived as a nonpartisan commission appointed by the President with the approval of the Senate by the Fordney-McCumber Act of 1922. Its duty has been to investigate the cost of production of goods here and abroad and to recommend tariff changes to the President. Under the *flexible clause* of this latter act, the executive could raise or lower any rate by as much as 50 per cent. Most of the revisions recommended have been for higher rates, a fact which has led to accusations by Democrats that the board has not been free from political influence. Thus far the Tariff Commission has not evoked sufficient public confidence to cause many industries with much at stake, or in the past successful in obtaining political preference, willingly to trust their fortunes to an administrative agency.

The Reciprocal-trade-agreements Program.—Aside from a sharp reduction of tariffs under the Democratic administration of 1913, our tariffs have tended upward for nearly a century. The reductions of 1913 were removed by the Republicans in 1922, and then, in the Hawley-Smoot Act of 1930, tariffs reached the highest point in our history. When the

[1] D. R. Dewey, *Financial History of the United States* (Longmans, 1928), p. 489.

Democrats returned to power in 1932 a new technique of tariff adjustment was adopted—the reciprocal trade agreement.

Under a law passed in 1934 the President was authorized for a period of three years (since extended for two similar periods) to enter into reciprocal trade agreements with foreign countries. A number of restrictions were placed on the content of these agreements, among which were (*a*) no articles might be transferred from the dutiable list to the free list or *vice versa*, (*b*) no tariff rate might be increased or decreased by more than 50 per cent, and (*c*) the most-favored-nation clause must be included in the treaties. According to this clause, concessions in the treaty are granted not only to the other party to the treaty but also are extended automatically to all other countries which in no way discriminate against the United States in matters of international trade. This means that the tariff concessions in the bilateral agreements thereby become general concessions to most nations. In the negotiation of the treaties the results of this clause are modified, however, by the practice of making concessions to a country only on goods of which it is the chief supplier.

By 1940 over twenty reciprocal trade agreements had been negotiated. In general, tariff concessions have been moderate. Certainly the program has hardly dented the accumulation of tariffs and other trade restrictions. Without this method of tariff adjustment, however, progress toward increased freedom in trade would have been unlikely. Those groups on whose products only minor tariff concessions have been made have become increasingly vociferous. Though all interested parties have been given hearings by the State Department, as is required by the law, this can hardly be expected to satisfy where dollars and cents are involved. Significantly, those who have benefited—producers of exported commodities, exporters, consumers, business men in purely domestic industries—have been rather inarticulate.

The international trade policies and methods of the totalitarian nations caused the future of world trade to be especially uncertain in early 1940. If the world becomes one in which trade among nations is not by free negotiation among the business men of different countries, but is carried on by government monopolies or by business men under the meticulous control of government, the United States may be forced to adopt similar tactics. Furthermore, in case of war or an armed peace, national political or military ends may supplant the welfare of business men and consumers as the guide to public policy. Under such conditions the applicability of the trade agreements program which has been pursued will be greatly limited.

Trade Restrictions to Protect Balance of Payments.—Much of the great wall of tariffs, import quotas, and restrictions on use of credit for the importation of goods, which has been built up since 1929, has not been

designed to shield specific industries, but to protect a nation's balance of payments. Most of the nations of the world, with the notable exception of the United States, have, on various occasions in recent years, experienced a sizable excess of debits in international transactions. The varied means adopted to correct such a situation are somewhat different in character and in objective from the more usual devices aimed to protect specific domestic industries. Specifically, the usual protective tariff has different rates for each commodity. When, however, the objective is to reduce debits, uniform tariffs will be put on broad groups of articles, or restrictive quotas will be placed on the importation of certain goods. In part these newer techniques represent the disordered state of international affairs, and in part the attempt of countries to introduce governmental control, as opposed to market control, of their economies.

THE EFFECT OF THE TARIFF ON AGRICULTURE

Points of View.—The interest in the farming industry in the tariff problem may be discussed from four points of view: (1) To what extent may the producers of certain agricultural products be benefited by tariffs levied against importations from foreign countries? (2) To what extent may farmers gain by more protection for farm products or for the products of urban industry? (3) What effect does protection have on farmers as consumers? (4) To what extent is the foreign market for exported American farm products affected by our present protective policy? This fourth question has become of high importance in the 1930's, and the answer to it requires a thorough consideration of the basic principles underlying all foreign trade.

Protected Items.—On practically all farm products produced in this country there is a tariff. The rates for a number of products as provided in the Acts of 1922 and 1930 are shown in Table 45. Until 1930 two important products without protection were cotton and hides. It was generally considered useless to put a tariff on cotton in view of the fact that over half of our production is sold in foreign countries. A limited amount of cotton of very long staple, however, is imported, and to protect producers of such cotton the Act of 1930 placed a tariff of 7 cents per pound on all cotton having a staple one and one-eighth inches or more in length. Hides were unprotected until 1930, because shoe manufacturers objected to a tariff on that raw material. The Act of 1930 placed a tariff of 10 per cent ad valorem on hides, 20 per cent on shoes, and from 10 to 30 per cent on different kinds of leather.

As shown in Table 45, the rates established in 1930 were nearly all higher than those of 1922, wool being an important exception. A comparison of the farm prices of February, 1933, shown in the last column of the table, with the tariff rates in effect at that time, reveals that in several cases farm prices were less than the amount of the tariff. With a tariff of

TABLE 45.—IMPORT DUTIES ON SELECTED AGRICULTURAL PRODUCTS AS PROVIDED BY THE ACTS OF 1922 AND 1930, AND PRICES RECEIVED BY FARMERS IN FEBRUARY, 1933[1]

Commodity	Unit	Rate of Act of 1922 (cents)	Rate of Act of 1930 (cents)	Farm prices, February, 1933
Butter	Pound	8†	14	$0.158¶
Cheese	Pound	5	7	.....
Eggs (shell)	Dozen	8	10	0.11
Eggs (dried)	Pound	18	18	
Wheat	Bushel	30	42	0.323
Corn	Bushel	15	25	0.194
Sugar (refined basis)*	Pound	1.89	2.14	
Wool (clean basis)	Pound	31	29	0.088**
Cattle	Pound	1½–2‡	2½–3	0.031
Beef (fresh)	Pound	3	6	
Flaxseed	Bushel	40	65	0.871
Hides	.....	Free	10 per cent	

[1] Some of these rates have been modified by reciprocal trade agreements. The aid for domestic sugar is now not merely a matter of a tariff but is a complicated arrangement of subsidy to domestic producers, and of opposite changes of tariffs and import quotas, changed by administrative order. Though the sugar tariff has been lowered the supply has been restricted and the price enhanced by quotas for the United States and all other sources of supply.

* This is the duty on sugar from Cuba, which is 20 per cent less than the rate from other nations.

† This was increased to 12 cents in 1926.

‡ According to weight of animals.

¶ Butterfat.

** In grease basis.

42 cents per bushel on wheat and 25 cents per bushel on corn, the average farm price for wheat was 32 cents and for corn 19 cents. This illustrates well that the price of a commodity is not increased by the full amount of the tariff unless appreciable quantities of that commodity must be imported in spite of the tariff.

Two farm products for which over an extended period of years the prices have been appreciably increased by the tariff are sugar and wool. Continental United States in the past has produced only from 20 to 30 per cent of the slightly more than 100 pounds of sugar per capita which its population consumes each year. Sugar from our island possessions, including Puerto Rico, Hawaii, and the Philippines, is permitted to enter free of duty, and these islands in recent years have supplied from 30 to 40 per cent of the sugar consumed in the continental United States. The remaining 30 to 50 per cent has come from Cuba. As we use only from half to two-thirds of the Cuban supply, the Cuban price is a world-market price. The price of sugar in the United States has been close to two cents per pound higher than it would have been had Cuban sugar been permitted to enter free of duty, and American producers have received about

that much more for their product than they would have received without the tariff. Even with this subsidy, sugar production has not been particularly profitable in the United States, and our total production has shown no pronounced increase. The greatest gainers from the sugar tariff have been the producers of Puerto Rico, Hawaii, and the Philippine Islands—areas in which production has recently increased to a marked degree. An American family of five using directly and indirectly 500 pounds of sugar per year in past years has paid for that sugar about $10 more than it would without the sugar tariff or other restrictions on imports. Of this amount, until recently from $5 to $4 went to the U. S. Treasury in duties collected on Cuban sugar (the sugar tariff has furnished about one-fourth of our government's revenue from all tariffs); about $2 has gone to sugar producers in this country; and from $3 to $4 went to the sugar producers of Puerto Rico, Hawaii, and the Philippines. The revenue derived from the sugar tariff shows that it has not been prohibitive. Many tariffs on industrial products are practically prohibitive.

During the eight years beginning with 1924 about 40 per cent of the wool consumed in this country was imported, although more recently the percentage has been 20 or less. The tariff on wool, accordingly, is effective, in the sense of increasing the price received by domestic producers. It is, however, not effective on all grades of wool at all times by the full amount of the duty. Coarse wools used in the manufacture of carpets and a few other articles are duty free, on the theory that they do not compete with domestic wools.

In 1922, the American Farm Bureau Federation sponsored a study of the extent to which the tariff on farm products increased the prices received by American farmers for all such products. It is worthy of note that about two-thirds of the total estimated gain was reported as received by producers of sugar and wool.

Since the time when the above mentioned study was made, there has been a marked increase in the degree of effectiveness in tariffs on other farm products, as evidenced by the existence of higher prices for these products in the United States than in the outside world market. Since 1922 the price of 92-score butter in New York has generally been higher than the price of the best Danish butter in London, and it is certain that without the tariff considerable butter would have been imported into this country. In 1929 John D. Black concluded that:

> Duties on butter are probably adding as much as $50,000,000 to the gross receipts of the dairy farmers selling butter fat and perhaps an equal amount to the receipts of farmers selling milk and cream for use in cheese, ice cream, condensed and powdered milk, fluid milk, etc.[1]

[1] *Agricultural Reform in the United States* (McGraw-Hill, 1929), p. 206.

Another farm product on which the tariff has been more effective during the last decade than it was in earlier years is beef. Black in 1929 estimated that the tariff on beef and veal was adding to prices received by American cattlemen "well on toward $175,000,000 per year."

Flaxseed is a minor product of which the price has been sustained by the tariff, though the fact that the farm price of flaxseed dropped from $2.85 per bushel in November, 1929, to 83 cents per bushel in December, 1932, reveals the limitations of the tariff on this commodity as a price-sustaining measure.

Before 1929 the United States usually exported from 20 to 25 per cent of its production of wheat, and the tariff on most classes and grades of wheat was ineffective, the price depending on the export market. The Federal Farm Board held the price of wheat considerably above an export basis. This it could not have done without the tariff. But the effect was that this wheat piled up in this country and caused price declines later. In the drought years from 1933 to 1936 the wheat crop amounted to about two-thirds of a normal crop, being less than sufficient (if the carry-over from previous years is not counted) for a year's needs for domestic consumption (including seed). Under these circumstances the tariff aided in raising the price in the United States appreciably above a world level.

Lemons and other California fruits and nuts are among the special products of which the prices have been sustained in varying degrees by the tariff.

Effect of More Protection.—To what extent would farmers gain by more protection for farm products? The answer to this question is problematical. Practically every farm product is protected from direct competition of like goods produced in foreign countries. What foreign competition remains is almost entirely indirect, such as the competition of bananas with apples. With apples on an export basis, it is questionable whether a tariff on bananas and higher accompanying tariffs would be to the advantage of American apple producers. The answer depends in part upon the degree to which bananas consumed in this country replace apples which would otherwise be consumed, and the answer to that question is unknown. Such a tariff might easily result in further foreign tariffs on American apples in retaliation against the extreme tariff policies of this country. Tariff advocates often appear to assume that the particular tariffs they ask for are the only ones that will be levied. There can be little question that this country's extreme tariff policy has been a contributing factor in the high tariffs of other countries, which have greatly reduced the export markets for American farm products.

Furthermore, in the long run particular groups of farmers cannot hold much of the advantage which they get over other groups of farmers or other parts of the population by means of tariffs. The owner of land

which is suited only to sugar or sheep may permanently gain from a tariff on sugar or wool. But, because the exclusion of foreign products in the long run means a reduction of our exports, tariffs result in the long run in such a shifting of people out of the industries previously selling in the export markets that the particular groups who secure an immediate advantage are not able to retain that advantage, particularly as to wages. Wages in protected industries will not be higher than in the other industries, and the ability of more industries to pay high wages is reduced by the tariff. Universal protection can help each group only if the general effect is greater productivity. In the light of the law of comparative costs, it can not be successfully maintained that this result follows from a protective tariff.

Tariffs on Manufactured Goods.—The schedule of import duties on manufactured goods does not prohibit entirely the importation of manufactured goods, though the rates are the highest ever levied in this country. Further protection for urban industry should result in further urbanization. Would this benefit farmers? Those who assert that it would do so make use of the home-market argument for a protective tariff. The fundamental fallacy of that argument has already been mentioned. The argument assumes that if urban industry is able to charge farmers higher prices this will benefit farmers, as the urban population will spend with farmers some of this greater income from the higher prices which farmers have paid. The disadvantage to the farmers is that they receive a smaller amount of urban products in exchange for a given quantity of their products. Farmers are not benefited by higher prices for the things which they must buy. Tariffs take more from those who pay higher prices, because of them, than they give to those who receive higher prices, because of them.

Farmers as Consumers.—Those farmers engaged in producing protected commodities may gain, at least temporarily, enough from protection for their products to offset their loss as consumers who must buy at higher prices. But when we add together the farmers who produce commodities on an export basis and others who receive little direct benefit from the tariff, we have included the majority of the farmers. When these farmers purchase sugar, wool products, or any other protected agricultural or industrial commodity, the price they pay is higher than that which they would have to pay if the protective tariff did not exist. Because of the tariff on sugar, farmers in the aggregate pay increased prices for sugar by an amount greater than the benefits from the sugar tariff to all sugar producers in Continental United States. The effect of protection on these farmers is a reduction in the purchasing power of their income. John D. Black, writing in 1929, attempted to reduce the effect of the tariff to quantitative form. He estimated that the amount

annually added to the farm value of protected farm products was 560 million dollars, and that of this farmers themselves in the aggregate paid 260 millions; thus farmers received a net gain of only 300 million dollars from a tariff on farm products.[1] This analysis, however, gave no consideration to the detrimental effects of our tariff policy on foreign markets for our farm products. Neither did it consider the amount added to the farmer's costs of production and of living by tariffs other than those on farm products. Black's study was made prior to the passage of the Tariff Act of 1930 and the beginning of the depression. To measure in a quantitative manner fully and with reasonable accuracy all the effects of a tariff policy such as that of the United States is a well-nigh hopeless task.

The Tariff and Foreign Demand.—An analysis of the effect of a protective policy on the foreign demand for the commodities of which the United States produces a surplus for export requires that we recall some of the principles of foreign trade. In Table 46 the balance of payments of the United States for the eight-year period from 1923 to 1930 inclusive is summarized. This will assist us in visualizing the relation of our loans abroad and similar debit items to foreign demand for our products during these years, and the situation which now prevails in the export market.

TABLE 46.—ESTIMATED BALANCE OF PAYMENTS OF THE UNITED STATES DURING THE PERIOD 1923–1930[1]

Credits	
Excess of commodity exports over imports	$ 4,853,000,000
Private interest received	6,237,000,000
War-debt payments (interest and principal)	1,684,000,000
Increase in foreign investments in the United States	1,722,000,000
Bond discounts and commissions received in connection with foreign investments	746,000,000
Miscellaneous other items (net)	713,000,000
Total	$15,955,000,000
Debits	
Net investments abroad (par value)	$ 6,293,000,000
Tourist expenditures (net)	3,759,000,000
Interest paid on foreign funds in the United States	2,233,000,000
Immigrant remittances and charity (net)	2,143,000,000
Freight and shipping (net)	586,000,000
Foreign representation and other government payments (net)	488,000,000
Gold (net)	453,000,000
Total	$15,955,000,000

[1] From "The Balance of International Payments in 1930," *Trade Information Bulletin*, 761, U. S. Department of Commerce, Table 19.

First, it will be seen that new investments abroad of 6.3 billion dollars exceeded new foreign investments in the United States of about 1.7

[1] *Ibid.*, p. 214.

billions by an amount about equal to our excess of merchandise exports of 4.9 billion dollars. We lent abroad enough to pay ourselves for our excess of exports. Second, it will be seen that tourist expenditures of 3.8 billion dollars and immigrant remittances and contributions to charity of 2.1 billions together exceeded the excess of exports. These items also may be considered as the way in which the interest we received was collected. The above given data indicate that loans and large tourist expenditures and immigrant remittances, all invisible debit items, all funds sent from this country, made possible a fairly large excess of merchandise exports as well as the collection of interest on previous loans. However, our people have ceased to invest in foreign securities. Immigrant remittances will decline under our newer immigration laws. Furthermore, interest earned on old loans, a credit item, after a time comes to exceed the annual volume of new loans. In fact, an examination of these two items in Table 46 will show that for this eight-year period they were approximately equal. With the cessation of new loans and the decrease in tourist expenditures on the debit side, there must be a marked reduction in the items listed under credits if the two sides are to balance.

It will be noted that the credit and debit items do balance, though, in bringing about this balance during the eight years shown in the table, this nation gained nearly half a billion dollars in gold. For foreign nations to buy continually from us more than they sell to us results in their losing gold, in case they permit its exportation. To prevent such loss of gold, and to prevent a great decline in their exchange rates in case they were not on a gold standard, European nations have placed many restrictions on the importation of farm products. In short, the flow of gold and the behavior of the exchange rates bring about a balance between credit and debit items in international trade. The United States cannot hope to continue to make large export sales of farm products without increasing purchases of foreign goods.

Foreign Trade, the Tariff, and Agriculture in 1940.—Secretary of Agriculture Henry A. Wallace, in 1933 issued a statement entitled *America Must Choose.* In that statement and in a number of public addresses, he summarized in a clear-cut fashion the tariff problem and the tariff outlook as it then was and as it still is, in so far as it affects agriculture. We shall summarize his views as expressed in one of these addresses.[1] After reviewing the consequences of past tariffs, of loans abroad, and of other factors which led to a decline in exports of farm products, he pointed to three possible courses of action: (1) internationalism, or the abolition of our protective policy; (2) nationalism, or the confining of agricultural production of each commodity to the requirement of the domestic market; or (3) a compromise, a definite plan of

[1] Address at Muncie, Ind. Direct quotations below taken from *The Packer*, Nov. 18, 1933.

partial tariff reduction on industrial products and a partial contraction of agricultural production.

Concerning internationalism, he stated that such a plan meant that certain industries which are either inefficient or have used the tariff to enjoy what essentially is a monopoly profit will be harmed by the necessary lowering of the tariff. This means that, if the majority of the people of the United States decide on internationalism as a long-time policy, they must be prepared to withstand the severe political pressure coming from such groups as gain from protection.

If nationalism be the choice, the Secretary said that we must be prepared to make permanent the retirement of 40 to 100 million surplus acres of crop land, the amount depending on whether we take the good land or the bad. If the bulk of the people of the United States decide for nationalism, they must, he said, "resist firmly those special groups who try to get farmers to produce for a market which no longer exists—railroads, commission men, packers, millers, and exporters. . . . If we finally go all the way toward nationalism, it may be necessary to have compulsory control of marketing, licensing of plowed fields and base and surplus quotas for every farmer for every product for each month in the year. . . . In other words it may be necessary to make a public utility out of agriculture and apply to it a combination of an Esch-Cummins Act and an Adamson Act."

Concerning the third alternative course, Wallace said, "In some ways this seems to me to be the best. But the trouble with it is that unless we do it with our eyes wide open, we tend to get confused and to suffer the handicaps of both paths without getting the benefits."

The Secretary summarized the issue as follows: "The important thing, once we have fully debated and understood the issues from a long-time point of view, is that we follow out the policy in all of its implications even though certain people are hurt. If we follow the international program, we absolutely must receive great quantities of goods from abroad and must not be disturbed by the clamor of the people who are hurt thereby. If we follow the national program, we must resolutely plan to keep 50 million acres of land out of use, no matter how loud may be the outcry of certain carrying, handling, processing and exporting interests. If we decide to lower our tariffs only part way, and reduce our acreage only part way, we must have the courage to do sufficient of both so that the job is done." The issues raised by the Secretary in 1933 are still significant and still unsettled in 1940.

We could, of course, continue to export and at the same time to keep out foreign goods by high tariffs, if investors and savers in this country would again buy freely of foreign securities, and we would not insist on collecting interest on such "investments," or on ever having the principal repaid.

Questions and Problems

1. How does a protective tariff differ from a revenue tariff in commodities to which it is applied and in amount of the duty?

2. Exactly what is the *home-market argument* for a protective tariff, and how does the free trader answer it?

3. Summarize and discuss the reasoning on which the free trader bases his conclusions that wages even in a protected industry are not increased by a protective tariff.

4. Point out several respects in which the immediate effects of a protective tariff are different from the long-run effects.

5. Summarize the effects of a tariff equal to the difference in cost of production at home and abroad.

6. Summarize the history of tariff legislation in the United States since 1913.

7. Owners of what particular kinds of land may gain in the long run from a protective tariff?

8. Compare the effects of the tariff on those engaged in agriculture in two states in which such effects are relatively different.

9. Do the farmers of the United States as a whole gain or lose by our protective tariff? Why?

10. What conditions cause the tariff problem to be especially significant in 1940?

11. Trace recent progress of the reciprocal-trade-agreement program.

Suggested Readings

1. Harry Gunnison Brown, *Economic Science and the Common Welfare* (1923), Part I, Chap. VI, is one of the most interesting as well as thorough discussions of the tariff and free trade available in a single chapter.

2. F. W. Taussig's two books, *Some Aspects of the Tariff Question* (1931) and *The Tariff History of the United States* (1931) are among the more scholarly treatises on the tariff question. His *Principles of Economics* (1939) Vol. I, Chaps. 36 and 37, covers the tariff issue in a briefer manner.

3. L. D. Ellis, *The Tariff on Sugar* (1933) treats thoroughly the operations of the tariff on that particular commodity. This is available from The Rawleigh Foundation, Freeport, Ill., for 50 cents. From the same source may be secured reports on other special studies of the tariff with particular relation to agriculture.

4. H. C. Wallace, *America Must Choose* (1934) is an excellent portrayal of the tariff problem of 1934, with particular reference to the effect of tariff policies on agriculture.

5. C. A. Beard, *The Open Door at Home* (1935) is a plea for a policy of economic nationalism coordinated with a policy of domestic economic planning.

6. F. D. Graham, *Protective Tariffs* (1934) is an excellent statement of the problem and of the economists' views.

7. The University of Chicago Public Policy Pamphlets: F. W. Fetter, "The New Deal and Tariff Policy," and "Autarchy: National Self-Sufficiency," are recommended strongly as good statements of current foreign-trade issues.

8. J. G. Smith, *Economic Planning and the Tariff* (1934) is recommended as a keen analysis of the current tariff problem of this country.

9. H. J. Tasca, *Reciprocal Trade Policy of the United States* (1938) is a discriminating analysis of that subject.

10. Francis B. Sayre, *The Way Forward* (1940) is an excellent explanation of and argument for the reciprocal-trade-agreement program by one who has had an active hand in the formation of trade agreements.

CHAPTER XXI

TAXATION AND THE FARMER

Every citizen, including the farmer, is interested in governmental finance, both as a taxpayer and as a recipient of governmental services. In a society such as ours, characterized by marked inequality in the income of individuals, it should not be expected that each person will receive as benefits an amount equal to his contribution to governmental income. Yet each person is directly or indirectly a payer of taxes and at the same time receives some benefits from the existence of government and the performances of its activities. The farmer's interest does not cease with the taxes he pays, which are primarily property taxes (Table 49, page 506) but must include a consideration of the entire field of public revenue which supports the government in its activities, many of which are of peculiar value to agriculture.

This twofold interest of the citizen points out the two aspects of public finance with which we should concern ourselves here: public expenditures and public revenues.

Increase of Public Expenditures.—The total expenditures of all governmental agencies in the United States have been increasing rather consistently since the turn of the century. These expenditures increased from 1.8 billion dollars in 1903 to 2.9 billion dollars in 1913 and then to a wartime peak of 18.6 billions in 1919—falling thereafter, only to rise again to an estimated expenditure of 17.2 billion dollars in 1937 (see Fig. 45). The wartime increase was largely in Federal expenditures, but the gradual rise from 1922 to 1930 was due largely to the increase in the outlays of state and local governments. The sharp increase from 1933 to 1937 was related to Federal outlays for veterans, relief, and public works.

Total expenditures may be misleading, for they logically change with population growth and price-level variations. In Table 47 expenditures have been stated on a per capita basis and the data then adjusted for price-level changes and expressed in 1929 dollars. The data so adjusted show that the per capita expenditures in 1938 were $134.40 as compared with $107.38 in 1929 and $54.13 in 1913. Of the total per capita expenditures in 1929, 30.1 per cent was for Federal purposes, 15.3 per cent for state use, and 54.6 per cent for expenditures by local governments. By 1938, however, the Federal share had risen to 44.8 per cent.

Notable changes have occurred in the proportion of the total expenditures by each of the jurisdictions: Federal, state, and local. The period

before 1914 saw a marked increase in the expenditures by state and local governments, both in dollars and in proportion of total expenditures (see Table 47). Then during the war period of 1917–1919 Federal expenditures rose sharply (Fig. 45). The 1920's witnessed a consistent growth of state and local expenditures, with Federal expenditures about constant. During the depression years after 1929, however, Federal outlays rose to exceed all previous peacetime levels and, in 1938, constituted about 45 per cent of total expenditures.

TABLE 47.—VOLUME OF GROSS GOVERNMENT EXPENDITURE IN THE UNITED STATES FOR SELECTED FISCAL YEARS, 1890–1938, EXPRESSED IN 1929 DOLLARS[1]

Disbursing authority	1890	1903	1913	1923	1929	1938
			Million Dollars			
Federal	695	1,063	1,239	3,841	3,932	7,840
State	184	408	686	1,230	1,990	9,546
Local	1,162	2,042	3,301	5,080	7,126	
Total	2,041	3,513	5,226	10,151	13,048	17,386
			Per Capita			
Federal	$11 01	$13.14	$12.83	$34.40	$ 32.36	$ 60.21
State	2.92	5 03	7.11	11.01	16.38	74.19
Local	18.45	25.22	34.19	45 47	58.64	
Total	$32 38	$43.39	$54.13	$90.88	$107.38	$134.40
			Percentage Distribution			
Federal	34.0	30.3	23.7	39.2	30.1	44.8
State	9.0	11.6	13.1	12.5	15.3	55.2
Local	57.0	58.1	63.2	48.3	54.6	
Total	100.0	100.0	100 0	100 0	100.0	100.0

[1] The estimates of governmental expenditures are those in *The Cost of Government in the United States*, 1929–30, National Industrial Conference Board, Table 1, and in the same organization's *Economic Record*, Vol. I, No. 7. These data have been adjusted for price-level changes through dividing by Carl Snyder's index of the general price level, with the base changed so that 1929 = 100.

Historically, there has been a tendency to shift more of the cost of government to the larger units. States have taken over an increasing portion of the support of highways and schools. During the 1930's the Federal government assumed the major portion of the cost of relief. It should be noticed that in 1929 the percentages of total expenditures spent by the states and the Federal government were higher than in 1913.

Expenditures and the National Income.—The percentage of the national income spent by government is a better measure of changes in expenditures than is per capita outlay, even when the latter is adjusted for price-level changes. In 1890, government spent 7.1 per cent of the

national income; in 1929, 14.8 per cent; and in 1938, 27 per cent. Some idea of the extent to which these different percentages reflect increases in dollars spent in contrast to changes in the national income can be obtained by examining Fig. 45. Over a period of years taxes and similar receipts should take as much of the national income as do expenditures. At a given time taxes may be below or above expenditures, as the difference is borrowed, or is used to retire loans. Historically, public debt has tended to mount, expenditures usually exceeding revenues.

Net state and local debts grew nearly 6 billion dollars between 1922 and 1929, whereas the Federal debt was being reduced. In contrast, beginning with 1930, state and local debt have remained about the same

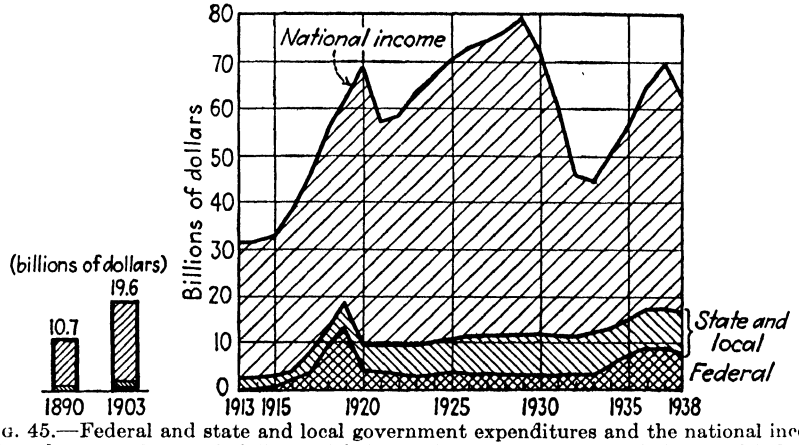


FIG. 45.—Federal and state and local government expenditures and the national income, various dates, 1890–1938, in billions of dollars. (*From publications of the National Industrial Conference Board.*)

up to 1940. Meanwhile the Federal debt was increased from about 16 billion in 1930 to over 37 billions in 1938 and approximately 44 billions in 1940.

Causes of Increased Expenditure.—Briefly, what were the causes of this increased governmental expenditure? Prior to 1933, so far as the Federal government is concerned, paying for the last war in the form of veterans' relief, bond interest, and principal, plus the current expense of the army and navy, accounted for most of the increase. In the fiscal year of 1928, expenditures for protection and debt redemption and interest, which are largely chargeable to the last war, totaled 3,190.4 millions or 80.3 per cent of all Federal government cost. In the 1932 Federal budget, about $3 out of every $4 was appropriated for military, war debt, and similar expenditures. The effect on the Federal budget of expenditures related to the depression is portrayed in Fig. 46. As the depression deepened, outlays for the usual operations of the government declined, but government loans to business, etc., increased. Public works were

begun early in the depression and reached their peak in 1936 and 1937. Federal appropriations for relief began in 1934 and have continued in large volume without evidence of a permanent decline. The increase in regular operating expenditures after 1934 was related to transferring some recovery expenditures to this category, to the bonus payment in 1936, and, in the most recent years, to enlarged military outlays.

Aside from war and relief costs, the answer not only for the Federal government, but for the state and local governments as well, lies chiefly in the fact that, as our civilization has become more complex, it has

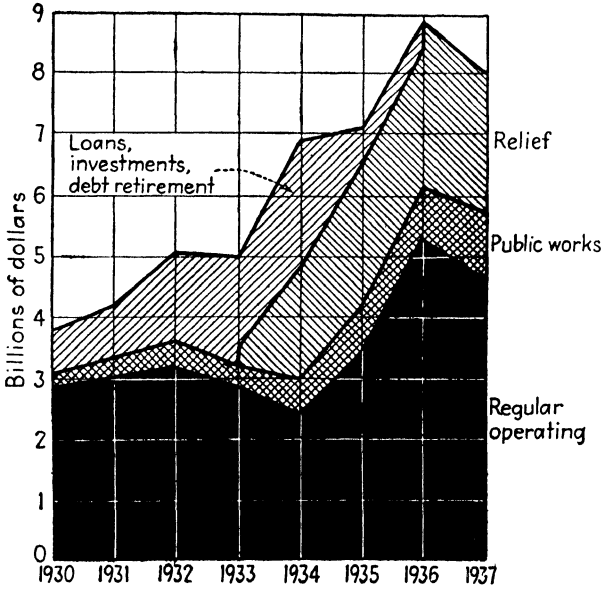


FIG. 46.—Changes in major groups of Federal expenditures, 1930–1937. (*Based on data contained in U. S. Treasury reports.*)

become necessary and desirable for the government to carry on a widened scope of activities. A dense population requires relatively greater expenses for the maintenance of law and order. Our complex economic organization results in certain injustices if unregulated. In particular, those who are economically weak—the consumer, the laborer, and the small business man, such as the farmer—must be protected from those who are economically strong. This fact results in governmental activities to prevent monopoly, to preserve fair methods of competition, to inspect foods and drugs for purity, and to regulate the hours and working conditions of labor. Thus our state and local governments as well as our national government have established various regulative agencies whose activities, involving the employment of a large number of people and other expenses, bring a heavy public expenditure. All governmental activities other than education and highways accounted for 56.4 per cent

of the net, or 43.8 per cent of the gross public expenditures in 1928 (see Table 48). Net expenditures exclude payments of bond interest and principal.

The governmental activities which have contributed the most to the increase of state and local tax burdens in the last few years are those developmental activities whose purpose is to promote the mental and

TABLE 48.—FUNCTIONAL DISTRIBUTION OF COMBINED GOVERNMENTAL EXPENDITURES, FISCAL YEAR 1928
(Computed by National Industrial Conference Board)

Purpose of disbursement	Million dollars				Percentage distribution	
	Federal[1]	State[2]	Local	Total	Net total	Gross total
Education	15.2	512.0	1,942.9	2,470.1	25.2%	19.5%
Highways	92.7	580.9	1,127.9	1,801.5	18.4	14.3
General government	358.0	107.1				
Protection	1,551.4	170.0				
Economic development	178.1	61.4	2,698.9	5,529.5	56.4	43.8
Social welfare	58.8	238.9				
Miscellaneous	2.4	6.9				
Public utilities	77.3	20.3				
Net total	2,333.9	1,697.5	5,769.7	9,801.1	100.0	77.6
Debt redemption	905.9	52.4	403.5	1,361.8	.....	10.8
Interest	733.1*	86.9	640.3	1,460.3	.....	11.6
Gross total	3,972.9	1,836.8	6,813.5	12,623.2	.....	100.0

[1] Federal expenditures except debt redemption on basis of checks issued. Debt redemption on basis of daily U. S. Treasury statements, revised.

[2] Excludes Federal aid except for 10.8 million dollars, which cannot be eliminated in the functional distribution.

* Includes 14 million dollars premium on the public debt.

physical well-being of the citizens. It has been found desirable for the government to carry on many activities which individuals used to perform for themselves. At an early period a father paid for the education of his children. Developed highways were toll roads. Each person had to buy the books which he wished to read; he could not draw them out of a public library. We believe now that it is of advantage to society as a whole to have much of the education, the providing of road transportation, the supplying of some reading material, and much of the work of preserving health performed by the public. Education took 25.2 per cent and highways 18.4 per cent of the net public expenditures in 1928. A considerable part of the payments on interest and principal of the public debt of state and local governments should also be assigned to these

activities. These newer additional activities force the various governments to find new sources of revenue or else put a heavier burden on the old sources.

During the years 1930–1939 a materially larger share of public expenditures, particularly those of the national government, were for direct relief of distress and for public works and other activities designed to assist in business recovery. Outlays for education and similar activities were curtailed during the deeper part of the depression but expanded again later.

Benefits of Expenditures.—The size of recent public expenditures on a per capita basis, as shown in Table 47, may be misleading—even though they are adjusted for price-level changes—for three reasons. First, citizens must realize that the government now performs for them activities which they themselves formerly paid for directly, such as school privileges, use of roads, and so on. In addition, the government now performs activities which were beyond the power of the individual to accomplish previously. As illustrations, we note the attempt to preserve the general healthful environment of a community through draining swamps, requiring the removal of garbage, and administering quarantine laws. Third, whereas individuals purchase largely tangible goods and are fully conscious of the satisfaction which they derive from consumption of these goods, the government renders services which are largely intangible in character and of which the citizens are not fully aware. Many of the services of the government are those of creating a desirable environment to which we become so accustomed that its presence is seldom realized, although its absence would bring criticism of the government and a movement for reform. Law and order maintained by the government are necessary for either personal security or property values.

REVENUE PRINCIPLES AND SYSTEMS

The Nature of a Tax.—Governments have varied sources of income: taxes, fees, special assessments, rates charged by public industries, and even public borrowing. The last three do not add to the net spendable revenue of the government, for at the time of obtaining the funds a corresponding liability is incurred. Fees (charges levied for certain government services) do give a certain amount of revenue which the government may spend in a certain way, but they do not furnish revenue for the general expenses of government. They simply repay the government in part for a special service to the one who pays the fee. Special assessments are levied on property owners to pay for specific improvements, such as street paving, the government merely acting as a collection agency between the property owners and those who install the improvements. Usually, governments do not obtain an appreciable net income above the

costs involved in operating public industries, for rarely are public industries in the United States operated for the purpose of obtaining a profit. In fact, many public industries are operated at a loss; for example, the Federal postal service and most publicly owned street railways. When the government borrows, it at the same time incurs a liability which must be paid off in the future.

Taxes are distinguished from one or more of the above sources of revenue in the following respects: (1) Taxes are compulsory in a sense that all people who fall into a certain group, such as property owners, are subject to the tax. (2) Taxes provide net revenue which the government is free to spend in such manner as prescribed by law. (3) The purpose of levying taxes is to obtain revenue to carry on those governmental activities which promote the general welfare. The proceeds of taxation are not to be spent to provide particular benefits to certain people, unless in the providing of these benefits a public benefit is also conferred. When the state supports institutions for defectives, those people are receiving a benefit but at the same time society as a whole is being benefited.

Federal Tax System.—The general direction of change in the Federal revenue system has been away from taxes on commodities imported or produced in the country toward taxes on incomes of persons and corporations, although the deficit in 1932 led to new excise taxes on commodities. Prior to the nineties, except during war periods, the Federal government relied almost solely on import duties and a few minor excises, taxes which as a rule are passed on to consumers in higher prices. From the nineties until 1914, excise taxes on selected commodities, particularly tobacco and alcoholic beverages, became more significant. After the imposition of the income tax in 1914 as a permanent part of the revenue system, this direct tax came to be the major source of Federal revenue. From 1924 until the deficit of 1932 the tendency had been to exempt all smaller family incomes from the Federal income tax, a married couple without dependents being allowed $3,500 of net income tax-free and there being further allowances for specified dependents. The $3,500 exemption was reduced to $2,500 in 1932. By the Defense Tax Law of 1940 exemptions were reduced to $2,000 for a married couple without dependents and $800 for a single person. In 1928 the personal and corporate income taxes contributed 2,174 million dollars or 64.5 per cent of the Federal revenue. Excises during the same year produced 16.6 per cent, import duties 17.1 per cent, and the estate tax 1.8 per cent of the total tax revenue of the Federal government.

With the coming of the depression in 1930, not only were expenditures increased, but the revenue from the income taxes and import duties was reduced, income-tax collections in 1931 declining to 44 per cent of the 1930 figure in spite of higher rates. The deficit was covered by some manu-

facturers' sales taxes, "upping" of rates and lowering of exemptions on incomes and estates, and by borrowing. In the late 1930's the personal and the corporation income taxes each yielded slightly more than one billion dollars annually, each furnishing slightly more than 20 per cent annually of the total Federal revenue. The most important excise tax for a number of years has been the one on tobacco. Since 1934, following the repeal of the national prohibition laws, taxes on liquors have produced an almost equal amount of revenue. These two excises supplied about 10 per cent each of the Federal government's total revenues in the late 1930's. Slightly less than 10 per cent of the total revenue has been furnished by sales taxes on manufacturers and dealers. In 1938 over 12 per cent of the Federal government's revenue was supplied by social security and other payroll taxes.

Farmers in the past have paid relatively little directly in taxes to the Federal government, though they may have paid considerable indirectly. Direct taxation of farmers has been primarily by the state and local governments. To the description of their tax systems we now turn.

The Development of Modern State and Local Tax Systems.—In the early days of the New England colonies, such taxes as were levied were on property, the ownership of which represented the economic position of the various citizens. At a later date the New England colonies had a faculty tax, which was a tax on artisans and professional people who held relatively little or no property. The southern and middle colonies experimented with customs duties on imports and exports. Even before the Revolutionary War, the middle colonies were coming to rely more and more on taxes on specific kinds of property, particularly land. The establishment of the Constitution brought a separation in revenue sources; the Federal government was to obtain its support from such taxes on commodities as customs and excises, and the various state governments were in effect given the field of property taxation.

Early state tax systems raised most of the revenue from taxes on specific kinds of property, chiefly land and major improvements. From time to time additional types of tangible property were added to the list of taxable property. Then later, particularly as the corporate form of business organization came to be increasingly popular, new forms of property which were intangible—that is, represented claims of one person on another person or corporation, such as stocks, bonds, mortgages, or promissory notes—were added to the list of property subject to taxation, the result being the general property tax. Finally, most of the state constitutions came to include a clause known as the *uniform tax clause* which was stated in some such words as these: "All property shall be taxed according to its true and fair value." The legislature was allowed to exempt from taxation certain property such as that used for charitable or educational purposes.

The uniform tax clause is significant in taxation for the following reasons: (1) It implies that all property is subject to taxation unless specifically exempted. (2) All property must be taxed in the same manner, that is, according to its true and fair value. (3) The fact that this clause was put in the constitution of many states has been a serious barrier to further changes in tax systems.

The state and local revenue systems of most states are still dominated by the general property tax, which provided 58 per cent of their tax revenue in 1939. By January, 1938, twenty-eight states had some fairly comprehensive tax on the sale of commodities, and thirty-five had personal income taxes. In 1939 sales taxes yielded 14 per cent, income taxes 11 per cent, and gasoline and motor vehicle charges 39 per cent of state revenues. As these other revenue sources developed, states almost ceased to use the property tax as a revenue source, but that tax still provides about 94 per cent of local revenues.

The Proper Distribution of the Tax Burden.—Who should bear the burden of supporting public activities? Two theories advanced to answer this question have been in wide vogue, although the tendency is increasingly toward the second of these theories. The first theory is that each person should contribute to the support of the state in proportion as he receives benefits. The second theory is that each person should contribute toward the support of the state in proportion to his ability. The benefit theory implies that the taxpayer is hiring the government to perform certain functions for him and that he is paying in proportion as he receives benefit. There are certain difficulties with this theory. One of the most significant of these is that many of the governmental activities confer such a general benefit that the benefit conferred upon a particular taxpayer cannot be measured. Furthermore, in so far as any quantitative expression of benefit is possible, many people who receive the most benefit from our government today are those who pay few or no taxes. Examples of such people are those in old people's homes, insane asylums, public orphanages, and so on. Finally, the benefit theory assumes an erroneous relation between the citizen and the state. The state is not hired by the taxpayer to protect property and promote health, and so on, but it is the duty of the citizen to contribute to the support of those activities which promote the general welfare in proportion as he is able. Perhaps the most satisfactory theory concerning the proper distribution of the tax burden is that taxes should be levied in the manner which will be most conducive to the general welfare.

People of wealth and large incomes often receive such large incomes, because of defects in government, as enable these taxpayers, or those from whom they inherited their wealth, to exploit their fellow citizens. It is the duty of the state to protect property, but the citizens should realize that rights of property could not exist without the services

of the government, nor could their wealth be as productive without the social environment created by government. Protection of property by government is justified only because it promotes the general welfare; and such protection should not be considered the end of government activity but only a means of providing for the common benefit.

The ability theory has the wider vogue today on the grounds that our present concept of society is that each person is but a part of the whole and should contribute to the support of that whole in proportion as he has ability. Just what ability means is rather difficult to determine, but in general it seems to mean that the tax burden shall be so distributed that the sacrifice which each taxpayer makes will be approximately equivalent. This theory implies that contribution in direct proportion to the amount of property or income is not sufficient, for the man who has a $10,000 income per year and pays 10 per cent in taxes sacrifices less than the man who pays 10 per cent out of a $1,000 income. It seems, therefore, that progressive taxation, or a system by which the rate of tax increases with the size of income, best fits into the concept of ability. Our attention is now turned to the question as to whether the general property tax, as it is applied today, fulfills the theory as to who should support the government and in what proportion.

Tax Incidence.—The final distribution of the tax burden cannot be ascertained by comparing the taxes paid with the ability of those who actually hand over the funds to the government. In many cases these taxpayers are able to pass on the burden to others, shift the tax as it is called. But finally some persons receive the burden and cannot pass it on, and the incidence of the tax is said to be on them. The fulfillment of the ability theory calls for a tax system which distributes the burden according to ability to pay, not primarily among the original taxpayers, but among those upon whom the incidence of the taxes falls.

The most usual way of passing on taxes is through higher prices for products or services. The principles governing incidence will be discussed later in connection with farm taxation. It will suffice here to indicate that the incidence of income, poll, inheritance, and land taxes tends to be on the original taxpayer. The incidence of taxes on property improvements and on commodities tends to be on the consumers of these goods and their services.

Defects in the Principle of the General Property Tax.—The general property tax is weak in both theory and administration. The theory of the general property tax is that ability is best represented by the value of the property which a person possesses and, furthermore, that all forms of property have the same ability to pay in proportion to their value. It is an ad valorem tax, or one levied according to value. In a frontier society in which all people were of approximately the same economic position, and such differences as did exist were represented by the possession of

land and its improvements, this theory was fully applicable. And to the extent that certain parts of the United States are still primarily agricultural, the general property tax is still reasonably satisfactory. In the last few decades, particularly in the more highly developed states, new forms of ability have arisen which are not included under the heading of property. In 1927, 39 per cent and in 1930 about 50 per cent of all of the incomes reported to the Federal government for purposes of Federal income taxation arose from personal services and not from property. Except in so far as they are home owners and in so far as taxes are shifted to them by other taxpayers, many income receivers are escaping taxation for state and local purposes in those states which have the general property tax as the almost exclusive source of revenue. The first defect of the general property tax is, therefore, that it does not reach all forms of ability.

Moreover, the general property tax is a proportional tax; that is, the amount which each man pays is in direct proportion to the value of his property. The general property tax does not provide for the idea of the progressive rate which the ability theory seems to require. The wealthy property owner pays property taxes in the same proportion to the value of his property as does the poorest farmer, although the sacrifice involved in the latter case is much greater. In short, the second defect of the general property tax is that it is proportional, not progressive.

All property does not have the same ability to pay taxes. It is questionable whether household goods represent the same ability as does property which is earning an income, for the taxes on the former are not earned by the property but must be paid out of revenues from other sources. Intangible property does not have so great ability to pay taxes as does tangible property, for the former, to a large extent, represents property already taxed and to tax it again at the same rate would involve double taxation. To tax a farm at its sale value and then tax the mortgage on that farm is unjustifiable, particularly when one realizes that the holder of the mortgage will pass his tax on to the farmer through charging a higher interest rate. Yet there is a general feeling among taxpayers and tax authorities that intangible property should not be entirely exempt from taxation. It can not be taxed at a lower rate so long as state constitutions include the uniform tax clause. The third defect of the general property tax then is that not all property has equal ability to pay.

Administrative Difficulties of the General Property Tax.—Not only does the general property tax fail to fulfill the requirements of the ability theory as applied to modern society, but the administration of the tax brings about many additional injustices. The leading defects in administration surround the assessment of the property or the process of determining the value of the property for tax purposes. If assessors assess all property at a uniform percentage of its true value, it makes no

difference whether that percentage be 10 per cent or 100 per cent of its true value. Obviously, the rate of taxation, or the percentage the tax is of the assessed value, must be higher where the assessment is at a small percentage of true value, but that is not unjust if all property is assessed in the same manner. Injustices arise when different assessors assess at different percentages of true value. Such a situation can easily arise among the districts covered by different assessors. If the county is the assessing unit and the assessor in County *A* assesses at 40 per cent of true value and the assessor in County *B* at 60 per cent of true value, the burden of county taxes will not be affected, since uniform rates of assessment of true value are assumed to be applied within each of the two counties. But property owners in County *B* would have to pay 60/40 or 1½ times as high state taxes in proportion to the true value of their property as residents of County *A*.

Attempts have been made to overcome the differences in assessed valuation in different taxing districts by the process of equalization. In the case of equalizing between counties, a state Board of Equalization holds hearings and determines whether the assessors in the various counties have assessed at different proportions of true value. If such differences are found, the Board of Equalization has authority to raise or lower the assessed values in entire counties so that the burden of state taxes will be distributed among the counties in proportion to true value.

Inequality of assessed values arises not only among tax jurisdictions but also among property owners in the same assessment district. Investigations in various states have shown that the same assessor will assess different pieces of property at widely varying percentages of true value. The net effect of all of these variations in the ratio of assessed value to true value of farm lands is astounding. The variation in the percentage which assessed value is of sale value for 2,150 pieces of farm real estate in Iowa is shown in a study by the Iowa Experiment Station and quoted by Whitney Coombs.[1] Ten per cent of the farms were assessed at from 10 per cent to 33 per cent of sales value, whereas another 10 per cent were assessed at from 64 to 100 per cent of sales value. That this situation is not limited to Iowa is shown by similar investigations in other states.

Income Taxation.—A major fiscal purpose of taxing people according to their net income is to bring about a more equitable distribution of the tax burden. Incomes arising from personal services rather than from property can be taxed in this way. It permits the application of progressive rates or taking a higher percentage of the income as a tax as the income becomes larger. Thus the generally accepted concept of taxing according to ability may be realized.

[1] Whitney Coombs, "Taxation of Farm Property," *Technical Bulletin* 172, U. S. Department of Agriculture, Fig. 2.

Another purpose of income taxation is to assist in the redistribution of wealth and income. Heavily progressive income taxes, plus similar inheritance taxes, both prevent concentration of wealth and tend to reduce the concentration which has already taken place.

In late 1940 the Federal tax is with some exceptions 24 per cent on the net income of corporations having net incomes in excess of $25,000, with lower rates on net incomes of less amounts. There is also a tax of $1 per $1,000 of declared value of stock, payable regardless of profits or losses. Corporations may at intervals of several years give any "declared value" they desire for their stock. In the following years they must pay, however, in addition to all other taxes a surplus-profits tax of 5 per cent on profits above 10 per cent of the declared value of the stock, and a tax of 12 per cent on earnings in excess of 15 per cent of the declared value of the stock.

From gross receipts, taxpayers, both corporations and individuals, are allowed to deduct business costs, bad-debt losses, limited gifts to charity and some other items to arrive at taxable income. In addition to the personal exemptions of $800 for single persons or $2,000 for married couples, $400 is allowed for each dependent. The normal rate of 4 per cent is levied on all net income above exemptions. Surtax rates, or additional rates, begin to apply when a person's net taxable income exceeds $4,000. These surtaxes increase by irregular amounts until they reach the maximum of 75 per cent on income in excess of five million dollars.

State income taxes differ from the Federal tax largely in that personal exemptions are smaller, in permitting sometimes an offset for property taxes paid, and in that rates do not rise to such a high point. Ten per cent tax on the largest incomes is a higher rate than is usual in state laws.

The two major problems of income taxation are the difficulty of administration and the irregularity of revenue. The tax is usually administered by having the taxpayer declare his income and then having officials check the declaration as best they can. To the taxpayer the determination of income is itself a difficult task. Revenue varies with changes in business conditions as, for example, during the depression years 1930–1932; personal net income reported to the national government was only 13.2 billion dollars in 1931 as compared with 18.1 billion dollars in 1930. Reports are not required on small incomes.

THE BURDEN OF FARM TAXES

Taxes Paid by Farmers.—The Bureau of Agricultural Economics, in cooperation with state experiment stations, has carried on an extended investigation of the burden of farm taxation.[1] Of the estimated total

[1] Much of the material presented in this section was taken from Whitney Coombs, "Taxation of Farm Property," *Technical Bulletin* 172, 1930, U. S. Department of Agriculture.

taxes of 901 million dollars paid by farmers in 1927, 84 per cent, or 755 millions, were on property (see Table 49). Except in those states in which the property tax on automobiles is included in the license, the license is a type of burden distinct from the property tax. The proceeds of motor-vehicle licenses, and of gasoline taxes, are, to an increasing extent, used to build highways. These public charges, therefore, confer a definite benefit on those contributing. Relatively few farmers have incomes sufficiently large to pay considerable, if any, income taxes. Much the same conclusion applies to inheritance taxes. Poll taxes are almost extinct. Farmers do contribute to the recent sales taxes. Nevertheless, farm taxation is primarily a problem of the general property tax and its effects.

TABLE 49.—TAXES PAID BY FARMERS IN THE UNITED STATES IN 1927*

Kind of tax	Amount	Percentage
General property	$755,000,000	83.8
Automobile license	50,000,000	5.5
Gasoline	65,000,000	7.2
Income, Federal and state	15,000,000	1.7
Inheritance, Federal and state	10,000,000	1.1
Poll	6,000,000	.7
Total	$901,000,000	100.0

* Whitney Coombs, "Taxation of Farm Property," *Technical Bulletin* 172, 1930, U. S. Department of Agriculture.

The estimate of 901 million dollars of taxes paid by farmers does not consider the possibility of the farmers' passing on part of this burden to those who use farm products. The extent to which this avenue of escape is open to farmers will be discussed below. Nor does Table 49 attempt to include the taxes paid by others which are passed on to farmers, particularly in the form of higher prices for the things which farmers purchase. Quantitative information on this point is not available. This statement of taxes paid by farmers is larger than some other estimates given in this text, in that this one includes all taxes paid by farmers whereas some of the others include only property taxes paid by farm operators on land and capital used for production purposes.

Farm Taxes and Prices of Products.—The property-tax rates paid by farmers increased consistently from the pre-war period to 1930, even though prices for farm products declined greatly after 1920 and continued much below the wartime peak This fact is illustrated in Fig. 47, in which the tax rates per acre and the prices of farm products are compared as percentage changes from the pre-war period. In so far as prices of their products represent farm prosperity, the volume of farm taxes moved inversely to rural prosperity for most of two decades following 1913.

Without doubt, rapidly increasing taxation has been one factor contributing to the low net income of farmers as a group since 1920. Even before the 1930–1932 decline in prices, say in 1929, farm taxes were 181 per cent above those of 1913, although the prices of farm products were only 46 per cent above those of a similar period, 1910–1914. In 1938, farm-tax rates were 86 per cent above the 1913 rates, although farm prices were 5 per cent below the pre-war point. The farmer's taxes and his selling prices have been more nearly in harmony in the last few years than for eighteen preceding years.

Taxes and Farm Values.—Farm taxes have come to be heavy relative to farm real estate values. From 1913 to 1920, taxes rose more rapidly than did farm values, as is indicated in Fig. 47. Then from 1921 to

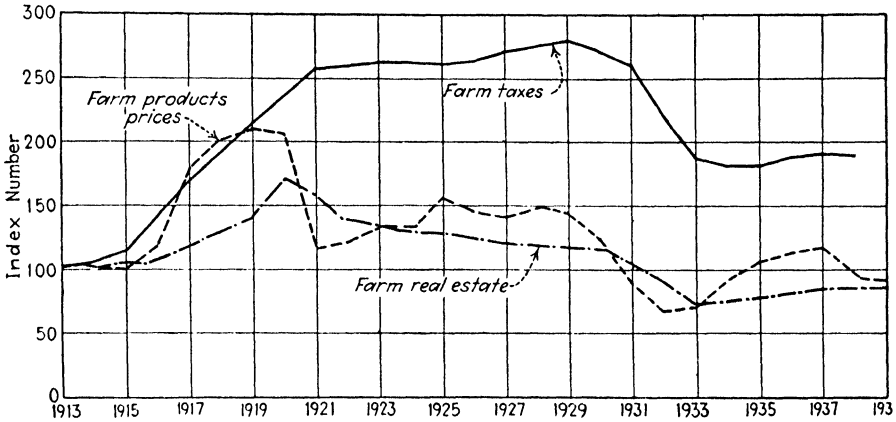


FIG. 47.—Farm tax rates, fram products prices, and farm real estate value in the United States, 1919–1937.

1929 taxes continued to grow larger year by year, whereas the value of farm real estate declined. Thus taxes became an increasing burden in relation to the value of the tax base, the farmer's real property. The situation has improved somewhat since 1933.

Taxes and Land Rents.—It is more important to compare taxes paid by farmers and the net returns from farm land than to consider merely the total taxes paid by farmers. The data to be presented here apply only to the general property tax. The best indication of the net return to property is the landlord's receipts from cash tenants. The net income of owner-operated farms is not so fair a test of property income, for to allow properly for wages, managerial returns, and profits to the farmer is difficult. These elements are absent where cash rent is paid.

Investigations carried on between 1919 and 1928 in representative counties in fourteen states showed that about 30 per cent of the net cash rent was taken by taxes. This was only an average, the situation in different states varying considerably. Moreover, the data were collected

in only a few counties in a few states, but there is reason to suppose that a complete nation-wide investigation would have shown a similar situation. A comparison of these results with the best available data on taxes on urban property indicated that, in general, farm owners paid a higher proportion of their rent as taxes than did urban landowners. The percentage of rent required for taxes was greater in 1932 and thereafter than in the years covered in the above presented study.

Taxes on Owner-operated Farms.—The relation of the tax burden to the income of owner-operated farms also is instructive. In computing the return to owner-operated farms, the difference between cash income and cash outgo is adjusted for increases in the inventory of personal property on the farm. The value of food produced and consumed on the farm is next added. From this sum are deducted wages for the farmer and his family. The remainder is the return to the farm and the farmer's managerial ability and is termed *net returns before deducting taxes.*

Of this return to owner-operated farms, the percentage which has been taken in taxes varied from 31.4 per cent in 1923 to 18.5 per cent in 1927,[1] according to information furnished by farmers on questionnaires. From 1930 to 1932 taxes took an increasing percentage of the farm operators' income with some improvement thereafter because of higher farm prices. When the various sections of the United States are considered, wide variation is found in the tax burden. The percentage of net returns taken is least in the southern states and highest in the north central region. It must be remembered in interpreting these data, as Coombs points out, that in the southern states, governments did less in providing education, roads, and other important improvements than in the north central states.

What conclusion follows from this factual material? The conclusion that farm land is bearing a heavy burden of taxation is inevitable. Furthermore, the general opinion of tax authorities is that real property, both urban and rural, is bearing too heavy a burden in proportion to its ability. But, before this conclusion is made final, the situation should be examined further to determine whether it is possible for the farmer to pass on the burden of taxation to those who consume farm products. A still further problem calls for the consideration of the effect of governmental expenditures (particularly those for roads and schools) upon farm costs and farm values.

The Incidence of Farm Taxes.—*Incidence* refers to the final resting place of the burden of taxes. Therefore the incidence of any tax is upon the person who cannot shift this burden to anyone else.

The shifting of a tax involves either increasing the price of the product which the taxpayer produces, or reducing the price the taxpayer pays for his cost factors and thus enabling him to shift the tax backward. *In order that a tax may be shifted either forward or backward, imposition of the*

[1] Whitney Coombs, *op. cit.*, Table 23.

tax must result either in a decrease of the supply of that which is taxed or in an increase in the demand for that which is taxed. Shifting backward would come through a reduction in the taxpayers' demand for the raw materials, labor, and other elements of cost used in their business. However, taxes levied on one type of economic activity alone, such as agriculture, could not be shifted backward to any great extent. Most materials and other cost factors of production are used in many or all industries, so that the decreased demand for these factors by one industry suffering under heavy taxation would not materially reduce the prices of these factors. Only in cases in which the industry subjected to the increased taxation is the major user of a raw material and there is no monopoly among those supplying that material is there opportunity to shift the tax backward.

The greatest possibilities for shifting taxes generally lie in passing the burden on to consumers in the form of higher prices than would otherwise prevail. The imposition of a tax will not of itself increase the demand for the product upon which the tax is placed or which is produced by means of that which is taxed. Therefore, in the case of a quantity already on the market, sellers will have to absorb the tax if they are to sell all of the goods on hand. When we consider a longer period of time, we realize that sellers will not continue to absorb the tax if they can avoid it. In Chap. X it was pointed out that the price of any good under competitive conditions tends to equal, over a period of time, the cost of production to the bulk-line or representative producer. With this in mind, it seems logical to conclude that if a tax is levied in such a manner as to become part of the cost of production of those units of the total supply which are just on the margin of being produced or not being produced, the tax in the long run will tend to be passed on in higher prices. On the other hand, if the tax is levied in such a manner that the burden falls only on those producers who are obtaining a surplus above the cost of production, or the amount necessary to persuade them to remain in production, the tax cannot be passed on. The taking of part of this surplus by the government will not cause the producers to leave production and hence will not reduce the quantity on the market so that the price will be increased. With these general principles of incidence of taxation in mind, our attention will turn to the incidence of taxes on improvements and then of taxes on land.

Incidence of Taxes on Improvements.—For purposes of analysis, that part of farm value which is represented by improvements must be separated from that part which is represented by natural resources. Of course, the general property tax does not select these improvements for particular taxation, but, when the general property tax is increased, the burden on improvements is increased. Suppose the burden of taxes on farm improvements, including buildings, fences, drainage systems, irrigation projects, and equipment, is increased. The first effect of this increased tax will be to take part of the farmers' net income. But those

farmers who are just on the margin of staying in production or going out of production may find that the tax is the deciding factor, and they will withdraw from production. It is realized that nearly all of the improvements on land are sunk capital which prevent farmers from quickly withdrawing from production, as the increased taxation cuts into or destroys their net income. Incidence, however, should always be looked upon as a tendency over a period of time and not as a fact occurring at a particular time. If the demand for farm products is expanding, producers will seldom actually quit production, but the increased burden of taxation will discourage the improvement of new lands, since new producers would not be able to obtain a desirable return on their investment in improvements. The expanding demand will raise the price of farm products sufficiently to allow the tax on improvements to be passed on. We may conclude that there is a tendency for that part of the general property tax which is on the improvements to be passed on. Nevertheless, the tax burden may be increased so rapidly and the adjustment in the quantity of farm products may occur so slowly that for a considerable period of time the burden of taxes on improvements will remain on the farmers. This has been true in the post-war years.

Incidence of Tax on Land.—The incidence of that part of the general property tax which is on land as separated from improvements is quite different from the final resting place of the tax on improvements. This conclusion logically follows from the principle laid down in the first of this section; namely, that a tax on a surplus above that which was necessary to persuade a producer to remain in business cannot be shifted. Land separated from improvements derives its value from the increase in the demand for its products, on the one hand, and the limited supply of good, well-situated land, on the other hand. This fact is another way of stating the effect of economic rent on land values. In Chap. XVII we saw that, if the demand for the products of land expanded and if at the same time there were no improvements in the methods of production, increased production could come only at higher costs. Those producers who were able to produce at lower costs find that, at the higher prices prevailing with increased demand, their land yields a surplus or economic rent. Since the value of the land separate from improvements is the capitalized value of this economic rent, past, present, or prospective future, the land tax is a tax on a surplus.

The levy of a tax on land does not in any way affect the demand of consumers for the products of land. At the same time, considering agricultural production as a whole, those units of production which are produced under the more expensive circumstances are produced on land which is valueless or practically so. The sale value of such land, if it has any, arises largely from the improvements. Since this land, as separated from improvements, has no value and should pay no taxes, the

cost of production to those producers who are on the margin of remaining in production or going out of production is not increased. To be sure, every farm pays some taxes, but on the poorest land in cultivation this tax if properly administered is primarily on the improvements on the land. We may conclude, therefore, that since a tax on land values is not levied in such a way as to become part of the cost to those producers who are significant in price determination, the possibilities of shifting such a tax are definitely limited. This conclusion helps to explain why the burden of farm taxes is very heavy. Time is required to shift the tax on improvements, and it is impossible to shift the tax on land.

Effects of the Property Tax on Farmers.—That it is difficult to shift farm taxes need not lead to the final conclusion of an excessive burden on the farmers. To the extent that the proceeds of the tax are spent in such a manner as to lower farm producing and marketing costs or raise farm values, the farmers should feel no ill effects, unless lowered costs resulted in increased production and lowered prices. The *farm-to-market* roads have done much to facilitate the transporting of farm products to market and make the farm a more enjoyable residence. The provision of schools and libraries affects the desirability of the benefited rural areas as a residence and therefore affects land values. This may, however, result in lower prices for farm products if it results in increased agricultural production and decreased production of articles farmers must buy.

As a concluding statement of the farm-property tax situation during the recent years of depression and of low prices for farm products the following passage, written by B. H. Hibbard in December, 1932, is here given:

> During the past twelve years taxes have been a serious burden to farmers, but within the past three years they have, in increasing instances, become unbearable. In 1913 taxes absorbed not over 10 per cent of the farmers' net income. During the nine years from 1921 to 1929, the usual computation showed that taxes were taking 30 per cent, or perhaps a full third of the net income. Several attempts were made during these years to arrive at a measure of farmers' taxes in comparison with those of urban taxpayers. In each study it was found that the farmers were carrying a heavier relative burden than were city people. These comparisons were made on the basis of taxes paid in relation to income received. A comparison of taxes on farms with taxes on city real estate reveals a similarity rather than a divergence in treatment of this kind of property no matter where found.
>
> With the falling prices of the past three years, the tax burden which had seemed intolerable for nearly a decade, became suddenly and seriously worse. What had appeared unbearable, but had for the most part been borne, and here the reference is to operating farmers, not to owners of unused lands, has, within the past three years, not been borne in the same manner, or to the same degree as previously. For a brief time taxes may be paid out of savings by letting

other less pressing bills go unpaid, or by lowering expenses, involving the standard of living, thus squeezing from the general family budget the funds demanded by the state. The amount of revenue to be raised by such means as these is strictly limited, and will be more and more limited if the depression continues. Taxes must and do eventually come out of income. The farm income having been greatly reduced, the time is upon us when tax payments by farmers must likewise be reduced, or the farms will be taken over by the state, and for the time at least, become a part of the new and growing public domain. Until within two years the increase in taxes was one of the most outstanding phenomena of the day, and unfortunately for agriculture, the increase of the farmers' taxes was relatively greater than most other tax increases. The recent reductions, moreover, are not in proportion to the reduced incomes of farmers. Hence, relatively, taxes have increased right down to the current year.[1]

CHANGING THE SYSTEMS

Reforms in Tax Administration.—The improvement of state and local taxation is a matter both of improvements in tax administration and of changes in the tax system itself. This section deals with the tax administration. The data presented earlier in this chapter concerning the variations in the ratio of assessed value to true value in the same taxing jurisdiction point out that there is ample room for improvement in the assessment of real property. The fundamental difficulty is that, whereas land values and factors affecting them are complicated, the practice has been to have property assessed by persons who are not specially skilled in the matter of determining property values. Tax experts are agreed that assessors should be called upon to show proficiency in matters of property valuation which might require that they be civil-service employees. There has been little tendency for states to improve their administration by providing for assessors who are experts. This fact is explained probably by the fear on the part of the mass of people of having their property assessed by someone who may not be removed by the electors.

From time to time administrative changes have been designed to improve assessment or to remedy errors in the assessor's work. Progress in matters of assessment seems to necessitate the centralized control of assessment. The smallest assessment unit which can be effective is the county or, in some cases, the large city. The county assessor in turn should be under the control of a state commission in order to standardize assessment practices over the state. Some states have gone so far as to give the state commission the power to instigate proceedings to remove an inefficient county assessor from office. Furthermore, the state tax commission is to instruct the assessors in methods of assessment and to investigate how they conduct their work. Though boards of equaliza-

[1] "Taxes a Cause of Agricultural Distress," *Journal of Farm Economics*, January, 1933.

tion have corrected some errors in assessment, they have fallen far short of bringing about genuine equality of assessment.

Reforms in the Tax System.—In the states which are primarily agricultural, the general property tax, if properly administered, may with justice remain the source of most tax revenue, though even there it should be supplemented. But in the states in which industry and commerce have come to be of importance, the general property tax system must be so revised to take greater cognizance of the new forms of ability which have arisen. Even in these latter states, improvements in the administration of the property tax will be important, for that tax will remain the leading source of revenue for local purposes even after reforms in the state tax system have been made. No model system of administration, however, can do more than to improve slightly the tax situation in this latter group of states. A fundamental revision of the whole tax system is required.

A new and satisfactory revenue system must solve the following problems. First, incomes from personal services must be made to bear a fair share of the cost of government. Second, the burden on each form of property must be adjusted to its ability. The most difficult problem under this head is to devise means whereby incomes from intangibles of all kinds may be made to bear their fair share of government expenditures without, at the same time, leading to undue double taxation. Third, an element of progression should be put into the tax system as a whole, whereby those people receiving large incomes should be forced to bear a heavier share of the cost of government. These suggested lines of reform assume that the tangible-property tax should remain the backbone of the tax system. Any new taxes which are devised will be for the purpose of adjusting the burden on property. The first step in reform is the repeal of the uniform tax clause in the state constitution wherever it exists. The legislature must be given power to tax each form of ability in a manner which its characteristics require. For forests and mines, taxes on timber cut or on ore mined may be better than a property tax. The ability represented by intangibles can be taxed most adequately by the income tax.

The Model Plan.—In 1919 a committee of the National Tax Association drew up and submitted a model tax plan for state and local purposes. This plan was devised to fit our Federal system of government, to follow the practice of the states as nearly as possible, and at the same time satisfy those principles of justice which a tax system should meet. The plan proposed three important taxes. The first tax would be one on tangible property collected at the place at which that property is located, with intangibles exempt from all property taxes. Second, a personal income tax would be levied on all incomes over and above a small exemption, the tax to be collected at the domicile of the taxpayer on all income

he receives from all sources and from whatever place it originates. Third, a tax would be levied on the net income of business enterprise.

In this model plan no offsets were to be allowed; that is, no taxpayer would be permitted to deduct from his income tax the amount of property tax which he had paid or the amount of business income tax which had been paid by the business in which he has an interest. Of particular concern to farmers is the fact that property holders would not be allowed to deduct from the income tax payable the amount of property tax which they had paid. Two considerations are offered to justify this proposal.

First, there is an important distinction between the taxpaying ability of earned incomes, or those arising from personal services, and unearned incomes, or those arising from property. In the case of unearned income, the income to the recipient does not depend upon the continuation of the mental and physical abilities of the taxpayer but accrues from the property and will continue irrespective of the personal management of the property. Moreover, the recipient of unearned income has already a capital fund stored up to provide for possible sickness or old age. But the person who receives income from personal services must save out of that income a sum to provide for old age. This statement raises one question: How much income can really be earned by personal effort? Statements in Chap. XII and Senatorial investigations during 1933 show that by "business graft" large sums are received that are not really "earned," nor are they income from property. A similar difficulty arises when stockholders of corporations owned by few people are paid excessive salaries as officers—salaries which are really dividends in disguise. Such difficulties the Federal government tried to avoid in its 1933 income-tax law by providing that no income in excess of $14,000 could be claimed as earned. Aside from such cases as these just indicated, earned income does not have so great tax-paying ability, dollar for dollar, as does unearned income.

The second reason for omitting the property-tax offset in the personal income tax, suggested as part of the model plan, is to levy relatively heavy taxes on the larger incomes. These incomes are usually from property, and the allowing of a full property-tax offset would materially reduce, if not entirely offset, the income tax these people would otherwise pay. At the same time, according to investigations in Dane County, Wisconsin,[1] small property owners, such as farmers, would lose by the offset system. In conclusion, it must be remembered that a major purpose of income taxation is to put an element of progression into the tax system as a whole. The objective of progressive taxation is to distribute the tax

[1] Investigations of H. D. Simpson, quoted in R. G. Blakey, *The State Income Tax*, (University of Minnesota Press, 1932), pp. 29–34.

burden in such a manner that persons of large incomes will be called upon to make a sacrifice for the support of government comparable to that made by people of small incomes.

Recent Tendencies.—Aside from attempts at improving property-tax administration and the tendency toward more state income taxes, other tendencies in state and local taxation, particularly since 1930, include the increased use of sales taxation and further experimentation with property-tax rate limits. The widespread use of sales taxes—that is, taxes on the sale of commodities and sometimes of services—represents an attempt to supplement the fast-falling revenue from other sources during the depression years. Such taxes are productive of large and certain revenues. Their administration is simple. The major objection to such taxes is that their final incidence tends to be on consumers, and, since the poorer people spend relatively more of their income for commodities, the tax places a relatively heavier burden on those of less ability to pay. Though such taxes were intended to be temporary in most cases, there are certain groups who would like to make general sales taxation permanent, both because of regular revenue and as a means of taxing those of the lower-income classes.

After 1930 interest revived in constitutional or statutory limits on maximum property-tax rates as a means of either forcing a reduction in public expenditures or of forcing the introduction of other taxes to take part of the burden from property. The merits of such limits may be debated, but their introduction is evidence of the demand of property owners for relief from excessive taxation.

The government has come to spend such a large portion of the national income, 25 per cent in recent years, that either the national income in dollars must increase or public expenditures must be cut. The latter recourse involves consideration of the fact that 25 per cent of gross government expenditures in 1932 were for payments of bonds. Adjustment of this cost is difficult, but in extreme cases some countries have sought relief through the issue of fiat money to meet government obligations, with dire consequences ultimately for their national economy. The greater part of public expenditures other than for debt service is for relief and for wages and salaries of public employees. For some time it was thought that if business volume and prices were to rise to profitable levels, public expenditures could again be well under 20 per cent of the national income, though the chances of this development now seem to be remote.

As we take a long look ahead, however, there seems little possibility that governments will do less. Rather it appears that their activities will expand, and therefore the proper adjustment of the tax burden is not a mere "depression problem" but one that needs study for the days of prosperity as well.

Questions and Problems

1. Why have public expenditures tended to increase in the last three decades? Relate your reasons to the types of expenditures which have increased most rapidly.

2. Why do not public expenditures vary during periods of depression and of prosperity in accordance with the national income?

3. Distinguish a tax from other types of governmental receipts.

4. What are the main features of the tax system of your state?

5. Upon whom is the incidence of a tax on farm lands? Explain. Who ordinarily bears the burden of a tax on the sale of commodities (sales tax)?

6. Does the general property tax distribute the burden of state and local taxation among the taxpayers in accordance with their ability to pay? Discuss with particular reference to your state.

7. Suggest how your state tax system might be revised in order to reduce the tax burden on farmers.

8. Describe the process of assessing and of equalizing the assessed values of property. Why are different pieces of property so frequently valued at different percentages of true value?

Suggested Readings

1. H. L. Lutz, *Public Finance* (1936) is one of the best recent textbooks on the subject of this chapter.

2. H. M. Groves, *Financing Government* (1939) is among the late general textbooks in public finance.

3. E. D. Fagan and C. W. Macy, *Public Finance, Selected Readings* (1934) contains excerpts from the leading authorities on public finance, with emphasis on the theory of public revenues and expenditures.

4. *Tax Systems of the World* (Commerce Clearing House, Inc., Chicago) presents in chart form the tax system of the Federal government, of the states, and of many foreign governments. In addition, the treatment of each type of tax in each state and the revenue received from each are given. A new edition is published each year.

5. G. B. Clarke and O. B. Jesness, "A Study of Taxation in Minnesota with Particular Reference to Assessment of Farm Lands," Minnesota Agricultural Experiment Station, *Bulletin* 277, is a good example of a localized study of farm taxation.

6. *Facing the Tax Problem* (Twentieth Century Fund, 1937) is an objective and stimulating analysis of current tax problems.

7. The National Industrial Conference Board releases many data on public finance, both in current issues of its *Economic Record* and in books such as *Cost of Government*, 1923–1934.

CHAPTER XXII.

TRANSPORTATION AND OTHER PUBLIC UTILITY PROBLEMS

In the study of economics with applications to agriculture, special attention to the agencies which supply transportation is justified for a number of reasons. Among these are the following: (1) Cheap and efficient transportation is necessary in order that the gains possible from specialization and division of labor may be realized. (2) The railway-transportation industry furnishes an outstanding example of an important industry which for many years has been so highly monopolistic, and at the same time has been so essential to the public welfare, that it has come to be closely regulated by public authority, even though privately owned and operated. In other words, it is to a high degree socially controlled and illustrates principles applicable to social control. It illustrates a private business of the kind said to be *affected with a public interest.* (3) Railway transportation also excellently illustrates the peculiar features of businesses which have large fixed costs in relation to their variable costs and which supply a number of services with joint costs. (4) Water transportation under certain conditions is exceedingly economical and highly important, and under other conditions it has been much recommended, often without adequate justification. (5) Highway transportation recently has become increasingly important both because of its costs and the problems of its maintenance and because of competition between highway and railway transportation.

In this chapter various features of the economics of the transportation industry will receive special consideration. Particular attention will be given to railway, water, and highway transportation. Other forms of transportation and other public utility services will be considered briefly and incidentally.

The nature of a public utility has already been explained in Chap. XI. In brief, it is a business which tends to be a natural monopoly and which supplies a service so highly essential to the general welfare that an unreasonable hardship is inflicted unless all applicants are served at reasonable rates and without discrimination. This causes it to be affected with a public interest. The government may compel those who enter such a business to observe the following obligations: (1) It must serve all applying for the service for the performance of which it exists. In other words, it may not select its customers, as may those operating other businesses—for example, grocery stores, which are not public

utilities. (2) It must render service for reasonable rates which may be fixed by public authority. The public also may prescribe the kind of service which must be rendered. (3) It must render like service to different customers for the same rates without discrimination. (4) It must keep its accounts in a manner prescribed by the regulating body and must submit to sundry other regulations. (5) In many cases those wishing to enter such a business must secure a certificate of public convenience and necessity before being permitted to do so. It is customary to speak of any business to which these obligations legally apply as affected with a public interest.[1] And the Supreme Court of the United States has held that whether or not a particular business is affected with a public interest is a question of fact which the court may decide. Several times in comparatively recent cases the U. S. Supreme Court has held as invalid attempts of state legislatures to regulate certain businesses as though they were affected with a public interest, on the ground that these businesses were not in fact of such a nature. One of these cases was decided in 1923. The state of Kansas had attempted to apply to the meat-packing industry some of the regulation applied to businesses affected with a public interest. The Supreme Court in declaring this legislation invalid said:

> It has never been supposed, since the adoption of the Constitution that the business of the butcher, the baker, the tailor, the wood chopper, the mining operator or the miner was clothed with such a public interest that the price of his product or his wages could be fixed by state regulation. . . . An ordinary producer, manufacturer, or storekeeper may sell or not sell as he likes.[2]

A similar view was taken in a decision rendered in 1932. Oklahoma had undertaken to control the business of manufacturing and selling ice, and had required that a certificate of public convenience and necessity must be obtained by anyone before he might engage in that business. The court declared this legislation invalid, and in so doing said:

> It is a business as essentially private as the business of the grocer, the dairyman, the butcher, the baker or the tailor. . . . And this court has definitely said that the production and sale of food or clothing cannot be subjected to legislative regulation on the basis of a public use.[3]

In contrast to the ruling in the above cases, in March, 1934, the U. S. Supreme Court rendered a decision by which it has apparently greatly broadened, if not reversed, its former interpretation of a business affected with a public interest. In 1933 the state of New York passed legislation

[1] The first pronouncement of these principles by the Supreme Court of the United States was in the famous case of *Munn v. Illinois*, 94 U. S. 113 (1877).

[2] *Wolff Packing Co. v. Court of Industrial Relations of the State of Kansas*, 262. U. S. 522 (1923).

[3] *New State Ice Co. v. Liebmann*, 285 U. S. 262 (1932).

by which it established a Milk Control Board and granted that board the power to fix maximum and minimum wholesale and retail prices to be charged for milk handled within the state. The board prescribed 9 cents per quart as the minimum price at which a store might sell milk. A small storekeeper in Rochester sold two bottles of milk and a loaf of bread for 18 cents. He was convicted and ordered to pay a fine. His conviction was sustained by the Supreme Court.[1] Though the court pointed out a number of features of the milk business which caused it to be to a greater extent affected with a public interest than most businesses, its decision does contain the following broad and significant statement: "The phrase 'affected with a public interest' can, in the nature of things, mean no more than that an industry, for adequate reason, is subject to control for the public good." If the precedent set in this case is followed hereafter, the concept of business affected with a public interest will be much broader in the future than it has been in the past. Some careful students of the law are of the opinion that the Supreme Court has opened the way for declaring that practically any business may be affected with a public interest.

The right of the public to regulate railroads and other public utilities has long been accepted without question. Though railroads are in fact public utilities, they alone are so important that usually they are considered in a class by themselves, and it is customary to speak of railroads and public utilities, applying the latter designation only to utilities other than railroads.

MAGNITUDE OF TRANSPORTATION AND OTHER PUBLIC UTILITY INDUSTRIES

Capital Invested in Transportation.—According to the census of wealth of the United States in 1922, railroads and their equipment represented a value of 20 billion dollars; street railways nearly five billions; Pullman and other cars not owned by the railways, pipe lines, telephone and telegraph systems, and other means of transportation and communication in excess of five billions. The total investment in the agencies named was nearly 10 per cent of the 320 billion dollars' estimated wealth of the nation at that time. Railroad expenditures for additions and improvements to their properties from 1922 to 1938, with estimated depreciation in properties deducted, amounted to about six billion dollars, and their total investment in 1938 was about 26 billions. The railways of the United States, with about 240,000 miles of first-main-line track, constitute over 30 per cent of the railway mileage of the world.

Though highway transportation is only to a limited degree a public utility, it is to a large extent supplied at public expense and deserves

[1] *Nebbia v. People of the State of New York, Supreme Court Reporter*, Mar. 15, 1934, p. 506.

consideration which is most conveniently given to it as a part of the transportation problem. The magnitude of highway transportation as an economic problem may be grasped from the fact that during the year 1931, for which our national income was estimated at 67 billion dollars, there was spent on rural highways alone, 1.8 billions, and on highways and city streets combined 2.6 billions, or 3.9 per cent of the estimated national income. In the nine years from 1922 to 1931, inclusive, 13 billion dollars was spent on rural highways and 19.8 billions on highways and city streets combined. Expenditures on rural highways alone in 1932 were equal to more than half the total revenues of the railways of the country. In 1938 there were in use in the nation 29.5 million automobiles and trucks, which was more than 2½ times the number in use in 1922. Leo J. Flynn, an examiner for the Interstate Commerce Commission, in 1932 estimated the investment in highway transportation and equipment, including motor vehicles as well as roads, as being from 26 billion to 28 billion dollars.[1] If investment in public roads and streets and in motor vehicles is included as a part of our investment in transportation, it appears that between 15 and 20 per cent of the wealth of the nation is directly invested in agencies of transportation. If factories and mines supplying equipment and fuel, garages supplying services, and other agencies indirectly devoted to supplying transportation are also included, that percentage will be quite appreciably increased.

Employment in Transportation.—On the basis of the number of persons employed, the specialized transportation industry is not quite so impressive as on the basis of capital devoted to its use. Nevertheless, it is highly important. Male employees of steam railroads alone, according to the Census of 1930, represented 4 per cent of all the gainfully employed males of the nation. Those directly engaged in the construction and maintenance of roads were in excess of 1 per cent of all gainfully employed. All persons directly employed entirely or primarily in transportation in 1930, according to the Census, constituted 10.5 per cent of the total gainfully employed. Many more were employed indirectly in furnishing materials, equipment, fuel, and other incidentals to transportation.

Other Public Utilities.—Of public utility industries furnishing services other than transportation, the most important is that of supplying electrical light and power, and this has made stupendous growth during recent years. Privately owned electrical generating and distributing plants represented in 1922 a value of 4.2 billion dollars, and in 1932 of about 12 billions, or about half the value of the railroads. Income from supplying electrical light and power to the public nearly doubled during the ten-year period from 1922 to 1932, increasing from slightly

[1] *Coordination of Motor Transportation*, Senate Document 43, 72d Congress, 1st Session.

less than one billion dollars to about 1.8 billions. Telephone plants and equipment represented in 1920 an investment of 1.7 billion and in 1932 of 4.8 billion dollars, or nearly one-fifth the value of the railroads. Smaller investments and fewer employees are represented by pipe lines, telegraph systems, waterworks, and other public utilities. Nevertheless, each of these industries represents a privately owned investment of nearly half a billion dollars or more.

According to one calculation, the utility companies supplying services with prices regulated by the public, including railways, in 1922 represented 12 per cent of all the wealth which yielded pecuniary income.[1] According to another estimate, capital and land privately owned which was invested in railroads and other public service companies amounted in 1926 to over 17 per cent of all privately owned capital and land value of the nation.[2] Another estimate placed it at 15 per cent in 1937.

RAILWAY TRANSPORTATION

The Right to Regulate and the Interstate Commerce Act.—Though the doctrine that a business affected with a public interest is subject to public regulation is an old principle of English common law, no serious attempt was made to apply it to American railroads until about 1870. At that time there were passed a number of state regulatory acts in such middle western states as Illinois, Wisconsin, and Iowa. Because of the active part which the Grange, which was organized in 1867, took in this legislation, these early statutes were known as *Granger Laws*. The railroads contested in the courts the right of the public to regulate their rates, but that right was sustained in a number of decisions of the U. S. Supreme Court during the seventies. The principles governing these decisions are discussed on page 242 and on pages 517 to 519.

Under the Federal Constitution, the Federal government has exclusive power to regulate commerce "with foreign nations, and among the several States, and with the Indian tribes." Acting under that authority, Congress in 1887 enacted the Interstate Commerce Act, by which regulation of railroad rates affecting interstate commerce was vested in an Interstate Commerce Commission established by the act. The original Interstate Commerce Act was largely evaded, and to accomplish the purpose for which it was enacted it has been frequently amended. Most notable of these amendments were the Hepburn Act of 1906 and the Esch-Cummins Act of 1920.

The Hepburn Act is said for the first time really to have "put teeth into" the Interstate Commerce Act. It for the first time actually gave the Interstate Commerce Commission the power to prescribe maximum rates rather than merely to rule that existing rates were unfair. In

[1] Sumner H. Slichter, *Modern Economic Society* (1928), p. 377.

[2] M. C. Rorty, *The Christian Century*, April 12, 1933, p. 495.

addition, it for the first time gave the commission the power to prescribe the accounting methods of the railroads and to supervise their accounts. It greatly simplified enforcement procedure by causing the orders of the commission to be binding on the railways unless suspended by the courts. Previously such orders were not binding until the court had so ruled. Other important provisions practically eliminated rebates to favored shippers, by means of which the act previously had been largely evaded. The Hepburn Act for the first time made the regulation of railroad rates genuinely effective.

The Transportation Act of 1920, also known as the Esch-Cummins Act, provided in part for the return of the railroads to their private owners, after they had been for three years operated by the government as a war measure. Other important provisions were: (1) A rule of rate making was established which provided that the commission should for two years beginning Mar. 1, 1920, attempt so to fix rates as to yield to the railroads in the aggregate, and at its discretion by regions, under honest, efficient, and economical management, from 5½ to 6 per cent on the value of the railway property devoted to transportation and that thereafter it should from time to time designate a fair rate of return and fix rates so as to yield as nearly as possible this return.[1] It should be noted that this was not a guarantee but a rule to guide the commission. In no year since this act was enacted have the railways in the aggregate earned as much as 5½ per cent on their property investment, and in 1932 the rate of earning was only 1.25 per cent. It should be noted that this earning was not on stock but on actual property value, whether represented by stock or by debts. On property value represented by stock, the railroads in the aggregate failed to earn any return in 1932 and in some other years. With some railroads the results have been, of course, more satisfactory. (2) The Act of 1920 strengthened the "long- and short-haul clause," or fourth section of the act. By that section the railroads are forbidden to charge more for a shorter than for a longer haul over the same line in the same direction, the shorter being included in the longer, unless they are given specific permission to do so by the commission. Such permission is called "fourth section relief." The Act of 1920 limited the conditions under which fourth section relief might be granted. (3) The Act of 1920 provided that earnings in excess of 6 per cent on investment by any particular railroad should be divided between such road and the government. This provision, known as the recapture clause, was repealed in 1933, because of the extreme rarity of such earnings and

[1] This part of the act incorporated into statute law certain rules enunciated by the Supreme Court of the United States in *Smyth v. Ames*, 169 U. S. 466 (1898) and in addition attempted to make more definite what constitutes a fair rate of return on capital invested in railway transportation.

the difficulties of enforcement. (4) The Act of 1920 provided that regulation by the Interstate Commerce Commission might be extended to include intrastate rates when necessary to remove an unreasonable discrimination against interstate or foreign commerce. (5) The time period during which the commission might suspend proposed increases in rates in order to investigate their reasonableness was reduced. (6) The commission was given authority to regulate the issuance of securities by the railroads and increased authority over service. (7) The act set up railroad boards of labor adjustment and a special Railroad Labor Board to decide disputes about wages and working conditions between the railroads and their employees.[1]

The foregoing sketch indicates in general, though very incompletely, the legal basis and legal machinery for the regulation of the rates and services of railroads and other public utilities. Next we turn our attention to principles of rate making.

A Fair Return on a Fair Value.—The Supreme Court of the United States frequently has ruled that the right to regulate does not include the right to destroy. It also has ruled that to reduce rates for a public utility to an unduly low level amounts to the destruction of the property invested in that utility. The Constitution of the United States provides that no person shall be deprived of life, liberty, or property by any state or the United States without due process of law. The Supreme Court has ruled that for the government to seize property without compensation to the owner is depriving the owner of it "without due process of law," and furthermore that to deprive the owner of an opportunity to receive an income or benefit from his property is in fact to deprive him of his property. Following the above legal principles, the courts have frequently declared invalid extremely low rates for public utility services established by public authority, holding that such rates in fact deprived the owners of their property, without due process of law. In addition to this legal basis, there are economic reasons why rates should not be unduly low. In a country in which the services under consideration are supplied by privately owned capital, the result of unduly low rates will be to keep capital from being invested in that industry. Privately owned capital will not assume the risk of loss from investment unless it is permitted an opportunity or probability of earning some degree of business profit, which in fact, at least for the most part, is interest, as explained in Chap. XVI. The long-run economic welfare necessitates that, under private ownership, rates must be sufficiently high to attract and maintain capital in the industry. In some cases the courts have

[1] The labor provisions of the act were changed materially by the Railway Labor Act of 1926 (Watson-Parker Act). This provides five steps in settling difficulties: (1) conference; (2) boards of adjustment; (3) board of mediation; (4) boards of arbitration; (5) emergency board.

held that public utility rates yielding at the time 8 per cent on the assumed fair value of that property were not unduly high, considering the risk involved. In other cases they have sustained reductions and refused to allow increases when the net return on the investment was not one-third as great.

According to the courts, and students of economics as well, the rates established by public authority must be sufficiently high to yield a "fair return on the fair value of the property" devoted to supplying the service. This dictum leaves unsettled two important questions: (1) What is a fair rate of return? (2) How is a fair value of the property to be ascertained? On neither of these questions have the courts followed any hard and fast rule. In general, a fair return is a rate of interest which is not unduly low in comparison with what may be received by investing capital in other ways. It should be sufficient to attract into the industry the capital which, in the interest of the social welfare, ought to be invested in it.

In ascertaining the fair value of the property devoted to the industry, three general bases have received most attention These are: (1) the market value of the property; (2) the original cost of the property; (3) the cost of reproduction of the property. The first is obviously unsatisfactory. The purpose of ascertaining a fair value is to establish fair rates or charges for services. But the market value of the property results largely from capitalizing net return based on the rates expected to prevail in the future. If expected rates are high, the market value will be high and, by the use of market value as the basis of the rate, any rate may be justified, no matter how high. On the other hand, if existing and expected rates are unduly low, the market value of the property will be low and unduly low rates may be justified. Basing rates on market value is reasoning in a circle. The real controversy as to what constitutes *fair value* for rate-making purposes is between basis 2, original cost less depreciation and basis 3, cost of reproduction. Each of these has advantages and disadvantages. The last named tends to be the basis of value in the long run for goods produced under competitive conditions. Its greatest disadvantage as a rate base is that it is constantly changing. This makes it exceedingly difficult to apply in practice. Rates cannot be adjusted so frequently as changes occur in value based on the cost of reproduction, and such a value cannot be constantly reascertained. Original cost, when made the basis of *fair value*, is usually limited to original cost of *prudent investment* less depreciation. When once ascertained, such value does not change except as adjusted for depreciation and additions and betterments. Basing fair value on original cost simplifies in some ways the question of a proper rate base. However, it also gives rise to difficulties. Often it is impossible to ascertain either the actual original cost or the original prudent invest-

ment. Furthermore, rates based on original cost are often more rigid than the social welfare permits in case great changes occur in the general price level. Though the courts agree that rates must be based on a *fair value*, they are far from agreeing how that fair value should be ascertained.

In concluding this section, we shall quote from the Emergency Railroad Transportation Act of 1933:

> In the exercise of its power to prescribe just and reasonable rates the Commission shall give due consideration, among other factors, to the effect of rates on the movement of traffic; to the need, in the public interest, of adequate and efficient railway transportation service at the lowest cost consistent with the furnishing of such service; and to the need of revenues sufficient to enable the carriers, under honest, economical, and efficient management, to provide such service.

It will be noted that the commission is directed to give consideration, not only to need for revenue sufficient to provide a fair return on the property, but also to the effects of rates on the movements of traffic. It is certain that railroad earnings in recent years have been far below a fair return.

Fixed, Variable, and Joint Costs.—Rates which yield a fair return on the value of the property are in fact rates based on costs, including, as one of the costs, interest on the property used in the business. In basing rates on the costs of supplying the service, difficulties are encountered because of the large extent to which such costs are either fixed costs or joint costs. Fixed costs vary not at all or but slightly with the amount of service rendered. Joint costs are incurred in performing a variety of services and cannot be satisfactorily allocated to particular services. How much does it cost to carry a single passenger on a train for 500 miles? Under ordinary conditions it costs nothing, in the sense that there are no additional costs because of the presence of an additional passenger. How much does it cost to run an extra train? In this case there are some extra costs. But the extra, or out of pocket, or variable, costs are much less than would be the total costs of running the train if it were charged with its proportional part of interest on the investment in roadway and equipment, with costs of maintaining the way and equipment, with pay to station agents, telegraphers, taxes, and other costs which are not increased because a single extra train is run. In such relatively prosperous years as from 1926 to 1929 the total yearly operating revenues of the railways of the nation were only about one-fourth of the investment in railway property. This means that if, in these relatively prosperous years, the railroads were to earn 6 per cent on the property devoted to the transportation service, then 24 per cent of total operating revenue would have to be allocated as a return to property. In such a

poor year as 1938 total revenues were less than one-seventh of the investment, and to pay 6 per cent on the investment would require nearly half of the revenues. In 1938 about 30 per cent of the railway gross income from operations would have been required to pay 3 per cent on the value of the property. Interest on at least that part of the property investment which is represented by borrowed money is to the business a fixed cost and goes on whether little or much traffic is moved. The same is true of property taxes. All railway taxes, including income taxes, in 1938 took 9.5 per cent of all operating revenues. Interest on borrowed money and property taxes are generally called fixed charges. To a certain degree, many other costs are largely fixed. In fact, it has been estimated that only 32 per cent of a railroad's expenses vary according to the amount of traffic moved; that 68 per cent are constant, irrespective of traffic movement. This assumes, of course, that the equipment to move such traffic already exists. It follows that many railroad expenses are joint costs, which cannot be definitely allocated to any part of the service but are a part of performing all services.

Some Rate-making Principles.—From the conditions mentioned are derived the following rules in making railroad rates: (1) The whole level of rates should be sufficiently high to allow a fair return on a fair value of the total property prudently devoted to the service. (2) All traffic should pay at least the out-of-pocket, or extra, costs of moving it and contribute something to the fixed or constant costs. (3) The amount which any given kind of traffic should contribute to the constant costs should be governed by the ability of that traffic to pay. Silk should pay more per ton than coal; copper should pay more than iron; traffic should be accepted at low rates if those rates will make any contribution whatever to the constant costs or overhead, and if the traffic will not otherwise move. Traffic which can bear high rates should pay enough that constant, as well as variable, costs will be covered, and in such constant costs should be included a fair return on all property, including a return to stockholders on the fair value of the property not represented by debt.

From the above it should be clear that the rate for any particular commodity is properly governed in part by the ability of that commodity to bear the rate. Shippers and producers of different commodities are constantly appealing to the regulatory bodies, especially the Interstate Commerce Commission, for lower rates. Railroads from time to time ask for higher rates. The most frequently advanced plea of those asking for lower rates is that the commodity is unable to bear the present rates. This plea is most often presented, because if successfully maintained, it is most likely to secure a reduced rate. The most universal plea of the carriers is that rates are not high enough to yield a fair return on the property devoted to the service.

In fixing rates for particular commodities, consideration must of course be given to actual out-of-pocket costs. All freight rates must be published in the schedules of rates, documents known as *tariffs*, and are quoted per 100 pounds. It costs more per 100 pounds to transport livestock a given distance than to transport wheat or coal, though how much more can be determined only approximately. Some twenty factors are frequently listed to which consideration is given in fixing rates for particular commodities. Of no small importance among these factors is the degree of care required to avoid damage for which the railroad is responsible.

There are, of course, other principles to be observed in rate making. Not only should no commodity or class of commodities pay an unduly high rate, but there should be no regional or place discrimination. The producers of a particular commodity are injured if rates on that commodity are unduly high. But they are injured to a greater extent if the rates from other regions on the same or competing commodities are relatively low than if such rates also are high. Allegations of regional discrimination accordingly are among the various pleas presented to regulatory bodies by shippers and producers asking for lower rates. The Interstate Commerce Commission has greatly reduced the amount of regional discrimination which in times past has existed. The "long- and short-haul clause" is one provision of law designed to minimize regional discrimination.

Railroad Revenues and Particular Expenses.—During the five consecutive years ending with 1929, total annual rail revenues remained almost stationary, varying from approximately 6.1 billion to 6.4 billion dollars per year. During the depression year 1932 they dropped to 3.1 billion dollars, but were 3.6 billion in 1938. A comparison of the disposition of this income for the three years 1929, 1932, and 1938 as shown in Table 50 is of interest.

It should be noted that all items in the following table except 1 and 7 were paid to some other industry. Often data of the kind shown in this table are used in attempts to show that a relatively small part of our total expenditures for such a service as transportation goes to labor. Labor received directly only 42.6 per cent of railway revenues in 1929 and 46.5 per cent in 1932 and 1938. The percentages of railway revenues paid to labor, as shown in the table, include only that part of railway income which is paid directly in wages and salaries to railway labor. It should be clear that a large part of the income paid for fuel, materials and supplies, loss and damage claims, injuries, insurance, depreciation, taxes, and equipment and facility rentals also is ultimately paid for wages and salaries. Of the railway income not paid to other industries, labor received approximately 82 per cent in 1932 and 1938.

All these percentages for labor include salaries. It is, therefore, of interest to know what part of the payments reported as wages went to high-priced executives. Payments to executives, officials, and staff assistants (presidents, vice presidents, general and division officers, etc.) amounted to 3 per cent of all wage payments in 1929 and less than 2 per cent in 1938. Employees in this group numbered 11,948 in 1938, and their average pay was $5,809, though a number of railway presidents received $60,000 or more per year. All employees numbered 939,171 in 1938, and their average pay was $1,859. In 1929 they numbered 1,660,850, and their average pay was $1,706. In 1916 they numbered 1,647,097, and their average pay was $891. In 1916, the railways paid 38 per cent of their operating revenues directly, in wages and salaries, compared with 42.6 per cent in 1929 and 46.5 per cent in 1938.

TABLE 50.—PERCENTAGE DISTRIBUTION OF CLASS I RAILWAY OPERATING REVENUES, 1929, 1932, AND 1938[1]

Item		1929	1932	1938
1	Labor	42.6%	46.0%	46.5%
2	Locomotive fuel	5.4	5.5	6.3
3	Materials and supplies	18.1		16.3
4	Loss and damage, injuries to persons, insurance, depreciation, and retirements	5.7	25.4	7.3
5	Equipment and joint facility rentals	2.0	3.9	3.6
6	Taxes	6.3	8.8	9.5
7	Balance remaining (net railway operating income) as a return on capital invested (both debts and net worth) in railway property	19 9	10.4	10 5
	Total	100.0	100.0	100.0
8	Per cent which the net operating income was per dollar of investment (debt and net worth combined)	4.84	1 25	1.43

[1] Class I railways include all railways having operating revenues of one million dollars or more per year.

It is frequently asserted that an important cause of the unduly high freight rates is "watered stock" of railroads. By this is meant that stocks or bonds have been issued without an equivalent value in property having been received. Therefore, it is asserted, a fair value for the properties is much less than that reported by the carriers. Such assertions in regard to watered stock are true to the extent that, in the heyday of railroad building, many companies gave away stock with the bonds they sold as they were being built, and that some companies, especially during the decades immediately following the Civil War, inflated their capitalizations by a variety of fraudulent and questionable methods. Some companies are still overcapitalized, and their debts and net worth as shown on their balance sheets overstate their true investment. Other

companies, however, have withheld even small earnings from stockholders and reinvested them in additions and betterments and charged such improvements to expenses to such a degree that they are in fact undercapitalized. But it should be reemphasized here that neither over- nor undercapitalization should affect rates, for rates are assumed to be based not on capitalization but on actual original or reproduction costs of the physical plant of the railroads.

In accordance with a Valuation Act passed by Congress in 1913, the Interstate Commerce Commission spent about 180 million dollars—most of it assessed on the railroads—in an effort to determine the fair value for rate-making purposes of the railroads of the nation collectively and individually. In making its valuation, the commission followed the procedure prescribed in the act, which was sponsored by persons who believed that the values claimed by the railways were excessive, notably Senator LaFollette of Wisconsin. Both the original prudent investment less depreciation and the cost of reproduction were to some extent considered. The findings of the commission were that for some roads book values were excessive, but that for other companies they understated true fair values and that in the aggregate the correct fair value corresponded closely to the sum of the book values. It should be further noted from Table 50 that if the fair values of the properties of the railroads were reduced by 50 per cent and a fair return allowed on the other 50 per cent, no large reductions in freight rates could be made as a result of this unless other expenses were also reduced.

Prices of Railway Services and Operating Costs and Other Prices.—The rates charged by railways for their services and also their cost factors are relatively rigid. This is well shown in Fig. 48, in which changes in railway freight rates, railway hourly wages, railway taxes, and wholesale prices of all commodities are depicted from 1913 through the first half of 1938. Commodity prices are represented by the wholesale-price index for all commodities compiled by the Bureau of Labor Statistics. In all cases the year 1913 is used as 100 per cent.

In 1938, railway freight rates per ton-mile averaged 137 per cent of the 1913 level. Railway wages per hour averaged 279 per cent of the 1913 level. The wholesale-price level of all commodities was 115 per cent of the 1913 level. Country-shipping-point prices of agricultural products —shown for 1939 and other years in Table 6, page 18—were 95 per cent of the 1910–1914 level. During the depression, beginning with 1929, freight rates declined but little. Prices fixed by public authority tend to be rigid, whether such prices be freight rates or the salaries and wages of employees. Railways were able to meet their pay rolls in 1932 and 1938 by employing about one-third fewer persons than were employed in 1929. Railway employees with jobs in 1938 were able to secure hourly wages amounting to 279 per cent of 1913 wages, although prices of farm products

at country points were but 95 per cent of 1913 prices. They were fortunate. But former railway workers without jobs were not, and, even among those employed, engineers were reduced to firemen, and so on. Farmers receiving for their products only 95 per cent as much as in 1913 were unable to buy other goods, which had declined but little in price. This reduced the amount of railway traffic. Business stopped in a deadlock. An important factor in the unfavorable ratio between prices received by farmers and prices paid by farmers were freight rates. Most important among the causes of high freight rates were rigidity in salaries and wages of railway employees. Additional causes of high freight rates were high railway taxes and high prices for materials and supplies which railways were required to buy. In these costs personal compensation was again a large element. Interest on the funded debt of

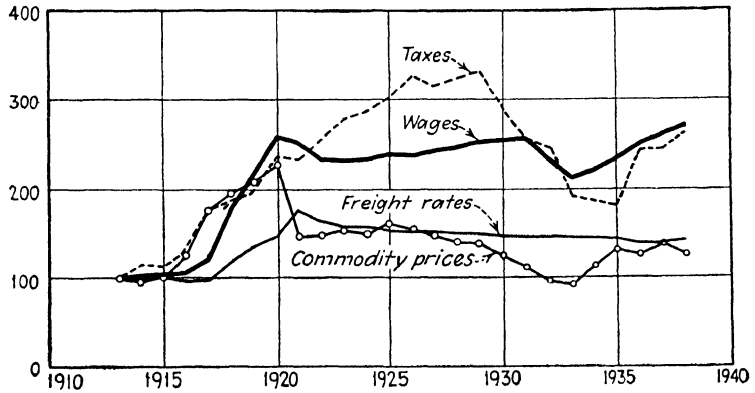


FIG. 48.—Indexes of railroad wage rates per hour, freight rates, railroad taxes, and general prices, based on the 1913 average, 1913–1938.

the railways also tends to maintain rigidity of freight rates, and it would be of advantage if this could be made less rigid. But the data given should be sufficient to show that the other factors named were of greater importance in explaining the failure of freight rates to decline from previous levels to the same extent as agricultural and other wholesale commodity prices in 1932 and 1938. In so far as railway ownership was represented by stock, such owners in 1932 and 1938 practically ceased to secure any return. For railroads as a whole there was in 1932 a deficit before allowing anything to stockholders. The authors of this text are not maintaining that during this depression they should have secured any return; but they are pointing out that high freight rates at this time were not due, to a significant degree, to excessive returns to the capital invested in railways. All capital invested in railroads received in 1932 but 10.4 per cent and in 1938 only 10.5 per cent of operating revenues.

Railway Tonnage and Revenue from Agricultural Traffic.—How important is the traffic in agricultural products to the railways? The

answer of course is different for different railroads. For the nation as a whole, the tonnage of agricultural products and other freight handled, and the revenues received from each class, are shown in Table 51. In 1929 nearly 13 per cent of the freight handled by the Class I railways of the nation consisted of products of agriculture, animals and animal products, and agricultural manufactures. These products brought 23 per cent of the total freight revenue. In 1932, agricultural traffic sup-

TABLE 51.—AGRICULTURAL AND OTHER TRAFFIC AND REVENUES, CLASS I RAILWAYS, UNITED STATES, 1929 AND 1932[1]

Year and kind of product	Tonnage		Revenue	
	Million short tons	Per cent	Million dollars	Per cent
1929				
Products of agriculture	115.3	8.6	721.6	14.5
Animals and products	24.9	1.9	236.5	4.8
Agricultural manufacturing	28.4	2.1	168.2	3.4
Total	168.6	12.6	1,126.3	22.7
All other	1,170.5	87.4	3,840.3	77.3
Total	1,339.1	100.0	4,966.6	100.0
1932				
Products of agriculture	80.9	12.5	480.0	19.0
Animals and products	18.1	2.8	190.2	7.5
Agricultural manufacturing	14.6	2.3	93.5	3.7
Total	113.6	17.6	763.7	30.2
All other	532.6	82.4	1,770.0	69.8
Total	646.2	100.0	2,533.7	100.0

[1] *Economic Trends Affecting Agriculture* (U. S. Department of Agriculture, 1933), p. 14.

plied 18 per cent of the volume of railway freight and yielded 30 per cent of the freight revenue. The tonnage of agricultural products transported by the railways was about one-third less in 1932 than in 1929. Without doubt, much of this decrease was moved by truck. But the tonnage of other traffic moved by the railways was 55 per cent less in 1932 than in 1929, resulting in agricultural products furnishing 7 per cent more of the total freight revenues of the railways in 1932 than in 1929. Total railway freight tonnage was less than half as great in 1932 as in 1929.

The fact that agricultural products furnish a larger percentage of the total railway freight revenue than the percentage they constitute of the total tonnage does not of necessity show that rates on agricultural products are relatively too high. Among other factors, length of haul and cost of the service must be considered.

In 1929, 55 per cent of all the railway tonnage consisted of the products of mines and 7 per cent of the products of forests. Coal alone constituted 17 per cent of all the tonnage. The freight rate on coal is low both because of the inability of the commodity to bear a high rate and because the cost per ton of moving coal in large quantities is low.

The foregoing pages are not intended to solve the railway-transportation problem. They are intended to state a few basic facts and principles of which a knowledge will be helpful in the solution of the many transportation problems which those engaged in agriculture must face. We shall next turn our attention to some aspects of water and highway transportation, after which the transportation problem as a whole will be further considered.

WATER TRANSPORTATION

Transportation over Large Bodies of Water.—Transportation for extended distances over large bodies of water is per ton-mile by far the cheapest transportation available. This includes transportation over the ocean and such waters as the Great Lakes. To ship wheat by ocean for 8,000 miles costs no more than to ship it by rail for 400 miles.

In December, 1933, the ocean rate on wheat from Seattle, Wash., to Liverpool, a distance of over 9,000 miles, was 14.5 cents per bushel. The railroad rate to Seattle from points 300 to 400 miles inland was 14.4 cents per bushel. On the Great Lakes the rate from points such as Duluth and Chicago to Buffalo, a distance of about 900 miles, has for some years varied from about 1.5 to about 3 cents per bushel. At the same time typical railroad rates for equal distances have been from 20 to 25 cents per bushel.

Rates on the ocean and the Great Lakes are low because costs of transportation on such waters are low, largely for the following reasons: (1) There is no investment in a roadway and no cost to the carrier for its maintenance. Maintenance of way is a large cost in land transportation and also in transportation by small and artificially created waterways. In ocean transportation we speak of the ship, the vehicle; in land transportation we speak of the railroad or highway, the way. (2) Terminals for ocean transportation are partly provided at public expense and render less service to the customer than do railroad terminals, with sidings located to meet the convenience of shippers. (3) The cost of supplying and operating large ships is less per ton-mile than is the cost of the vehicle and its operation in land transportation.

Ocean rates are the result of extremely active competition for traffic and are practically unregulated by public authority. Ocean vessels are of two general kinds, *liners* and "*tramps*." The former run on regular schedules and carry passengers and also most of the package freight of high value. The latter do not have regular routes and go wherever

traffic may be secured. Tramp rates are thoroughly competitive. Liners' rates are of two kinds: (1) *conference rates* and (2) *open rates.* Conference rates are fixed by agreement among the steamship lines and are uniform rates for particular commodities over stated routes. This would indicate that they might be monopolistic; but the ease with which new vessels may be put into a given service has kept all ocean rates sufficiently low for many years that earnings from capital invested in ocean transportation have been low. It has been well said that ocean transportation is naturally the business of a country with limited other possibilities for using capital and poor opportunities for the effective use of labor. Open rates are rates by liners on cargo for which no conference rates are fixed. Such cargo is generally cargo for which liners compete with tramps. Another type of ocean rate is the *berth rate,* which is a specific commodity rate by liners for parcel lots of cargo of a kind ordinarily carried by tramps.

Transportation over Inland Waterways.—Transportation over small inland waters, such as rivers and long canals, presents an entirely different picture than does transportation over large bodies of water. In amount such movement at present is insignificant in comparison with transportation by railroads. In 1930 the total ton-mileage of railway freight (a ton-mile is one ton of freight transported for one mile) in the United States was 383 billions. The total ton-mileage of freight shipped by rivers, canals, and connecting channels was 9 billions. And of this 9 billion about one-third was represented by the movement through the short "Soo" Canal, a little over one mile in length, connecting Lake Superior and Lake Huron. More was represented by movement through other connecting channels of the Great Lakes. Omitting simply the traffic of the "Soo" Canal, the ton-mile movement by rivers, canals, and connecting channels was less than 2 per cent of the movement by rail. With great economies claimed for water transportation, this raises the question: Why was the movement by water relatively so small? It has often been asserted that the answer to that question is that the railroads have competed unfairly with water transportation. An unbiased examination of the evidence, however, leads to the conclusion that there are other more important causes.

One great difficulty in transportation over rivers and canals is inconvenience of terminal facilities. Railroad sidings are placed in industrial plants so that freight may be moved out of the plant and into cars with a minimum of inconvenience. Cars are *spotted* without extra cost to the shipper. Shippers find this much more economical and satisfactory than moving freight to a water's edge and then loading it on to a boat, especially if the stage of water in the river rises and falls as much as it does in most rivers. Where either the point of origin or the destination is not at the water's edge there is involved in water transportation a

reloading problem which is both costly and hazardous. The ability of the railroad to place cars in sufficient quantities in almost any position in which they are wanted gives it an advantage which is hard to overcome. Northern waters freeze in winter. This requires dependence on rail transportation while such waters are frozen. Points not near water must have rail transportation. The heavy fixed investment and fixed costs of railroads are, therefore, required regardless of water transportation. The shipper who must use rail transportation part of the year tends to use it all the year, unless there ensue great economies from making a change. But in fact such economies often are not attainable at all. Movement by small boats on small streams is not especially economical, even as to out-of-pocket costs. Another objection to inland water transportation is that it is slow. For that reason, when available, it is used only for low-grade freight.

The New York Barge Canal furnishes an excellent illustration of the difficulties of inland water transportation. The old Erie Canal was a great success until the development of the railways caused it to become obsolete. Between 1903 and 1918 New York State spent 176 million dollars in reconstructing the old Erie Canal into the modern New York Barge Canal, hoping thereby to bring it back into use. Including accumulated interest during the construction period, the cost of these improvements has been put at 192 million dollars and the annual interest on the investment at $7,700,000. Maintenance costs in 1931 were $2,900,000, resulting in a total interest and maintenance cost of $10,600,000. Shippers do not pay any tolls for the use of this canal. The subsidy granted by the state to shippers by the free use of the canal has been greater than would have been the total freight costs if the freight moving through the canal had been moved by rail and the state had paid the entire cost at regular rail rates. In summarizing all the costs of the canal H. G. Moulton and his associates expressed their conclusions as follows:

> It is clear from these figures that the inclusive cost of transportation on the New York Barge Canal is nearly double that on railways for similar types of traffic. The taxpayers of the state of New York contribute over 10 mills per ton-mile in order to make possible a slight reduction—amounting to 1 or 2 mills at the most—in freight rates to shippers. If the canal were abandoned and the railroads were permitted to handle the traffic the increased tonnage would make possible a reduction in rail charges, and/or increased tax contribution to the government. At the same time the abandonment of the canal would save the taxpayers the annual maintenance charges.[1]

The Federal government has spent hundreds of millions of dollars in developing inland waterways. The investigators above quoted

[1] *The American Transportation Problem* (Brookings Institution, 1933), p. 476.

estimated in 1933 that there had been spent since 1890 "something like $790,000,000 for inland waterway development, exclusive of ocean harbors and the Great Lakes." Because of the small amount of traffic which was moved over these waters after the improvements were made, the Federal government itself in 1924 embarked in the water-transportation business by capitalizing and operating the Inland Waterways Corporation. Total traffic moved by this corporation up to 1934 was about 1½ million tons per year. Though the president of the corporation reported that it operated at a profit, this was because it had free use of capital supplied by the government, had to pay no taxes, and had other privileges which a privately owned company would not have had, such as free postage and wireless service. According to proper accounting methods, it operated at a substantial loss.

There is a real place for a certain amount of transportation over inland waters, especially for bulky low-grade commodities. Many claims made for the economy of water transportation, however, are not true. In developing waterways it should be remembered especially that rail rates are regulated by law, and that, if the continuance of railroads with private ownership is desired, they must receive a fair return on the property required to be devoted to the service. The plea often made for waterway development, that it will through competition result in lower rail rates, is not sound. Equally effective and more economic would be a direct reduction in rail rates by public authority. Large expenditures on waterways are not justified if this results in the public having to bear through either freight rates or taxes a fixed cost out of proper proportion to the available freight to be moved.

HIGHWAY TRANSPORTATION

Recent Development of Highway Transportation.—Highway transportation in the United States has been revolutionized during the last thirty years. In 1908 there were less than 200,000 automobiles and trucks registered in the nation. In 1938 there were over 29.5 millions. With the coming of the automobile, road building has been revolutionized. For 1904, total expenditures on rural roads are estimated at 79 million dollars. In 1924 such expenditures for the first time exceeded 1 billion dollars, and for 1931 amounted to 1.7 billions. Nearly 15 billion dollars was spent on rural roads in a recent ten-year period. In 1904, rural roads "surfaced with bituminous macadam for penetration, or higher types" amounted to less than 150 miles. In 1938, there were about 250,000 miles. Twenty-five years ago rural road construction and maintenance were largely a neighborhood affair. By 1930 state highway expenditure amounted to 59 per cent of all rural-road expenditures, local and county expenditures being only 41 per cent of the total and the tendency to change to state maintenance has continued.

The automobile, truck, and hard-surfaced state highways have caused a large shifting of traffic from the railways to the highways. Passenger travel over the railways in 1938 was less than half as great as in 1916 and was lower than in almost any other year since 1890. It has declined steadily with few exceptions since 1920. The year 1916 is the first for which there are comprehensive records showing the arrivals of livestock in important markets by truck. For that year, in sixteen leading markets, 1.6 per cent of all arrivals were by truck; in 1937 more than one-half arrived by truck. Of milk receipts in New York City, as late as 1930 only 5.9 per cent arrived by truck. For the first nine months of 1932 over 15 per cent was received by truck. Of the fruit and vegetable arrivals in New York City from nine nearby states, the percentage which arrived by truck increased from 42 per cent of the total in 1929 to 86 per cent in 1936. As late as the year 1925–1926, less than 2 per cent of the cotton arrivals at Houston were by truck. During the year 1931–1932 truck receipts were 44 per cent of the total arrivals and amounted to over 1,400,000 bales. In Memphis, during 1932–1933, 31 per cent of the arrivals were by truck, compared with 7 per cent five years previously.[1] The shift from railroads to trucks has continued since the dates for which these data are given. For nonagricultural freight there has been a large shifting to trucks for relatively small shipments of light-weight freight with relatively high rates, especially for distances not exceeding a few hundred miles.

This shifting of traffic from the railroads to the highways raises the question of whether truck highway transportation may not entirely replace rail transportation. On that particular point the following statement from Professor W. Z. Ripley, of Harvard University, nationally recognized authority on transportation, is of interest:

> Revenue tons of soft coal originating on Class I railways in 1929 amounted to 368,338,000. With five-ton trucks, which is actually three times more than the average now in service, it would take almost 2,000 vehicles to each single mile of improved state highway in the United States to hold this aggregate. . . . The load thrown upon other means of transportation were the railroads to lapse is roughly calculable. Such data will show clearly that the United States cannot in the public interest even allow them to dilapidate. . . . The assumption is well founded that the railroads are bound to stay indefinitely. The country could not do without them. There is no other way to meet its physical requirements. [As to trucks, he says:] Their prime disadvantage is labor cost, one man to each vehicle, while the railroad operates a heavy train with a small crew. Only by hustling and piling on size and weight can the operators spread the drivers' wages thin enough to hold the road. It is this business, thus handled, which more and more crowds the neighborhood traffic into the gutter. The

[1] H. S. Moulton and Associates, *The American Transportation Problem* (Brookings Institution, 1933), p. 572.

two-track roadway becomes congested. It has to be widened. It has to be much more heavily built to withstand this commercial tonnage. . . . Is it not clear that the major responsibility for constant reconstruction rests upon these commercial users rather than upon the local constituency? And it is precisely these long-range commercial users, speedy and ponderous, which are undermining investments made in the rail lines.

In this connection it is worthy of note that for 1938 the average railway revenue per ton-mile was 0.983 cents. This is at the rate of $0.983 per ton per 100 miles, or $1.92 for 5 tons for 100 miles. Low-grade heavy freight, of course, paid much lower rates. It is obviously impossible to depend on trucks for much long-distance transportation of heavy and low-grade freight.

It should be clear that there is a real place for highway transportation, especially for relatively short hauls, and also hauls of somewhat greater length in case of goods moved in small shipments and light in weight. On the other hand, it should be equally clear that long-distance transportation and the movement of heavy freight require the maintenance of the railroads. The solution of the railway vs. truck question requires a consideration of the respective financial burden placed upon them by public authority, which we shall next consider.

Who Pays for the Highways and Railroads?—Highways are provided at public expense. The users of the highways pay in gasoline taxes and fees a large part of the cost of their construction and maintenance, but a considerable part is still provided from general property taxes. The railroads provide their own railroads and pay taxes on them to furnish money for providing highways. In 1921 only 11 per cent of the money raised for highway construction came from gasoline taxes and motor-vehicle fees combined. In 1938 gasoline taxes and motor-vehicle fees combined furnished the greater part of the funds spent on state highways, but only a minor part of those spent on rural roads and city streets. Most of the remainder, in so far as rural roads are concerned, came from general taxes to which the railroads were important contributors. Of all taxes paid by railways in 1932, 13.9 per cent were for construction and maintenance of highways.

If railroads are to be maintained, their rates, of course, must be high enough to cover necessary costs, that is, unless they also are subsidized by taxes on other property. But it does not appear justifiable to place upon the users of railroads a cost which is the result of compulsory contributions by the railroads to furnish to commercial shippers by truck and to highway common-carrier transportation companies free roadways. It would appear that commercial users of highways should pay either in gasoline taxes or in other fees sums sufficient to cover all special damages which they do to the highways and also contribute to the general cost of providing highways in the same proportion as their use and demands for the

road are to the total use and demands. This they by no means do at the present time.

A petroleum company with a business national in scope in 1933 distributed advertising reading in part as follows:

It's the Motorist Who Pays. Although Congress refused to adopt a general manufacturing sales tax of 1¾ per cent, it did levy an additional one-half cent tax on gasoline, which made the Federal tax 1½ cents per gallon—approximately 7.3 per cent of the average retail price at this writing. Relief from this ½ cent was contingent upon repeal of the 18th amendment. The repeal having been declared effective, there still remains a Federal tax of 1 cent in addition to the state levies which average 4.17 cents per gallon, or approximately 20.3 per cent of the average retail price. In addition to these prohibitive taxes, many cities and counties even impose local taxes on gasoline. Therefore, the motorist is bearing a tax on gasoline many times the 1¾ cent sales tax which Congress decided was too great a burden to impose on sales of other products generally. . . . The gasoline tax is yielding more than the amounts required for road purposes.

The above quotation represents a point of view which has received much publicity. In regard to it three things should be said: (1) Gasoline taxes allotted to state highways for 1938, the latest year for which data are available, yielded less than half total expenditures on state-administered highways, during that year, not counting expenditures on other roads and streets.[1] Gasoline taxes and all special motor-vehicle fees combined yielded considerably less than the amount spent for all motor transportation facilities. (2) It seems only fair that those who use the roads in such a manner as to compete with the railroads should pay for the construction and maintenance of such roads. The gasoline tax is a convenient and effective way of putting a considerable part of the cost of roads on those who use them. The gasoline tax is not a tax at all, according to the usual meaning of that term. It is a fee to repay part of the cost of a special service furnished to those who use the roads. A tax properly defined is a compulsory contribution to the general cost of government. Taxes paid by railroads are taxes in that sense. But the gasoline tax for highways lacks much of paying the full cost of supplying the highways. This is not a serious matter in so far as ordinary use is concerned; but it is in so far as the use of the highways by commercial contract and common carriers competing with the railroads is concerned. And the latter are the cause of much extra expense in highway construction and maintenance. (3) The motorist does not pay the entire gasoline tax. If all gasoline taxes were removed, gasoline would not be cheaper by the full amount of the taxes removed. Part of the gain at least would go in larger returns to oil companies and lucky individuals who were fortunate enough

[1] *Automobile Facts and Figures*, 1939 (published by Automobile Manufacturers Association), pp. 82 and 85.

to "strike oil." Unless the production of gasoline were increased, prices paid by consumers for gasoline would be very nearly the same as at present. With a given amount of oil or gasoline to be moved into consumption, the price to the consumer is all that can be secured without decreasing the amount consumed. The removal of the tax would not lower prices to consumers unless it resulted in increased production. It would increase the net profits of the oil companies or those to whom they make payments. If this resulted in increased production of gasoline, as it probably would, at least to some extent, the price to some extent would be lowered. From the point of view of long-run social welfare it is very questionable, however, whether a more rapid exhaustion of our petroleum resources is desirable.

Motor-transport Regulations.—For a number of years there has been a growing opinion that there was need for some public regulation of motor-contract and common carriers. As early as 1928 some states undertook the regulation of intrastate motor transportation. Common carriers were required to secure certificates of public convenience and necessity, tariffs were required to be filed, and some control was exercised over rates and other matters. In 1932 the first effective control was exercised over contract carriers. Finally Congress enacted the Motor Carrier Act of 1935, as Part II of the Interstate Commerce Act. Its provisions for controlling common carriers are rather comprehensive, the Interstate Commerce Commission being authorized to require surety bonds and to prescribe working conditions, methods of keeping accounts, maximum and minimum rates, and other regulations. Its provisions for controlling contract carriers are less complete. Among these are the requirement that a contract carrier must secure a permit to engage in contract carriage and a provision that the commission may prescribe minimum but not maximum rates which the contract carrier may charge. In exercising its powers the commission has worked in cooperation with state authorities. Through joint state and federal action a beginning has finally been made in regulating public motor transportation.

CURRENT TRANSPORTATION AND PUBLIC UTILITY PROBLEMS

Social control of transportation is faced at present with a number of problems. One of these is reasonable rates to shippers. Another is fair treatment to all the different forms of transportation in competition with each other. A third is equitable treatment to taxpayers and investors. A fourth is social justice to present employees and those at present unemployed.

Emergency Railroad Transportation Act of 1933.—Congress enacted in June, 1933, the Emergency Railroad Transportation Act of 1933. This act created a Coordinator of Transportation and among other things

directed him to encourage and promote or require action on the part of the carriers which would "avoid unnecessary duplication of services and facilities of whatsoever nature," and in general to avoid "waste and preventable expenses." Very little was accomplished under this act, partly because the act provided that nothing might be done by which any employee would be "deprived of employment such as he had during said month of May [1933] or be in a worse position in respect to his compensation." The office of Coordinator of Transportation was terminated, by failure of Congress to provide for its continuance, in June, 1936.

The Position of Railroad Labor.—Organized railroad labor, through the Railway Labor Executives' Association, representing twenty-one standard railroad unions, announced in December, 1933, a number of objectives for which it proposed to work during the next session of Congress. Among these was a six-hour day for railroad employees with no reduction in pay from the present daily wage. As to coordination, the association stated that, "Any coordination or consolidation program of wide extent as yet proposed will insure increased unemployment to the extent of from 50,000 to 350,000 railway workers. If any coordination or consolidation program is to be approved, it must provide for the creation of additional employment to absorb the workers displaced." Aside from a temporary wage cut during the very bad years after 1931, railroad labor has consistently refused to take part of the burden of the railroad's ills and accept lower wages. Instead it has urged the six-hour day and compulsory reduction of interest on debt.

A Coordinated System of Transportation.—There has been much discussion during recent years of the need for coordination or correlation of different forms of transportation, especially railway, water, and highway transportation. It has been pointed out that each of these has been developed independently of the others, only to a slight extent for the purpose of supplementing each other, but largely as though the other forms of transportation did not exist. Legislative policy has been largely to force them to compete with each other, rather than to encourage them to operate as a single unified system of transportation. It has been urged during recent years that the need is for a completely integrated transportation system, without reference to whether it is by rail, water, or highway.

For the lack of coordination the following reasons have been pointed out: (1) Laws prohibiting the owners of one form of transportation (railroads in particular) from engaging in the other forms. (2) Special government subsidies to some forms of transportation, often for the avowed purpose of compelling those engaged in other forms of transportation to reduce their rates. (3) Inequality in the tax burden placed upon different forms of transportation. (4) Inequality in the degree of regulation applied to different kinds of transportation agencies.

It has been urged that all forms of transportation should be placed under one regulating authority, national in scope, and that the same degrees of favors, burdens, and regulations should be applied to all forms. This proposal as an ideal has much to be said in its favor. Its practical realization, however, appears difficult.

Government Operation.—Another proposal has been for government operation of the railways. This proposal has received most support from railway labor, in the belief that railway employees would fare better as government employees than as employees of private companies. Advocates of government operation urge that the railroads are already so much regulated that the transition to government operation would not be a great one. They also urge that government operation would eliminate unnecessary competitive expenses. The opponents of government operation point to the fact that this kind of operation during the period of the World War and immediately thereafter was not a financial success. If the railways were government owned and paid no taxes, taxes on other forms of property would then have to be substantially increased. The arguments for and against government ownership are complicated, and we shall not attempt to consider them in a thorough manner.

Other Public Utility Regulation.—The tremendous recent growth in electrical light and power companies has brought to public attention questions connected with their regulation. In the past, power companies have been subject to the regulation of state public utility commissions. Such regulation, however, has been much less severe and far reaching than regulation of the railroads. The industry has grown rapidly. Technical improvements and improvement of the load factor through increased use of electricity have made possible marked reductions in rates, and in many cases such reductions have been voluntarily made. In other cases, the commissions have ordered reductions. In spite of the rate reductions which have been made, profits on capital invested in the industry have been distinctly satisfactory. Properties have been sold by small companies to large companies for much more than their cost. The accounting methods of the companies have been but slightly supervised. Complicated financial structures have been erected with stocks of operating companies held by holding companies and with holding-company stocks held by other holding companies. In some cases there have been financial manipulations involving unquestionable fraud.

Reform in electric-power-company regulation is needed, probably including a larger degree of control by the Federal government. Holding-company organization and activities were subjected to stringent control by the Public Utility Holding Company Act of 1935. The accounting methods of the companies need to be more closely supervised. Unduly high salaries need to be restricted. Individuals who violate positions of trust or engage in corruption should be fined and imprisoned.

Increasingly the device of public competition or "yardsticks" is being applied in the power field. In the notable case of the Tennessee Valley Authority, rates on publicly produced power are being placed so low as to force private companies to meet the rates or sell out. Though there was room for marked improvement in the private power field, much of which improvement has been made, the rigidity of control which now applies to the railroads should, if possible, be avoided. Initiative should be given an opportunity to express itself, and capital a chance to earn a fair return. Publicly owned plants should be permitted but should not be so subsidized by freedom from taxes which privately owned companies must bear, or by other privileges, as to place privately owned companies in a competitive position which imposes an unfair burden upon them.

Questions and Problems

1. What are the distinctive features of a business affected with a public interest, and what are the obligations resting upon those who engage in such a business? What is the significance of the decision of the Supreme Court in the case of *Nebbia v. the People of the State of New York?*

2. Show the degree of importance of transportation and other public utility services by comparing the capital investment and persons employed in such services and the income derived from them, with the nation's total wealth, income, and gainfully employed. Compare railway transportation, highway transportation, and the light and power public utility companies as to rapidity of development in a recent ten-year period.

3. Summarize the chief features of the Interstate Commerce Act of 1887; the Hepburn Act of 1906; the Transportation Act of 1920.

4. Explain the meaning of a *fair return* and a *fair value* in application to a business affected with a public interest.

5. What is the significance of large fixed costs in rate making for public utility services?

6. Explain three important principles of rate making.

7. Account somewhat in detail for the fact that railway freight rates were but slightly reduced during the depression of the 1930's.

8. Under what circumstances is water transportation extremely economical, and why?

9. Under what circumstances is water transportation more expensive than rail transportation, and why?

10. What is the place of highway transportation in a well-balanced system of transportation? Explain.

11. Is the gasoline tax too high? Justify your answer.

12. What should be done to coordinate all forms of transportation better?

13. What reforms, if any, are desirable in the regulation of light and power companies? Justify your answer.

Suggested Readings

1. Eliot Jones, *Principles of Railway Transportation* (1924) is a well-written treatment of the subject matter indicated by the title; *Principles of Public Utilities* (1931) is an excellent introduction to that subject.

2. H. G. Moulton and Associates, *The American Transportation Problem* (1933) is probably the best treatment available of all aspects of the present transportation problem.

3. Sidney L. Miller, *Inland Transportation* (1933) treats well both the principles of transportation and current problems.

4. D. Philip Locklin, *Economics of Transportation* (1935) treats the subject in a simple and yet comprehensive manner.

5. Stuart Daggett, *Principles of Inland Transportation* (1928) covers all phases of the subject but is especially thorough on traffic geography.

6. *The American Economic Review,* March, 1934, contains a number of excellent discussions of the problem of correlation of different forms of transportation.

7. *Automobile Facts and Figures,* published annually by the Automobile Manufacturers Association, Transportation Building, Washington, D. C., and available free, contains an abundance of information about both the automobile industry and highway expenditures.

CHAPTER XXIII

MARKETING AND COOPERATION

Before the development of extreme specialization had occurred, the same person who *produced* goods (according to the popular usage of the word *produce*), or who in the language of economics created form utility, could in large part personally sell his products to near-by consumers. At present it is generally most economic to depend for marketing on those who specialize in performing that kind of work. This is due primarily to three causes: (1) the distance which intervenes between the places where the goods are produced, according to the popular usage of that word, and where they are consumed; (2) the number and complexity of consumer's wants; (3) the fact that those who specialize in marketing develop special skill in that work. The Maine potato grower cannot personally sell and deliver his potatoes to hundreds or thousands of New York City consumers. Nor is it economical for the New York shirt maker, the Boston shoe manufacturer, the Pittsburgh glass producer, and distant makers of thousands of other wares each to sell and to deliver their goods personally to Maine potato growers and other final consumers. But distance is not the only difficulty. Factories rarely attempt to sell directly to final consumers in the very cities in which they are located. Almost universally they find it much more satisfactory to depend on special marketing institutions, such as retail stores, to do such selling. The number and complexity of the consumer's wants, the fact that each consumer wants small quantities of very many things and prefers personally and quickly to select what he desires when he wants it, are probably even more important than physical distance between producers and consumers, in causing marketing services to be performed by those who specialize in such work. Moreover, the special skill developed by those who devote themselves solely to such work, or some particular part of it, is an important reason for marketing being so generally performed by specialists. This explains at least partly, for example, why he who has a house to sell in a populous area quite generally prefers to list it with a real estate broker rather than to attempt to sell it himself.

The importance of marketing as a specialized part of our present economic life is shown by the fact that of the nearly 49 million persons reported as gainfully employed by the Census for 1929 over 7,500,000, or more than 15 per cent (including clerical workers), were in trade. These numbers included workers in ordinary wholesale and retail trade,

automobile agencies, filling stations, insurance and real estate selling, and banking and brokerage. They did not include, however, workers in specialized transportation services or in the selling or other marketing activities of manufacturing concerns, restaurants, or other industries by which selling and other marketing work were carried on as a part of some other primary occupational activity. Of the work in many such industries, marketing is a very large part, as a few simple examples will show. All employees in printing and publishing are reported in the Census as engaged in manufacturing, and that industry employs over 3 per cent of all persons employed in manufacturing. But a considerable part of printing and publishing is advertising, and those employed in the advertising work of printing and publishing are in fact employed in marketing, and their wages and salaries are paid indirectly as marketing costs. Another example is meat packing, which is classed as a manufacturing industry, but nearly as many of the employees of which are really engaged in performing marketing services as in performing "packing" or processing services.

If all workers in the transportation of commodities are included, and the time of workers which really is devoted to marketing services in other occupations, marketing probably occupies not far from one-third of our total gainfully employed population. If persons employed in furnishing store buildings and equipment, heat, light, and other necessities for marketing work (the wages and salaries of all of whom are indirectly paid as marketing costs) also are included, this percentage will be further increased. Obviously, marketing in a broad sense both gives rise to a large part of the cost of living and constitutes a large part of the services which supply our wants in living. This, however, is only saying that creating time, place, and possession utility is an important part of our economic life.

WHAT IS MARKETING?

A definition of marketing which both includes all that should be included and excludes all that should be excluded is difficult to give. People ordinarily think of marketing merely as selling. But in reports of expenses of marketing there are included usually not only the expenses of selling but all other expenses involved in moving goods from the ownership and the places in which they have been given form utility (or "produced" in the popular usage of that word), into the possession of consumers. We shall define the marketing of material goods as *the performance of the services necessary to move such goods after they have been physically created, or given form utility, into the physical possession and ownership of final consumers.*

Marketing Services.—We shall distinguish nine distinct marketing services: (1) assembling; (2) financing; (3) storing; (4) grading and

standardizing; (5) packaging; (6) transporting; (7) processing (not for all commodities); (8) distributing; (9) selling. Let us note some illustrations of these services. Stores are recognized as marketing institutions. Yet the original meaning of a store was beyond question a place in which goods were stored, and the cost of storage, partly in the retail store, but mostly at other points, continues to be an important cost in marketing. *Storage*, therefore, is a marketing service. But, even before goods can be stored or before they can be offered for sale in retail stores, they must be assembled by the retailer by a buying process. Before farm products can be economically shipped from the country points near which they were produced (in the popular usage of that word), they also must be assembled by a buying process to secure the volume necessary to carry on economically country-point storage, carload selling, transportation to distant points, and similar services. Such country-point buying or assembling may be done by a private dealer or a cooperative association. But in either case there is a cost of assembling, meaning buying or securing control of the product, *quite outside of transportation* or other services. The manager of a large cooperative wool-marketing organization has said in a public address, "It costs us more to get wool than to sell it." By "getting," he meant securing control of it or assembling it. Though at country points assembling is to secure volume, the retailer must assemble, or buy, to secure variety. *Assembling* is, therefore, a distinct marketing service, and one which is ordinarily performed more than once in marketing. The movement of goods must be financed, as the producer who gave them form utility, and each subsequent owner in turn, wishes to be paid for them before payment has been received from final consumers. Also there must be financing of storage and other facilities. *Financing*, accordingly, becomes an important feature of marketing.

Grading and standardization of farm products are a necessary marketing service, which for some products, as in candling eggs, requires an appreciable expense. Most products must be put into containers or packages, to prevent spoilage and waste, and to facilitate their movement from the farm or factory into the possession of final consumers. Costs of such packages as boxes, paper sacks, and twine commonly constitute from 2 to 4 per cent of all the expenses of a retail grocery store. Baskets or boxes for apples, cases and fillers for eggs, and the expenses of putting the goods into these packages cause *packaging* to be not only an important service, but for some products an important marketing cost. Goods must be transported, and for some products *transportation* as a marketing service is quite costly, as will be further shown later in this chapter.

To what extent *processing* the product should be regarded as a part of marketing is a debatable question. Ordinarily such minor processing as pasteurizing milk or removing dirt or spray residue from fruit is considered a part of marketing, whereas such elaborate processing as manufacturing

wheat and other raw materials into flour and bread, textile fibers into clothing, and animals into meat is regarded as beyond the scope of marketing.

Finding the best markets involves expenses in addition to the cost of making sales. Such additional costs include those of gathering market information and deciding when and where to sell, and these may be called costs of *distribution* as a particular marketing service.[1] *Selling*, or inducing persons to want and agree to make payment for what a given seller has for sale, is the central step about which all other marketing services revolve. It may be considered the nucleus of marketing. In some cases, as in selling insurance or goods not familiar to prospective buyers, this step is also by far the most costly. In other cases, as in selling wheat to a miller, it is relatively inexpensive in comparison with other marketing services. Selling includes transfer of title and collecting or receiving payment.

In addition to (1) assembling, (2) financing, (3) storing, (4) grading and standardizing, (5) packaging, (6) transporting, (7) processing, (8) distributing, and (9) selling, some writers distinguish other marketing services. Risk taking is very often considered a distinct additional marketing function. Clearly risk taking is involved in marketing and gives rise to costs. But the present writers prefer to regard it as an incidental feature of the other services rather than as a distinct service. Part of the rates paid for storage, transportation, and the other services listed is for risk of loss from fire and accident, and even of injury to employees. The margins taken by dealers must be large enough to cover such risks as well as the risk of loss from waste and spoilage of the commodity itself. These and other risks add to the costs of performing the services above listed. In addition to risk, the depreciation of equipment and the keeping of accounts are incidental services which give rise to expenses connected with the nine services listed.

Some of the services above listed are performed more than once and in more than one location, as the goods are moved from the farm or other place where they originally received form utility toward and into the physical possession and ownership of final consumers. Some are not performed with all commodities. With some commodities some services are most costly, with other commodities other services. The list of services given, however, enables us to realize that marketing involves much more than merely selling.

Marketing Agencies and Stages.—Marketing agencies include country buyers, cooperative associations, different transportation agencies,

[1] Distribution as a particular marketing service should not be confused with distribution as often used in business to refer to marketing in general, or to distribution as used in the language of economics to refer to the division of the social income among the different classes or individuals of the population.

terminal wholesale dealers, organized exchanges, auction companies, storage companies, brokers, commission merchants, jobbers, retail stores, peddlers, and others. There are considerable differences in the lists of agencies which handle different commodities. Furthermore, different parts of the same commodity move through a variety of different agencies. Accordingly different kinds of marketing agencies tend to be in constant competition with each other.

Marketing farm products under most modern conditions involves three broad stages: (1) concentration, (2) storage and equalization as to time and place, and (3) dispersion. But the problems of marketing and possibilities of improving on present practices may be best appreciated by noting the necessity of performing such services as the nine above listed and then inquiring how these services may be most effectively and economically performed.

Marketing and Price.—When the subject of marketing is mentioned, that feature of it which immediately comes to the minds of most persons having goods to market is the securing of a satisfactory price. The securing of such a price is not a simple matter. It involves indirectly almost everything considered in this entire book. It involves all the principles governing prices under competitive and monopolistic conditions. It involves securing a price in satisfactory relation to the cost of production and accordingly includes everything pertaining to the relation between cost of production and price. All these matters cannot be discussed in this chapter. Some have received consideration in preceding chapters, and others are still to be considered in the chapters to follow. Moreover, all the details of the services performed by different marketing agencies, and the many technical features of marketing and of trade practices, which differ to a considerable extent with different commodities, cannot be here described and considered. For them the student is referred to special treatises on marketing. Our discussion will be limited to (1) a comparison of marketing costs of typical farm products and causes for variations; (2) retailing costs, including those of goods other than farm products; (3) the cooperative marketing of farm products; (4) programs for improvement.

TYPICAL MARKETING COSTS

A Commodity of Low Marketing Costs.—Low marketing costs are well illustrated by butter. The cost of spanning the gap between the producer of the raw material and the distant consumer of the finished product is lower for butter than for any other important farm product or other product of great importance which is sold to consumers in relatively small amounts at one sale. In numerous studies of butter-marketing costs as they were before the depression beginning in 1930, it was found that for the four-fifths of a pound of butterfat which entered into one pound of

butter, the farmers received on the average from 70 to 75 per cent of what the butter sold for at retail. Some investigators reported even a higher percentage. The results of one study are summarized as follows:[1]

Description of item	Cents per pound	Per cent
Consumer paid	50.0	100.0
Retailer took	5.0	10.0
Wholesaler took	1.0	2.0
Freight-and-cartage cost	2.3	4.5
Butter factory took	3.2	6.5
Transportation-of-cream cost	2.0	4.0
Farmer received for butterfat	36.5	73.0

The Federal Trade Commission has estimated that, in 1934, when 92-score butter retailed at 31.5 cents per pound, farmers, received for the butterfat in that butter from 58.0 to 66.65 per cent of its retail price.[2]

A Commodity of High Marketing Costs.—A striking contrast to butter is furnished by marketing costs of apples grown in the Pacific Northwest and consumed in the cities of the eastern states. In a study which covered the marketing of such apples in Chicago, made by one of the authors of this text, it was found that growers in the Pacific Northwest received for their apples, grown and picked but not packed, about one-fifth of what final consumers paid for them. This study was made in 1925 and 1926, but the figures would apply fairly accurately to the period of seven or eight years preceding 1930. Based on several hundreds of cases including different varieties, grades, and retail outlets, the average prices paid by consumers and the percentage division of what the consumer paid was found to be approximately as shown in the table on page 550.[3]

A fair picture of the situation is given by saying that for apples picked, but not graded and packed, the growers received about 20 per cent of the amount paid by consumers; and that for apples picked, packed, and loaded aboard cars, they received about 30 per cent of the amount paid by consumers. Retailing was the most expensive single step, and with the inclusion of buying from jobbers and moving the fruit from jobbing markets to retail stores it cost about one-third of what consumers paid. Transportation, including refrigeration, took about 20 per cent of the consumer price, or slightly more than the grower received for the unpacked fruit. The combined cost of all storage at all points except in retail stores, carload distribution and selling, transportation from railway

[1] Alva H. Benton, *Marketing Agricultural Products* (A. W. Shaw Co., 1926), p. 119.

[2] *Agricultural Income Inquiry*, 1937 (Federal Trade Commission), p. 103.

[3] E. F. Dummeier, "Marketing Pacific Coast Fruits in Chicago" (unpublished thesis, University of Chicago, 1926), p. 309.

terminals to jobbing stores, and jobbing (that is, breaking up carloads and making sales to retailers in quantities desired by them) took about one-sixth of the consumer's dollar. The costs of hauling, grading, and packing at shipping points, including boxes, was about 10 per cent of the retail price—or half the amount received by growers for their fruit grown and picked but unpacked. In more recent years prices paid by consumers and received by growers both have been lower and all costs have been reduced somewhat but the percentage distribution of the consumer's dollar has not been greatly changed.[1]

Description of item	Per box	Per cent
Paid by consumers per bushel box of 40 pounds net. (Most common amount of single purchase by consumer was about 3 pounds)	$4.40	100.0
Combined margins of retailers and truck jobbers, including hauling from jobbing stores to retail stores	1.47	33.5
Jobbing stores. (Selling to retailers from one to a few boxes per sale)	0.33	7.5
Automobile hauling to jobbing stores from railroad yards	0.05	1.2
Freight and refrigeration from growing region to Chicago	0.85	19.3
Storage charges, both in growing region and terminal market	0.27	6.1
Carload distribution and selling, including cost of assembling fruit in growing regions, national distribution by car-loads, terminal brokerage charges, and auction charges for that part (more than half) which moved through auctions where car-loads were sold mostly to jobbers in lots of about 25 boxes each	0.15	3.4
Hauling, grading, and packing (including boxes and paper) at shipping point	0.42	9.5
Picking	0.08	1.8
Fruit on the tree	0.78	17.7

Reasons for Differences.—The reasons for the differences in marketing costs between these two commodities will be shown by enumerating seven reasons why the cost of marketing butter is relatively low. The reasons for the higher costs for apples and various other commodities will then be obvious by contrast. (1) Butter has a high value in relation to weight and bulk. This keeps the cost of freight, packaging, storage, and some other services low as a percentage of value. Even to ship butter under refrigeration by rail from the Pacific to the Atlantic coast costs less than 3 cents per pound. (2) Butter is both produced and marketed the year round. This enables processing, packing, and other equipment to be constantly employed and reduces the cost of storage. (3) Butter is a staple commodity. The housewife buys it without much demonstration

[1] *Does Distribution Cost Too Much?* (Twentieth Century Fund, 1939), p. 30, and *Agricultural Income Inquiry* 1937 (Federal Trade Commission), Vol. II.

of its merits by the salesman but with attention to price. This both reduces the cost of retailing it and stimulates the retailer to make the best price possible. (4) Butter is uniformly and well graded. This eliminates the need for inspection by buyers and enables sales and purchases to be made by grade or description at all points where sales are made. Only little time of salesmen is needed in demonstrating quality and in waiting for the consumer to decide what he wants to buy. (5) With butter there is little waste. Though it is perishable, standardized methods of handling it have been developed which have eliminated the waste that once existed. (6) The turnover is rapid, and dealers are not required to carry many kinds, or models. This reduces costs of financing, risk, storage, and so forth. (7) Excellent market news service, together with standardized quality and standardized economical trade practices, minimizes the costs of wholesale selling.

Marketing Costs of Other Commodities.—For most farm products exclusive of those which must undergo very elaborate processing, the part of each dollar paid by final consumers which is received by the farmer is less than for butter but more than for Pacific Northwest apples. For some fruits and vegetables of great bulk which are highly perishable and which must be shipped long distances, the grower's percentage of the retail price is less than for such apples. For fluid market milk, "producers" for a number of years have received about 40 to 50 per cent of what consumers in large cities paid.[1] Most of the marketing cost of milk is for retailing costs and distinctly the largest single item of expense is for wages of the drivers of retail delivery wagons or trucks. Other important costs are for bottles and bottling. For eggs, about 60 per cent of what consumers paid in cities has been received by farmers.

For meat it has been estimated that from 1925 to 1934 farmers received 50.7 per cent of the money paid by consumers. Of the remaining 49.3 cents of the consumers' meat dollar, 25.1 cents were reported as the costs and profits of retailing, 4.7 cents as those of meat wholesalers, 15.3 cents as those of meat packers, and 4.2 cents as those of livestock dealers. Each of these groups of costs included transportation costs closely associated with the services performed.[2]

There was a time previous to the World War when receipts from the animal by-products more than covered expenses of packers in slaughtering and marketing beef, and farmers received for beef animals more than packers received for the meat. Since the war, however, higher wages

[1] During the 1920's the farmer's share of the consumer's dollar for milk was usually near 50 per cent, and during the 1930's near 40 per cent. For more details see W. P. Mortensen, "Distribution of Milk Under Public Utility Regulation," *American Economic Review*, March, 1936, and *Fortune*, November, 1939, pp. 82 and 136.

[2] Bernard F. Tobin and Howard Greer, "What Becomes of the Consumers Meat Dollar?" University of Chicago, 1936, p. 6, quoted in *Does Distribution Cost Too Much?* (Twentieth Century Fund, 1939), p. 31.

paid by the packers for labor and lower prices received for by-products, especially hides, have changed the situation. Though hides became cheaper, shoes became more expensive—again principally because of higher wages and salaries in shoe manufacturing and marketing.

The farmer who supplies the wheat receives but a small percentage of the price paid by the consumer for bread. The Foodstuffs Division of the Department of Commerce in November, 1930, said: "If the farmer gave his wheat for nothing; if the miller milled his flour for nothing; if the railroad hauled the flour for nothing, bread would still cost 4.2 cents per pound loaf." The division of the consumer's dollar for bread was reported as follows:

	Cents
Flour	26.7
Other ingredients (sugar, shortening, etc.)	14.5
Cost of manufacture	25.4
Cost of sale, distribution, and administration	33 4

The Federal Trade Commission has reported that the price received by farmers for wheat represented 13.4 per cent of the price of bread in 1923–1925 and 13.3 per cent of the price of bread in 1935.[1]

A report issued by the Canadian Wheat Pool in 1931, giving all costs actually incurred in moving wheat from country shipping points in Western Canada to Liverpool, Eng., is of interest. Costs were as follows:[2]

	Cents per Bushel
Liverpool price (March 31, 1931)	74.0
Outturn and marine insurance	1.0
Loading into boat at Montreal and ocean freight to Liverpool	6.0
Handling, brokerage, wharfage, etc., at Montreal	0.5
Lake freight Fort William to Montreal, including vessel brokerage and terminal unloading charges	9.5
Lake insurance, outturn and C. I. F. brokerage	0.7
Loading, inspection, weighing lake shippers' transfer, etc., at Fort William	1.5
Railway freight, typical Saskatchewan point to Fort William	13.5
Average country-point handling charges	3 5
Total cost of handling and shipping from country point to Liverpool	36.3
Net return to grower at country elevator	37.7

If this wheat had been sold to a domestic mill, only the country-point handling charges and freight to the mill, varying with distance, would have been incurred. The price to the farmer, however, would have been no higher, because millers would not have paid more for wheat than the competition of dealers buying for export forced them to pay.

One estimate of the percentage of the retail prices of different commodities received by farmers in the United States at two different periods

[1] *Agricultural Income Inquiry*, 1937 (Federal Trade Commission), Part I, p. 131.
[2] Clark and Weld, *Marketing Agricultural Products* (Macmillan, 1932), p. 462.

is given in Table 52. It should be noted that in these figures the part of the retail price not received by the farmer includes, not only costs of marketing, as we have defined that phrase, but elaborate processing or manufacturing costs for livestock and wheat. It includes the percentage of the retail price of cured meat products which was paid to the farmer for animals and the percentage of the price of bread returned to the farmer for wheat. According to these data, farmers in 1917 received 59 per cent of prices paid by consumers and in 1927 they received 45 per cent. As we shall note presently, the percentage received by farmers in early 1933 had declined to about 30. Since that year it has increased to some degree.

TABLE 52.—PERCENTAGE OF FINAL PRICES OF FOOD RECEIVED BY FARMERS[1]

Commodity	1917	1927
Beef	57	42
Pork	59	38
Milk	48	37
Butter	85	79
Hens	58	55
Eggs	76	64
Wheat flour	59	44
Wheat bread	36	21
Cornmeal	43	27
Potatoes	74	58
Weighted average	59	45

[1] G. F. Warren and F. A. Pearson, "Cost of Distributing Food," *Farm Economics*, New York State College of Agriculture, January, 1928, No. 50, p. 836.

Rigidity of Marketing Costs.—All the various marketing costs change but slowly per unit of product as prices change. Dealers, even when there is competition, will not pay more for products than they expect to be able to receive for them in excess of at least all their out-of-pocket, or direct, costs of doing business, and they will not long continue in business if they do not receive also their fixed costs, including some degree of *net profit*, or interest, on their invested capital. The price each dealer will pay for products depends, therefore, on his costs and what he hopes to be able to receive for them from those to whom he must sell. The final buyer is the consumer. Ultimately prices received by farmers depend, therefore, on the prices at which the goods can be sold to consumers and on marketing costs. If a shortage of any farm product develops, prices to consumers can be raised and dealers do not hesitate to raise them, though professing great grief in so doing. Competition among dealers for supplies in turn results in higher prices to farmers. But, if there are large supplies, prices to consumers must be lowered to

move the goods into consumption, and the effect of this drop is most severely felt by the farmers.

The effect of the rigidity of marketing costs on net returns to farmers is shown in Fig. 49, which indicates how a major depression affected differently the level of retail and farm prices and how the relatively

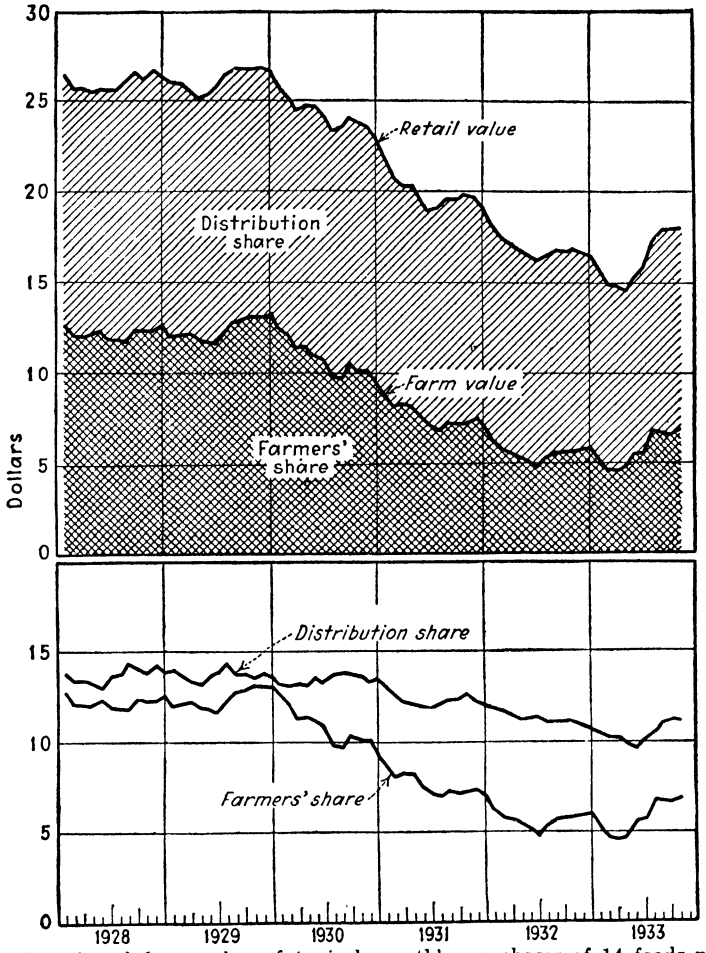


FIG. 49.—Retail and farm value of typical monthly purchases of 14 foods per family. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

smaller decline in distribution costs reduced the farmers' share of the consumers' dollar. In March, 1933, according to the Department of Agriculture, consumers were paying $11 less than in 1929 for the typical monthly purchases of fourteen foods for a family, but about $8 of this came out of the farmer's share, distribution charges having been reduced only $3. The farmer's share of the consumer's dollar for these foods was reduced from nearly 50 per cent in 1929 to only about 30 per cent in

March, 1933. Had the decline in retail prices been shared equally by farmers and those performing marketing services, prices at the farm in March, 1933, would have been about 50 per cent higher than they were.

Let us suppose that the price to the consumer of a product is $1, of which 50 per cent goes for marketing costs and 50 per cent is returned to the farmer. Now let us suppose that because of an increased supply of the product, or a reduced demand by consumers which may or may not be caused by a depression, the price to the consumer, in order to dispose of the supply, is lowered to 75 cents. The previous marketing costs were 50 cents, or 50 per cent of the retail price. With the drop in consumers' price, the marketing costs per unit of product will not rapidly decline to any great extent. Most marketing costs will decline only if there is a decline in such cost factors as wage rates and rent—declines which occur very slowly. Dealers will not buy the product unless they can hope to cover their costs. Let us say that the marketing costs after some delay do decline from 50 to 45 cents and that dealers' margins are decreased by this amount. This means that the farmer now receives only the difference between 75 and 45 cents, or 30 cents, which is 40 per cent of the new retail price, as compared with 50 per cent of it which he previously received. A decline of 25 per cent in the retail price has resulted in a drop of 40 per cent in the price received by the farmer. In contrast, when small supplies result in high prices for farm products the per cent of the consumer's dollar which is received by the farmer is increased.

RETAILING COSTS

The cost of retailing deserves special consideration, primarily because it is so great. If we exclude costs of elaborate processing and the cost of transportation for goods of great bulk or weight in relation to value, retailing commonly costs more than all other marketing costs combined. A competent investigator has estimated the 1929 Marketing Bill of the United States as follows:[1]

	Billion Dollars
Cost of operating retail stores	14
Cost of operating wholesale houses	6
Manufacturers' cost of selling	3
Freight transportation	4
Total	27

The total was nearly one-third of the national income. A detailed analysis of retailing costs should, therefore, throw light on the costs of marketing in general.

[1] L. D. H. Weld, *Printers' Ink Monthly*, March, 1932, pp. 22–28, 61–62, quoted in *Journal of Farm Economics*, April, 1934, p. 233. Another estimate, made by The Twentieth Century Fund, and published in *Does Distribution Cost Too Much?*, 1939, p. 118, places the nation's marketing bill for 1929 at 38.6 billion dollars.

Typical Retail Margins and Costs.—In Table 53 are shown the gross retail margins, principal elements of cost, and net profits for several classes of retail stores. The data shown are for years from 1924 to 1929, which were relatively prosperous years. The data for drug and clothing stores were collected by the University of Colorado, the remainder by Harvard University.[1] Reports of other investigations differ from these to only a negligible degree. The U. S. Census Bureau has collected data on operating expenses only of retail stores for 1929, 1933, and 1935. Expenses for 1929 agreed closely with those shown in the table. In 1933, expenses as a percentage of sales were appreciably higher and in 1935 slightly higher than in 1929.[2] The table represents, therefore, for fairly prosperous years typical gross margins, net profits, and elements of cost for the kinds of stores included.

First should be noted the size of typical margins of different kinds of stores. The margin represents the difference between selling price and cost of goods, expressed as a percentage of the retail price. Margins varied from 19.6 per cent for grocery stores to 33.7 per cent for drug stores. The data show that between 25 and 30 per cent of the retail price was a fairly typical retail margin. These margins, however, vary with types of stores. The grocery stores included in the table were those furnishing delivery service and credit. For cash-and-carry grocery stores the margin was appreciably less, being frequently not over 10 to 15 per cent. But for credit-and-delivery grocery stores from 18 to 22 per cent was a typical margin. For meat stores the typical margin was about 20 per cent; for shoe and clothing stores from 25 to 30 per cent; for furniture and large department stores from 30 to 35 per cent; for jewelry stores 40 per cent.

Next should be noted the amount of the typical net profit. For the stores shown in the table, this varied during the particular years covered from 0.5 per cent of sales for the lumber business to 4.4 per cent for drug stores. For grocery and shoe stores, it was less than 2 per cent of the retail price. It should be remembered that net profit includes interest on the invested capital of owners as well as pure profit, if any. The size of the typical net-profit figure indicates that no significant reduction in retail prices is possible merely through a reduction of the average net profit of dealers. If the amount of the margin (difference between cost of goods and selling price) of the typical retailers is to be appreciably reduced, the reduction must come from reduced expenses of retailers, rather than from decreased net profits of the average retailer. It should be carefully noted, however, that the net profit as shown in Table 53 refers to the percentage of receipts from sales which is available as a reward for invested

[1] Data are summarized in *Retailers' Expenses*, 1930 Ed., Domestic Distribution Department, Chamber of Commerce of the United States.

[2] See *Does Distribution Cost Too Much?* (Twentieth Century Fund, 1939), pp. 130 and 386.

capital. It does not refer to the percentage earned on invested capital. The latter would be affected both by the rate of stock turnover and the relation between net worth and debt.

Next should be noted the elements of cost. Typically half or more than half of the cost of retailing goes for direct payment of wages and salaries. Generally the next largest element is rent. Delivery costs are shown as especially high in the lumber business, but they include wages for delivery-service employees. Among the other most important costs

TABLE 53.—TYPICAL RETAIL MARGINS AND PARTICULAR COSTS FOR SEVERAL KINDS OF RETAIL STORES[1]

Expense items	Costs as per cent of retail price by kinds of stores				
	Grocery (1924)	Shoe (1923)	Drug (1927)	Men's clothing (1927)	Lumber (1928)
Total margin as per cent of retail price	19.6	28.5	33.7	29.8	25.7
Salaries and wages	10.7	13.7	16.9	15.3	11.7
Advertising	0.4	2.2	0.7	3.2	0.6
Rent	1.3	3.7	4.8	3.1	1.9
Interest on borrowed money	1.2	2.7	0.8	0.6	3.3
Boxes and wrappings	0.6				
Delivery	1.1	....	....	0.2	3.7
Office supplies and postage	0.2	....	0.8	0.3	
Heat, light, and power	0.3	....	1.2	0.7	
Taxes and licenses	0.2	....	0.7	1.1	
Insurance	0.1	....	0.4	0.5	
Depreciation and repair	0.5	....	1.5	0.8	
Loss from bad debts	0.5	0.2	0.4	0.4	0.9
Miscellaneous, not segregated	1.1	4.3	1.1	0.9	3.1
Total expense	18.2	26.7	29.3	27.1	25.2
Net profit	1.4	1.8	4.4	2.7	0.5
Stock turn (times per year)	9.8	2.0	3.0	2.2	2.9

[1] Compiled from *Retailers' Expenses* (Domestic Distribution Department, Chamber of Commerce of the United States, 1930), and based on data assembled by the University of Colorado and the Harvard Graduate School of Business. Some of the data are only for particular geographic regions of the country, but they are selected as typical.

are interest on borrowed money and advertising. It should be noted that neither of these was large, and other items such as taxes, insurance, repairs, heat, light, or supplies individually were even smaller. Nevertheless these items in the aggregate, together with those previously mentioned, took nearly all of the gross margin. By far the greatest cost in retailing, as in all marketing, is for human services.

The U. S. Retail Census of Distribution of 1935 showed average total expenses in 1935 for grocery, shoe, and men's clothing stores to be from

2 to 3 per cent higher than those shown in this table, and expenses of drug stores about 2 per cent lower.

The Number of Stores and the Cost of Retailing.—It is frequently asserted that the primary reason for the high cost of retailing is that there are too many stores. According to the retail Census for 1935, there were in the United States in that year 1,654,000 retail stores, with total retail sales slightly in excess of 33 billion dollars. These furnished one retail store for every 77 inhabitants, with average retail sales of about $20,000 per store. These sales data do not include goods and services not bought through stores.

An examination of the relative costs of conducting small and large stores does not lend support to the opinion that the great number of stores is the primary cause for the high cost of retailing. If the great number of stores is the principal reason for the high cost of retailing, then the expenses of stores of a given kind with large sales should under the same general circumstances be a lower percentage of sales than those of stores of the same kind with smaller sales. A compilation by the Chamber of Commerce of the United States of the data assembled by the University of Colorado and the Harvard University Graduate School of Business, covering grocery, shoe, jewelry, drug, hardware, lumber, men's clothing, office supply, specialty, and department stores, shows that for only one class of the eleven (namely, hardware) was there a consistent and appreciable difference in expenses in favor of the larger stores. For several classes of stores the percentage of retail prices required to cover expenses was consistently somewhat greater with the larger than with the smaller stores, probably because of more service rendered. Among these were shoe stores and department stores. Usually there was practically no difference, though the percentage of income from sales required to cover expenses of grocery stores with less than $30,000 of sales per year tended to be slightly greater than for those exceeding $30,000 of sales per year. Expenses for grocery stores with sales from $50,000 to $99,000 per year were a smaller percentage of sales income than those of any size group with greater sales. For jewelry stores the expenses of the group with sales below $20,000 were practically the same percentage as those with sales exceeding $500,000. For men's clothing stores the expense percentage was exactly the same for stores with sales below $100,000 as for stores with sales above $1,000,000, being 29.4 per cent in each case. For stores with sales between $100,000 and $200,000, it was slightly less; for groups with sales between $200,000 and $1,000,000, it was a trifle greater.[1]

The data indicate that in general (though with some exceptions) the percentage of the retail price required to cover expenses does not tend to be less for larger stores. As more business is done, more employees must be hired, more floor space is required, more rent must be paid, and

[1] *Ibid.*

other expenses increase accordingly. This appears to show that in general the high cost of retailing is not due primarily to the great number of stores—that is, the small size of stores—but that it is primarily due to the amount of service expected from the stores. Customers usually expect to be served promptly, to have the privilege of examining the goods in which they are interested, to have them demonstrated and explained by the salesman, and in many cases to take them home or to have them sent to their homes on approval, to be returned if not satisfactory. If, instead of expecting these services, customers would line up and be served in the manner in which a private in the army is served his meals, or in which we are informed that customers are served in the state stores of Soviet Russia, and pay cash for purchases, the cost of retailing could be greatly reduced. But customers usually are not satisfied with that kind of service. If, upon entering a store, they are not waited on promptly they usually go elsewhere. It is the furnishing of prompt service, of elaborate demonstration, of pleasant surroundings, of the privilege of a wide range of choice, and plenty of time in which to make it, of credit and delivery, and of other such items, which principally causes the high cost of retailing.[1]

Some Possibilities of Reducing Marketing Costs.—All stores, however, do not sell equally cheaply, even after allowance is made for differences in services rendered. For the person who wants to reduce the cost of marketing of what he buys, usually the best method is to buy from the stores which, with proper consideration given to quality of merchandise and to extent of service rendered, sell most cheaply. Stores are constantly trying out different practices. Some render more service and charge higher prices. Others render less service and sell more cheaply. The buyer usually has a fairly wide degree of choice. He can have either elaborate service or minimum prices. Ordinarily he cannot have both, because the merchant cannot afford to furnish him both. Nevertheless, some stores do furnish more in merchandise, or service, or both, for the same money than do other stores, and the alert customer by patronizing the stores which offer most will encourage the most economic methods in merchandising. *The great number of stores is itself partly a result of the demand to be served promptly, and partly a result of the demand for convenience of location.* Whatever advantage, if any, the large store has over that of moderate size is due mostly to advantage in doing its buying. In some cases this advantage is appreciable; in other cases it is not of great consequence.

The statement that the high cost of retailing is *not primarily* due to the great number of stores should not be interpreted as a denial of the fact that in many instances single business units in marketing are smaller than

[1] Support for these conclusions is found in *Does Distribution Cost Too Much?* (Twentieth Century Fund, 1939), p. 144.

can be operated with greatest economy and efficiency. Numerous studies of the costs per bushel of operating country grain elevators have revealed that in general the greater the number of bushels handled through an elevator per year, the lower is the cost per bushel. One study,[1] for example, revealed the following average costs per bushel in relation to the number of bushels handled:

Bushels per Year	Cents per Bushel
50,000 to 99,000	5.99
150,000 to 199,000	3.50
250,000 to 299,000	2 79
300,000 and over	2 64

Part of these differences in per bushel costs is without doubt due to the elevators with small volume having *idle overhead*, because of not operating to capacity, in some cases because of crop failures. But, even when all operate to the same percentage of capacity, elevators handling several hundred thousand bushels of grain per year can operate at an appreciably lower cost per bushel than those handling one hundred thousand bushels or less per year. And there are other steps in marketing in which increased volume appreciably reduces costs. Any marketing unit has lower costs per unit of product handled if its plant and employees are always fully employed than if they are to a great extent idle, and inadequate volume means either idle overhead or insufficient equipment to operate economically. Cooperative marketing institutions find an adequate volume of business one of their important requisites. With a large and assured volume of products, they find it possible not only to reduce the costs of performing certain services but to render services which they could not render with a small volume.

After all the above has been said, however, we must recognize that the greatest cause of the high cost of retailing—the most costly step in marketing—is the extent and character of the services expected from retailers.[2]

Chain Stores.—For some years in the recent past, chain stores made rapid growth. The largest single chain-store system of the nation, the Great Atlantic and Pacific Tea Company, a grocery or food chain which recently has operated some 14,000 stores, has for several years made about 2 per cent of the total retail sales of all kinds of the nation. In 1929, when total retail sales of the nation were about 50 billion dollars, its sales were about one billion dollars (less than $75,000 per store). In 1932, when the nation's total retail sales were about 36 billion dollars, its

[1] Alva H. Benton, "Farmers' Elevators in North Dakota," *Bulletin* 206, 1927, North Dakota Agricultural Experiment Station, pp. 35 and 37.

[2] For further discussion of the relation between the cost of marketing and the number of middlemen see Clark and Weld, *Marketing Agricultural Products* (Macmillan, 1932), pp. 465–479.

sales were about 800 million dollars. According to Census reports, all chain stores did 21.3 per cent of the total retail business of the nation in 1929, and 22.8 per cent in 1935.

The principal appeal of the chain store has been lower prices, together with varying degrees of reduced services. In so far as chain stores have sold for lower prices, these have been made possible partly by reduced services and partly by economies in buying, though other economies in management also have been introduced. The old-fashioned methods used by retail stores in securing their goods through jobbers involved considerable extravagant selling expenses by jobbers and buying expenses by retailers. Much of this was eliminated by chain stores, in which local store managers ordered their goods without such large jobbing expenses in selling them. The chain stores caused independent single-unit stores to improve their organization for buying, many forming buying rings or *voluntary chains*, as a method of competing with the chain stores. The single-unit stores also copied other improvements introduced by the chains. Both chain stores and single-unit stores have certain advantages, and it is not likely that either type will entirely replace the other as long as our economic life continues to operate under a system of free capitalistic enterprise, with the government interfering merely to the extent of preventing fraud and assuring a fair deal to all.

In recent years there has been much agitation against chain stores. The Robinson-Patman Act, passed by Congress in 1936, has reduced their advantages in buying. In 1939, special taxes against chain stores were in force in twenty-two states. Their competitive position in the future may be much affected by such legislation.[1]

COOPERATIVE MARKETING

Cooperative marketing by farmers refers to any arrangement whereby a group of farmers performs marketing services by acting together in an organization operated, not for the purpose of making profits from marketing goods produced by others, but in order to secure for their own products the greatest net returns possible. Usually such cooperative activities include *making sales* through salaried employees. To this, however, there are some exceptions. For example, one kind of cooperative marketing organization is the livestock-shipping association, operated simply for the purpose of assembling and cooperatively shipping livestock to a terminal market commission firm, which does the actual selling on a commission basis. There are also fruit-packing and creamery cooperatives which do their selling through privately owned *sales agencies* or commission firms. To secure certain privileges extended to cooperative marketing organizations by law, these associations must qualify under special

[1] For an interesting and thorough discussion of the chain-store problem see "The A and P Goes to the Wars," *Fortune*, April, 1938, p. 93.

laws, such as the Capper-Volstead Act and the Farm Credit Act, as explained on pages 270 and 588. Most of the cooperative organizations as above defined could qualify under these laws, though some could not.

Total memberships in cooperative marketing associations are greater than the number of farmers belonging to them, as many farmers belong to more than one organization. Total sales by cooperatives also are greater than the income farmers secure through them. This is for two reasons. First, from the gross income from sales of a cooperative association must be deducted costs of operating expenses, and only that which remains is returned to farmers. Operating expenses vary greatly, but how great they are may be shown by the fact that in a cooperative cannery typically from one-half to three-fourths of the income from wholesale sales by the cannery is used to cover costs of cans, labor, and other expense items, and less than half, sometimes less than one-fourth, goes to farmers for their products. The second reason for the excess of sales by cooperatives over income received by farmers through cooperatives is that the same products may pass through the hands of more than one cooperative. Reports of livestock sales by cooperatives, for example, may include the totals of both the local shipping associations and the terminal cooperative commission companies which in the terminal markets sell the stock shipped to them by the local shipping associations.

For a number of years the Bureau of Agricultural Economics or some other division of the Federal government has gathered annually data on the extent of agricultural cooperative marketing in the nation. A summary of this information, giving the number of associations in 1936, and the estimated total business by commodity groups for that year, is shown in Table 54. It will be noted that there were 10,752 associations listed, and that, after eliminating those designated as for purchasing, their estimated total business was 2,280 million dollars. This total business was about 30 per cent of the 1936 cash farm income of the nation. For the reasons above given, however, this does not mean that 30 per cent of farm products of the nation were cooperatively marketed. Probably between 20 and 25 per cent of the products marketed by farmers were handled by cooperative associations. Cooperative purchasing by farmers has increased in recent years, but in 1936 the value of goods cooperatively purchased by farmers was less than one-fifth the value of goods cooperatively sold by them.

Types of Cooperative Organizations.—Cooperative marketing organizations are of many types. Most organizations are incorporated, but some are not. Many associations, especially the larger ones, have contracts with their members in which members agree to deliver to the association all products produced by them of the kinds marketed by the association, but some associations, especially cooperative elevators and

creameries, do not have such contracts. Many small associations are entirely independent, but often local associations handling the same product are members of federations, the local association usually assembling, and packaging or processing the product, and the central office of the federation supervising the standardization of the product and doing the selling in distant markets for all the locals. In such federations the member joins the local association, which has its own board of directors and conducts its own affairs and as an association is a member of the federation. A large organization which is not a federation, but which has many local branches all fully directed by the head office of the one association, which the members join, is known as a *centralized association.* There has been much discussion as to whether the centralized type or the federation-of-locals type is the more satisfactory. It has not been demonstrated that either type is the better under all conditions. In addition to federations and centralized associations there are also small independent locals.

Possibilities of Cooperative Marketing.—Cooperative marketing has frequently been presented as a possible cure for practically all the economic ills of agriculture. That, it certainly is not. Relative overproduction of agricultural products in comparison with commodities and services which farmers must buy will result in prices which are unfavorable to agriculture in spite of all that cooperative marketing organizations

TABLE 54.—FARMERS' COOPERATIVE ASSOCIATIONS OPERATING IN THE UNITED STATES IN 1936, WITH SALES AND PURCHASES BY COMMODITY TYPES[1]
(Thousands of dollars)

Commodity type	Number of associations	Total sales	Farm products marketed	Farm supplies purchased
Dairy products	2,338	675,514	664,674	10,840
Grain	2,614	470,149	382,839	87,310
Fruits and vegetables	1,104	469,197	454,155	15,042
Livestock	1,012	350,256	340,495	9,761
Cotton	401	234,279	233,024	1,255
Poultry	180	86,970	68,736	18,234
Nuts	49	21,807	21,622	185
Wool	139	17,189	17,141	48
Tobacco	14	14,393	13,937	456
Miscellaneous selling	300	62,467	59,194	3,273
Purchasing:				
Feed stores	490	109,422	3,027	106,395
Petroleum products	1,057	98,924	445	98,479
Other types	1,054	105,148	21,405	83,743
Total	10,752	2,715,715	2,280,694	435,021

[1] Farm Credit Administration, *A Statistical Handbook of Farmers' Cooperatives, Bulletin* 26, November, 1938, p. 91.

may do. Price is governed by the marginal vendibility of the product with cooperative marketing associations as well as without them. Unless cooperatives can control the amount of the product which comes to market, they cannot exercise monopoly influence over price; and, for reasons which have been explained rather fully in Chap. XII, the power of cooperatives arbitrarily to control the quantity of products which shall be marketed is decidedly limited.

Nevertheless, cooperatives do have distinct possibilities of beneficial service. They can reduce the costs of assembling and other country-point services by eliminating certain wastes of excessive competition for supplies and duplication of physical facilities and at the same time can protect farmers from the dangers of a buyers' monopoly. In many cases cooperatives have brought about a higher degree of uniform grading and standardization of products from a large area than otherwise would have been attained. In some cases they have rendered better and cheaper sales service than otherwise would have prevailed. Most of the beneficial possibilities of cooperative marketing may be put under three heads: (1) better products; (2) reduction of marketing costs; (3) better selling. The possibilities of collective bargaining have been presented in Chap. XII.

As to the possibilities of cooperative buying, one illustration will suffice. The writers are personally acquainted with a chain of farmers' cooperative gasoline and oil supply companies which for several years has furnished farmers gasoline for about four-fifths of the price which they would have been compelled to pay otherwise. This has been done by group buying in carload lots under a special contract and by reducing the cost of jobbing and retailing. With a large volume of assured business, one station performs the usual services of both jobbing and retailing at a much lower cost per gallon than the cost of jobbing alone under the usual arrangement of tank-wagon jobbers selling to retail service stations and these to consumers. Customers must wait more frequently for service, and there is less waiting by employees for customers. No credit is granted, and such incidental services as wiping the windshield of the car, and inflating tires for the patron without charge, are not rendered. Reduction of services and an assured large volume of business are the most important reasons for the striking savings, though ability to buy in carloads at competitive carload prices was essential to the success of the undertaking. Private retailers who favor applying principles of monopoly to marketing disapprove of the plan.

Where success in cooperative marketing has been attained, it usually has been based on the following: (1) members cooperatively inclined and willing to do without costly nonessential services; (2) an assured volume of business sufficiently large to make economic operation possible; (3) skillful and economic management, including adequate financing and

accounting. Failures, where they have occurred, have usually been due to not observing these essentials.

PROGRAMS FOR IMPROVEMENT

Until the last few years public criticism of marketing generally has been to the effect that it has been too expensive. The preceding pages have shown that marketing broadly defined does take a large part of the social income, and that it also occupies a large part of the gainfully employed population. This is, however, a natural result of the technological improvements or reductions in cost which have occurred in the creation of form utility. Moreover, marketing is expensive because the elaborate services rendered are expensive, and these services are rendered because persons prefer them with the greater costs rather than less service and less cost. Whenever a sufficiently great number of people prefer less service with less cost they may secure that combination, often simply by patronizing stores which sell at lower prices with less service. In many cases cooperative marketing associations may appreciably reduce marketing costs and enhance net returns to farmers. Cooperative marketing alone, however, is not the solution of the problem of securing to farmers an abundant income.

During recent years much criticism of marketing has been to the effect that competition has made it impossible for those engaged in marketing to pay their employees the wages which it is asserted they should pay and at the same time to make the profits to which those who are engaged in these activities consider themselves to be entitled. There has been sponsored a movement by government approval to increase costs, margins, and profits in marketing. This policy was advocated and to some extent at least executed as a part of the NRA program. It motivates much agitation against chain stores. Such a program is designed to bring prosperity by making marketing services less available at low costs. Persons sponsoring the movement appear to believe that prosperity can be brought about by making services in general scarce and costly.

The United States is rich enough and has enough income to outlaw brutal exploitation of humanity in our business life. We can afford to prohibit hours of labor beyond reasonable limits and compensation to employees below certain minima. Nevertheless, we cannot make the nation prosperous by each class rendering less service to other classes and raising prices through restricted production of commodities and services. Prices received by some persons for their services are too low largely because those received by others are too high. Prosperity requires a proper balance in returns to different classes. In the final analysis, general prosperity consists of an abundance of goods and services and cannot be brought about by making all goods and services scarce. The

general application of the monopoly doctrine of high price through scarcity of marketing services will not promote general prosperity.

Competition is unkind to the inefficient, but it is the most effective means known for holding prices of particular goods in reasonable relation to prices of other goods. Cooperation is desirable unless it results in unfair monopoly. Farmers' cooperative marketing organizations have but little real monopoly power. They have genuine possibilities of benefits to farmers but alone are not the solution of "the agricultural problem."

Questions and Problems

1. Why do those who supply marketing services receive a larger percentage of the national income than they did one hundred years ago?

2. Define marketing, and list and explain nine or more distinct marketing services. Which of these services are most costly, and why?

3. Explain in detail why the cost of marketing apples from the Pacific Northwest is greater than the cost of marketing butter.

4. What effect did rigidity in marketing costs have on change in the farmer's income between 1929 and 1933?

5. Compare the operating costs by items for three kinds of retail stores.

6. How expensive is retailing, what are the most important reasons for its being as expensive as it is, and how may retailing costs be reduced?

7. What proportion of all retailing is done by chain stores, and how have they affected marketing in general?

8. How important is cooperative marketing of farm products in the United States? Explain in detail.

9. Distinguish two or more types of cooperative marketing organizations on each of three bases of classification.

10. Show the possibilities and the limitations of cooperative marketing as a means of increasing the economic welfare of those engaged in agriculture.

11. Outline a constructive program with several points for improving the marketing of either agricultural products in general or some one agricultural product.

Suggested Readings

1. Fred E. Clark and L. D. H. Weld, *Marketing Agricultural Products* (1932) is one of the best recent treatises on all phases of agricultural marketing.

2. Henry H. Bakken and Marvin A. Schaars, *The Economics of Cooperative Marketing* (1937) presents the basic philosophy, principles, and practical methodology of cooperative marketing.

3. Deane W. Malott and Boyce F. Martin, *The Agricultural Industries* (1939) treats well by commodities the marketing of the principal agricultural products.

4. H. E. Erdman, *American Produce Markets* (1928) is a well written book which treats especially the marketing of fruits, vegetables, eggs, butter, and other commodities generally designated "produce."

5. H. H. Maynard, W. C. Weidler, and T. N. Beckman, *Principles of Marketing* (1939) covers well and in a simple manner the chief features of marketing nonagricultural as well as agricultural products.

6. *Does Distribution Cost Too Much?* (The Twentieth Century Fund, 1939) treats thoroughly distribution costs and the possibilities of reducing them.

CHAPTER XXIV

AGRICULTURAL CREDIT

A fond father in Shakespeare's play "Hamlet" gives advice to his son in the following language:

> Neither a borrower nor a lender be;
> For loan oft loses both itself and friend,
> And borrowing dulls the edge of husbandry.

The same attitude toward borrowing is expressed in a song published by the National Grange more than forty years ago in "Grange Melodies," the song book of that order. The title of this song is "Do Not Mortgage the Farm," and part of the words of the refrain are:

> Sorrow soon will overtake you,
> If ever you mortgage the farm.

CREDIT AND DEBT IN GENERAL

Causes of Credit and Interest.—The above-expressed views of borrowing were influenced without doubt by the fact that their authors had in mind borrowing for consumption, or for living beyond one's income. Loans for consumption beyond the borrower's income are sometimes referred to as spendthrift loans, and such borrowing even today has few defenders, except when done on occasions of unusual misfortune. However, as we have already emphasized in Chap. XVI, much the greater part of borrowing today is to secure the means for carrying on productive enterprises with the hope of profit therefrom. A borrowing person or organization thinks that he or it can afford to pay more for the immediate use of goods for carrying on business undertakings than the lending person or owner of savings thinks that he can secure by using those savings in enterprises himself. Both borrower and lender value the use of material goods which the lent funds will buy, but the borrower values the actual and immediate control of such goods more highly than does the lender. The hope of gain from having the present use of productive goods makes the borrower willing not only to repay the principal of a loan but to pay interest in addition, in an amount sufficient to cause the lender to lend. Interest actually paid covers not only compensation for the use of capital but also a reward for risk and the cost of making and collecting the loan. The latter elements are in many cases the most important.

No Sharp Division between Debtor and Creditor Classes.—So widespread is the practice of both borrowing and lending for business purposes that most persons who have made any net savings are at the same time both borrowers and lenders. Accordingly, credit operations thoroughly permeate our economic life. The owner of a home may still owe a part of the contracted purchase price, or have a mortgage on his home, at the same time that he has savings invested in paid-up values in life insurance or in other forms of investment. Paid-up life-insurance-policy values may be represented in part by money invested by insurance companies in mortgages held against the property of the very policyholders who have invested their savings in such life insurance. Bank deposits represent sums owed by banks to depositors, and to a large extent people who are borrowers from banks, and therefore bank debtors, are also depositors and therefore creditors of banks. Banks to a considerable extent require borrowers to file financial statements of their assets and liabilities as a requisite for securing loans, and rare indeed is such a financial statement on which are not listed both debts receivable and debts payable.

Extent of Debt.—The extent of all debt in the United States has been systematically studied recently, and the results of one such study are presented in a book entitled *The Internal Debts of the United States.*[1] The figures for long-term debts only, as given therein, are summarized in Table 55. By long-term debts here are meant, in general, those not payable within a year.

Since 1913 debt in the United States has shown a tremendous increase, not only absolutely, but also in relation to the total money value of the wealth of the nation and to the total national income. According to the estimate summarized in the table the long-term internal debt in 1913, then 38 billion dollars, amounted to 20 per cent of the estimated national wealth. In 1929 this debt had risen to 126 billion dollars and represented 33 per cent of our wealth. In 1932, largely because of the decline in the money value of the national wealth, it is shown as 45 per cent of the nation's wealth. In 1913 long-term debt-service charges, including interest—and in the case of railroad and government debts also sinking funds and retirement charges—amounted to 6 per cent of the national income. For the boom year 1929 they were 9 per cent; in the depression year 1932 they are shown as 19.8 per cent. The above figures contain some double counting. Financial-institution debts as shown in the table are largely debts of insurance companies to policyholders on account of reserves. Such reserves are largely represented in mortgage debt and bonds, already counted. One investigator estimates that with double counting removed, long-term debt in 1932 was about 120 billions.[2]

[1] Evans Clark, *The Internal Debts of the United States* (Macmillan, 1933). Further information can be found in *Debts and Recovery* (The Twentieth Century Fund, 1938) a study of the internal debt structure from 1929 to 1937.

[2] E. C. Harwood, "Wealth vs. Debt," *Barron's Financial Weekly*, Feb. 19, 1934.

Agricultural long-term debt nearly trebled between 1913 and 1932, but the other groups increased so much more rapidly that the farm debt was a smaller percentage of the total in 1932 than in 1913. The least increase occurred in the railroad debt, which was 30 per cent of the total

TABLE 55.—AMOUNT AND DISTRIBUTION OF LONG-TERM DEBTS IN THE UNITED STATES BY CLASS FOR CERTAIN YEARS[1]

Item		Pre-war year 1913–1914		1929	Depression years, 1932–1933	
		Amount (million dollars)	Per cent	Amount (million dollars)	Amount (million dollars)	Per cent
1	Farm mortgage debts	3,300	9.1	9,469	8,500	6.7
2	Urban mortgage debts	5,151	14.1	27,616	27,554	21.7
3	Railroad debts	11,186	30.7	14,065	14,264	11.3
4	Public utility debts	3,294	9.0	9,251	11,225	8.9
5	Industrial debts	3,738	10.3	10,171	10,450	8.2
6	Financial-institution debts	4,040	11.1	19,767	21,919	17.3
7	State and local government debts	4,751	13.6	16,556	18,685	14.7
8	Federal government debts	968	2.1	12,155	14,237	11.2
	Total reported long-term debt	36,448	100.0	.....	126,834	100.0
	Total estimated long-term debt including above	37,989	.....	126,000	134,280	
9	Cost of debt service	2,143	.....	7,642	7,910	
10	Estimated national wealth	192,000	.....	385,000	300,000	
11	National Income	36,000	.....	85,000	40,000	
12	Per cent of national wealth represented by long-term debt	.....	19.7	32.7	.....	44.7
13	Per cent of national income represented by debt service	.....	6 0	9.0	.....	19.8

[1] The data in this table are taken from Tables 1 and 3 of Clark's, *The Internal Debts of the United States* (Macmillan, 1933). The only great change in long-term debts between 1933 and 1939 was an increase in Federal government debts to about 41 billion dollars. Farm-mortgage debt declined to about 7 billion dollars in 1939.

in 1913 and, though it increased somewhat, was only 11 per cent of the total in 1932. Urban mortgages were less than half the railroad debt in 1913 but more than double the latter in 1932. In this nineteen-year period financial-institution debts increased five-fold and government debts more than six-fold.

In addition to these long-term debts, there exist short-term debts amounting to a vast total. The total short-term debts in the United

States were estimated at 51 billion dollars for 1913; 102 billions for 1921; 150 billions for 1929; and 104 billion dollars for 1932.[1] The largest single item of short-term debt is bank deposits owed by banks to depositors, which amounted to 45.8 billion dollars at the end of 1931, to 41.8 billions at the end of 1932, and to 31.7 billions on Aug. 12, 1933. Short-term bank loans by banks to customers amounted to 22.2 billion dollars at the end of 1931 and 18.4 billions at the end of 1932. Both bank deposits and bank loans are included in the above-listed totals of short-term debt; this illustrates that the same original savings may be lent by A to B, and by B to C, and thus give rise to more than one debt.

Such an arrangement of savings being lent more than once is aptly described as *relaying* credit or debt. If only one debt were counted where credit is thus relayed, the total short-term debt would be much reduced from the 104-billion figure above given. In fact, one investigator of reputation estimated the combined total of long- and short-term debt of the nation, counting cases where relaying occurs but once, as amounting to 155 billion dollars in 1931.[2]

In 1940 the Department of Commerce estimated the total public and private long- and short-term debts of the nation, with double counting eliminated, at 173 billion dollars at the end of 1929 and 163 billion dollars at the end of 1939.[3]

Debt Caused by Hope of Profit.—The opinion is quite generally prevalent that the assumption of debt is the result of hard times. Such indeed is quite often the case, as anyone can readily illustrate from personal experience and observation. Nevertheless, the assumption of debt on a large scale, such as the great increase between 1913 and 1929, is not the result of hard times, but of good times. It results from people having conceived from past and contemporary events expectations of large possible future profits. This is well illustrated by the history of urban mortgage debts. Such debts amounted in 1913 to but slightly more than 5 billion dollars. From 1913 until 1929 the ownership of urban real estate was generally profitable, quite often exceedingly profitable. Profit seekers with but limited funds of their own could borrow the greater part of the cost of a building site as well as the cost of constructing an apartment house or hotel or office building thereon. They could pay regular interest rates on the borrowed funds and make more than regular interest rates on the *equity* representing their own investment. Promoters and entrepreneurs were therefore eager to borrow for such purposes; and, judging from previous experience alone, lending for such purposes was considered relatively safe. This was partly due to the fact that during these years the population of our cities was

[1] Evans Clark, *The Internal Debts of the United States*, p. 292.

[2] David Friday, *Rand McNally Bankers Monthly*, March, 1933.

[3] U. S. Department of Commerce, *Survey of Current Business*, June, 1940, p. 15.

increasing very rapidly, which in turn was caused partly by the tendency of the general price level to rise during much of the period. The price-level rise in turn was stimulated by expanding bank credit. The high state of urban prosperity, therefore, was the basic cause of the increase of the urban-real-estate-mortgage debt from five billion dollars in 1913 to over twenty-seven billions in 1929, an increase of more than 400 per cent in sixteen years.

Agriculture also well illustrates how prosperity may be the cause of debt. A certain Iowa farmer in 1918 owned, free of debt, a farm which six years earlier had a market value of $20,000. Because of increased prices of farm products he was able in 1918 to sell this farm for $40,000, receiving $10,000 in cash and a mortgage note, representing debt, for $30,000. Largely by such procedure farm-mortgage debt considerably more than doubled between 1910 and 1920. Other debt or *credit* is increased in a like manner by prosperity. If prices then fall, the debt problem becomes serious.

The problems of credit and debt, as we have seen, are not peculiar to agriculture. At the present time (1940) urban real estate, railroads, industries, and governmental bodies all have grave credit and debt problems, and indirectly all of these to some degree affect agriculture. We shall concentrate our attention, however, on agricultural credit and debt.

AMOUNT AND DISTRIBUTION OF FARM DEBT

The farm-credit and debt problem will be subdivided for discussion into (1) long-term mortgage credit and (2) short- and intermediate-term credit. In amount outstanding long-term credit is by far the more important. Short-term credit, nevertheless, presents in certain regions at certain times and for certain individuals very acute problems, and within a given period of time the new short-term loans exceed the new long-term loans which are made.

Amount and Growth of Mortgage Debt.—The most abundant information on farm-mortgage debt in the United States is furnished by the publications of the Bureau of Agricultural Economics of the U. S. Department of Agriculture, which now includes the Farm Credit Administration. From that source are drawn most of the data presented in this chapter on the extent and character of existing farm-mortgage debt and also other types of agricultural credit.

The volume of farm-mortgage indebtedness at the beginning of selected years since 1910 was approximately as follows:

1910—$3,208,000,000	1935—$7,786,000,000
1920— 8,449,000,000	1939— 7,071,000,000
1930— 9,631,000,000	

In Table 56 the relation of farm-mortgage debt to farm values is shown. As this table indicates, the percentage of all farms which were mortgaged tended to increase by Census periods until 1930, when it was 40 per cent, but by 1935 it had declined to about 35 per cent. In 1930 the farm-mortgage debt amounted on the average to 20 per cent of the value of all farms, and 40 per cent of the value of the mortgaged farms. Though the total debt was less in 1935, land values were so much lower that the debt then was about 23 per cent of the value of all farms and about 50 per cent of the value of the mortgaged farms.

TABLE 56.—FARM-MORTGAGE DEBT AND FARM VALUES

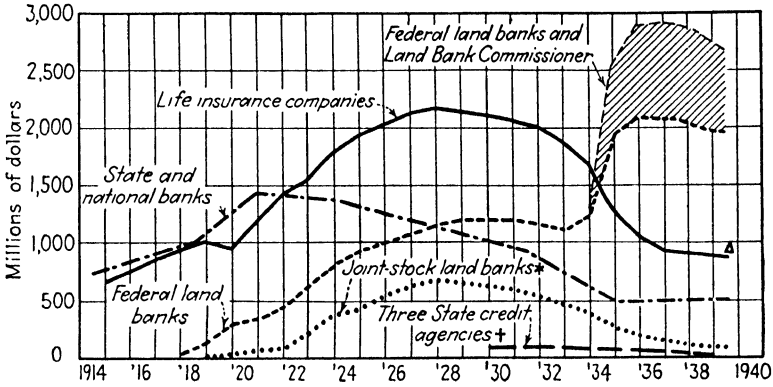
	1890	1900	1910	1920	1925	1930	1935
Percentage of farms mortgaged	27.8	30.0	33.2	37.2	36.1	40.0	34.6
Average debt per mortgaged farm (dollars)	1,224	....	1,715	3,356	4,004	3,561	3,253
Debt as percentage of value of mortgaged farms	35.5	....	27.3	29.1	41.9	39.6	50.0
Debt as percentage of value of all farms	.....	....	9.5	11.8	18.9	20.0	23.3
Farm-product prices (1910–1914 equals 100)	.....	....	103.0	211.0	156.0	126.0	108.0

Farm-mortgage Debt by Regions.—The mortgage-debt burden against farms varies greatly by regions and by individuals. In 1935, 55 per cent of the total farm-mortgage debt of the nation was found in the twelve north central states, the most productive agricultural region of equal size in the nation, having at that time 50 per cent of the total value of farm land and buildings in the United States. The individual state which for a number of years has had the greatest total of farm-mortgage debt, not only absolutely but also in relation to the total value of all farms, has been Iowa. The farm-mortgage debt of that state in 1928, when it was the richest agricultural state of the nation, amounted to about one-seventh of the farm-mortgage debt of the entire nation and amounted to 33 per cent of the estimated value of all farms in the state. In contrast, in the relatively poor agricultural states of West Virginia and New Hampshire mortgage debt represented only 6.2 and 8.4 per cent, respectively, of the value of all farms.

Personal Distribution of Debt.—An estimate was made as of January, 1932, based on 17,000 reporting farms, of the relation of debt to value of particular farms. According to this estimate 5 per cent of all mortgaged farms were mortgaged for more than their total value, 16 per cent for more than 75 per cent of their value, and 38 per cent for more than half of their value. The values used in these estimates were based on sales, the major-

ity of which were foreclosure sales, and therefore likely to be reported for sums higher than values based on true earning power or possible selling value at that time on the general market.

Sources of Farm-mortgage Funds.—In the last twenty-five years, striking changes have occurred in the principal sources of funds loaned on farm mortgages. This is shown in Fig. 50, in which are traced the changes in farm-mortgage holdings since 1914 of the principal corporate lenders of the nation. Individual lenders are not shown in the chart. These included retired farmers, active farmers, and others, and they furnished in 1928 about 30 per cent and ten years later about 25 per cent of all farm-mortgage credit. In the early 1920's the leading corporate sources of such credit were commercial banks (state and national) and



Δ *Preliminary* * *Includes loans of banks in receivership*
† *Includes the department of rural credit of Minnesota, the Bank of North Dakota, and the rural credit board for the State of South Dakota*

FIG. 50.—Trend of farm-mortgage holdings of principal corporate lending agencies, 1914–June 30, 1939.

insurance companies, then of about equal importance. By 1928 the Federal land banks had become larger lenders than state and national banks, but the life insurance companies had increased their farm-mortgage loans to over $2,000,000,000, and were supplying nearly one-fourth of the farm-mortgage credit of the nation. From 1933 to 1936 loans of the Federal land banks and the Land Bank Commissioner increased tremendously, whereas loans by all other types of corporate lending agencies declined in importance.

From 1937 through 1939 the Federal land banks and the Land Bank Commissioner together were furnishing about 40 per cent of all farm-mortgage credit, the insurance companies about 12 per cent, and state and national commercial banks about 7 per cent. From 1937 to 1939, however, three other lending groups, *viz.*, individuals, commercial banks, and insurance companies, each made more new loans than did the Federal land banks and the Land Bank Commissioner together.

There are marked variations in the degree of relative importance of the principal lending agencies in different regions. In the late 1930's the Federal land banks were of greatest relative importance in the South and in the Western Great Plains area. Insurance company loans were heavily concentrated in the Corn Belt, in regions of highest land values. Loans by individuals and commercial banks were relatively of greatest importance in the Northeast, and on the Pacific Coast.

Amount and Distribution of Short- and Intermediate-term Credit.—The expression *intermediate-term credit* in agriculture since 1920 has come to be used to refer to a type of credit running in general from about six months to three years and secured by liens on livestock or crops in the process of production or marketing, rather than by real estate mortgages. There is no sharp demarcation between short-term and intermediate credit and hereafter in this discussion the term *short-term credit* will be applied to all types of agricultural credit other than long-term mortgage credit except when some particular type is differentiated for the sake of emphasis.

The total amount of short-term agricultural credit is less accurately known for any date than is the amount of long-term mortgage debt. In 1933 it was estimated by the Bureau of Agricultural Economics that American farmers had outstanding "personal or short-term debt of various kinds amounting perhaps to more than $3,500,000,000." Four general sources of such "personal or short-term" debts may be distinguished at the present time: (1) commercial banks, (2) government-sponsored agencies such as the Farm Credit Administration and government-operated institutions such as the Farm Security Administration, (3) merchants, and (4) others, the last named being usually relatives or friends of the borrowers. In regard to only the credit supplied by the first two of these four sources is there information of reasonable accuracy concerning the amount outstanding. For June 30, 1939, the outstanding short-term loans to farmers by commercial banks and the F.C.A. were estimated as follows:

Commercial banks	$1,193,466,000
Farm Credit Administration	236,974,000
Total	$1,430,440,000

From a study made in New York covering the years 1930–1931 (prior to the recent development of the government-sponsored short-term lending agencies) it was estimated[1] that the principal sources of short-term credit in that state were as follows:

Store or open-account credit	67.7 per cent
Notes to other than banks	10.5
Notes to banks	21.8

[1] V. B. Hart, "Short-term Borrowing Policies of Farmers," *Journal of Farm Economics*, April, 1933, p. 342.

In South Carolina, in contrast, short-term bank credit was found to be nearly double the amount of merchant credit, which was second.[1] Investigators of the Bureau of Agricultural Economics are of the opinion that short-term bank credit is greater in amount than merchant credit to farmers for the nation as a whole.

Various parts of the nation differ greatly, not only in sources from which short-term credit is supplied, but also in the extent to which short-term credit is used. In general the practice of paying cash for purchases rather than using credit is most common where farmers have rather continuous incomes, as from butter and egg sales. Credit and borrowing for current purchases are most prevalent where one-crop farming, with most of the money income at one time of the year, prevails. The cost of short-term credit will be discussed later in this chapter.

A special form of merchant financing is furnished by sales agencies furnishing credit to growers in consideration of contracts to handle the selling of the crop when it has been produced. In times past, store credit to cotton growers in the South has been largely on that basis. Livestock commission firms have furnished credit on such an arrangement. City grain commission firms have long acted as bankers to country grain dealers. But the most pronounced development of this sort during the last quarter of a century has been in connection with fruits and vegetables in areas specializing in their production. In discussing such credit one who is in a position to speak with authority said in 1928:

> There are no known records from which we can learn even the approximate amount of money advanced annually through trade channels to finance fruit and vegetable production. That the total is enormous is easily deduced from what is known of certain crops in a few specific areas.
>
> The manager of the largest growers' organization in an early potato section which ships its crop over a very wide area estimated that 40% of the money needed to produce the 1926 crop came from distant sources and through the hands of dealers to the growers.
>
> The bulk of the money needed to produce the enormous cantaloupe crop of the Imperial Valley of California has always been supplied through the shippers and handlers of the crop. This is reputed to have amounted to several million dollars a year.
>
> The Colorado Mountain Lettuce industry has, with possibly a few local exceptions, been stimulated, fostered, and literally brought into existence by the dealers or selling agencies which have been willing to finance production and marketing.
>
> In the trucking sections of Mississippi the dealers are financing the tomato and other truck crops very much as they formerly financed cotton, the advances per acre of crop being, of course, very much larger.

[1] "Agricultural Finance in South Carolina," Clemson Agricultural College, *Bulletin* 282 (1931).

In every truck growing region of large importance which must ship any considerable distance to market the same thing is going on and usually on a large scale. It is present though probably less important in most fruit growing regions.[1]

The cost of such credit is only in part reflected in nominal interest rates. It is partly, in some cases largely, covered up in higher commission charges for sales services than would prevail if the dealers did not finance the growers. This type of credit has declined in importance during the depression beginning in 1929.

Aside from banks the first special financial institutions for short-term and intermediate agricultural credits to expand to any great extent were livestock loan companies. Though some of these developed before 1900, they made an especially rapid growth during and immediately following the 1914–1918 World War and since have declined in importance. The management of these companies usually has been closely associated with the livestock commission business and the meat-packing business, but ultimately banks have supplied much of the money. Though no accurate data are available on the extent of their business, it appears that at times it has amounted to considerably more than 100 million dollars annually. Interest rates charged by them usually have been rather high, frequently 10 or 12 per cent, and even with these high rates many of the companies failed because of heavy losses. Loans by livestock loan companies have been practically limited to those secured by cattle and sheep, with the former by far the more important. Cattle loans usually have been for two purposes: (1) breeding and growing cattle on the ranges, and (2) fattening beef steers in the Corn Belt, though loans also have been made on dairy herds.

In 1923 there were established twelve Federal intermediate-credit banks to supply intermediate credit to farmers. The organization and operation of these banks will be described later in this chapter. At present we shall note that they never have supplied more than a relatively small part of the total short-term and intermediate credit utilized by farmers, though in recent years they have become of increasing importance. This is especially true in the range states, where they are now of considerable importance in financing the livestock industry. The establishment of the Federal Production Credit system in 1933 and its growth since that time have considerably expanded the services of the Federal intermediate-credit banks.

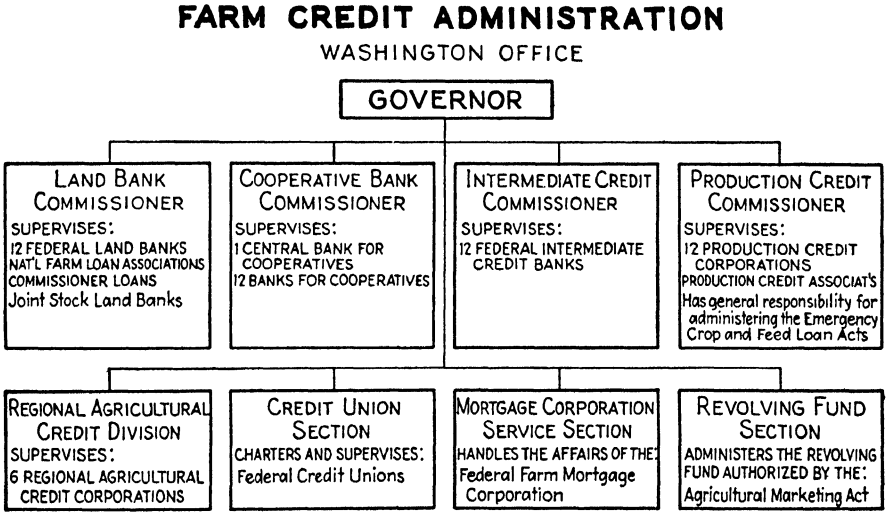
GOVERNMENT-SPONSORED AGRICULTURAL-CREDIT AGENCIES

Although farmers still obtain most of their credit from other sources, an increased importance has been assumed since 1933 by the agricultural-

[1] Wells A. Sherman, *Merchandising Fruits and Vegetables* (Macmillan, 1928), p. 73.

credit agencies sponsored or controlled by the Federal government. For that reason and for the following additional reasons we shall give special attention to these agencies: (1) Many features of credit in general are well illustrated by them. (2) Because of certain cooperative features possessed by them, it is more important for the borrower to understand their operation if he borrows from them than is the case as to other agencies from which he may borrow. (3) The fact that they are to some extent subsidized by the government is of interest to all citizens.

In May, 1933, the Farm Credit Administration (F.C.A.) was created to supervise and coordinate the government-sponsored or operated agricultural-credit agencies which were dealing in adequately secured



credit. Two of these agencies, the Federal land banks and the Federal intermediate-credit banks had been in existence for sixteen and ten years, respectively. The "banks for cooperatives" and the production-credit system were created at the time when the F.C.A. was established. In furnishing credit these four principal subdivisions of the F.C.A. operate as follows:

1. *Federal Land Banks.*—These are twelve in number, each serving a particular district, or part, of the United States. They make long-time loans secured by mortgages on farm real estate. In making such loans they operate mostly, though at present not entirely, through *national farm-loan associations.*

2. *Federal Intermediate Credit Banks.*—These are the same in location and number as the Federal land banks. They supply short-term and intermediate credit to other types of credit agencies which in turn furnish it to farmers, but they do not make loans directly to individual farmers.

3. *Banks for Cooperatives.*—There is a Central Bank for Cooperatives at Washington, D.C., and a regional bank in each of the twelve farm-credit districts. These make loans only to cooperative agricultural marketing, purchasing, and business-service associations.

4. *Production Credit Corporations and Production Credit Associations.*—There are also twelve production credit corporations, one in each of the twelve districts and in the same locations as the other divisions of the F.C.A. These do not make loans in the ordinary usage of that expression. Instead, they assist in organizing production credit associations, subscribe to part of the stock of such associations, and supervise their operations. Of the production credit associations, there were 532 in active operation in early 1939. The territory served by one association usually includes a number of counties. These associations make to individual farmers short-term loans of funds to be used for production purposes. The funds lent by the production credit associations are secured through the Federal intermediate-credit banks.

In each of the twelve farm-credit districts the four types of credit agencies just named have separate officers and operating staffs. All those in each district are, however, under one board of directors for that district and are under the supervision of a *general agent*, who serves as a personal representative of the governor of the F.C.A. for the purpose of coordinating the operations of the four component units.

Over all these regional Federal credit agencies is the F.C.A. at Washington, D.C., created in 1933. This has a single administrative head, known as its *Governor*, appointed by the President of the United States and until late 1939 directly responsible to him, but now responsible to the Secretary of Agriculture. The Governor is assisted by four commissioners, as follows: (1) the Land Bank Commissioner, (2) the Intermediate Credit Commissioner, (3) the Cooperative Bank Commissioner, and (4) the Production Credit Commissioner. The Farm Credit Act provides that these commissioners shall perform "such duties as may be assigned to them by law or by the Governor of the Farm Credit Administration."

An organization chart of the Federal agricultural-credit agencies, as published by the F.C.A. in its quarterly report of June 30, 1939, is reproduced on page 577. This chart shows that, in addition to the four major divisions of the F.C.A. which have been named, there are some others, which will be later explained.

The origin, services, and operating methods of the several divisions of the F.C.A. next will be more fully described.

THE FEDERAL LAND BANKS AND JOINT-STOCK LAND BANKS

The twelve Federal land banks were established in 1917, in accordance with the Federal Farm Loan Act, enacted the previous year. They were under the administrative control of a Federal Farm Loan Board until

1933, when that was abolished. The establishment of these banks resulted from the belief that the long-term credit needs of agriculture were not adequately served by existing financial institutions. It was believed (1) that rates of interest plus additional commissions and fees required to be paid on agricultural mortgage loans were often much higher than basic interest rates justified; (2) that loans, which were generally made only for from three to five years (though generally renewed), were not definitely available for periods of time as long as the needs of farmers required and the character of the security justified and that renewal costs involved unnecessary expenses; (3) that the method of repayment in one lump sum which was commonly required (though partial payments were commonly received) did not make adequate and desirable provision for the gradual reduction of the debt; (4) that, because commercial banks must keep their funds liquid and could not properly lend to any great extent on long-term mortgages, adequate mortgage credit was not available in many sections of the country; (5) that farming was such a basic essential industry of the country that the government should do something to promote its welfare; (6) that the inaugurated system would promote general cooperation among farmers and would overcome the difficulty which farmers as small operators had in securing credit from large-credit resources.

Sources of Capital and Loan Funds.—Each of the twelve Federal land banks was originally capitalized at $750,000, a total of 9 million dollars for the entire system, practically all of which originally was paid in by the Federal government. It was provided, however, that the funds to be lent were to be obtained primarily from the sale of bonds, and that remains the method used. Mortgages are secured against the farms on which loans are made. These mortgages are deposited with a farm-loan registrar, an officer of the Federal government, as security for bonds which are then sold to investors in the financial centers. From the funds obtained from the sale of bonds, additional loans may then be made, resulting in more mortgages, to furnish security for more bonds, to be sold to obtain more loan funds, and so on. A limit is placed on this process by the provision that the capital and surplus of each bank must not be less than 5 per cent of the bonds outstanding, or, in other words, a bank may not have bonds outstanding for more than twenty times the capital and surplus of the bank. All Federal farm-loan bonds and all interest therefrom are exempt from all Federal, state, and local taxes. Originally each of the twelve Federal land banks issued its own bonds. Recently all the bonds issued have been consolidated bonds of all the banks.

To obtain loans under the law, farmers originally were always required to become members of local farm-loan associations, and except under special circumstances, which will be later mentioned, they still must do this. Each such association must consist of not less than ten or more

farmers applying for an aggregate of $20,000 or more in loans. In 1939 there were about 4,000 such associations.

The borrower must give a first mortgage to the local association for his loan. The local association must endorse this loan and send it to the district land bank. The borrower must subscribe for stock in the local association to an amount equal to 5 per cent of his loan, and the local association in turn must subscribe for stock in the district land bank to an amount equal to 5 per cent of loans granted. The farmer who is granted a $1,000 loan, therefore, subscribes to $50 of stock in the association. If he decides to buy this stock out of the proceeds of the loan he, therefore, receives $950 in cash and a claim to stock in his local association for the other $50. This stock, however, is held by the association as partial security for his loan, and the district land bank in turn holds the stock of each of the local associations in it as partial security for all the loans made to farmers of that association. This procedure causes each farmer to be responsible for the loans made to other members of his local association to the extent of 5 per cent of his own loan. When the loan is fully paid, the stock is redeemed, though in associations whose capital has become impaired the redemption is delayed until the extent of the impairment is determined and then is in proportion to losses, if any. Originally the law further specified that farmers might be held responsible for an additional amount equal to their stock, making their total responsibility for other members of their local associations equal to 10 per cent of their own loans. In practice this feature was so difficult to enforce that it remained nearly inoperative, and in 1933 it was repealed as to future loans. As farmer borrowers through their farm-loan associations acquired stock in the Federal land banks, the stock which had been subscribed by the Federal government was mostly redeemed, so that on Dec. 31, 1931, the approximately 5,000 farm-loan associations then in existence owned 98.4 per cent of the capital stock of the banks.

During the depression following 1929, partly because of losses suffered by the banks, Federal land-bank bonds could no longer be readily sold. To alleviate this situation, and to strengthen the Federal land banks, Congress in an amendment to the Federal Farm Loan Act in 1932 provided for an additional subscription of 125 million dollars by the Federal government to the capital stock of the banks.

In the Emergency Farm Mortgage Act of 1933, Congress furthermore provided for subscriptions by the Federal government to the surplus fund of the banks. The amount paid in on such subscriptions by the end of 1938 was $183,309,627. After these additions to their capital and surplus, the total capital and surplus of the Federal land banks in 1939 amounted to more than 400 million dollars, or more than 20 per cent of the amount of bonds outstanding. These large subscriptions by the Federal government to the capital and surplus of the banks contributed

toward again giving to Federal land-bank bonds a high rating with the investing public. These subscriptions to the capital and surplus of the banks are expected to be repaid when the earnings of the banks make that possible.

Interest Rates, Amortization, and Dividends.—The law provides that the maximum interest rates charged farmers on Federal land-bank loans may not exceed 6 per cent. It also provides that the farmer may not be charged a rate more than 1 per cent higher than the rate at which the last land-bank bond issue was sold, except with the approval of the Governor of the F.C.A. Most of the Federal land-bank loans until 1933 were made at a rate of 5½ per cent. In 1939, bonds were being sold on a yield of about 3 per cent, and the contract rate charged on new loans through farm-loan associations was 4 per cent.

The act provides that loans shall be made on an amortization plan of repayment and run not less than five nor more than forty years. By the amortization plan of repayment is meant that the borrower pays off the debt in installments throughout a period of years, each payment representing interest since the last payment and something on the principal. As the principal is constantly reduced, each payment represents less paid as interest and more on the principal. Under this plan with an interest rate of 4 per cent, the contract rate on new loans in 1939, and with equal annual payments at 5.4 per cent of the amount borrowed, the entire loan is extinguished in about thirty-five years. More rapid payment is permitted.

From their earnings the land banks are required to accumulate certain reserves, after which they may pay dividends. The local associations, if they receive dividends on their stock in the land banks, may pay dividends on the stock held in the local association by borrowers. If members of a local association are in default on payments, the dividends to that association may be withheld. Thus pressure is brought on members of local associations to see that their fellow members do not default on their contracts. If a district bank as a whole has suffered heavy losses, it, of course, can not pay dividends to the local associations. There has been great variation in the rates of dividends paid. For at least one Federal land bank, the dividend rate before 1929 was as high as 10 per cent. Six of the twelve banks paid no dividends in 1929. Since 1929 all have ceased to pay dividends.

Loan Limits.—Loans may not be made by the Federal land banks for an amount in excess of 50 per cent of the appraised value of the land in the farm plus 20 per cent of the value of the insurable improvements thereon. Land is appraised on the basis of its earning power as agricultural land with normal prices for farm products. Under the original act no loan could be for more than $10,000, but the maximum was increased by Congress in 1923 to $25,000; and in 1933 to $50,000, with

the provision that each loan in excess of $25,000 must have the specific approval of the Land Bank Commissioner.

Emergency Provisions and Recent Amendments.—During the great depression, especially in 1933, numerous amendments were made to the Federal Farm Loan Act and the later Farm Credit Act for the relief of debt-pressed farmers. Many of these were intended to be temporary, but most of such temporary provisions were still in force at the end of 1939. Among these were the following: (1) Rates of interest on all loans were temporarily reduced to certain low figures regardless of rates at which the loans had been made, and the deficit was made up by direct appropriations from the Federal Treasury. Such contributions by the Treasury in 1938 amounted to $30,925,235. In 1939 the temporary rate was 3½ per cent, though new loans were then being made at a contract rate of 4 per cent, and most loans in force had been made at higher rates. These temporary rates will expire in 1940 unless extended by further legislation. (2) Borrowers were temporarily relieved of making payments on the principal of loans. This privilege expired on July 11, 1938, after having been in effect for five years. (3) The Federal land banks were authorized to make loans direct to individuals not members of farm-loan associations if no farm-loan association at the time exists or is in a position to make loans in the locality in which the individual resides, provided that (*a*) such loans by a Federal land bank must have the approval of the Farm Loan Commissioner; (*b*) such loans shall bear interest at a rate one-half of 1 per cent greater than those made through farm-loan associations; (*c*) such borrowers must take stock to the extent of 5 per cent of their loans directly in the Federal land banks; and (*d*) such borrowers must agree to become members of a farm-loan association if one is formed in their locality and to transfer their stock ownership from the Federal land bank to such association, their interest rates then to be reduced one-half of 1 per cent to the association rate.

Federal Farm Mortgage Corporation and Land Bank Commissioner Loans.—Because of the inability of the Federal land banks to sell their bonds advantageously at that time, there was set up in 1934, by act of Congress, the Federal Farm Mortgage Corporation. It was capitalized at $200,000,000, the funds being supplied by the R.F.C., and it was authorized to issue bonds up to a maximum of 2 billion dollars. These bonds were guaranteed absolutely as to principal and interest by the Federal government, whereas the regular Federal land-bank bonds are not. During several years it furnished funds to the Federal land banks by selling its own bonds and buying those of the Federal land banks or by exchanging its bonds directly for those of the Federal land banks.

The Federal Farm Mortgage Corporation also supplies funds to the Land Bank Commissioner for making Commissioner loans. Such loans

differ from regular Federal land-bank loans in a number of respects, including the following: (1) they may be made on second mortgages instead of only on first mortgages; (2) they may be made up to 75 per cent of the appraised value of the farm property offered as security; (3) such a loan to any one farmer may not exceed $7,500; (4) interest rates on Land Bank Commissioner loans are 1 per cent higher than those on regular Federal land-bank loans; (5) such loans may be partly secured by chattel mortgages and are usually for shorter periods of time than regular land-bank loans. Loans which are partly secured by chattel mortgages have a maximum limit of ten years.

An applicant for a Federal land-bank loan or a Commissioner loan, or both, signs but a single application form, and the land bank later determines what amount may be lent and whether the loan is to be made entirely by the land banks; whether jointly with the Commissioner taking a second mortgage; or wholly by the Commissioner. One appraisal is made for both the land bank and the Commissioner loans, and after the appraisal the farmer is notified by the bank of any amount which may be granted by it or by the Commissioner.

On June 30, 1939, the relative amounts of Federal land-bank loans and Land Bank Commissioner loans were as follows:

	Number	Amount
Federal land banks	622,657	$1,940,586,076
Land Bank Commissioner	442,292	717,622,044
Total	1,064,949	$2,658,208,120

The Joint-stock Land Banks.—The Federal Farm Loan Act of 1916 also authorized the establishment of the joint-stock land banks. These were entirely private banking institutions, the government being forbidden to subscribe to any stock in them, though they were under the general supervision of the Federal Farm Loan Board.

Each of such banks was required to have at least $250,000 of paid-in capital, and their bonds were tax exempt. Each of such banks was permitted to sell bonds to the extent of fifteen times its paid-in capital and surplus. They were not limited as to number, and several might operate in the same territory; but no such bank was permitted to operate in more than two states. Between 1917 and 1931 a total of eighty-eight such banks were chartered. Following 1929 many of them failed, and in the Emergency Farm Mortgage Act of 1933 they were denied the right to make any new loans or to issue additional tax-exempt bonds. Since that date, therefore, they have gradually been liquidating, or going out of business.

FEDERAL INTERMEDIATE-CREDIT BANKS

Origin, Capitalization, and Sources of Loan Funds.—Seven years after the passage of the Federal Farm Loan Act, Congress enacted the Agricultural Credits Act of 1923, the most important provisions of which were those establishing the Federal intermediate-credit banks. These banks, twelve in number, were established in connection with the Federal land banks and in the same locations. They were placed under separate managers, but under the same boards of directors. They resemble the land banks in some ways, but in others are entirely different.

The capital of the intermediate-credit banks is and always has been entirely supplied by the Federal government. The authorized capital of each of the banks originally was put at 5 million dollars, only part of which was paid in, but during the reorganization of the Federal agricultural-credit agencies in 1933 and 1934 this was increased. In 1939 the twelve banks together had a paid-in capital of 70 million dollars, a paid-in surplus of 30 million dollars, and earned surplus of $14,405,000. Considerably over half of this net worth was invested in government bonds.

Funds to be lent consist in part of the paid-in capital and in addition are provided by the sale of debentures. Such debentures are in fact short-term notes which are secured by chattel mortgages, warehouse receipts, shipping documents, and the like. This collateral is furnished originally by the borrowers from the financing institutions which rediscount with the Federal intermediate-credit banks. The debentures usually run for from three months to one year. Like the bonds of the Federal land banks, these debentures and the income from them are tax exempt but are not guaranteed by the government. Debentures outstanding at the close of 1938 amounted to $168,725,000.

Interest and Discount Rates.—Interest and discount rates of the Federal intermediate-credit banks may not—except with the approval of the Governor of the F.C.A.—exceed by more than 1 per cent per annum the rate borne by the last preceding issue of debentures issued by them. In March, 1939, their debentures were being sold at a yield or interest rate of a fraction of 1 per cent, and loans and discounts to borrowers were being made at a rate of 1½ per cent, the lowest rate in their history. For the preceding five years their loan and discount rate was 2 per cent.

Kinds of Credit Furnished.—The Federal intermediate-credit banks at no time have made loans to individual farmers. Originally they made loans to, and discounted paper offered by, cooperative marketing associations, for the most part secured by warehouse receipts, shipping documents, and chattel mortgages. They also discounted, as they still do, the notes, drafts, etc., offered by a variety of other financing agencies if the proceeds of such paper were used in the first instance for agricultural production or marketing purposes, or for the raising, breeding, fattening,

or marketing of livestock. Since the establishment of the banks for cooperatives, the intermediate-credit banks have practically discontinued supplying loans or discounts directly to cooperative marketing associations. Instead they serve these indirectly through the banks for cooperatives.

On Dec. 31, 1938, the outstanding loans and discounts of the twelve Federal intermediate-credit banks totaled $202,857,189. Of this total $25,283,844 consisted of discounts extended to the banks for cooperatives; $143,107,794 of loans and discounts extended to production-credit associations; and $33,545,385 of credit extended to other financing agencies such as agricultural-credit corporations, livestock loan companies, and commercial banks. No loans or discounts may be for a longer period than three years. Most of them are for much shorter periods.

CREDIT FOR COOPERATIVES

The Federal Farm Board.—In June, 1929, there was enacted into law the Agricultural Marketing Act, creating the Federal Farm Board and providing that board with a revolving loan fund of 500 million dollars. This act is of interest partly because it furnished the beginning of the present banks for cooperatives. It is also of interest because of the methods by which it attempted to alleviate the farm problem, some, though not all, of these methods being continued under the New Deal.

The Agricultural Marketing Act was in fact the Hoover Administration's fulfillment of its campaign promise to enact some kind of farm-relief legislation, though the particular kind of relief provided by the act was not the kind that had been widely demanded by farmers. The Federal Farm Board, which was established by the act, consisted of nine members, the Secretary of Agriculture, *ex-officio*, and eight appointed by the President. The board was given the power and duty to promote education in the principles and practices of cooperative marketing of agricultural commodities and to encourage the organization, improvement in methods, and development of cooperative marketing. Aside from these educational and promotional activities, the board's most important powers were to make loans from the revolving fund which Congress entrusted to its administration, and to supervise to some extent the organizations to which loans were made.

Purposes of Loans.—Loans from the 500-million-dollar fund could be made with a few minor exceptions only to two types of organizations: (1) cooperative marketing associations, and (2) stabilization corporations, all stock in the latter to be owned by cooperative marketing organizations. A cooperative association was defined as one meeting the requirements of the Capper-Volstead Act of 1922, which has been summarized on page 270. Though some loans might be made for other purposes, in practice most of those made directly to cooperative associa-

tions came under two general heads: (1) commodity loans and (2) facility loans. No loans were permitted to be made for carrying on production according to the common usage of that word. Commodity loans were to enable the cooperative organizations to which they were made to advance a larger part than was otherwise economically possible of the estimated value of the commodity to their members after the commodity was produced, but before it was sold, and such loans were secured by the pledge of the commodity. These naturally were short-term loans. Facility loans were made to enable cooperative organizations to build or purchase facilities but not to refinance indebtedness existing against facilities already owned. Such loans were commonly repayable on the amortization plan over a period of about ten years. More than half the board's total available funds were lent to two stabilization corporations —one for wheat and the other for cotton.

Interest Rates.—A unique feature of the act was the section regulating interest rates on the loans to be made. Section 8(*a*) provided that

> Loans to any cooperative association or stabilization corporation and advances for insurance purposes shall bear interest at a rate of interest per annum equal to the lowest rate of yield (to the nearest one-eighth of 1 per centum) of any Government obligation bearing a date of issue subsequent to April 6, 1917 (except postal-savings bonds) and outstanding at the time the loan agreement is entered into or the advance is made by the board, as certified by the Secretary of the Treasury to the board upon its request: *Provided*, That in no case shall the rate exceed 4 per centum per annum on the unpaid principal.

This peculiar provision resulted in a number of facility loans to cooperatives for periods of as long as ten years being made at a rate of interest as low as a fraction of 1 per cent, for the reason that conditions in the money markets were such that certain short-term borrowing operations by the government could be done at so low a rate, although it was fully realized that this was a temporary situation, and the government was required to pay a considerably higher rate for funds for as long a time as that for which the farm board was lending.

Loans Actually Made.—The Federal Farm Board was required by the Agricultural Marketing Act to lend money to cooperatives not solely on the basis of good security, but, in the language of the act, "to promote the effective merchandizing of agricultural commodities in interstate and foreign commerce, so that the industry of agriculture will be placed on a basis of economic equality with other industries." *Lending policies were dominated by the desire to secure certain marketing results.* Accordingly, when the prices of agricultural products took a severe decline at the time of the stock market crash in October, 1929, the board considered that an emergency existed and announced its readiness to lend for some time to cotton cooperatives on their holdings at an average of 16 cents a pound,

and to wheat cooperatives at $1.18 a bushel in Chicago and comparable prices at other points. Different loan values (frequently above market values) were later established. These commodities continued to decline and the board indicated its intention not to hold borrowers responsible for the differences between sums lent and amounts realized for the commodities pledged. The board also, early in 1930, set up a Grain Stabilization Corporation and a Cotton Stabilization Corporation. Though, according to the law, all stock in such corporations must be owned by cooperatives, in practice such stock was but nominal in amount and practically all their funds were supplied as loans by the Federal Farm Board, and the board dominated their management. The law specified that, though stabilization corporations should attempt to avoid losses, the stock-holding cooperatives could not be held for the deficits if losses were sustained. The stabilization corporations purchased vast quantities of cotton and wheat in an effort to uphold prices, but prices continued to fall. By June, 1931, the Grain Stabilization Corporation had bought 329,641,052 bushels of wheat at a cost of over 270 million dollars. In the latter part of 1932 the Cotton Stabilization Corporation holdings of cotton were about two million bales. Prices, however, continued to decline.

Finally the board decided to liquidate its holdings of wheat and cotton. The approximate loss to the board as a result of its wheat-stabilization efforts was 160 million dollars, in addition to a loss of about 24 million dollars on wheat which Congress decided should be donated to the Red Cross. Losses on cotton-stabilization operations were approximately 94 million dollars. Stabilization efforts lost more than half of the 500-million-dollar revolving fund.

Following the coming into power of the Roosevelt Administration, the Federal Farm Board was abolished and the Farm Credit Administration was at the same time created by an order of the President, under authority conferred by Congress, in May, 1933. The previous powers and duties of the board were in a large part abolished, and those which remained were transferred to the Farm Credit Administration. Among these duties the most important is the administration of the remaining part of the revolving fund created by the Agricultural Marketing Act of 1929.

Banks for Cooperatives.—The banks for cooperatives were established by the Farm Credit Act of 1933. They are thirteen in number, one in each of the twelve farm-credit districts, and a central bank at Washington, D.C., the latter being established to make loans to large cooperative associations operating over wide areas.

The act provided that the capital for these banks should be subscribed by the Governor of the Farm Credit Administration from the funds yet available in the original 500-million-dollar revolving fund provided by the Agricultural Marketing Act of 1929. The capital originally paid in

was 5 million dollars to each district bank and 50 million dollars to the Central Bank. In early 1939 the total paid-in capital supplied by the government to these banks was 149 million dollars. In addition, borrowers must subscribe to the capital of the banks to the extent of 5 per cent of operating capital and facility loans granted to them and 1 per cent of the amount of commodity loans. This furnishes but a very small part of the total capital of the banks.

The Farm Credit Act of 1933, as later amended, specifies that to be eligible to borrow from a bank for cooperatives an association must be a cooperative operated for the mutual benefit of its members, in which farmers act together in doing one or more of the following:

1. Processing, preparing for market, handling, or marketing farm products.
2. Purchasing, testing, grading, processing, distributing, or furnishing farm supplies.
3. Furnishing farm business services.

The law further provides that to be eligible an association may not do more business with nonmembers than with members; and it must provide either that no member may have more than one vote in the affairs of the association because of the amount of stock or membership capital he may own therein, or it must limit its dividends on stock or membership capital to 8 per cent a year. The banks for cooperatives require that at least 90 per cent of the voting media of a borrowing cooperative be held by the producer members.

Loans by the banks for cooperatives are of three general types:

1. Commodity loans, which are short term and are secured by first liens on farm products or supplies, approved as collateral by the Cooperative Bank Commissioner.
2. Operating-capital loans, which typically are for the purpose of supplementing the borrower's working capital. Though the law does not require specific collateral for such loans, liens on real estate, equipment, and inventories generally are taken.
3. Facility loans, which are made to finance or refinance the acquisition—by purchase or lease—of land, buildings, or other physical facilities. According to law, such loans must be repaid in twenty years, but usually the schedule of repayments covers a period of less than ten years. All such loans are secured by liens on physical properties and may not be made for more than 60 per cent of the value of the collateral offered.

Interest rates on facility loans must be the same as those on Federal land-bank loans. On other types of loans the interest rates are determined by the Governor of the F.C.A., subject to provisions of law. In June, 1939, the rates for loans of different types were: commodity, 1½ per cent; operating capital, 2½ per cent; facility, 4 per cent. It should be noted that the rate on commodity loans was the same as the rediscount rate of the Federal intermediate-credit banks.

Total loans outstanding by all the banks for cooperatives at the close of 1938 were $87,496,340, the total being fairly equally divided among

the three types. Six months later their total loans were about 60 million dollars, of which about 20 per cent were commodity loans, while the remainder was about equally divided between operating capital and facility loans. The banks for cooperatives may rediscount their commodity loans with the Federal intermediate-credit banks, and a large part of these loans in the past have been rediscounted.

PRODUCTION CREDIT

Emergency Crop and Seed Loans.—Beginning in 1918 Congress has from time to time made appropriations of funds to be lent in small amounts to persons in extreme distress, for the most part victims of such disasters as droughts and floods. Previous to the establishment of the F.C.A., the lending and collecting of these funds were generally administered by the Secretary of Agriculture. Now they are administered by the Production Credit Section of the F.C.A. Such loans are commonly referred to as "feed and seed" loans, and are available only to persons who cannot obtain loans from other sources. Except in extraordinary circumstances no such loan may be made for more than $400 to one borrower. In 1938, 174,590 such loans were made for a total amount of $19,582,465, or an average of about $112 per loan. The extent of repayment of these loans varies. Of the $19,582,465 lent in 1938, 57 per cent had been repaid by the end of that year. Of 72 million dollars of drought feed loans made in 1934 and 1935, only 24 per cent had been repaid by the end of 1938.

Reconstruction Finance Corporation and Regional Agricultural Credit Corporation Loans.—The Reconstruction Finance Corporation (later referred to as the R.F.C.) was created by Congress in January, 1932, "to provide emergency financing facilities for financial institutions to aid in financing agriculture, commerce, and industry, and for other purposes." Capital stock was subscribed by the government to the extent of 500 million dollars (which later was increased), and the corporation was authorized to sell bonds to the extent of three times its capital stock. It is (in 1940) still operating on a large scale in furnishing credit to industrial concerns. The R.F.C. was not empowered to lend directly to farmers, but has made loans to such institutions as agricultural-credit corporations and livestock-loan companies. During the first year of its history it thus indirectly made loans classified as "crop-production loans" to the extent of about 64 million dollars, and it has continued indirectly to supply agricultural credit.

In January, 1932, the R.F.C. was authorized to establish and to subscribe to the capital of twelve regional agricultural-credit corporations, one in each of the land-bank districts. These R.A.C.C.'s, as they were called, therefore, were subsidiaries of the R.F.C. They were created to meet pressing demands for short-time agricultural credit, particularly in

the livestock industry. From the time of their establishment to the end of 1938, they had made loans, exclusive of renewals, to farmers and stockmen aggregating $325,648,348. When the production-credit associations were established by the Farm Credit Act of 1933 they were expected at an early date entirely to supplant the R.A.C.C.'s. This was not accomplished so rapidly as was expected because of the pressing need for production credit in certain regions, especially in the western livestock areas during severe drought in 1934 and 1936.

Since 1933 the general administration of the R.A.C.C.'s has been under the control of the F.C.A., and they have been gradually liquidated. At the close of 1938 their loans still outstanding amounted only to about 11 million dollars.

Production Credit Corporations and Associations.—Two days after the Farm Credit Act of 1933 became a law, Governor Morgenthau of the F.C.A. in discussing it said:

> In the belief that the direct loan is a hazardous and demoralizing form of credit and that the control of credit conditions ought to be, so far as possible, in the farmers' own hands, special provision has been made in the Farm Credit Act for giving encouragement to the farm cooperative method of borrowing.

The new institutions created to care for such cooperative credit for production purposes are the production-credit corporations and production-credit associations.

In each Federal farm-credit district, the act established a production-credit corporation, all the capital stock of which was subscribed by the United States. The total paid-in stock in the twelve corporations in 1939 was 12 million dollars. These corporations are authorized to subscribe for nonvoting preferred (Class A) stock in local production-credit associations to an amount equal to approximately 20 per cent of the loans made or to be made by each such association, as estimated by the corporation. Each production-credit association must consist of ten or more farmers desiring to borrow from the association, and the borrowers must each subscribe to common (Class B) stock in the association in an amount equal to 5 per cent of their borrowings. Loans are made to borrowers by each association for purposes such as the purchasing of livestock, feed, seed, machinery, and fertilizer, and the hiring of labor, and are usually secured by chattel mortgages. Loans must mature within one year and may not be extended beyond two additional years. An association must apply its earnings to build up required reserves and a guaranty fund equal to 25 per cent of its paid-in capital, after which dividends not in excess of 7 per cent may be declared without preference between the two classes of stock. Production-credit associations may borrow from and discount with the Federal intermediate-credit banks.

All the proceeds from the sale of Class A stock in associations and most of the proceeds of the sale of B stock are invested in government bonds, consolidated Federal land-bank bonds or Federal Farm Mortgage Corporation bonds. Most of these securities are then pledged with the Federal intermediate-credit banks as additional security to the loans discounted with the banks by the associations.

Private investors may subscribe to preferred stock, and it is hoped that the government's subscription to stock may be gradually withdrawn, all stock being left in the hands of borrowers and private investors. The associations are operated under the direction of their boards, but are subject to the provisions of the act and such rules and regulations as the Governor of the Farm Credit Administration may prescribe under authority vested in him by the act.

The policy of the F.C.A. has been to permit only rather large production-credit associations to be chartered, one usually covering four or five counties. The total paid-in capital stock of the 532 associations active at the close of 1938 was $91,170,951, or about $170,000 per association, of which the production-credit corporations were furnishing 83 per cent. Their outstanding loans amounted to $148,036,721. The production-credit associations are permitted to charge interest on loans made at a rate of 3 per cent in excess of the rate which the association must pay to the Federal intermediate-credit bank for funds, and in addition it may charge the borrower a small inspection fee. Thus far the F.C.A. has required all associations to charge the full 3 per cent spread between the borrower and the intermediate-credit bank. In July, 1939, the associations were lending at 4½ per cent, plus inspection charges. Rates charged to borrowers, of course, will have to be raised if the market for intermediate-credit debentures becomes less favorable to borrowers.

OTHER GOVERNMENT AGENCIES FURNISHING CREDIT TO AGRICULTURE

When the F.C.A. was established in 1933, it was announced to be a policy of the Federal government to coordinate in that one institution all the agencies of the government which furnished credit to agriculture. That objective has not been achieved. Several of such additional agencies in existence in 1939 will be mentioned.

The Farm Security Administration.—This agency, established in 1937 as the successor of the previous Resettlement Administration, has for a major objective the rehabilitation of low-income farmers. In addition to making some outright grants, it makes loans to such low-income farmers for rehabilitation, for temporary emergencies, and to facilitate farmers' community and cooperative enterprises. For the year 1939–1940 it had available for new loans for these purposes 91.2 million dollars. Most of its loans are standard rehabilitation loans, made at 5 per cent interest and repayable within one to ten years. Loans are made to

farm owner-operators, tenants, sharecroppers, and farm laborers who have arranged to operate farms. Applicants must be unable to secure credit from any other source and must agree to follow approved farming practices. Their operations are closely supervised.

The work of the F.S.A. includes also making loans in selected counties from a special "tenant-purchase" fund, amounting to 75 million dollars for a three-year period beginning in 1937, to tenants to enable them to become owners. Those who obtain credit from this fund must be unable to obtain a loan large enough to purchase a farm from any other source on reasonable terms. In the selected counties in which loans are made, county committees of farmers certify the applicants to whom the loans are to be granted.

The Rural Electrical Administration.—The Rural Electrification Act of 1936 provided a fund of 40 million dollars per year, designed to be continued for ten years, to extend rural electrification. An additional $115,000,000 was added to this fund from work-relief appropriations. Loans may be made to cooperatives, municipalities, power districts, and utility companies. The R.E.A. is instructed by law to give preference to cooperatives and public bodies in making loans. In 1938, 89 per cent of the loans granted were to cooperatives, and the interest rate was 2.69 per cent. About 95 per cent of the loans were for line construction, but loans for farmstead wiring and plumbing installations are permitted.

The Commodity Credit Corporation.—This agency was established in 1933 for carrying out the policy of the A.A.A. of making loans to farmers to enable them to hold back crops from the markets, and it has since continued. Under the 1938 Agricultural Adjustment Act, a new purpose was added to the lending policy of the Commodity Credit Corporation, the establishment of the "ever-normal granary." The Commodity Credit Corporation makes loans directly through the local loan agencies of the R.F.C. Loans are also made by banks under a guaranty by the corporation that it will discount these notes of producers.

The loans are made on a nonrecourse basis, and producers are not required to make up any deficiencies in case the proceeds from the sale of the commodities are less than the amounts of the loans for which the commodities are pledged. The usual interest rate has been 4 per cent. Loans have been made against fourteen commodities, but up to Aug. 31, 1938, 95 per cent of the loans made were on cotton and corn. To that date these loans totaled $783,781,093, of which $500,388,141 had been repaid or charged off.

General Purposes of Recent Agricultural-credit Legislation.—The numerous provisions of the legislation relating to agricultural credit enacted in 1933 and thereafter, as summarized above, were for two major purposes, the one temporary and the other permanent. The temporary purpose was to carry agriculture through the severe financial crisis in

which it was involved, to enable it to avoid wholesale bankruptcy until a time when it was hoped that prices of agricultural products might again have reached such levels that debt charges could be met and widespread bankruptcy avoided. To the Federal land-bank borrowers, temporary aid was given in the form of reduced interest rates. These rates were fixed by Congress at 3½ per cent, and the difference between this rate and the rates at which individual loans had been made was paid into the banks from the Federal Treasury. In addition interest-free additions were made to the capital and surplus of the land banks to strengthen their capital structures and to offset the losses in immediate revenue which resulted in part from Congress granting to borrowers the privilege of deferring principal payments on their loans. When this was done it was not intended as a permanent policy but merely as temporary relief to avoid widespread financial collapse and disorganization, and the subscriptions to the capital and surplus of the banks are regarded as recoverable investments. Other types of credit to farmers also were subsidized, largely by the government furnishing interest-free capital, to the extent of hundreds of millions of dollars, to the various lending institutions. Beyond question the emergency aid helped many hard-pressed farmers. Because much of this aid was granted at a time of grave financial emergency the effects on competing financial institutions in large measure also were helpful rather than the reverse, and there was gain to the public in the avoidance of financial disorganization.

The second purpose of the government's program was to set up permanent agencies through which farmers could advantageously secure credit by cooperative action, but without appreciable government subsidy. The long-time results of this program are yet to be seen. Most of the subsidies which were granted, including large outright grants and large amounts of capital furnished interest free by the government, thus far have been continued. Nevertheless, privately owned and managed credit institutions recently have competed successfully with the government-sponsored and subsidized institutions and have shown a tendency to increase in relative importance, especially where agricultural conditions have been most favorable. In areas of severe distress other sources of credit have been meager, and appeals to government institutions have continued unabated. Permanent, unsubsidized, cooperative agricultural-credit institutions have not yet since 1933 shown a capacity to develop in this country on an extensive scale.

DESIRABLE CREDIT PRACTICES

Advantage of Credit Dependent on Circumstances.—From the point of view of both society and the individual, credit may be a great advantage or an evil, depending on the circumstances and manner in which it is granted and used. Sound credit practices place the means of production

into the hands of those best equipped to use them and give lenders a greater reward than if they had kept those means in their own immediate possession. Credit unwisely granted generally results in losses to lenders and does not benefit borrowers sufficiently to compensate for the losses suffered. A good credit organization minimizes the risk of lending. It reduces or holds to a minimum the cost of spanning the gap between the person who has saved funds which he himself cannot advantageously use and the person who has the opportunity and ability to use those funds in a more effective manner. A good credit system prevents over-expansion of credit, and the resulting inflation of prices, which later terminate in painful liquidation and hardship. It also prevents sudden or severe contraction of credit, which invariably brings with it great hardship. Borrowing, wisely done under favorable circumstances, makes possible a greater contribution to social welfare and greater business profits than could otherwise be realized. Unwise borrowing or that done under unfavorable circumstances makes inevitable greater losses than would otherwise be suffered. Accordingly, the use of credit may magnify either profits or losses. The incompetent and those unfortunately situated cannot make profits by borrowing. For the means of production, they are outbid by the more capable or the more fortunate to such an extent that they cannot cover their costs. To use credit successfully borrowers must neither overestimate the future nor be too timid.

Individual Credit Essentials.—It is an old maxim that the ability to secure credit and the proper extension of credit are based on three C's, *capital*, *capacity*, and *character*. For a limited class of purely business loans, in case capital or tangible security is definitely pledged in adequate amounts, the lender does not closely scrutinize character and business capacity. Usually, however, where credit is desired such complete security based on capital cannot be given as to eliminate the need for inquiry into character and capacity. The lender is and should be interested in knowing with the greatest certainty possible that he will get back what he lends, and of this he cannot be certain unless the borrower has business ability and character. Borrowers who expect proper credit consideration must take lenders into their confidence. This includes furnishing financial statements of assets and liabilities and profits and losses. Borrowers who are worthy of credit will find it distinctly to their advantage to furnish fully such information. Incidentally, for a borrower to be able to furnish such information is an indication that he follows good business methods.

Some Forms of Credit Costly.—Risk and the cost of making and collecting the loan are far more important elements in the cost of credit than most people realize. These two elements account for most of the very high cost of pawnbrokers' loans and other types of small loans to consumers. It is because of them that open-account credit of retail stores is

expensive. Through the study by Cornell University previously mentioned, covering a large number of merchants and dealers furnishing credit to farmers in New York, it was concluded that the average cost to the merchant of furnishing such credit was at the rate of 13.8 per cent. For general stores it was at the rate of 19.6 per cent per year. Accounting costs of keeping records of credit alone amounted for general stores to 6.5 per cent per annum on the credit extended. Additional cost elements were pure interest, or the cost of borrowing to the store, cost of supplies, collection, and bad debts. All such costs tend ultimately to be paid by those to whom credit is extended. Installment-plan buying usually means that interest at the rate of from 15 to 40 per cent is paid on unpaid balances.[1] Stores selling for cash can, and if wisely selected, do sell distinctly cheaper than those extending credit. In many cases the cost of credit is far greater than in the examples above given. In four southern states typical costs of merchant credit were estimated for 1926 by the U. S. Department of Agriculture as ranging from 25 to 35 per cent per annum.[2]

Not only short-time but also long-time credit may cost far more than nominal interest rates indicate. A report issued by the Division of Agricultural Finance of the U. S. Department of Agriculture in 1933 contains the following information:

> The financing costs involved in purchasing a farm on credit may be considerably more than that represented by interest and other incidental fees. . . . Reports from 250 counties in 43 states indicate that an average of 14 per cent of the cash purchase price is added when the consideration includes deferred payments. The margin added for credit increases with the proportion of credit to the total consideration. Purchases with 50 per cent of the price paid in cash have an average increase of 10 per cent added to the price; farms purchased with 10 per cent or less paid down usually sell at prices 20 per cent or more above the cash price, and average 22 per cent. These results are based on estimates made by county officials and representative bankers on the basis of usual farm sales in their respective counties. Sheriff sales were not included.[3]

Credit Guides.—In bringing this chapter to a close, we shall quote five recommendations about short-term agricultural credit made to farmers by the Extension Service of Cornell University:

1. Take an annual inventory and file a credit statement at a bank.
2. Talk plans over with your local banker.
3. Get in shape to pay cash and demand a discount.
4. When necessary to get short-term credit consult your banker.
5. Be more prompt in caring for obligations.

[1] Based on a detailed report of the costs of different kinds of installment-buying credit, published in the magazine *Fortune*, January, 1933.

[2] *Yearbook of Agriculture*, 1932, p. 502, U. S. Department of Agriculture.

[3] *The Agricultural Situation*, September, 1933.

To these we shall add as applicable to both short-term and long-term credit the following:

1. Be honest with yourself and do not overestimate what you will be able to do with borrowed funds.
2. In contracting debts, do not overlook incidental charges other than the nominal interest rates.
3. Remember that a *thin equity* in property involves risk.
4. Credit is not universally either good or bad. It depends entirely on the circumstances. In some cases it is the most profitable of investments. In other cases it is the most flagrant of extravagances.

Questions and Problems

1. Summarize the increases which occurred between 1913 and 1929 in different types of long-term credit, and account for these increases.

2. Summarize the changes which occurred between 1910 and 1939 in farm-mortgage debt, and account for these changes. Also explain the changes in sources of such credit during a recent ten-year period.

3. Distinguish five different sources of short- and intermediate-term agricultural credit, and compare them as to relative importance as of about the same date.

4. Explain the general organization of the Federal land banks and the method by which loans are made by them.

5. Compare the Federal intermediate banks, the banks for cooperatives, and the production-credit associations as to (1) the organizations or persons to whom loans are made, and (2) the purposes for which loans are made.

6. Compare (1) the purposes for which loans might be or may be made, (2) the sources of funds, and (3) interest rates of the Federal Farm Board in 1930 and the banks for cooperatives in 1939.

7. Compare the lending rates of the Federal land banks, the Federal intermediate-credit banks, and the production-credit associations, and account for the differences.

8. To what extent are the Federal farm-loan associations and the production-credit associations cooperative associations? Explain fully.

9. What are the circumstances under which an individual may borrow from a Federal land bank without becoming a member of a farm-loan association?

10. What do you consider the most important features of a good credit system? Why?

11. To what extent do you expect the agricultural-credit agencies sponsored by the Federal government to increase in importance in the future, and why?

Suggested Readings

1. Earl S. Sparks, *Agricultural Credit in the United States* (1932) contains a well-balanced history of agricultural credit in the United States, as well as an excellent analysis of the theory of agricultural credit.

2. *Farm Credit Administration* (American Institute of Banking, 1934) furnishes an excellent description of agricultural credit immediately prior to 1933 and of the F.C.A. in 1934.

3. U. S. Department of Agriculture, *Technical Bulletin* 288, 1928 contains a thorough treatment of long-term agricultural credit up to the time at which it was issued; *The Agricultural Situation*, published monthly, and the annual *Outlook Report* furnish reliable current information about agricultural credit, including summaries of the amount of loans by Federal credit agencies and also by other classes of lenders outstanding at recent dates.

4. The Farm Credit Administration in Washington, D.C., and in each of the farm-credit districts will furnish (free of charge) circulars, annual reports, and other material describing the various government credit institutions. The locations of the district offices are: (1) Springfield, Mass.; (2) Baltimore, Md.; (3) Columbia, S. C.; (4) Louisville, Ky.; (5) New Orleans, La.; (6) St. Louis, Mo.; (7) St. Paul, Minn.; (8) Omaha, Neb.; (9) Wichita, Kans.; (10) Houston, Tex.; (11) Berkeley, Calif.; (12) Spokane, Wash.

5. The pamphlet, "Agricultural Statistics," issued annually, and the annual yearbook of the U. S. Department of Agriculture contain much information about agricultural credit.

6. L. J. Norton, *Financing Agriculture* (1938) emphasizes wisdom in the use of credit by the farmer.

7. *The Journal of Farm Economies*, issued quarterly, contains numerous articles on current agricultural-credit problems.

CHAPTER XXV

RURAL AND URBAN PROSPERITY

How does the income of the farm population compare with that of different classes of workers in the city? Are rural and urban prosperity each necessary to the other, or may one of them be built upon lack of prosperity of the other? These questions will receive our attention in this chapter.

The campaign for national farm-relief legislation has been largely based on the claim that farmers have not shared fairly and equally with other classes of the population in the division of the national income. It has been asserted that farmers were entitled to "relief" as a matter of moral or ethical justice. It also has been maintained that farm prosperity is in fact absolutely necessary to prosperity in the cities, that neither farmers nor city people can for any extended time enjoy prosperity unless the other group also is prosperous. Typical, much repeated statements are: "We cannot have prosperous industry without a prosperous agriculture," and "the farmers are the backbone of the nation." City business men are advised to, "watch farm purchasing power," and farmers are told that "the outlook for better prices for farm products depends upon the incomes of city consumers." Statements such as the above are quite generally accepted as axiomatic, scarcely calling for proof. Some farm leaders have asserted, as though it would scarcely require proof, that "if the government guaranteed to farmers $1 per bushel for their wheat, the depression would be history in a few months." We shall now attempt to summarize the best available information on the above questions. Unfortunately, the answers to these questions are not so simple as most of the public utterances on the subjects indicate.

FARM AND CITY INCOMES COMPARED

Two general sources have furnished most of the estimates comparing the incomes of the farming and nonfarming parts of the population. The first of these is the U. S. Department of Agriculture. The second is a group of statistical workers led by W. I. King, first as instructor in Statistics at the University of Wisconsin, and later as a member of the staff of the National Bureau of Economic Research and director of much of its statistical research. On a basis generally similar to that used by King, the Federal Bureau of Foreign and Domestic Commerce has made more recent income estimates. Independent estimates have been made in

recent years by the National Industrial Conference Board and the Brookings Institution. Those of the last named organization include some estimates by states.

Some Early Estimates.—Apparently, the first serious efforts to ascertain and compare the incomes of the farming and the nonfarming populations were based on the Census of 1910. An agricultural economist of national distinction has said that "it would be little exaggeration to call this period (1909 to 1914) a 'Golden Age' for the farmer."[1] This should arouse our curiosity in regard to the size of the farmer's income at that time. Furthermore, the fact that the agricultural program introduced in 1933 defined "parity prices" or "parity incomes" for farmers as prices or incomes which bore the same relationship to nonagricultural prices or incomes as existed in the "base period" of 1910–1914 gives current interest to the study of farm incomes in this pre-war period.

In the Department of Agriculture Dr. W. J. Spillman, on analyzing the Census data of 1910, reached the following conclusions: "The average investment per farm was $6,440.00—The average farm income, $640. If interest on the investment is calculated at 5 per cent it is found to be $322. Subtracting this amount from the average farm income leaves a labor income of $318." In describing the method used in determining the farm income Spillman says: "The farm is thus credited with the butter, cheese, eggs, poultry, honey, meat, fruits, vegetables, consumed on the farm where it is produced and the value of these products thus consumed on the farm is included in the farm income." Rental value of homes, however, was not included. The value of food produced and consumed on the farm was estimated in another study, made in 1913 (*Farmers' Bulletin* 635), to be $261 per year. If that is subtracted from the above figure, there remains a labor income, or farm income in excess of 5 per cent on the investment, of $57 per year. Spillman concluded that "a very large percentage of American farmers live on the interest of their investment and do not receive anything for their wages."[2]

A second estimate of farmers' income was published by the U. S. Department of Agriculture as *Farmers' Bulletin* 746 in 1916. This was after certain surveys had been made by the Extension and Farm-management divisions in regions "much above the average of the general country," which showed in those regions higher incomes than those calculated from the Census. Because the Census data included "the financial losses sustained by the estates of wealthy persons who farm for amusement," suburban and other farms which did not require the full time of the operator, and "small tenant farmers of the south," E. A. Goldenweiser,

[1] E. G. Nourse, in *Economic Policy for American Agriculture*, ed. by E. A. Duddy (1931), p. 20.

[2] W. J. Spillman, *Circular* 132, Bureau of Plant Industry, United States Department of Agriculture.

who prepared *Farmers' Bulletin* 746, concluded that the Census averages did not represent "the true average income of typical farmers."

The labor income of the typical farm family he judged to be halfway between the survey figures of farms above the average and the Census figures, and he placed it at $600 per year, consisting of $200 cash and $400 in fuel, food, and house rent furnished by the farm.

These figures may be compared with incomes of industrial families, as shown by a study made by the Immigration Commission for the year 1909. For 16,000 industrial families the average income was found to be $721 per year. These represented, in general, incomes of unskilled types of city wage workers. The farm and industrial incomes above given both represent family rather than individual incomes. Individual wage workers on street railways and in iron and steel works are reported in *Bulletin* 746 as averaging over $600 per year. Factory and telephone workers are reported as receiving less than $500. These averages included women and children as well as men. Incomes of salaried employees in various city occupations averaged about double those of wage workers in the same occupations and accordingly were much above farm incomes.

TABLE 57.—FARM INCOME IN DOLLARS AND AS PERCENTAGE OF NATIONAL INCOME

Year	Realized national income (billion dollars)[1]	Gross farm income total[2] (million dollars)	Income realized by individuals from agriculture total[1] (million dollars)	Farm income available for operator's labor, capital, and management		Realized agricultural income as percentage of national income[1]	Persons employed in agriculture as percentage of all gainfully employed[1]
				Total[2] (million dollars)	Dollars per farm[2]		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1909	29.6	6,238	4,998	.....	.....	16 9	25 5
1914	34.6	7,028	5,081	.....	.....	14 3	23 3
1919	65.9	16,935	12,182	8,100	1,246	18 5	22.2
1924	77.1	11,337	8,325	5,699	894	10.8	20.1
1928	88.2	11,741	8,109	5,489	870	9.3	
1929	81.1	11,941	7,263	5,669	882	8.9	17.6
1932	42.3	5,143	3,316	1,492	206	7.8	21.3
1937	71.9	9,983	6,378	.....	.....	8 9	18.6
1939	68.5	9,000	5,635	.....	.....	8.1	

[1] From W. I. King's *The National Income and Its Purchasing Power* except for 1929, and later years, which were estimated by the U. S. Department of Commerce in "Income in the United States, 1929–37" and current reports. The income estimates by the latter are in general lower than King's estimates. The latter's estimates on gainfully employed eliminate unpaid family labor and unemployed.

[2] From *Crops and Markets*, April, 1933, and later issues. Gross income includes farm value of products sold or for sale and the farm value of farm products consumed on farms. Gross farm income for 1939 was estimated by the authors. Blank spaces indicate that data were not available.

More Recent Estimates.—Much more detailed information about the income of those engaged in agriculture has been collected by the Department of Agriculture for 1919 and all years thereafter. Some of the data are not available on a comparable basis for the years after 1935. These later estimates are not only for the amount of the gross farm income but of operating expenses of different kinds and of the net income remaining for family living. The methods used in making such estimates are much like those used in estimating the size of the crops, being based on specially collected sample information from all parts of the country, as well as other available information. These estimates for gross and net income are shown for typical years in Table 57.

Gross income refers to the cash returns to farmers for products sold, plus the value of products retained for home use on the farms where produced and valued at current local prices received by farmers. Net income is the amount remaining after paying for such operating expenses as feed, seed, and fertilizer bought; containers, spray material, and twine; repairs to machinery, tractors, and farm buildings; wages for hired labor, and 90 per cent of interest and taxes payable. Only 90 per cent of interest and taxes are included in *production expenses*, as 10 per cent is considered to be interest and taxes on the farm dwelling, which is not used as production capital. Costs of new machinery and buildings are not considered production expenses, but depreciation is so considered, and annual depreciation is estimated at 5 per cent of the value of buildings excluding dwellings and at 21 per cent of the value of machinery, automobiles, and trucks used in production. Half of automobile-operating expense is considered a production expense.

The net income which remains after making these deductions is considered the *farm income available for operator's labor, capital, and management.* This, for the sake of brevity, may be called the *net farm income*, but it is not calculated in the same manner as the *net profit* of a business is calculated in a usual profit and loss statement. Compensation for the operator's labor would have to be deducted from this net farm income to put it on the same basis as a net profit for a business as usually reported.

It will be noted in Table 57, Columns 2 and 4, that for the years from 1919 through 1929 about one-half the gross farm income remained as net farm income, or *income available for operator's labor, capital, and management.* For 1932, however, only about 30 per cent of the *gross farm income* remained. In Table 1, page 2, the amounts of the deductions for different expenses are shown for typical years. More complete discussion of these expenses may be found in *Crops and Markets* for September, 1936.

Percentage of National Income Realized by Agriculture.—Attention should be given next to the "income realized by individuals from agriculture" since this can be compared with the income realized in other

industries. This concept of income corresponds neither to *gross income* nor to the *income available for operator's labor, capital, and management*, as estimated by the U. S. Department of Agriculture. This is clearly shown in Table 57, in which King's estimates (Column 3) are regularly about midway between the estimates of the kinds of farm income which we have just been discussing. They are about 50 per cent higher than the Department of Agriculture's estimates of income available for operator's labor, capital, and management. We shall not attempt to account for all the differences but will mention a few items. King includes in *realized income* from agriculture the imputed income received in rental value of farm residences and the income received by landlords from the ownership of property operated by tenants, both of which are excluded from the Department of Agriculture's estimates of income available for operator's labor, capital, and management. Moreover, King does not deduct as an expense the interest on mortgages paid or payable by farmers to the nonfarming population, "for these payments are considered part of income of the agricultural industry."[1]

From 1909 to 1914 the agriculturally employed population represented about one-fourth of all the nation's gainfully employed, and individuals and property employed in agriculture received slightly less than one-sixth of the national income. In 1919 the agriculturally employed represented 22.2 per cent of the gainfully employed, and agriculture received 18.5 per cent of the national income. The years 1918 and 1919 were agriculture's best years. During the late 1920's the agriculturally employed represented roughly 20 per cent of all the gainfully employed persons of the nation, and agriculture received roughly 10 per cent of the national income.[2] In 1932 the agriculturally employed received approximately 8 per cent of the national income, but by 1937 the percentage again had risen to the level of 1929.

Farm Incomes and Urban Labor Income.—Another method of comparison is to contrast farm-labor incomes with typical wages and salaries in city occupations. In Table 57 the annual income available for the farm-operator's labor, capital, and management has been shown in Column 5 on a *per farm* basis. In 1924 this income was $894, and for 1926 it was $862. If from this there is deducted interest at as low a rate as 4½ per cent on the average *net investment in agricultural production* by the operator only, and excluding the farm dwelling, the amount left for the operator's labor income was $624 for 1924 and $636 for 1926. In contrast, wages and salaries for all factory workers, all railroad workers,

[1] W. I. King, *The National Income and Its Purchasing Power* (1930), p. 305.

[2] "Gainfully employed" as used in these statements refers rather to the normally employed than to the actually employed. The National Industrial Conference Board estimates that those engaged in agriculture received over 13 per cent of the national income in the late 1920's.

and all workers for salaries and wages are shown in Table 58 for about the same years.

TABLE 58.—ANNUAL AVERAGE WAGES AND SALARIES FOR CERTAIN INDUSTRIES AND FOR ALL SALARY AND WAGE WORKERS

Income group	Year	Amount	Source of data
All factory workers			
(1) Managerial salaries	1919	$3,513	King, based on Census of Manufactures
(2) Clerical salaries	1919	1,392	
(3) Wage workers	1925	1,280	
Railroad workers			
(1) Managerial salaries	1927	4,524	King, based on Interstate Commerce Commission reports
(2) Clerical salaries	1927	1,882	
(3) Wage workers	1927	1,570	
All salaried workers	1926	2,025	King's estimates
All wage workers	1926	1,205	
Farmers' income including interest	1926	862	Bur. Agri. Economics
Farmers' labor income	1926	636	Bur. Agri. Economics

Though factory salaries are shown in the table only for 1919, factory wages were over $100 higher in 1925 than in 1919, which would indicate that factory salaries were also higher in 1925 than in 1919. It will be noted that for no class of workers including the factory-wage group, which often is considered especially poorly paid, was the average compensation per person during the period 1924–1928 less than approximately double the average returns to farm operators for their labor and management.

Conditions in 1932.—In 1932 the average farm income available for operator's labor, capital, and management was only about $200. If in that year farm operators had been allowed only 2.2 per cent interest on their owned capital used in production, they would have received no labor income. If they had been allowed wages even at the low rate of $225 per year for the combined labor of themselves and the unpaid members of their families to cover living expenses, they would have received less than nothing for the use of their owned capital.

In 1932 industrial wage rates as represented by New York state factories still averaged 179 per cent of their 1914 levels. Farm wages were 96 per cent of their 1914 levels. As compared with 1914, industrial wage rates in 1932 were nearly twice as high as farm wage rates (see Table 6, page 18). Yet, had farmers in 1932 allowed themselves wages for their own labor at the low rates paid to hired farm labor, they would have lacked nearly 1.2 billion dollars, or nearly $200 per farm, of receiving anything as a return on their investment in land and equipment.[1] Prices

[1] *Crops and Markets*, April, 1933, p. 146.

received by farmers in 1932 averaged 65 per cent and prices paid by farmers 107 per cent of 1909–1914 prices.

Criticism of the Above Estimates.—Such estimates as those given above have been severely criticized, mostly on the ground that in them adequate allowance is not made for the higher costs of living in the city. In December, 1933, Dr. George M. Peterson, the author of one of these criticisms, in part stated his conclusions thus:

> The schemes for farm relief are nearly all based on the assumption that farmers as a class were in an inferior economic position relative to other classes from 1921 to 1929 and that they are relatively worse off now. These assumptions apparently are based neither on facts nor on economic theory.[1]

In developing the above conclusion Dr. Peterson presents several tables, one of which is as follows:

AVERAGE INCOMES 1924 TO 1929

Farm families:	
Money income from farming, $600; other, $140 Cost value to non-farm families of Rent—median, $325; mode, $420 Farm food and fuel, $485 to $580	$1,550 to $1,740
Non-farm families dependent on one breadwinner	
Wages of all normally employed wage earners	$ 1,185
Wages of all employed factory laborers	1,295
Salaries of federal, state, and local employees	1,645
Salaries of all salaried employees	1,990
Persons gainfully employed (including farmers)	
Money income from all sources, $1,765	
Value of owned houses, automobiles, etc., $120	$ 1,885
2 per cent receiving $5,000 or more money income each	15,000
98 per cent receiving less than $5,000 money income each	1,500

Of the figures shown in this table Dr. Peterson says that they "can be used to give a fair indication of the economic position of the farmer relative to other classes especially the city family dependent on one gainfully employed person for its living."

Explaining the upper third of the above table Dr. Peterson says:

> The average farm family during the period 1924 to 1929 had an average cash income from operations of approximately $600, other cash income of approximately $140. If the farmer had not lived in a farm house, rent would have cost him between $325 and $420 annually and the amount of food and fuel furnished by the farm between $485 and $580. This is equivalent to a total money income of $1,550 in smaller towns and $1,770 in larger cities.

These house rent figures are census averages for all non-farm rented homes. The food and fuel figures are double the estimates of the Department of Agriculture for food and fuel furnished by the farm, these figures

[1] *Journal of Farm Economics*, July, 1933, p. 447.

having been doubled because the Department of Agriculture figures are at farm values, and it is assumed (correctly) that typical city retail prices would have been approximately double the farm prices.

In comparing the above totals with the figures for city wages and salaries as shown in the second third of the table the reader should bear in mind that during the period covered the wage or salary of one person was not the total income of the average city family. This is recognized by Dr. Peterson who says:

> In practically one family out of every twelve both husband and wife are gainfully employed. . . . The city family also receives some income from other sources, such as laundry work, roomers, boarders, paper routes and odd jobs by children, garden plats, in some cases from part-time farming, and from pensions, insurance, free medical clinics, etc. Without any basis for estimating the average amount of such other income it is safest to assume that it was just enough to make the average city family income as large as the average farm family income during the period 1924 to 1929.

Concerning the figures in the lower third of the table (derived from basic data by W. I. King) it should be noted that they also are not on a per family basis but are per person normally gainfully employed. Regarding these we furthermore quote John D. Black as follows:

> The farm incomes are figured on the basis of farm values of the food, fuel, etc., obtained directly from the farm. Valuing these on the basis which Dr. Peterson used in his estimate [of farm incomes] would raise the $1,885 estimate to above $2,000. . . . The figure of $1,500 would be raised from $125 to $150 if farm supplies consumed by farm families were valued according to the basis Dr. Peterson used for farm income.[1]

The reader should note the large extent to which farm incomes as above estimated consist of imputed income, much of which comes from property, and that the figures for city wages and salaries do not include any return from property ownership. On this point Dr. Peterson says:

> Some people believe that the farmers should have a larger income than wage earners in the cities because the farmer is both a laborer and a capitalist. This question of whether or not the farmer has more capital than the great majority of gainfully employed persons is debatable, and it depends on the definition of capital and the rate of interest used in capitalizing income into value. For example education and training represent savings, hard work and cash outlays, and in this sense is capital, although it cannot be separated from the individuals and sold. Which class has most of this form of capital? Even a $5,000 city home may represent as much real capital as a farm valued at $10,000. The fundamental difference in value may be due not to saving and accumulation of capital but to the relative price levels of consumers' goods and the real rate of interest used to capitalize incomes into values in the two places.

[1] *Review of Economic Statistics*, January, 1933, p. 27

The above discussion shows that estimates of the percentage of the national income received by farmers such as those in Tables 57 and 58 are misleading unless the assumptions which underlie them are known. It is important, however, also to know the assumptions which underlie the estimates just given. Not to be overlooked are the following: (1) The farm home is considered to have a "city equivalent" rent value of from $325 to $420 per year. It is doubtful if the average farm home would have rented for this much if moved and set down within the limits of most cities. (2) Though according to the Census only 53 per cent of non-farm homes are rented (leaving 47 per cent wholly or partly owned), no addition is made to wages or salaries of non-farm workers for the imputed value of owned homes, because it is considered that "when owned or partly owned the interest and taxes approximate rent on similar property."

Dr. Peterson has pointed out some valid reasons and methods for adjusting the data frequently given for comparing the incomes of farm and non-farm families. Nevertheless, other estimates of some of the items of income and living expenses, and of the adjustments which should be made for non-cash income and for differences in city and farm living costs, cause the present writers to question whether he has not overstated farm incomes in comparison with those of non-farm people.[1]

Another Opinion.—In commenting on the criticism above summarized, another writer says:

Two very important facts and an economic theory based thereon have been left completely out of this discussion. After a good many years of fruitless effort to compare farmers' and city persons' incomes, I have come to the belief that there are two relatively safe indicators of the relative prosperity of agriculture or of other industries for that matter.

(1) If the capital values are shrinking both absolutely and relatively to other lines of business it is clear that the business is in a relatively unfavorable position.

[1] Striking regional differences in farm income are revealed in *America's Capacity to Consume*, by Leven, Moulton, and Warburton (The Brookings Institution, Washington, D. C., 1934) from which we quote (from pp. 44, 46, 59, and 62) as follows: "In 1929 . . . in California the per capita farm income was ten times as great as in South Carolina—$1,246 as compared with $129. In twelve states, all in the South, the income of the farm population was below $200 per capita, the average for this group of states being barely $162. This included of course both white and colored owner and tenant farmers. In California the per capita income of the farm population actually exceeded that of the city dwellers. . . . There are eleven states in which the per capita farm income exceeded $500."

"[In 1929] the average income of the farm families was $1,240, as compared with $3,226 for town and urban families. These wide differences are of course explained in considerable part by the weighting effect of the numerous high incomes among the city groups, but the disparity appears great even when this factor is eliminated. . . . It should be borne in mind that farm families constitute a narrow economic class and cannot be compared fairly with city families in general. Among farm and urban families of the same general economic status incomes appear to be not widely dissimilar."

This is a fact easy to establish. In farming, capital assets were shrinking at an unprecedented rate during the period under discussion [1924 to 1929] and very little new capital was attracted to farming during this period except for refunding purposes. At the same time the history of other industries was almost without exception one of continual writing up of capital assets and increasing wages. New capital was being continually poured into these industries during this period.

(2) If the conditions in the industry are such that the number of persons engaged in it is shrinking either absolutely or relatively to other industries, it is clear that opportunities, as measured by real income, are not as attractive as elsewhere. Population in a commercial society responds to economic pressure and only moves out of an industry and to others as the difference in economic opportunity becomes evident. This is a fact easy to establish. During the period in question, farm areas lost population steadily and at a more rapid rate than at any previous period for which figures are available.[1]

Some Conclusions.—The data presented on the preceding pages appear to justify the following conclusions: (1) since the early 1920's the rural population as a whole has at no time enjoyed a money income per capita approaching that of the city population as a whole, and (2) there have been marked changes in the percentage of the national income received by the rural population. How large a percentage of the national income is a *fair share* for the rural population it is impossible to state dogmatically. Both rural and urban life have certain advantages which cannot be measured in dollars and which have different values to different individuals. Some of these for agriculture have been enumerated near the close of Chap. XVII, in our discussion of why farm-land values have tended to be overcapitalized (see pages 420).

In agriculture's so-called Golden Age, from 1909 to 1914, the greater part of the farm population lived thrifty and self-denying lives, foregoing many things considered necessities by a large part of the urban population. They secured but little surplus cash, but increasing land values enabled many with the approach of old age to sell their farms at a price sufficiently greater than the original cost, or to receive sufficient rent to enable them to retire to villages and towns and live in a fairly comfortable though frugal manner, with but little labor. In relatively recent years not only has that been impossible, but the maintenance of a standard of living comparable to the increased standard of living of those regularly employed in the villages and towns has become more difficult and has been possible for fewer of the rural population.

One great difference between the incomes of the agricultural population as a whole and all other population as a whole is the greater degree of uniformity of income among the agricultural population. During recent years the agriculturally employed have as a whole fared by no means so well as the more fortunate of the urban population, nor so

[1] E. C. Young, *Journal of Farm Economics*, July, 1933, p. 449.

well as the average of the employed urban population. They have fared better, however, than the most unfortunate of the urban population, particularly those who are denied an opportunity for urban employment by the *closed-door* policy and monopoly in industry. This explains the paradox of a population movement from the city back to the country during the very years of the early 1930's when the income of the average person employed in agriculture was lower in comparison with the income of the average person actually employed in urban industry than at any other time during the last thirty years. Agriculture has been at a disadvantage compared with urban industry as a whole, but there is room for much debate as to the degree of that disadvantage, or as to what would be a *fair share* of the national income for agriculture. The city workers' greatest disadvantage is insecurity of employment.

ARE FARM AND CITY PROSPERITY NECESSARY TO EACH OTHER?

The above question is best approached by considering separately different parts of it. First, we shall consider whether rural prosperity is necessary for urban prosperity, then whether urban prosperity is necessary to rural prosperity. In doing this, we shall attempt to employ both logical reasoning and the best statistical evidence available. The correct answers to these questions depend on a number of conditions, and, unless these are considered, incorrect conclusions are likely to result. The reader is urged to note all these conditions, in so far as they are stated in the text, and to avoid premature broad generalizations.

Is Urban Prosperity Dependent on Rural Prosperity?—The usual answer to this question is "Yes." The usual reasoning is that unless the rural regions are prosperous they will not be able to buy the goods produced in the cities, and that the population of the cities cannot be prosperous without a good rural market for its products.

In considering this point of view it should be noted that prosperity for farmers as a whole results in most cases from high prices for farm products. Except to the extent that the farm products are exported, all the greater purchasing power to farmers from high-priced farm products is paid to them by city people. With exports the final results are the same. The greater purchasing power which the farm population has in times of rural prosperity must come to them from the city. The farm people pay back to the city for city goods only what the city has paid to farmers for farm goods.

Let us inquire for a moment what would be the effect if all the goods now furnished to the city from the farm miraculously arrived as a gift from heaven, if everybody could have freely all the farm products he desired merely by uttering a prayer. The farm population would be out of jobs, and city people could no longer sell goods to farmers for money which the farm population had secured by selling goods to the

city. But supposing that the city people previously spent 10 per cent of its income for farm products (at country points), they now would have that much more money to spend with each other. The city previously had to give 10 per cent of its products to the country to get the needed farm products. The products or money, whichever way we view it, which previously had to be paid to the country could now be spent for more city goods and services, ranging all the way from fuel and housing to golf clubs, radios, theatrical entertainments, automobiles, and religious services. After enough time has passed to allow adjustments to be made to the new conditions, there could be more city luxuries and no necessary unemployment, as long as the desires of city people for such luxuries remained unsatiated *and there was no failure to agree in the bargaining.*

Historically it is of interest to recall that most early urban civilizations, including those of Greece and Rome, were erected on an exploited and oppressed rural population. The Greek citizen did not work at menial labor; he was supported by Helots or slaves. Rome maintained its citizens of the capital city on free grain which was levied as a compulsory contribution or tribute on the provinces. Under that system the Roman citizen developed indolence, corruption, and vices, which in the long run were detrimental to him. This, however, does not contradict the fact that having to give the country little in return for the food which the country supplied to him enabled the Roman inhabitant of the city to enjoy a higher standard of living, as he viewed it, than he could have enjoyed if the country had not been exploited.

To assert that the higher the prices of farm products are, the better it is for all city industry, is to say that the more city products the city must give to the country for its needed supply of farm products, the better it is for the city. This is equivalent to saying that the more labor one has to perform to get a desired supply of any desired good, the richer he will be. In such simple form the statement obviously contradicts common sense. Recognition of this point caused Professor Hibbard to write as early as 1927: "We have persistently been told that the city is dependent on the country; that both must prosper together if at all. Not only do the facts of the last six years belie the statement, the logic of the case likewise is to the contrary. One class can indeed prosper at the expense of another."[1]

There is one striking difference, often overlooked, between variations in rural prosperity and urban prosperity. This is that the difference between prosperity and lack of prosperity to the agricultural population as a whole depends largely on the prices received for farm products. The rural population in the past has been employed and has furnished to the city its supply of products whether farm prices were high or low.

[1] B. H. Hibbard, *Journal of Farm Economics*, January, 1927, p. 43.

With high prices there has been prosperity, with low prices a lack of it. Urban prosperity or the lack of it, in contrast, has been largely a matter of being employed. Urban prices change but slowly. With this in mind let us suppose for a moment that conditions are reversed, that urban production continues to operate practically to capacity without intermission, but that there are tremendous variations in prices of urban products. Let it also be supposed that the farmer receives about the same prices for his products continually, but that in some years or periods of years he can buy city products at half the price he has to pay in other years. Which will be his best years, those in which he can get many city products for a given amount of his products, or those in which he can get but few? It should be clear that his best years would be those in which he can get most city products for his products.

Though leaders in urban industry have generally declared to the nation that neither city nor country could prosper without prosperity for the other, when situations have actually arisen giving an opportunity for putting this doctrine into practice the city's policy on most occasions has been to do the things resulting in as low prices as possible for farm products, and as high prices as possible for city products. Otherwise expressed, it has been to give farmers as few city goods as possible in return for the desired supplies of farm products. Urban industry taken as a whole has rarely lived up to the creed which it has professed.

Interests of All Nonfarm Groups Not Identical.—The preceding analysis needs several important qualifications in order not to be misleading. The first of these is that the interests of all nonfarm groups are not identical, and that the interests of many groups at least in the short run are more in harmony with agricultural prosperity than with low prices at the farm for farm products. The merchants, doctors, bankers, and others in a strictly rural community cannot prosper unless there is prosperity for their customers, who are farmers. Furthermore, it has been statistically demonstrated[1] that the expenditures by cotton farmers for fertilizer vary directly and rather closely in amount with the gross money income from cotton during the previous year. Cotton farmers spent for fertilizer in 1925 more than twice as much as they did in 1922 because in 1924 they received for their cotton more than twice as much as they received in 1921. Obviously, whoever is in the fertilizer business as long as he stays in that business is anxious to see a high price for cotton. And what is true of the fertilizer manufacturer and country doctor, banker, and merchant is true of other people who do not live on farms but who depend entirely or mostly on the farm population as a market for their products.

[1] L. H. Bean, *Proceedings of International Conference of Agricultural Economics* (1930).

Time for Adjustment Required.—A second qualification is that a distinction must be made between the final effect of a permanently changed situation and the immediate effect of the change. The effects of rural prosperity or the lack of it on urban prosperity resemble many other economic effects which follow from preceding causes, in that some effects are immediate and obvious whereas others follow only in the course of time and are not so easily discerned. The immediate effects of hard times in a one-crop region (whether the product be cotton, wheat, or fruit) on the prosperity of those who supply goods, including services, to that region are obviously detrimental. The long-run effect of more nearly free goods resulting from the large crops, which cause low prices and hard times to commercial agriculture until adjustments have been made, is not so obvious. This is partly because the effect of more nearly free goods is diffused among more people, and it is partly due to the fact that the fertilizer manufacturer and the merchant (used as examples), when they have to a certain extent been put out of business by the low price of cotton resulting from a large crop which more nearly approaches a free crop, have not yet had time to find other employment, that is, to fit themselves into the economic system in some other way. The usual channels of commerce are shut off, and anything which shuts off previously existing channels of commerce is a temporary unfavorable element to general business, even when, if continued, it may in the long run result in more abundant prosperity. Temporarily, the failure of many cotton growers, country merchants, and fertilizer manufacturers to buy goods will hurt the sales of an automobile manufacturer whose prices have been fixed for the year more than sufficiently to offset the advantage which he gets from the cheaper cotton which goes into the tires of automobiles.

No student of economics should fail to consider carefully whether the effects which follow from certain causes are merely indicative of disturbances in temporary relationships, or whether they also represent long-run effects which remain even when time is allowed for making adjustments. The sudden widespread introduction of much better seed, giving 50 per cent increased yields, for example, might result in such large crops and low prices, as to injure many people in the short run. A widespread and evenly distributed drought, which reduced the total supply of farm products 30 per cent or more would tend to benefit the same group of people in the short run. This, however, does not prove that even these people would be damaged in the long run by much better seed and be benefited in the long run by continuous widespread and evenly distributed drought, which resulted in continuously reduced yields of 30 per cent or more.

The fact that a *decline* in rural income causes maladjustments in urban industry—with effects on the city different and more detrimental than are the results of continuous low rural incomes accompanied by large

supplies of farm products—is a matter of large importance. *A thoroughly selfish urban population would be more concerned with preventing a sudden drop in rural income than it is with assuring to the country population a large part of the national income over an extended period of time.*

Large Crops Even with Low Prices Benefit Certain City Industries.—*Except when there is a general shut down in urban business,* large total production of a farm product is the usual cause of low prices to farmers for that commodity. Conversely, small total production of a farm product is the usual cause of high prices for that product to commercial farmers. From these facts and the discussion in the preceding paragraphs, we may be tempted to conclude that at least temporarily the monetary advantage of practically all the inhabitants of both the country and the city is identical and that it is to their advantage to have small production and the resulting high prices. Such a conclusion, however, would overlook the fact that even in the short run the conditions which tend to bring hard times to the cotton grower and fertilizer manufacturer may bring greater prosperity to some other classes. This has been well expressed as follows:

In the marketing of the farmer's product there are engaged a number of enterprises which, unlike those already referred to, do not depend directly on the farmer's buying power, but rather on the volume of his production. Among these are the country elevators and warehouses, the railroads, the commission men, the speculative exchanges, the flour mills, the packing houses, the cotton mills, the wholesalers, retailers and exporters. It is a general characteristic of these intermediaries between the farmer and the consumer that it is to their interests primarily to handle as large a volume of traffic as possible. Only incidentally are they concerned with the farmer's prices or the farmer's financial rewards for large crops. In fact, for some, particularly the processors of farm products, or manufacturers whose raw materials are partly agricultural, there is a distinct advantage in low agricultural prices and large volume. Illustrative of these general facts we shall find that in the past decade agriculture has in certain years contributed substantially toward the maintenance of industrial activity although receiving for that contribution a niggardly reward. . . .

. . . Among the distributors of farm products whose prosperity rises and falls with farm output rather than with farm income the railroads may be cited as the outstanding example. Ordinarily, with freight rates practically unchanged from year to year, revenue tends to be determined by the volume of traffic handled.

In the 10 years from 1920 to 1929 inclusive, the marketings of farm products have been relatively heavy in years when freight from other sources declined. This may be inferred from a comparison between the annual variations in manufacturing output and in crop marketings in the past 10 years. We find here a very definite inverse correlation. The heaviest movements of farm products occurred in 1921, 1922, 1924, 1927 and 1928. From the standpoint of transportation and industry, these large volumes were well timed, for in these years they served as partial offsets to business activity below normal. Similarly, the

lighter movement of farm products in 1920, 1923, 1925, and 1929 coincided with business activity above normal.[1]

The author of the above statement failed to mention, however, another significant fact. That is that the prosperity of railroads serving rural regions is affected by the volume of both the outbound freight and inbound freight, and that the latter falls off greatly with low prices for farm products.

The complexities of the situation are further illustrated by the following from the same writer, but written early in 1927:

> The present cotton situation admirably illustrates how an unfortunately large output at low prices to producers affects industry temporarily both favorably and unfavorably. The low cotton prices, which have reduced the cotton growers' income considerably, have given new life to the textile industry, which is now operating at record activity. A large number of people are being employed in the various stages of transporting, financing, exporting and manufacturing the greatest cotton crop in history, and their sustained or increased consuming power is an element in prolonging the present period of general industrial prosperity. On the other hand, the fertilizer and other industries dependent upon the cotton growers for their market are doing a smaller volume of business than they did a year ago.[2]

Relation of Farm-product Prices to Business Cycles.—In the preceding sections we have noted that in the short run some urban industries are benefited by high prices resulting from reduced volume of farm products and others are stimulated by a large volume and relatively low prices of farm products. This raises the question: Which condition, high or low prices for farm products, has the greater immediate effect on general urban business activity or prosperity? Several efforts have been made to answer this question by means of statistical investigations. We shall attempt briefly to summarize the conclusions of a few of these investigations.

L. H. Bean, statistician in the Department of Agriculture, studied the historical relationship between *business activity*, as represented by bank clearings, and the degree to which prices were favorable to agriculture, as represented by *the relationship between the prices of farm products and the prices of nonagricultural products.* His conclusions were as follows:

> High and low agricultural prices have at times been associated respectively with prosperity and depression, but a closer study reveals these more significant facts; there has been a tendency for business to recover in periods of relatively low agricultural prices and to decline in periods of relatively high agricultural

[1] L. H. Bean, *Proceedings of International Conference of Agricultural Economics* (1930).

[2] L. H. Bean, "Agriculture and the Nation's Business," *Journal of Farm Economics*, July, 1927, p. 343.

prices. Thus, contrary to common belief, low prices of farm products have been followed by industrial prosperity and high prices have been followed by business depression. This appears to have been true of each of the major changes in agricultural prices and in business activity during the past half century except one.[1]

The plausible explanation offered by Bean for these relationships is in part as follows:

> Low agricultural prices which hurt the farmer mean that city consumers of food are apt to have a larger share of their incomes available for purchasing industrial products. . . . The situation is different in periods of high agricultural prices. Forces are then at work tending to depress general business activity. The smaller output which has produced the higher prices reduces the volume of business of all those engaged in transporting, handling and processing farm products. Employment falls off, and the purchasing power of consumers is diminished. At the same time higher food prices to consumers in general leave a smaller share of their income available for non-agricultural products and services. . . . [1]

Two other investigators of this subject who have published their results are Graue[2] and Timoshenko.[3] Graue limited his investigation to past relations existing between bank debits outside of New York City (generally considered one of the best indicators of business activity) and the ratio of food prices to prices of manufactured goods. In the agricultural commodities, only prices of food were considered, since in most of these products the farmer's part of the retail price is larger than in the case of clothing materials and hence retail prices of food are more sensitive to variations. His findings were that high food prices in relation to prices of manufactured goods have tended to be accompanied by lower than normal business activity, and that low food prices in relation to manufactured goods have tended to be accompanied by higher than normal business activity.

Timoshenko's findings were in some ways similar to those of Bean and Graue, but he concluded that low agricultural prices have different effects on urban business when these low prices are caused by large crops than when they result from other causes. In part he says:

> . . . A low level of agricultural prices, as far as it is caused by a large crop, affects industry favorably by lowering its costs of production, but it does not affect seriously the purchasing power of agriculture for manufactured goods because of the large volume of agricultural production.

[1] *Ibid.*

[2] E. Graue, "The Relationship of Business Activity to Agriculture," *Journal of Political Economy*, August, 1930, pp. 472–479.

[3] V. P. Timoshenko, "World Agriculture and the Depression," *Michigan Business Studies*, Vol. 5, No. 5, 1933, p. 545.

But such a statement may be considered true only if it is assumed that the low agricultural prices are caused by a bumper crop. It should not be supposed that a low level of agricultural prices caused by any other factors must always be favorable for a revival of business. Account must be taken of the effect which such a change of prices has on other relations between agriculture and business, particularly the purchasing power of agriculture for the products of manufacturing industries. If the decline of agricultural prices is caused by factors other than a large volume of crops resulting from a high yield, and the volume of crops is no larger than average, or is even smaller, then the purchasing power of agriculture evidently is bound to decline with the fall of prices. . . .

With particular reference to the developments after 1928, Timoshenko illustrates these "other factors" by calling attention to the stimulation of farm production in certain foreign countries and to the loss of markets by agricultural producers of this country due to increased tariffs on farm products by foreign nations. As a consequence, he argues, the buying power of the agricultural classes diminished with later unfavorable repercussions on industry, trade, and finance.

Agricultural Income and the Depression of the Early 1930's.—The statistical data which have been presented in the preceding pages furnish unquestionable evidence that agricultural buying power did greatly diminish during the early 1930's, and there is strong evidence that, in combination with the rigidity of prices of commodities and services which farmers must buy, this reduced buying power intensified the urban business depression of this period. In other words, under the conditions which existed in the early 1930's reduced agricultural buying power did intensify the urban business depression.

One important cause for the greatly reduced prices of farm products at this time was the loss to American agriculture of a large part of its previous foreign market. From the close of the World War until 1929, from 12 to 16 per cent in value of American agricultural products were annually exported. Indirectly these exports were made possible by the purchases of foreign securities by Americans who had saved money. The money paid for these securities in fact remained in this country. Much of it was used indirectly by foreigners to buy American farm products. Thus it found its way into the possession of American farmers and was used to buy city products. Though American investments in foreign securities proved to be unprofitable to the investors, the fact that they were made did help to support the prices of farm products and to maintain prosperity. When those who previously had invested their incomes hoarded them instead, the farmers suffered and the depression was intensified.

American investing in foreign securities declined greatly beginning in 1929 and later practically ceased. To protect their exchange rates, previously supported by American buying of foreign securities, and for

other reasons, foreign nations greatly reduced their imports of American farm products. Tariffs on these products were much increased, and imports were prohibited or greatly reduced by quotas and other devices. As a result, even with the very much lower domestic prices of farm products, our exports of these products for the years 1931 and 1932 declined to only 6.7 and 6.5 per cent, respectively, of the total production, or to less than half in volume of average exports preceding 1929. The money previously received for such exports did not find its way into the market for city products. The decreased farm purchasing power contributed to shutting off the usual channels of trade and intensified the urban business depression.

We have quoted L. H. Bean to the effect that "there has been a tendency for business to recover in periods of relatively low agricultural prices." He, however, has recognized that the agricultural situation of the early 1930's intensified urban business depression. We have the following from him written in collaboration with Mordecai Ezekiel in 1933:

> As the depression became more intense farmers reduced expenditures for all types of products, and sought to become more self-sufficing and to be less dependent on purchased goods. As farm purchases declined, men were thrown out of work in the city industries which produced those products, and in the city and rural agencies that distributed them to farmers. These men in turn cut down their expenditures, and threw still other men out of work. As the city buying power declined, the sums spent for domestic farm products declined with it. This reduced still further the farm buying power, and carried the vicious cycle of contraction on its way. . . . Successful action in correcting the price disparities, in restoring farm income, and in preventing the recurrence of unbalanced agricultural production will help to restore the proper functioning of the whole economic mechanism. It is greatly in the public interest that this be done.[1]

What conclusions are justified from these investigations? It appears that at least this much may be positively said: The oft repeated statement that general urban business cannot be prosperous unless the rural population is prosperous has not been proved. There is both historical and other evidence to the contrary. It does not necessarily follow, however, that low prices for farm products will result in urban prosperity. Urban prosperity, or the absence of it, is the result of a variety of conditions, a number of which have been discussed in the preceding chapter. Reduced farm purchasing power may add to maladjustments in urban industry and contribute to business depression. There can be little question that this was the case in the early 1930's. There are other reasons also why the city population cannot with safety ignore agricul-

[1] Mordecai Ezekiel and L. H. Bean, *Economic Bases for the Agricultural Adjustment Act* (U. S. Department of Agriculture, 1933), pp. 9 and 20.

tural financial distress of such severity as has prevailed during the early 1930's. On that we shall have more to say later in this chapter.

Is Rural Prosperity Dependent on Urban Prosperity?—Some who hold that urban prosperity is not necessarily dependent on rural prosperity nevertheless assert that rural prosperity is dependent on urban prosperity. This interpretation has been put on numerous statements issued by the U. S. Department of Agriculture and workers in that department, although the department has not expressed it in exactly the above words. Let us recall for a moment that it was L. H. Bean of the Department of Agriculture whom we quoted to the effect that "low prices of farm products have been followed by industrial prosperity and

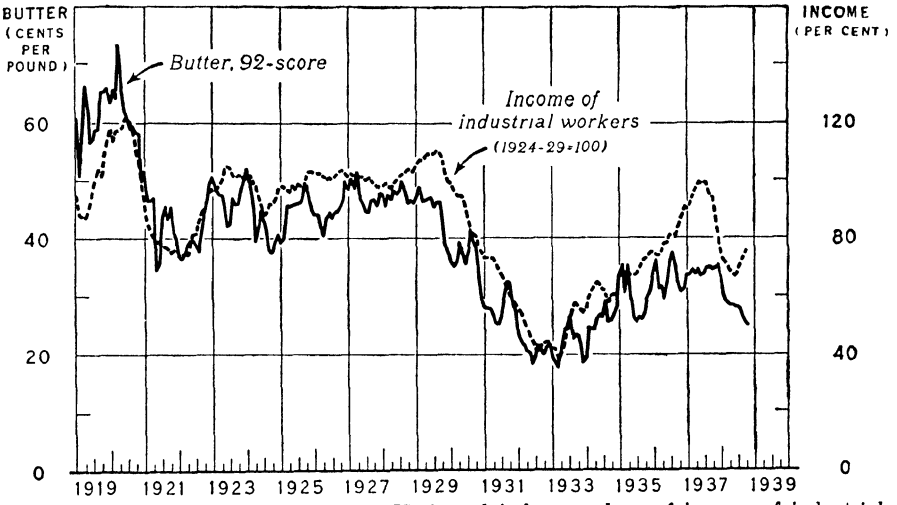


FIG. 51.—Price of butter at New York and index numbers of income of industrial workers in the United States, 1919–1939 (adjusted for seasonal variation). (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

high prices have been followed by business depression." Then let us note Fig. 51 and the explanation of it given by the Department of Agriculture. This chart shows that there has been a close correspondence between the total amount of industrial payrolls and the price of butter. In explaining the chart, the Department of Agriculture says: "Consumer purchasing power as reflected by payrolls is an important factor in butter prices. Short time variations in butter prices are caused by other factors, such as seasonal variations in supply and by storage demand." This chart and others like it, which have been widely published and exhibited to audiences, give the impression that the higher the rate of pay for city workers, the better it will be for those who have farm products to sell. That conclusion, however, is no more justified than the conclusion that a high price for butter causes large city payrolls. Let us analyze the situation in more detail.

What this chart (Fig. 51) fails to bring out is that the low city payrolls during the period shown were caused much more by unemployment than by low rates of pay to city people. City employers and workers and those in different city industries had not been able to agree in the bargaining. The city capacity to produce was largely shut down, though urban wage rates and prices of urban products had been but moderately reduced. Obviously, if 30 per cent or more of city people are unemployed, failing to produce because they cannot agree on how the returns from the results of production are to be divided among them, though wage rates and the prices of their products remain about the same, the capacity of city people to buy farm products is greatly reduced. And because prices of city products and services to farmers are not reduced to the same degree as farmers' incomes, persons engaged in commercial agriculture and other people who are dependent on their purchasing power suffer. The welfare of the rural inhabitant, indeed, demands that those engaged in carrying on different kinds of productive activity and also capital and labor in the city shall agree among themselves in regard to the division of the returns from their joint product, and that they shall carry on production. The farmer is, indeed, injured when 30 per cent of the city population are idle because they are engaged in a family quarrel concerning how much each shall receive of the income from production. Individuals in the city go without desired farm products, or buy them only at reduced prices, because those individuals, being unemployed, have little to give to the farmer in exchange for farm products. The farmer at the same time goes without the city products, which he would very much like to have, because what he has to spend for city products, which is the return from his own products, will buy only half as many city products as before, because of the fact that prices of city products have not been reduced to the same degree as prices of farm products. The reader should carefully note this difference in the effect of reduced city purchasing power on the farmer depending on (1) whether lack of city purchasing power is due to a shut-down or a great decrease in urban production without a comparable decrease in prices of city-produced commodities and services, or (2) whether it is due to reduced prices for city-produced commodities and services without unemployment. If it is the latter, farmers are benefited, not injured. The interest of the farmer lies in getting the greatest possible amount of city goods for a given amount of his goods.

Low Volume of Urban Production in Depression.—The low volume of urban production in 1932 and other depression years is graphically shown in Fig. 52. This chart shows production of manufactures, factory employment, and population growth in the United States from 1900 to 1939. It will be noted that, from 1900 to 1929, population increased about 60 per cent, whereas production of manufactures increased more than 200 per cent. Population increased at a rate of slightly more than

1.5 per cent per year. Output of manufactures grew at a rate of slightly more than 4 per cent per year. Output of manufactures per capita increased between 2 and 3 per cent per year. In 1932 output of manufactures, however, had dropped until it was no more above 1900 than was population. Output of manufactures per capita in 1932 was back to the 1900 level. Recovery in 1937 and in the last of 1939 brought manufacturing production nearly to the 1929 level.

The farm population is much interested in industrial recovery from the low levels of the early 1930's. This interest, however, should be centered on increased industrial production. Simply a "spread the work" or "divide the work" movement among the city population without an increase in industrial output will not be a solution to agriculture's

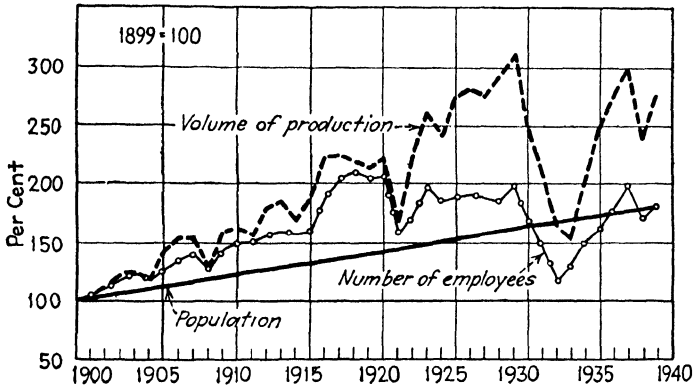


FIG. 52.—Production of manufactures, factory employment, and population, United States, 1899–1939. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

difficulties. Such a movement will require either higher prices for industrial products (if hourly wages are increased), because industrial entrepreneurs will have to pay higher costs to secure the same output; or it will mean no increased industrial output (and no lower prices for industrial products), and only the present purchasing power coming to those who secure their incomes from industrial production. Neither of these will correct the disparity existing between prices of agricultural products and prices of nonagricultural products; and the correction of that price disparity is essential to maximum agricultural prosperity.

Conclusion.—Finally, industry has a political interest in giving to the agriculturally employed a return for their labor which is not unduly unfavorable in comparison with the returns received by the urban population. No part of the nation can be unduly discriminated against by other parts without creating a threatening political situation. The Roman urban population profited for many years from the exploitation of the rural provinces. But finally the crushed, overtaxed, and exploited provinces added their wrath to that of the invading barbarians, and the

days of glory for the Imperial City were over. We may yet learn from that a lesson in social justice.

Questions and Problems

1. Explain and compare the terms *gross farm income, income realized by individuals from agriculture,* and *farm income available for operator's labor, capital, and management,* as used in Table 57.

2. How did incomes of farmers compare with incomes of other parts of the population from 1909 to 1914? How did they compare in 1919? from 1924 to 1928? in 1932? in 1937?

3. Which of the above named periods in your opinion most nearly represents a division of the national income which is both *fair* to the agriculturally employed and attainable in so far as agriculture is concerned? Justify your answer.

4. To what extent do you consider that the criticism by George M. Peterson of the usual comparisons of farm incomes with those of other parts of the population is justified?

5. How are the effects on industrial prosperity of a sudden decrease in agricultural incomes different from the effects of continuous low incomes for those engaged in agriculture?

6. Show that the interests of all parts of the urban population are not identical in regard to the conditions which result in rural prosperity or the reverse.

7. In what ways are the conclusions of Timoshenko, with respect to the effect of rural prosperity on urban prosperity, different from or more far reaching than those of Bean and Graue?

8. Summarize and evaluate the evidence in support of the conclusion that the depressed state of agriculture in the early 1930's intensified the business depression of that period.

9. How was American investing in foreign securities of assistance to agriculture during the 1920's?

10. Why is it possible that the chart showing the relation between factory payrolls and the price of butter may lead to erroneous conclusions?

11. Should the coincidence of rising agricultural income from 1935 to 1937 and of rising industrial activity be explained as a case of the effect of rising farm income on urban, *vice versa,* or neither?

12. Evaluate the spread-the-work movement in urban industry as a remedy for unemployment with respect to its effect on agricultural prosperity.

13. Evaluate proposals for a back-to-the-farm movement as a means of solving the cities' unemployment problem.

Suggested Readings

1. The publications to which reference has been made in the text of this chapter furnish probably the most valuable and readily available material on this subject matter.

2. Joseph S. Davis and O. C. Stine, "Prices of Farm Products," *Journal of Farm Economics,* April, 1933, is a valuable discussion with much attention to the question of *parity prices.*

3. John D. Black, "The Agricultural Situation, January, 1933," *Harvard Review of Economic Statistics,* Feb. 15, 1933, is a critical discussion of the usual comparisons of farm and other incomes.

4. Joseph S. Davis, in *On Agricultural Policy* 1926–1938 (1939), considers in a discriminating manner many aspects of rural and urban prosperity and the relationship between them.

CHAPTER XXVI

THE FARM PROBLEM AND THE GOVERNMENT

From the time of the first post-war collapse of prices in 1920–1921, an almost continuous demand has come from the rural regions that the government enact legislation which would supply assistance, or relief, or equality, or justice, to those engaged in agriculture. Urged on by the relatively low farm income, as well as by the growing philosophy that the government was responsible for the economic situation of agriculture and could improve that situation, the farming constituencies have elected Representatives and Senators to Congress pledged to various agricultural relief programs. Part of the delay in the passage of demanded legislation must be attributed to differences of opinion concerning the exact form of program desired. Much postponement of action was due to the fact that members of Congress from rural regions were not sufficiently numerous to force legislation through except by occupying a strategic position as an agricultural bloc, or by winning the support of legislators from urban districts, either through various "trades" or through convincing them of the cities' interest in the farmers' welfare.

The demand for *farm relief* during the 1920's was largely based on four claims: (1) that agriculture had not prospered to the same degree as other economic groups during the period subsequent to the World War; (2) that the government was to a large extent to blame for the unfavorable position of agriculture, because of the encouragement it had given to an expansion of agricultural production during the war period; (3) that prices of manufactured goods were artificially raised and maintained by the protective tariff, that transportation rates were maintained by the Interstate Commerce Commission, that other industries were assisted by similar favorable legislation, and that, therefore, equal treatment required that the government "make the tariff effective for agriculture," or in some other manner bring to agriculture a degree of prosperity equal to that enjoyed by other occupational groups; (4) that industry could not continue to prosper unless agriculture also prospered.

FARM RELIEF UNTIL 1933

Writers have mentioned[1] that at one time there were before Congress as many as thirty bills which aimed to correct the unfavorable farm

[1] Stockdyk and West, *The Farm Board* (1930), p. 25.

situation. A number of such bills became laws. In 1921 the following were enacted: (1) the Emergency Tariff Act, considered primarily an agricultural relief measure; (2) the Packers and Stockyards Act; (3) the Grain Futures Act; (4) the Agricultural Credits Act, extending the powers of the War Finance Corporation. Other measures, some of which have been mentioned in previous chapters, were passed in the following years. Among these were the Capper-Volstead Act of 1922 and the Intermediate Credit Act of 1923. These acts, however, were considered by the leading champions of farm relief and equality for agriculture as dealing only with minor features of the agricultural problem. The proposals for farm relief which had the most vigorous support of agricultural leadership and organized agricultural groups, especially up to the time of the enactment of the Agricultural Marketing Act in 1929, were: (1) the equalization-fee plan, especially championed by the Farm Bureau Federation, and presented in the form of a series of McNary-Haugen bills; and (2) the export debenture plan, which has at times been called the Grange debenture plan, because it was so strongly supported by the National Grange. The latter was presented to Congress as the Jones-Ketcham Bill. The equalization-fee plan, or McNary-Haugen Bill, twice passed Congress, though with somewhat different provisions. Each time it met the veto of President Coolidge, first in early 1927 and again in 1928. The debenture plan meanwhile had strong support. In the presidential campaign of 1928 candidate Hoover pledged himself in favor of effective farm relief, though not in favor of either of these two measures. Following his election there was enacted in 1929 the Agricultural Marketing Act, popularly known as the Farm Board Act. Following this enactment the advocacy of the equalization-fee and debenture plans subsided somewhat, largely for the reason that it was realized that neither could be passed over the presidential veto, though without doubt also because the efforts to carry out the provisions of the Agricultural Marketing Act attracted much attention.

In the 1932 campaign candidate Roosevelt also promised farm relief, and, though he did not definitely commit himself as favoring either of the two measures having greatest support from organized agriculture, he did not specifically condemn them. In fact, his speeches were interpreted as favorable to them. On May 12, 1933, two months and one week after Roosevelt's inauguration, the Agricultural Adjustment Act of 1933 became a law with his signature. We shall first give the essential features of the equalization-fee and of the export debenture plans. Next the Agricultural Marketing Act of 1929, already largely summarized in our discussion of agricultural credit, will receive brief additional attention. This will be followed by a consideration of the Agricultural Adjustment Act of 1933, and more recent legislation. Thereafter some attention will be given to other proposals for the future.

The Equalization-fee Plan.—This plan, as was true of some of the other plans, received its greatest impetus from those interested in wheat. Though applied in the McNary-Haugen bills to a number of other commodities, its features are best illustrated by applying it to wheat. An examination of how it would work with other commodities will reveal that different results would have followed attempts to apply it to different products. It appears quite inapplicable to cotton, and with hogs and pork its administration would have been more difficult than with wheat.

The advocates of the plan maintained that it was a method of "securing equality for agriculture in the benefits of a protective tariff." The objective was to make the tariff effective on a commodity on an export basis. In one proposed method of using the plan, this was to be done in the following manner: A Farm Marketing Board was to be created. That board was to buy enough of the product to elevate the domestic price to the proposed fair exchange value, or to the price prevailing outside the United States plus the tariff. Imports would be kept out by the tariff. The board was to sell its purchases in the world market outside of the United States at prevailing prices, which would result in a loss to the board. The funds to recompense the board for such losses were to be secured from the *equalization fee.* A buyer of wheat from a farmer, for example, would be required to pay to the farmer on each bushel as part of the purchase price a definite amount of *scrip* or *equalization certificate.* This he would be required to buy from the government, the money received to go to the Farm Marketing Board. Let us assume that on wheat this fee was 40 cents per bushel. All wheat marketed would pay the fee. Assuming that 660 million bushels paid it, a fund of 264 million dollars would be created. If the amount of wheat exported should be one-third of the amount marketed, the board would take a loss equal to the difference between the domestic price with equalization-certificate cost included and the world-market price, let us say 40 cents per bushel, on 220 million bushels. This would make the total loss on wheat 88 million dollars. Assuming that the board's administrative expenses as to wheat were 2 millions, it would have left the difference between 264 million and 90 million, or 174 million dollars. The farmers at the end of the year would have the privilege of presenting to the proper authorities their equalization certificates and securing additional money in the ratio of certificates issued to the money available. With certificates for 660 million bushels issued and 174 million dollars available, this would give the farmer an additional payment of about 26 cents per bushel. If the plan worked as its sponsors anticipated, the farmer would have secured for his wheat the price justified by world markets and 26 cents per bushel in addition, in contrast to only the price justified by world markets without the plan. Consumers in this country would have paid for wheat 40 cents per bushel more than without the plan.

It should be noted that, if the plan was to be effective, the gains from higher prices with decreased sales in the domestic market would have to be greater than the losses from lower prices with increased sales in the foreign market. Because four-fifths of the world's wheat supply is produced and consumed outside the United States, it was assumed that the selling of an increased amount of wheat abroad would lower the foreign price much less than it would raise the domestic price. Also, because twice as much of the supply produced in this country (exclusive of that used for feed and seed) was domestically consumed as was exported, it was assumed that the price decline from increased sales abroad would apply to only half as much wheat as the price increase on the part domestically consumed. It is in these respects that cotton presents a situation quite different from wheat, because nearly half the nation's cotton production is exported and the United States normally produces more than half of the world's cotton supply. With cotton the plan might easily have resulted in foreign prices being lowered more than enough to offset higher domestic prices. With wheat the same result would have followed if the plan had resulted in greatly increased foreign tariffs against wheat from this country. The plan anticipated no difficulty in finding export markets, it had no provisions for meeting the situation in case export markets should be closed to products from this country, and it placed no effective restraint on increased production. Under the conditions which later developed, these shortcomings would have been very serious defects and would have caused results very disappointing to those who had great faith in the plan.

The Export Debenture Plan.—The debenture plan resembled the equalization-fee plan, but was simpler in administration. It provided that *debentures* for a given amount should be issued to those exporting the commodities to be benefited. The word *debenture* was used to refer to a form of export certificate. Assuming the amount of the benefit to be paid on wheat to be fixed at 30 cents per bushel, debentures for this amount would be issued to exporters on all wheat cleared for export. The tariff would keep the wheat from being reimported. The debentures were to be received at face value in payment of all customs duties on imports, and to be negotiable, or transferable for value. This would give them a market value of practically their face value, unless the amount issued exceeded the customs duties payable. The plan, therefore, called for the equivalent of an export bounty. Exporters, being able to secure not only the world-market price but the export bounty in addition would, in the opinion of the advocates of the plan, raise their bids for wheat for export by roughly the amount of the bounty, and as a result the price on the part of the crop not exported would also be raised by that amount. The supporters of this plan urged that it

would be more effective than the equalization fee and much more easily administered.

Defense of, and Objections to, Equalization-fee and Debenture Plans.—Most of the arguments for the equalization-fee and debenture plans have already been stated. In general, it was urged that an important reason why the United States was more prosperous than other countries was the protective tariff, and that these devices would bring under its beneficent influence those agricultural commodities of which we produce an exportable surplus. The farmer would no longer have to compete with cheap foreign-produced products with respect to his sales for domestic consumption.

The objections to the plans were for the most part summarized in the President's veto messages of the equalization-fee plan. They included the following: (1) the plans would be regarded by foreign nations as export dumping and would be made ineffective by anti-dumping legislation abroad; (2) they would encourage increased domestic production and for that reason would augment the underlying cause of existing difficulties; (3) they would constitute government price fixing, which was considered fundamentally unsound, despite the fact that the plans were no more in the nature of price fixing than is an effective "protective" tariff; (4) the equalization-fee plan could not be effectively administered; (5) there would be disadvantages to other parts of the population. The last mentioned point was expressed by Secretary Mellon in an official letter as follows:

> Foreign consumers under the proposed plan will secure American commodities at prices below the American level. European labor could purchase American products at a lower price and could live more cheaply than American labor. Foreign industrial costs would be lowered and the foreign competitor assisted in underselling American products abroad and in our home market.[1]

Secretary Mellon and others who made this objection did not point out that an effective protective tariff increases the costs of the protected goods to other parts of the population and makes it harder for those who must pay these higher prices to compete in the world market. American wheat and cotton growers, for example, having to pay higher prices for aluminum and other protected articles because of a tariff on those articles, are put in the same position in which Secretary Mellon pointed out that this proposal would put those compelled to pay higher prices for farm products because of it.

The Agricultural Marketing Act and Farm Board.—The purpose of the Agricultural Marketing Act of 1929 was stated in the act as follows: "to establish a Federal Farm Board to promote the effective merchan-

[1] John D. Black, *Agricultural Reform* (McGraw-Hill, 1929), p. 248.

dising of agricultural commodities in interstate and foreign commerce, and to place agriculture on a basis of economic equality with other industries." The statement of policy of the act shows that it was proposed to place agriculture "on a basis of economic equality with other industries" primarily by two methods: (1) by encouraging cooperative marketing by farmers; and (2) "by aiding in preventing and controlling surpluses in any agricultural commodity."

Cooperative marketing was to be encouraged by promotional and educational work by the board and also by lending money to cooperative associations on favorable terms from the 500-million-dollar revolving fund provided by the act. Surpluses were to be prevented and controlled by educational and publicity work, through cooperative associations, and through stabilization corporations, "so as to maintain advantageous domestic markets and prevent such surpluses from causing undue and

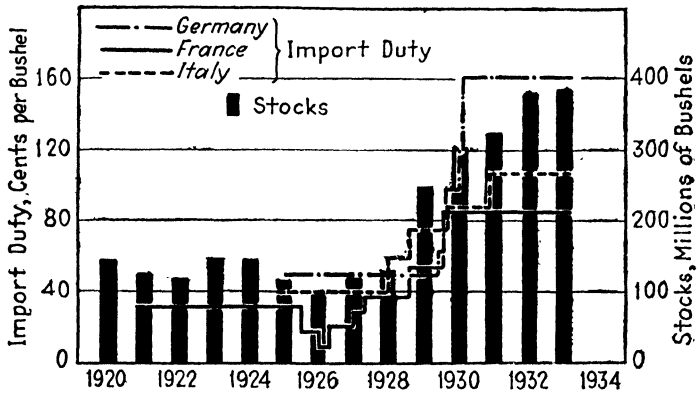


FIG. 53.—Foreign import duties on wheat, and United States stocks of wheat, July 1, 1920–1933. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

excessive fluctuations or depressions in prices for the commodity." The board was authorized to make loans to stabilization corporations from the 500-million-dollar revolving fund. Though sundry other powers were granted to the board, greatest reliance was placed in those above mentioned and little use was made by the board of its other powers.

The money-lending and stabilization activities of the board have been recounted in our chapter on Agricultural Credit. The board tried by exhortation to induce farmers to reduce their production, but without success. It did promote the development of cooperative marketing. It especially encouraged large cooperatives, either national or regional in scope.

The board was unable to prevent further marked declines in the prices of farm products, both absolutely and in relation to the prices of commodities bought by farmers. Though it won the friendly support of the cooperatives to which it lent money at very low rates of interest, there

was a general recognition by the end of 1932 that its efforts to maintain satisfactory prices for agricultural products by stabilization corporations had been a failure. This, of course, does not prove that under the prevailing world conditions any of the other proposed plans would have been successful. The problem with which the board had to deal in connection with wheat is shown in part in Fig. 53.

In its 1931 *Annual Report* (page 61) the board said:

> Stabilization involves selling as well as buying; producers must face this fact. Many people have thought "stabilization" means to hold the price permanently higher than it would otherwise be. This can not be done without control of production. The experience of the board shows that with the existing organizations and legislation it is not yet possible to control agricultural production. Farmers decide individually what to grow on their farms; only a minority have been able to follow the board's suggestions. So long as farmers do not make the necessary readjustments, emergency stabilization measures can give only temporary relief.

In its 1932 *Annual Report* the above statement of a year before was repeated, and the following was added: "Stabilization costs must be paid by someone. To help farmers, they would have to be paid by others, either in higher prices or higher taxes. The agricultural marketing act makes no provision for paying the costs on a permanent basis, other than from the limited revolving fund."

We have mentioned in Chap. XXIV the abolition, in 1933, of some of the powers of the board and the transfer of those not abolished to the Farm Credit Administration. We now turn to the Agricultural Adjustment Act of May 12, 1933 and later events.

THE AGRICULTURAL ADJUSTMENT AND SOIL CONSERVATION ACTS

The Allotment Idea.—In 1926 and 1927 a plan of farm relief which later became known as the Domestic Allotment Plan began to receive publicity in the press. By this plan it was also proposed to use the power of the government to raise prices for products on an export basis and on which, therefore, a tariff was ineffective. The basic principle of the plan was that each producer should be allotted an amount of product to be produced, in most cases equal to the same percentage of his total production during some previous period of years as the nation's total domestic consumption was of its total production. If 75 per cent of the nation's production of the product was domestically consumed, each producer was to be alloted 75 per cent of the amount he produced during the period of years used as a base. In general, it was contemplated that the plan would be so operated that for his allotted amount the producer should receive the price based on the world market and something additional. For all produced in excess of this amount he should receive only a

price based on a free market, in most cases the world or export market. The allotment device was designed to prevent increased money receipts by producers from resulting in increased production. This plan became an important feature of the Agricultural Adjustment Act.

Contributing Events.—Events which led to the passage of the Agricultural Adjustment Act as well as to the agricultural-credit legislation enacted at the same time have been frequently mentioned. A few of these events may well be repeated or stated in greater detail at this time. By early 1933 the prices of farm products had declined so much more than the prices of commodities bought by farmers that all farm

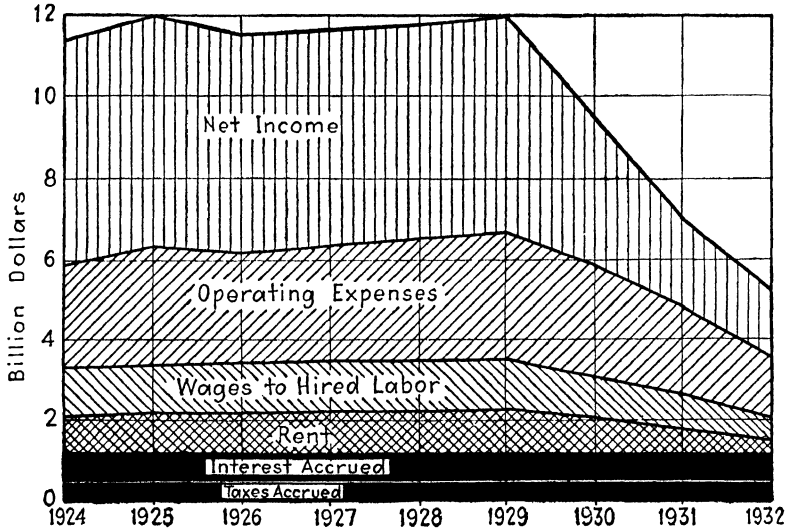


FIG. 54.—Gross farm income and expenditures. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

products possessed a purchasing power over commodities bought amounting to little more than half of such purchasing power from 1925 to 1929. The purchasing power of grain had declined to one-third that of 1925–1929. After paying for operating expenses, farmers had available as the combined return for their labor and capital in 1932 less than one-fourth as much as from 1925 to 1929 (see Fig. 54). The money return from these sources and available for living expenses in 1932 averaged only about $200 per farm. Huge surplus carry-overs of wheat and cotton had accumulated, and foreign countries were putting increased restrictions on their imports of farm products (see Fig. 53).

In explaining the causes of this situation, H. R. Tolley, assistant administrator of the AAA, in an address delivered in January, 1934, said:

During the World War some 50 million acres in Europe, not counting Russia, went out of cultivation. The United States brought about 40 million more

acres into cultivation and geared up its whole farm plant into a higher production. After the war we kept it up. We kept on farming as if there were still great hungry foreign markets crying for our crops. In reality, such markets were rapidly dwindling. The world owed us money; we would not accept goods in return. With our tariff wall as it was, and still is, the only way we could keep up the appearance of a great foreign custom was to lend those other nations more and more money with which to keep on taking our food and fabrics. This is what we did until about 1928. Finally we got sense enough to quit it; the false front of our foreign markets at once collapsed; and we had at last to face the fact that we were farming at least 40 million acres too much land.

The Agricultural Adjustment Act of 1933.—This act stated the objective of Congress to be the reestablishment of prices for farm products which would give these products a purchasing power with respect to articles that farmers buy equivalent to that possessed in some previous period of favorable prices, commonly designated as a period of *parity prices*. That period for all commodities except tobacco originally was from August, 1909, through July, 1914. For commodities designated as "basic" this objective was to be accomplished primarily by the levying of processing taxes and the making of benefit payments. Rental or benefit payments were to be made by the Secretary of Agriculture to farmers for reductions in acreage or reductions in production for market. To provide the revenue to make these payments, the Secretary was authorized to levy processing taxes on the first domestic processing of any commodity on which rental or benefit payments were to be made. For any commodity, whether designated as basic or not, the Secretary also was authorized to enter into marketing agreements with processors, associations of producers and other handlers, or to license all these, in order to eliminate unfair practices and to promote the objective of the act.

To administer the act the Secretary organized the Agricultural Adjustment Administration, which has become known as the AAA. In the first year, programs were undertaken for five of the seven commodities originally designated as basic. Farmers who wished to receive rental or benefit payments were required to organize production-control associations. Through these the farmers were given "allotments" of acres or products, and as individuals they were privileged to enter contracts with the Secretary to limit their production to these allotments. If they carried out their contracts, they received benefit payments. During the first year about three million farmers, nearly half of the total of the nation, became members of production-control associations, and received about 250 million dollars in benefit payments for practicing production control.

Loans also were made to farmers to withhold crops from markets. Thirty-five marketing agreements with processors and handlers had been

placed in effect by February 1, 1934, and, in connection with twenty-nine of these, dealers were licensed.

In the first half of 1934, the Jones-Connally Cattle Act, the Bankhead-Jones Cotton Act, the Kerr-Smith Tobacco Act, and the Jones-Costigan Sugar Act also became laws. The first of these provided by direct appropriation $250,000,000 for surplus reductions and disease elimination in the dairy- and beef-cattle industries. It also increased the list of commodities designated as *basic*. The next two acts revised the Agricultural Adjustment Act of 1933 for cotton and tobacco, especially in that they made production control or marketing control compulsory instead of voluntary. Provision was made for individual marketing quotas for all producers of cotton and tobacco, and taxes were imposed on quantities marketed in excess of these quotas. For sugar a processing tax was placed on imported as well as domestic sugar, and provision made for production control by means of benefit payments. In 1935 the Warren Potato Act, similar to the above-described cotton and tobacco acts, became a law.

During the year 1934, total government benefit payments to farmers on all commodities amounted to 447 million dollars, and during 1935 to 573 million dollars. On Jan. 6, 1936, the Supreme Court, in the *Hoosac Mills* case, declared unconstitutional and invalid the contracts for the production-control and the processing-tax features of the Agricultural Adjustment Act of 1933. Thereafter the acts providing for compulsory production-control were repealed.

The Soil Conservation and Domestic Allotment Act of 1936, the Sugar Act of 1937, and the Marketing Agreement Act of 1937.—On Feb. 28, 1936, within eight weeks after the Hoosac Mills decision, Congress enacted the Soil Conservation and Domestic Allotment Act of 1936. Under this act benefit payments are made to producers out of general treasury funds for shifting from such "soil-depleting" crops as cotton, corn, wheat, tobacco, and rice to such "soil-conserving" crops as grasses and legumes and for carrying out certain other soil-building practices. The administration of this act also was placed in the hands of the Secretary of Agriculture.

Under its provisions "goals" of desirable acreages of different "soil-depleting" crops, considered sufficient to provide adequate supplies but less than previous acreages, and also "goals" of soil-conserving crops, were worked out for the nation, and for states, and were allocated to different farms by county and local committees. Farmers who did not exceed the goals for soil-depleting crops and who attained the goals for soil-conserving crops and practices have received payments for their contribution to soil conservation. A fund of 500 million dollars per year was appropriated to make the payments and carry out the other purposes of the act.

A new sugar act became law in 1937. This established quotas of sugar to be produced in the United States and each of its sugar-producing territories and possessions and to be imported from the Philippines and Cuba. An excise tax of 50 cents per 100 pounds, raw value, was placed on all domestic and imported sugar. Restrictions were placed on child labor and minimum wages. The act contains also provisions for preventing soil erosion, for the preservation of soil fertility, and for other matters. Conditional payments to producers who observe its provisions were authorized at a basic rate of 60 cents per hundred pounds, raw value, equivalent to about $1.90 per ton of sugar beets.

The marketing-agreement provisions of the Agricultural Adjustment Act of 1933 were not as a whole declared invalid in the Hoosac Mills decision of 1936. Nevertheless, in 1937, a new Marketing Agreement Act was enacted, designed to strengthen the marketing-agreement provisions of the original law. By it, marketing agreements are limited to designated commodities, including fruits and vegetables with designated exceptions, milk, and a few other products. For any of these commodities the Secretary may, after a public hearing, if he concludes that such procedure will promote the purposes of the act, enter into a marketing agreement with handlers or issue orders (of designated kinds, and no others) designed to promote an approach to "parity" prices. If orders are to be effective, however, the Secretary must determine by means of a referendum vote that their issuance is approved or favored by two-thirds of the producers of the commodity, or the producers of two-thirds of the total volume within the marketing area specified in the marketing agreement. For milk, but not for other products, the Secretary may, under the conditions stated, issue orders fixing minimum prices to producers. For other commodities, orders may be issued limiting (as a whole, or by grades or quality) the quantity which may be shipped in interstate commerce, and establishing maximum quotas which may be handled by different dealers. Such orders, properly issued and approved, have the effect of law.

The Agricultural Adjustment Act of 1938.—In February of 1938 Congress enacted the Agricultural Adjustment Act of 1938, which is broader in scope than any previous farm-relief legislation. Among its most significant provisions are the following:

1. The soil-conservation program is continued, though modified for the purpose of strengthening it.

2. National acreage allotments are provided for cotton, wheat, corn, and rice, and under certain conditions marketing quotas are provided for these products and also tobacco. Methods of calculating these allotments differ for the different commodities. With wheat the national acreage allotment for any year is such as will normally make available from production and carry-over from the previous year a supply equal to 130 per cent of a normal year's domestic consumption and exports.

The allotments are apportioned to states and counties, and within the counties are apportioned among individual farmers through county and community committees. Farmers who do not exceed their allotments are designated *cooperators* and are granted certain privileges which are not available to noncooperators.

3. Storage loans through the Commodity Credit Corporation, which were instituted under the Act of 1933, are continued. Under certain conditions such loans are made available to all producers of the products, but, under other conditions, only to cooperators.

4. Marketing quotas may be established in years when surpluses exceed certain specified amounts which are considered excessive. Such quotas may not be put into effect without a referendum vote of all the producers of the commodity for which they are proposed, and to be put into effect must receive the approval of two-thirds of those voting. Penalties are provided for farmers who market amounts in excess of their quotas in case such are declared in effect.

5. Additional parity or price-adjustment payments to producers of corn, cotton, wheat, tobacco, and rice are established for cooperators if money is later appropriated for that purpose. For such payments to cooperators in the 1939 program $212,000,000 was appropriated in June, 1938.

6. For wheat a system of crop insurance against losses in yields was established.

7. A limit is established at 25 per cent of the total funds that may be available in any year under Section 32 of the amended original Agricultural Adjustment Act as the maximum that may be devoted to any one commodity. Section 32 of the original Agricultural Adjustment Act as amended in 1935 provides that 30 per cent of annual customs receipts of the nation may be used to purchase surpluses and to stimulate domestic consumption and exports. Under the provisions of this section surplus commodities are purchased and given to relief organizations, and exporters are compensated for having removed surpluses by selling in foreign markets at prices below domestic prices.

The Ever-normal Granary.—A combination of several features of the Agricultural Adjustment Act of 1938 has been designated by those who have promoted this legislation as provision for an "ever-normal granary." Secretary Wallace has defined the ever-normal granary as "a definite system whereby supplies following years of drought or other great calamity would be large enough to take care of the needs of consumers, but under which the farmer would not be unduly penalized in years of favorable weather." The provisions purporting to promote this objective include: (1) government-financed storage of certain of the staple farm products, in substantial volume; (2) commodity loans to growers in years of large crops to encourage them to withhold parts of these crops from the market; (3) releasing portions of the stored stocks in years of crop shortages; (4) production controls to prevent stored stocks from becoming too large; (5) marketing quotas in years of large stocks to prevent too large a portion of these stocks being marketed; (6) crop insurance, with the premiums against crop failure being paid in the form of part of the crop, and stocks thus accumulated being released as compensation for losses in years of crop failure. Both the appropriateness of calling the results of these provisions an *ever-normal granary*, and the need for such an ever-normal granary, have been questioned by economists of distinction.

A special section of the AAA is called the Division of Program Planning. Through this division plans for future programs are prepared. In cooperation with state agricultural colleges, studies are made of the types of agriculture which are found in different regions of the nation and of each state, and of changes or adjustments considered to be desirable in the promotion of soil conservation and more economic agricultural practices. In cooperation with the agricultural extension services in the different states there have been organized county planning projects, in which county and community planning committees of farmers undertake to study existing and proposed programs and to make recommendations for changes in the programs of the U. S. Department of Agriculture. In this way it is hoped to keep the programs adapted to different local conditions as well as to changing general conditions.

THE PAST AND THE FUTURE

Laissez Faire and Planning.—In considering the relations of the government to agriculture, and to other parts of our economic life as well, attempts are often made to designate the nation's economic policies in the past as *laissez faire* and to advocate for the future a policy of economic planning. As we have previously mentioned, laissez faire means to leave the matter to work itself out, without government or other outside interference. This expression dates its popularity from its use by the French physiocrats from 1750 to 1775, in their vigorous protests against the extreme interference with individual liberty and the extreme regulation of all economic matters, which at that time were practiced in France under mercantilism. Adam Smith in 1776 protested against the same sort of regulation in England, and his protests had great effect in succeeding years on English economic life.

The student should note that *laissez faire*, *social control*, and *economic planning* are all policies which may be applied in different degrees and in different ways. No nation ever has practiced absolute laissez faire in economic matters. Every nation has always attempted to some extent to protect the weak against the strong and the unscrupulous. Neither has any nation ever existed which has not practiced some measure of economic planning. In the history of the United States the Louisiana Purchase, the homestead laws, the land grants to the railways, the Interstate Commerce Act, the grain and cotton stabilization corporations, the Federal Reserve System of banking, and above all our protective tariff laws, are examples of economic planning. Our methods of taxation, the anti-trust laws, the regulation of public utilities, the encouragement of better agricultural practices through experiment station research, and our former prohibition laws are all examples not only of social control but of economic planning.

In *New Russia's Primer*, which is the American translation of a text book used in Russia to teach the school children of that land to have faith in the kind of economic control practiced in that country, and to despise the system of economic life prevailing in this country, the children are told: "In America they work without a plan. We have a plan." Russia does have a plan. And the government possesses and exercises the power of forcing all to comply with that plan. The government has frequently made striking changes in its plan. But the individual in Russia has little to say in regard to what shall be produced in that country, or how the results of production shall be divided. The government quite completely decides that; and in Russia the government represents not the majority of the people who have selected representatives in an election held after free discussion; it represents the views of the leaders of the Communist party. Individuals are not permitted freely to express their views on economic matters. Careful observers have said that in Russia every teacher, every newspaper, and every motion picture tells the population the same thing about economic matters. To advocate a different system is considered treason and is severely punished. Peasants who have not cooperated have been deprived of their grain and left to starve.[1]

In Italy and Germany there is planning by an individual dictator. Of such planning more will be said in the closing chapter. Here these facts are mentioned to emphasize that planning may have more than one meaning.

Plans depend on human beings. The United States has not in the past practiced complete laissez faire in the sense of allowing complete freedom of the individual, or of taking no public action which would influence economic results. Neither will it practice that type of laissez faire in the future. No reputable economist believes in that kind of laissez faire, though sensational critics attempt to give that impression. There can be little doubt that in the future we shall have less laissez faire and more social control than we have had in the past. This, however, does not guarantee that all efforts at social control will be wisely undertaken and directed. Nor does it prove that some matters may not in the future work themselves out most advantageously by allowing the forces of competition or laissez faire, whichever we may wish to call it, to operate. Unquestionably we shall plan for the future; the problem is to plan wisely.

[1] Reliable investigators have estimated that during 1932 and 1933 several million people died of starvation in southern Russia. The famine was largely the result of the government collecting from the farmers so much food as not to leave enough to support the population of those regions which had not sufficiently cooperated with the government in its collectivist farming program, and refusing to grant relief or permit its being supplied by others.

Is the AAA Program Justifiable and Practicable?—The AAA program has been much criticized because it provides for restricting production when the wants of people are unsatisfied. There is legitimate ground for criticism of restricted production in general. Restricted production in agriculture can be justified only because unbalanced production has resulted in unbalanced prices which are decidedly unfair to agriculture. The available data support the view that such was the situation during the early 1930's.

There is ground for questioning whether with present world and national conditions the *price parity* of the Agricultural Adjustment Act (that is, prices which will give agricultural commodities a purchasing power with respect to articles that farmers buy equivalent to their purchasing power during 1909–1914) is attainable in the near future by the proposed means or any other means in harmony with the general welfare. In fact, parity prices would, in some instances, be disastrous for agriculture. An excellent illustration occurred in 1937 when wheat prices rose, but not up to parity level, with consequence that the wheat acreage rose by a third and reached the highest point in our history. Nor is it absolutely certain that the full return to such *price parity* is essential to reasonable justice for agriculture. On the other hand, if greater technical improvements have taken place in nonagricultural production than in agricultural production since 1914, this may mean that 1909–1914 parity prices will not do full justice to agriculture. In no case can it be well questioned that the early 1930's represented an unjustifiable disparity.

If 1909–1914 represented fair price parity, the 1923–1929 period represented an unfair price relation. During the last mentioned period, however, agriculture does not appear to have been *absolutely* worse off than during the 1909–1914 period. It appears merely to have secured less of the advantage from improvements in technique during the intervening period than did the remainder of the population. According to King's estimates, the realized net income *per farmer from agriculture* for the 1924–1927 period was 107.7 per cent of this income for the 1910–1914 period, both expressed in 1913 dollars. According to his estimates, the average wage-earner's and average factory-worker's incomes in the 1924–1927 period were 119.4 and 122 per cent, respectively, of the 1909–1914 income, both also expressed in 1913 dollars. Thus the idea of *parity incomes* which is emphasized in the 1938 act appears more proper. It is doubtful, however, that adequate data are available by which to measure parity net incomes of particular groups.

One criticism frequently made against the AAA program of relief for agriculture is that in supplying grants from public funds to those in distress it also has distributed large payments to those who were not in need. This is a legitimate criticism, which calls attention to a defect

of nearly all systems of subsidy, including, for example, the tariff. Closely related to that is objection to the practice of making large payments from public funds over long periods to an industry to enable more people to remain in it than are needed in that industry. If prices of some products are relatively too low in comparison with others this is evidence that the low-priced products are relatively overproduced. People should change from producing the products which are not in strong demand to producing something else for which there is more demand, as evidenced by relatively higher prices. That is the way in which a proper balance in production under a system of free enterprise is supposed to be maintained. But such a policy requires that the door to other occupations be not closed by restrictions by the government or by various organized groups. It assumes, in general, an "open-door policy" in industry and industrial employment. In recent years both the policy of the government and that of other economic groups have been away from such an open-door policy.

There are two methods of getting people to do certain things which are desired. One is to reward or pay them, the other to punish them for not doing what is desired. The AAA to date has relied mostly on the first method, and for that reason has not had great trouble with enforcement. If more use is made of compulsory methods, such as marketing quotas, more trouble in enforcement may be encountered.

Exactly how far the government of a nation should carry such a program as that of the AAA is a question which we shall not attempt definitely to answer at this point. The AAA program is neither all good nor all bad. How far it should go will depend somewhat on the conditions at the time and also on other policies of the nation, including policies on issues which we have discussed in the preceding pages and on others which we shall consider in the pages to follow.

Other Proposals to Aid Agriculture.—Plans which are advanced for improving the future condition of those engaged in agriculture are too numerous for us to attempt to enumerate with any approach to completeness. In this chapter attention has been concentrated upon some of the plans most advocated in the recent past and in the process of being tried at present for the purpose of bringing about price relations more favorable to agriculture. Other relations between the farm problem and government include such matters as taxation, foreign trade and the tariff, transportation, banking and finance, marketing, and monopoly in urban industry. We shall mention at random a few of the many proposals which have received considerable support as policies which the government should adopt: (1) guarantee to all or most farmers their costs of production; (2) declare every type of business a public utility and regulate its prices; (3) declare fluid-milk distribution (or any other particular industry in which the person proposing the plan is especially interested)

a public utility, and fix *fair* prices; (4) government ownership and operation of railways; (5) government ownership and operation of all banks; (6) a maximum thirty-hour work week; (7) a maximum four-hour work day; (8) the government to refinance all farm mortgages at 1.5 per cent interest to the extent of double the amount per acre in the past loaned by the Federal land banks; (9) the government to cease paying interest on bonds, and to secure funds when expenses exceed income by issuing paper money instead of bonds; (10) reduction of taxes on land, and heavier taxes on incomes and inheritances; (11) government confiscation of all incomes above a limited amount; (12) raising a large part of local revenues by a general sales tax; (13) free trade; (14) complete prohibition of imports of anything which may be produced in this country; (15) the government to take all submarginal lands out of use by purchasing them; (16) a general back-to-the-land movement with a self-sufficient type of farming; (17) a change from voluntary allotment to compulsory allotment, with the licensing of all producers, permitting each one to produce or market only a quota of product assigned to him.

If the preceding part of this book has enabled the reader to judge somewhat better than he could otherwise have done the degrees of merit possessed by the proposals listed above, and other proposals of which he will read and hear, a part of the purpose for which the book was written will have been accomplished.

It should never be overlooked that the economic welfare of farmers is indirectly affected by governmental action other than that which applies to farmers directly. Among such influences on agriculture are other features of the New Deal, which will receive consideration in Chap. XXIX.

Questions and Problems

1. Summarize the conditions which led to the widespread agitation for farm-relief legislation during the 1920's and the early 1930's.

2. State the essential features of the equalization-fee and debenture plans for farm relief, and give your conclusions as to the degree to which these measures would have accomplished the results which their sponsors apparently expected from their enactment into law.

3. What was the declared purpose of the establishment of the Federal Farm Board, and what did it accomplish?

4. What is the declared purpose of the Agricultural Adjustment Act, and what are the two chief methods provided in the act for the accomplishment of that purpose?

5. Summarize the events as to crop reduction and benefit payments under the Agricultural Adjustment Act during the first year it was in effect.

6. Summarize the events which have occurred under it since the first year.

7. Summarize all events to date under agreements with processors and handlers.

8. Contrast economic planning as it has in the past been applied to agriculture in this country with economic planning in Russia.

9. What is the most recent legislation which has been passed for the purpose of benefiting agriculture or giving justice to farmers? Summarize it.

10. Outline the chief features of a legislative program which you think would most promote agricultural prosperity.

Suggested Readings

1. John D. Black, *Agricultural Reform* (1929) is the best summary and discussion of proposed agricultural relief programs up to the time when it was written.
2. The first, second, and third *Annual Reports* of the Federal Farm Board furnish much information about its undertakings and the results attained.
3. Various publications cited on previous pages furnish information concerning the income and changes in income of those engaged in agriculture and other occupations.
4. *Economic Trends in Agriculture* (July, 1933), *Economic Bases of the Agricultural Act* (December, 1933), and *Agricultural Adjustment* (1934)—all by the U. S. Department of Agriculture—furnish much information about the agricultural problem and the operations of the AAA during its first year. These may be secured at small cost from the Superintendent of Documents, Washington, D. C.
5. Various issues of the *Journal of Farm Economics* will furnish information on recent developments and contain discussions of controversial matters.
6. The Brookings Institution, Washington, D. C., has published a series of books and bulletins dealing with special phases of the AAA.
7. The AAA, Washington, D.C., has published and publishes currently much material, which is freely available, explaining and justifying its program and policies.
8. Joseph S. Davis, *On Agricultural Policy* 1926–1938 (1939), covers a wide range of material on the subject and probably constitutes the best published discussion of recent agricultural policy by one who believes that much of it has been unwise. The contents of several chapters from this book were published in the *Journal of Farm Economics*, November, 1937, and in other issues.
9. Jules Backman, *Government Price Fixing* (1938) analyzes a number of attempts at raw-material price fixing both here and abroad.

CHAPTER XXVII

LAND UTILIZATION

The contrast between the old land problem of the world and the newer land problem of the United States is a shift from the pessimism based on shortage of available land to a pessimism based on surplus land in use. Though the land problem has aspects other than simply that of excessive tilled area and submarginal lands, the prolonged period of depressed agricultural prices since 1920 has concentrated attention on the question of the use of land. The age-old worry of man had been that of a shortage of good, well-favored land. The wanderings of the Israelites illustrate this search for a "land of milk and honey." The small amount of arable land available to the medieval villein further indicates the nature of the old land problem. The writings of Malthus and most of the earlier classical economists were dominated by the pessimism of the pressing population problem and land shortage. Even in 1900, Sir William Crookes attracted widespread sympathetic attention when he forecast a world wheat shortage by 1931! In contrast to this pessimism, some nineteenth century American writers, notably Henry C. Carey, influenced by proximity to the unused West, were quite optimistic.

By 1920 at least the economic land problem in this country had changed from the task of 1850—getting land into use—to the pressing need of 1933—putting land to its proper use, and then using it properly. Three considerations have contributed to the growth of interest in, and action with regard to, land use. First, this present attitude among students is due in a large part to the realization that the rapid bringing of land into use was uncontrolled and short-sighted exploitation. It was exploitation in that it encouraged "soil mining," the removal of timber and the turning of the land into farms, the excessive grazing of semiarid lands, and other unwise use of natural resources. Out of these facts came the *conservation movement*, started in the latter part of the last century. Second, the rush to put land into use was uncontrolled, not only in that it led to exploitation, but also in that lands were put to improper uses—uses for which they were fitted neither by physical characteristics nor by environment. This phase of the land-use problem has aroused most public interest, especially with respect to *submarginal land.* The chief consequence of uncontrolled land use has been the turning of good forest or grazing land into poor crop land, or its urban counterpart, putting good farm land into vacant city lots. Third, a

genuine land-utilization movement, which includes private land at least in part, would have been impossible were it not for the breakdown of the extreme individualism of earlier decades and the present willingness to increase social control over private economic activities when for the public good.

The conservation movement and the more recent issue of putting land to its proper use have been combined into one term, *land utilization.* In this chapter on land utilization, we shall be concerned primarily with rural uses of land, and particularly with agricultural uses, touching upon forestry as it affects farming. Other types of land use will be referred to only as necessary to present the whole picture of land use.

THE PRESENT AND POTENTIAL USES OF THE NATION'S LAND

Major Uses.—The further study of land utilization must rest in part on a knowledge of the present uses of the nation's land resources, both

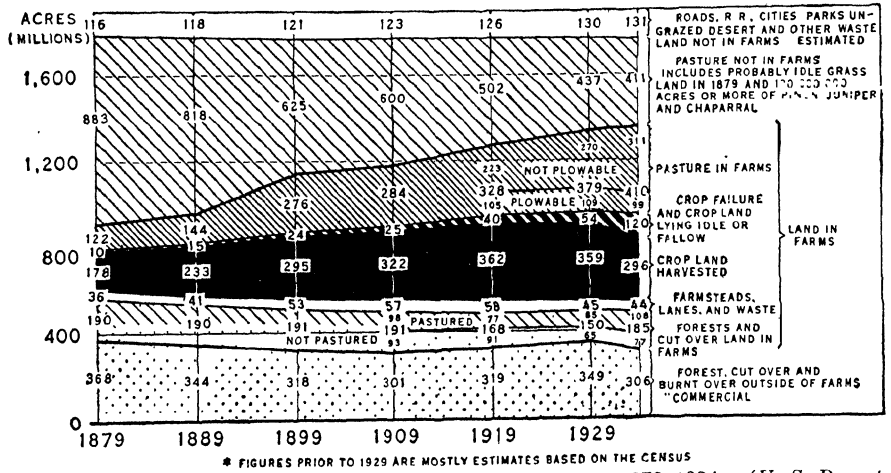


FIG. 55.—The trend in land utilization in the United States, 1879–1934. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

public and private. The history and the present broad outlines of this picture, as of 1934, are portrayed in Fig. 55. Crop land, including fallow land and that on which the crop failed, occupies only 416 million acres, or slightly more than one-fifth of the land area of the country.

Over one-half of the land is pasture, which includes much land "outside of farms." Of this amount 5 per cent is listed as "pasture available for crops." Forest, cut-over, and burnt-over land comprises one-fifth of the total area, of which a portion is used for pasture. The remaining tenth of the total land is used for nonagricultural purposes or for farmsteads and lanes. In summary: crop land comprises one-fifth; forests include one-fifth; and pasture, in part overlapping with forests, uses over one-half of the land area of this country.

Although the total crop land of the nation tended to remain approximately constant from 1920 to 1934, the areas in crops in various regions of the country are in continual flux. Between 1919 and 1928 the crop acreage declined in the northeastern and eastern section of the country. The notable increases occurred in the Great Plains area and on the Pacific coast. In contrast, from 1929 to 1934 sharp reductions in acreages occurred in the Great Plains region, whereas increases occurred east of the Mississippi River, in Texas, Oklahoma, Minnesota, and along the Pacific coast. It should be noted in passing that these acreage changes do not necessarily indicate proportional changes in the value of products, for the land withdrawn from cultivation is often that on which there have been crop failures or low yields.

Uses of Crop Land.—The crop land in 1937 totaled approximately 360 million acres, or roughly one million acres for each day in the year. Of this total, about 290 million acres, or four-fifths, was used by five major crops, roughly as follows: corn 92 million, cotton 35 million, wheat 65 million, hay 65 million, and oats 35 million acres. These acreage data do not, however, indicate the relative importance of these crops, for some of them tend to be grown on the poorer land and some—notably wheat, oats, and hay—are extensive crops. The value of these crops in 1937 was only two-thirds of the value of all crops. Nevertheless, the preponderance in terms of acreage of these five crops indicates that they occupy a high position in American agriculture.

The broad outlines of the agricultural uses of land in 1930 are presented in Fig. 56 according to the dominant use of land in each area. Thus there are the cotton belt, the corn belt, the hay and dairy region, and so on.

Potential Crop Land.—The term *potential crop land* must necessarily be rough, since not sufficient is known in detail about the physical and economic characteristics of this land. In general, however, we may say that, though only about one-fifth (or 360 million acres) of the total land area is now used for crops, an additional 600 million acres can be used if farm products' prices warrant and if certain improvements are made (see Fig. 57). Of this potential area, about half (or 300 million acres) is ready for the plow without irrigation, drainage, or clearing. Of this readily available land, over 100 million acres are in *plowable pastures in farms.* The use of much of this land for crops might mean a serious shortage of pasture lands. An additional 146 million acres of arid and semiarid land could be used for crops, much of which has been used at times in the past but is now used for pasture. There remains a potentially irrigable area of 30 million acres aside from any land which is now in crops but which could be made more productive by irrigation. Drainage would increase the arable land by about 75 million acres, which again do not include land which is now in crops but which would be benefited

by drainage. The remainder of the potential crop land consists of almost 200 million acres of forest and cut-over land. Altogether the crop-land area could be tripled—with, however, a much less than proportional

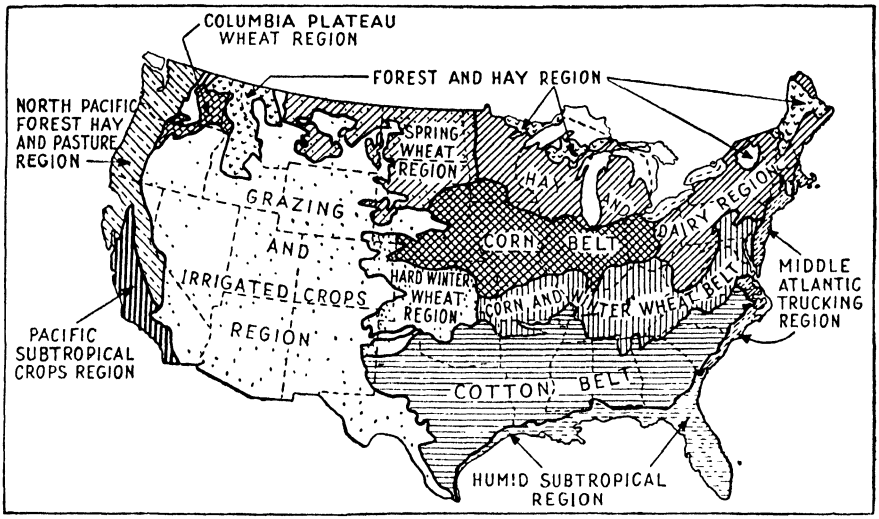


FIG. 56.—Agricultural regions in the United States, 1930. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

increase of output due to the relatively poor quality of most of this land. It does not seem likely that this land will be used for crops except in small part, unless the present outlook for demand and supply of farm products

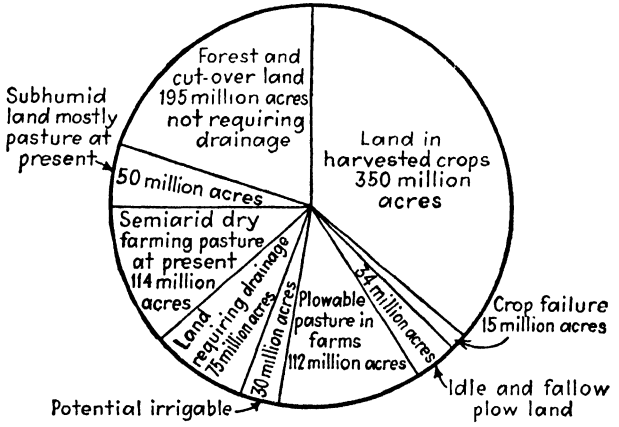


FIG. 57.—Land capable of use for crops. Extreme physical possibility, 973 million acres. (*U. S. Department of Agriculture, Bureau of Agricultural Economics.*)

alters materially. One factor which might force the use of some of this potential crop land in the near future would be the continuation at the present rate of the erosion of some of the best farm land. It is hoped,

however, that with proper technical methods this erosion can be minimized.

There will be, as there are already under way, some shifts from the use for crops of some land now tilled to other better land made available by drainage, irrigation, or clearing. Such shifts probably will be associated with a decrease in total crop land.

PREPARING A LAND-UTILIZATION PLAN

Permanent and Temporary Aspects.—The land-utilization movement in this country started as a movement to conserve natural resources and to put land, particularly rural land, to its best uses. Little, if any, emphasis was placed on acreage reduction as a means of raising the price of farm products. The conservation of resources and the putting of land to its proper use are the permanent part of the movement—permanent in the sense that it is expected to continue indefinitely, and permanent in that it does not expect immediately to accomplish its goal of *rational land use.* Partly in contrast and partly similar to this more permanent movement is the *temporary* or *emergency* aspect—the movement to reduce the tilled area speedily. Though greater space will be given here to the more permanent part of the movement, the emergency aspects will be pointed out, together with the factors which may turn the temporary into part of the permanent movement.

Objectives of the Program.—A land-use program has two broad objectives: (*a*) conservation and (*b*) the development of the proper use of resources. Such a program must cover both publicly and privately owned land, the program for each having some distinct characteristics and both having some characteristics in common.

The objectives of a land-use program may also be classified as (*a*) private or (*b*) public.

a. The program may have as its aim the working out of a better use of the land so as to increase the returns to those owning and using the land. It may propose to introduce those uses of the land and cultural practices which will preserve or restore the productivity of the land and thus over a period of years insure larger and more stable returns to the owner. These private aims, however, are rarely inconsistent with broad social purposes.

b. Although land-utilization analysis is sometimes projected with the success of the individual entrepreneur in mind, the public or social point of view is more likely to be in the foreground. Some of the public, or collective, considerations or objectives involved in studies of rural land utilization are as follows:

1. Provisions for future timber supply of a nation or area.
2. Protection of watershed, and prevention of destructive floods or serious erosion.

3. Provision of parks, game preserves, and other recreational areas.
4. Preventing unwise agricultural settlement.
5. Facilitating the removal of an agricultural population from a seriously unfavorable environment to one likely to permit a higher income and a better standard of living.
6. Determining what public action is called for in dealing with seriously prevalent tax delinquency.
7. Grouping or regrouping population with a view to economizing public expenditures for roads, schools, police protection, churches, and other social institutions.
8. Coordinating interdependent industries, as, for instance, providing a permanent supply of timber for local wood-using industries, providing winter work for farm population in forests or seasonal employment in nearby cities, and creating or enlarging a local market for farm, factory, or forest products.
9. Preventing the serious wastage of natural resources.
10. Avoiding the development of a long-time production which is excessive in relation to demand.[1]

No attempt will be made here to cover completely the subject of land use in relation to these objectives. Clearly, objectives 2, 4, 5, 6, 7, and 10, are most intimately related to agriculture, and their consideration will constitute the major portion of the remaining sections of this chapter.

Steps in the Program.—In dealing with any land-use problem, whether the land be in public or private ownership, the steps to be taken—land inventory, land classification, and land planning, and the effecting of an actual land-use program—have been well outlined by P. S. Lovejoy, of the Michigan Land Economic Survey:

> The inventory proper in the case of land should be like any business inventory, as, for example, in the physical valuation of railroads, it should "express no opinions, offer no advice, and make no plans," but it should assemble all the essential data requisite to the formulation of adequate and workable plans for the utilizations involved.
>
> Land classification, on the other hand, involves the making of specific plans for the lands reported upon by the inventory on the basis of the facts found by the inventory. Classification and land planning go hand in hand, for classification is essentially purposive; it looks to the attainment of some end and hence includes planning.
>
> On the basis of the inventory and the classification, there remains the difficult task of transforming the plans into actualities—of getting policies in operation.[2]

Land Inventory.—The first step in a land-utilization program is a comprehensive survey of the physical, the economic, and the social characteristics of the land, together with population studies. A well-balanced survey should overemphasize neither the physical character-

[1] The Advisory Committee on Social and Economic Research in Agriculture, J. D. Black, editor, "Research in Agricultural Land Utilization: Scope and Method." This report constitutes an excellent summary of methods of research in land use.

[2] Quoted by L. R. Schoenmann in *Proceedings of the National Conference on Land Utilization*, 1931 (U. S. Printing Office), p. 68. This is for sale by the Superintendent of Documents, Washington, D. C.

istics of the land nor the economic and social factors surrounding the use of the land. The chart outline of the Washington State Land Classification program is here presented (Fig. 58) as an example of a land inventory and classification. The general heading facts to be determined, subdivided into Physical and Economic and Social, constitutes the land inventory. The types of Physical information are self-explanatory, but some of the Economic and Social subheads need explanation. The data on land income, as summarized in a production index should show the

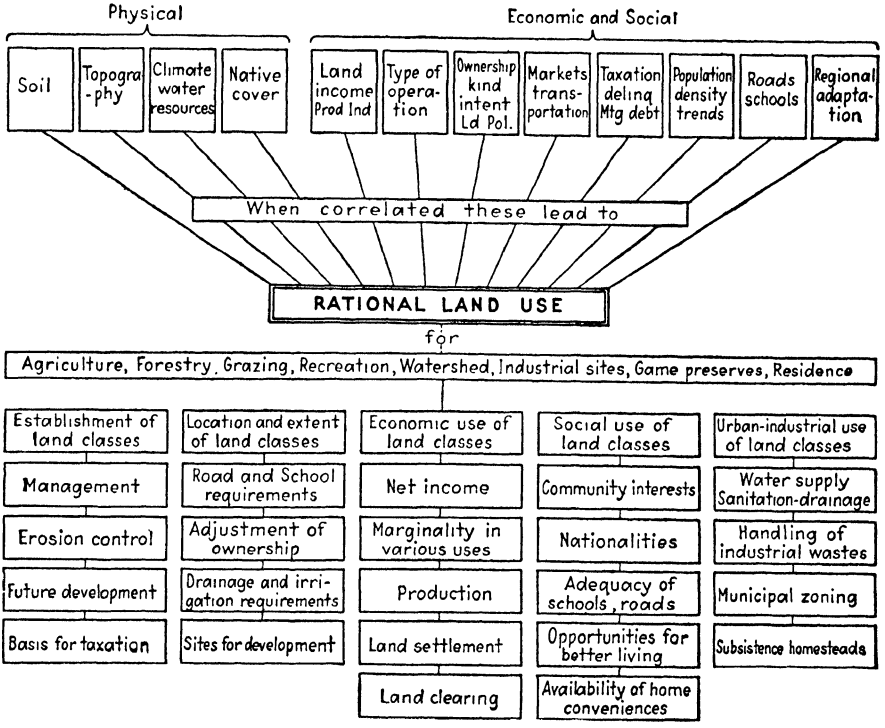


FIG. 58.—Program for land classification.

results of present land use. Type of operations, when correlated with the size of holding, will show cases in which the ownership units are poorly adapted to the use being made of the land. The intent of the owners of land, particularly owners of logged-off land, where discernible, whether to hold the land as a speculation or to develop it for farm uses, gives some key to future uses of the land. If the land is tax delinquent, or if the debt is large relative to income, incorrect use of the land may be indicated. The population density, and whether it is tending to increase or not, may explain excessive local government costs. The study of roads and schools in relation to population density and tax delinquency may indicate the necessity of local government reorganiza-

tion or the desirability of turning the land into nonagricultural uses. The adaptation of farm enterprises to the region should indicate something of the feasibility of using this land for farms.

The National Conference on Land Utilization urged a national inventory of land resources. Dependence on state action has two defects: (1) lack of uniformity in data gathered; and, more important, (2) the fact that some states are slow to act, partly because of lack of funds to conduct surveys or, more particularly, to purchase, reforest, or reseed land where necessary. Beginning in 1934, the AAA and the Bureau of Agricultural Economics began an extensive program of gathering and analyzing all the available information on land use in the whole country.

Land Classification.—The second step in forming a land-use program is the classification of lands into distinct types according to the characteristics portrayed in the inventory. Two broad classifications have already been given as part of the discussion of present and potential land use in this country. The first divides the land area into crop, pasture, forest, and nonagricultural land (see Fig. 55). The second classification separates present and potential crop land according to some of its major qualities (see Fig. 57). Neither of these groupings, however, is sufficiently detailed, nor is the location of the land in each class known with sufficient accuracy for the classes to be more than a starting point in the land-use program.

The classification presented in the lower half of Fig. 58, dividing land into eight broad classes, represents a usual division of land uses. Some of the broad classes of land here given, particularly agricultural land, might properly be subdivided. In New York, for instance, the land in farms has been divided into five subclasses according to its adaptability to crop uses, the subclasses varying from Class I, the best crop land, to Class V, land which should be reforested immediately. Furthermore, land may be adapted to multiple uses, that is, forestry and recreation or, near large cities, residence and agriculture.

Once the classes have been set up, the most difficult technical part of the whole program is to determine, upon the basis of the information in the land inventory, the proper class in which to place each unit of land. Gradually, procedures for classifying land by experts are being developed. A tentative rough classification can be obtained by the interpretation of available technical data with the aid of well-informed farmers of the region. Certainly consultation with such farmers will provide a valuable check on classifications set up by technicians. Such use of farmer committees has been an integral part of the county planning program initiated in 1937.

Even though land is once classified accurately, the classification will be subject to change. On the one hand, technology may so change that the relative advantage of technical production factors—soil, drainage,

climate, etc.—is changed. Most frequently the new factors will be changes in the character of the demand for land, such as changes in demand for total or particular farm products.

Submarginal Land.—The problem of what to do with the land which is submarginal for crop uses is the major question in the land-use issue today. Some of this land has been in crop uses for years, whereas another part has come into tillage in response to good prices or other temporarily favorable factors. The determination of the lands which are submarginal for crop uses must be based on the land inventory. But the difficulties come when the attempt is made to decide just what characteristics of land make it unprofitable farm land. Dr. L. C. Gray offers the following definition of *submarginal land* and at the same time indicates some of the difficulties in applying the term:

> The term "submarginal," formerly the exclusive possession of the economist, within the last few years has entered the vocabulary of the man of the street. Without precise definition in his mind, it has become his generic term for characterizing a wide group of problems that have come to the forefront in our national consciousness. . . .
>
> In classical economic theory submarginal land is land that, under proper conditions of utilization, it will not pay to cultivate according to the normal standards of return to labor and capital that tend to prevail throughout the competitive field. . . . I could cite you a score of difficulties that would be encountered in applying that definition to actual situations.
>
> For instance, there is the assumption of proper conditions of utilization. Undoubtedly thousands of farms that now appear to be submarginal could continue to hold their own if the tax burden were better adjusted to the earning power of the land. Doubtless much forest land could be effectively utilized by private enterprise if the tax burden could be made more equitable. It is for this reason that the subject of local finance plays so important a part in this conference. Moreover, on thousands of farms normal conditions of use do not prevail. The size and equipment of the farm and the system of farming developed under the conditions of an earlier day are wholly out of line with radically changed requirements of the present.[1]

From Gray's statement, it is clear that land may be submarginal because of physical characteristics or because of economic and management factors. The following are some of the physical characteristics which tend to make the farming of certain lands unprofitable. (1) Land of poor soil, frequently combined with rolling-to-rough topography, which was tilled profitably at an earlier period, but which now does not yield a proper return. The reason that this land cannot be profitably used now may be in the fact that farmers now are warranted in demanding a higher standard of living. More frequently the difficulty originated in the opening of more productive lands. Land of this type is largely found

[1] *Proceedings of the National Conference on Land Utilization*, 1931, pp. 58–59.

in the northeastern and southeastern parts of the country. (2) Land which has been rendered unusable by erosion. The South contains a considerable amount of this land. (3) Cut-over land, which because of costs of clearing and the poor quality of the soil cannot be farmed profitably. Most of this land is found in the Great Lakes states and in parts of the South and of the Pacific Northwest. (4) Arid lands, on which the moisture supply is insufficient or highly uncertain. The states just east of the Rocky Mountains and from these mountains to the Pacific coast contain this type of submarginal land.

Doctor Gray, in clarifying the meaning of *submarginal*, has specified two economic and management factors which may force land into this category; namely, excessive taxation and improper farm organization. Taxation, as will be pointed out in more detail below, does in certain instances put land into submarginal class, in which whole sections of very limited wealth are attempting to maintain local governments and as a result find the tax burden on their near-worthless land to be more than can be paid. The latter may refer to an uneconomic size of the farm, antiquated technical methods, or an improper combination of enterprises. A third economic factor, high transportation costs, due either to distance from markets or an unfavorable freight-rate structure, may cause land to be submarginal which might be excellent solely on the basis of physical characteristics or of other economic factors arising from its use.

How does it happen that land which "it will not pay to cultivate according to normal standards of return to labor and capital that tend to prevail throughout the competitive field" is actually in cultivation? Here we should distinguish between land which, at the time it was brought into use, was not submarginal but rather was supermarginal, and land which has been submarginal from the time it was first tilled. Change has pushed the former type into the unprofitable class: change in productivity due principally to heavy erosion; change in the competitive position of the farmers due to the opening of new areas or to newer practices being adopted by competitors as reflected in prices; or change in public expenditures or in relative tax systems. If the profitable use of certain land rests on protective tariffs or on bonuses, the reduction or abolition of such subsidies will make this land submarginal, unless some profitable alternative use is at hand. The second type of submarginal land arises from imperfect following of the profit motive. In large part it represents hopes which were not realized; in a smaller part it represents a tendency to bring into use new land without knowledge of its possibilities for profitable use, influenced not infrequently by questionable publicity by those having land to sell to settlers.[1] Most resettlement, by voluntary action of individuals, has, in recent years, been to lands near the margin.

[1] Such lands often remain in cultivation for considerable periods for various reasons. The operator may voluntarily accept a lower standard of living than the

Location of Submarginal Land.—Where is this submarginal land which is now used for crops, and how much of it is there in total? Each geographic region prefers to think of other regions as the ones in which land is poor and farming unprofitable, but, as a matter of fact, each state has submarginal land, although the quantity is greater in some than in others. Neither the exact location nor the extent of submarginal lands is known exactly, largely because the land inventory and classification task are far from complete. But the general location of such areas is well known to any one acquainted with the nation's agriculture. Some states, notably the Great Lakes states and New York, have a fairly clear idea concerning the exact location and extent of their unprofitable farm lands. Additional indications can be obtained from tax delinquencies, mortgage foreclosures, and bankruptcies among farmers, but these have been greatly affected by the serious declines in prices of farm products which have occurred in the 1930's. Some of these data are summarized in current issues of *Agricultural Statistics* of the U. S. Department of Agriculture.

Taxation and Submarginal Lands.—Turning our attention to land that has been or is in private hands, we find that taxation is related to the submarginal-land problem in at least three ways.

First, taxation has been a means of transferring poor land to the states and counties. The large volume of land which has returned to state and county ownership through tax delinquency is almost wholly land which is marginal or submarginal for other reasons than taxation. This land being now public property may be more easily put to that use which a scientific program would specify. The total volume of tax-delinquent lands is not known, but scattered data are available. The three Great Lakes states have about 20 million acres on which taxes were delinquent in 1931, much of the land having returned to public ownership.

Second, taxation has been one of several factors preventing reforestation of privately owned cut-over land, with the consequence that the owners of such lands try to use or sell it for crop uses when that is at all possible. If governments tax growing timber according to its value, they encourage the wasteful cutting of immature timber and discourage owners from allowing a new stand of timber to grow. From fifty to one hundred and fifty years are required to grow marketable timber, and the accumulation of property taxes over this long period of no income from timber sales is a greater burden than individuals are willing to assume. It is probably true, however, that interest on the investment and the uncertainty of the future return (due largely to possible loss from fires) are

average generally accepted in the community or he may be liquidating his capital (in lieu of income as such) thru exhausting the fertility of his farm or failing to maintain fences and buildings. Another reason is found in such agricultural subsidies as tax moratoria, benefit payments, and artificially cheap credit.

greater barriers to private reforestation than is the taxation of standing timber.

Third, the tax burden has been a contributing factor in many cases in so weakening the competitive position of certain farmers, or of whole counties or districts, as to make this land submarginal. Another way of putting this point is that taxation has confiscated the capitalized value of such farms—the income after taxation being so small as to leave little, if any, income to capitalize and give value to the farm for the owner. Three factors have contributed to this situation: (1) The continued application of the property tax as almost the sole source of state and local revenue in many states has placed a disproportionate burden on farmers. These facts have been reviewed in Chap. XXI. (2) The administration of the tax wherein the assessed value has not been properly adjusted to the market value of the property has done even more to injure particular farmers. Tax delinquency to the extent that the property is taken by the county is in many cases evidence of incorrect assessment. If a property owner's taxes are so high that the property cannot sell for more than three to five years' taxes, this property has usually been greatly overassessed. (3) In addition there have been at work certain forces in local finance, particularly in some rural regions, which tend to make the cost of government excessive. The large tax delinquency on lands which are distinctly submarginal places a heavier tax burden on the remaining land, some of which may become unprofitable thereby. Isolated and sparsely settled communities make the cost of local government excessive. There are numerous cases of arrested development, particularly in the newer sections in which communities or even individual farms spring up in anticipation of a general real estate development which does not materialize. Then the large cost of local government, particularly of schools and roads, is logically excessive on those in the "arrested development areas" and perhaps on the whole county. The Conference on Land Utilization recommended that these areas be bought up and the land be put to other than crop uses. An additional local factor is the existence of unnecessary local agencies of government, especially the practice of continuing the government agencies formed in horse-and-buggy days. School consolidations, county consolidations, and so forth, are needed but are fought because of local pride. Another cause of heavy local taxation is the practice of continuing as local government functions activities which involve state-wide interests and should therefore be undertaken largely or entirely by the state. Examples are the major and secondary highways, a larger portion of education costs, and relief of the indigent. A thorough reorganization of local government agencies and functions is seriously needed. And overshadowing all of this as a cause of heavy taxation are the unnecessary expenditures arising from inefficiency, unnecessary activities, and the desire to keep up with "Jones County." Budget review

boards have helped solve this problem in some places, but the fundamental difficulty lies in the lethargy of the citizens and can be solved only by a reversal of their attitude.

Potential Submarginal Crop Land.—In addition to the submarginal land now used for crops, there exists almost twice as much potential crop land (now submarginal) as the present total area in crops. Most of our potential crop land is definitely submarginal under present agricultural technique and particularly under present and prospective farm-product prices. Our interest in this land arises from the fact that pieces of it here and there are almost constantly being put into crops, at least until the farmer learns to his sorrow that its use is not profitable. The Conference on Land Utilization identifies three classes of this potential crop land.

(1) Range and other lands that tend to come in or go out of farming under the stimulus of variations in the price or rainfall cycles.

(2) Extensive areas of cut-over lands that are virtually idle.

(3) A large acreage of other land in addition to the above, that tends to be pushed into use for farming when economic conditions do not justify such use.[1]

The Proper Land Use.—The land inventory and land classification are the start in planning for the best land use. The major task here is to determine what land should not be used for crops and then to decide what should be done with such nonagricultural land—whether it should be used for forestation or for recreational purposes, or whether it should be left idle with perhaps some grazing use. This completes our discussion of the steps in a program of planning land use. The next and most uncertain step is the transferring of the plan into an operating program.

CONTENTS AND OPERATION OF A LAND-USE PROGRAM

Policy for Unappropriated Public Lands.—The proper policy for the land which has never been transferred to private hands is relatively easy to outline. These lands include the public domain of the Federal government and state lands, with primary reference to lands which have never been sold. The program for lands which have been returned to public ownership through tax delinquency will be taken up later. Sufficient is known concerning the quality of the lands within the public domain to conclude that, almost without exception, they are inferior and should not become part of the tilled area under present technical methods and the present outlook for farm-product prices. They are already public property, and therefore the effecting of a program is more simple. And it is clear that such lands should be used in such a manner as to accomplish broad social purposes, not for revenue primarily, nor to aid one particular group against another.

[1] *Proceedings of the National Conference on Land Utilization*, 1931, p. 244.

The continuation of the homestead privilege in modern times, considering the poor quality of the remaining unappropriated lands, has been subject to much ridicule. Referring to "stock-raising homesteads," Secretary Hyde said, "I hope sometime Uncle Sam will refuse to deed 640 acres of sand and cactus to a man, no matter how courageous and industrious he may be; will refuse to be party to the certain tragedy which waits for those pioneer souls, who, dauntless but misguided, would carve a farm from barren wastes." A wit once remarked to the effect that the Homestead Act at present was a scheme whereby the Federal government wagered 160 acres of worthless land against all of the settler's savings and five years of his life that the homesteader could not live on the land. This fun-poking is based on sound facts and reasoning and hence the Department of the Interior has withdrawn the remaining public domain from homesteading entry until the land has been classified.

Other features of the public land policy refer to forest, grazing, and mineral lands and to power rights. The principle underlying the use of these resources should be that of conservation, and this object in most cases can be best obtained under public control. For economical and efficient administration, school lands, whether adapted for forest or for grazing uses, in many cases should be combined into larger units than sections. The remaining public timber lands and grazing lands should remain under public control, if for no other reason than to protect watersheds of streams used for irrigation, power, or navigation. Whether minerals and coal lands should be sold or merely leased at the time when their utilization is warranted is a matter of dispute.

The Taylor Act of 1934 authorizes the Secretary of the Interior to organize the "vacant, unappropriated, and unreserved lands" which are not in the national forests or other reserved areas into "grazing districts" in which grazing would be by permits. The purpose is to improve grazing conditions particularly through erosion prevention by controlled grazing and through improving water supply for livestock. No lands in these districts may be open for homesteading until such lands have been classified as more "valuable and suitable" for tilled-crop purposes.

Control of the Public Domain.—An acrimonious discussion among the far western states has been conducted for some years over the question of whether the Federal or the state governments should have control of the remaining public domain. At present each exercises control over that land to which it has title. One group wishes that the remaining Federal domain be turned over to the states. On the other hand, some desire not only that the Federal government keep control of its lands but that it extend its control to state lands particularly where the latter are part of watersheds or are used for grazing. Concerning watershed protection, the Conference on Land Utilization said:

It is recognized that throughout the Rocky Mountain regions and the Pacific coastal regions hundreds of communities are directly dependent on near-by watersheds for their supply of water for irrigation and other purposes and in many cases this dependence is interstate in scope due to the watersheds being in one State and the irrigation use in another State, and also due to the fact that the irrigation water of one State must often be stored in another State. Inasmuch as these facts can not be changed, due to the geography of the region, it is recommended that lands valuable for watershed protection should be administered under the supervision of the Federal Government.

The group demanding even further Federal control contend that the states have not followed far-sighted policies of conservation of forest or grazing land and protection of watersheds and that the fact that land is under different control agencies prevents the working out and execution of a uniform program. Furthermore, the states' income from these lands, unless temporarily augmented by shameful alienation of them to private owners, could hardly offset the increased costs of local government, costs now borne partially by the Federal government. On the other hand, those who demand the turning over of the Federal domain to the states are very critical of the effectiveness of the Federal control in the past. But their strongest point is that the Federal policy, because of being worked out at Washington and in particular because of being uniform, is not properly adapted to the various local conditions. In this connection it should be noted that an important function of the county planning committees referred to in Chap. XXVI is to point out the need for modifying national agricultural programs to fit local conditions. A commission appointed by President Hoover to study this matter recommended in general that the Federal lands adapted for grazing be gradually turned over to the states. However, this does not close the issue and the conclusions of the commission are open to serious question. Thus far (1940) nothing has been done either to turn land over to the states or to extend Federal control over state lands.

The Reclamation Issue.—Probably no Congressional act relating to agricultural land passed prior to the Adjustment Act of 1933 has caused more bitter discussion than the Reclamation Act of 1902 and the accompanying Federal aid in the irrigation of arid lands. Reclamation as a public activity in this country has had relatively little to do with drainage. In general, the disagreement concerning Federal assistance to irrigation has been sectional. The farmers of the East and the Middle West view irrigation as a stimulus to overproduction and a direct blow to them. The people of the West, on the other hand, emphasize the degree to which the products of irrigated farms are important for the local market or for export. They point to homes created and to national development which takes place with irrigation as a justification for the reclamation program.

As is frequently true in such sharp disagreements, the clash of opinion rests on points of view, on personal interest, or on differences in objectives.

First, a distinction must be made between successful irrigation projects and those which are failures. Too frequently private projects, Carey Act projects, and Federal projects have been undertaken without due consideration of economic feasibility. Too often the costs of projects have been materially in excess of estimates, turning apparently sound projects into failures. The consequent train of woes, of bankruptcies, and of poverty and hardship is well known. Again, such unsound projects contribute to the supply of farm products and, as do all submarginal activities, react on the profits of the more permanent producers. In contrast to these unsound projects there are some well-established ones, as may be found, for example, in the upper Yakima Valley in Washington and in the Twin Falls section of Idaho. Of course, during the depression of the 1930's farmers on these projects suffered losses as did farmers in all sections. But when farm prices were relatively good, the rural life developed on these projects would compare favorably with the best in the nation.

Second, in the case of the successful projects, the question as to whether such projects should have been established, or similar ones in the future be undertaken, depends in part upon whether the concern is with such short-run considerations as the effect of new acreage during a period of agricultural readjustment, or whether it is the long-run problem of competition between old and new areas. It is difficult to give strong statistical evidence to support the argument that irrigation projects, in particular publicly constructed ones, contributed to any marked extent to the post-war rural depression. Of the 19,547,544 acres irrigated in 1930, only 10 per cent were listed as Federal, state, and city projects, although some projects listed as private were constructed by the public. All irrigated lands equaled only 3.4 per cent of the nation's crop land in farms, though they did produce almost 12 per cent of the crops in value. Furthermore, the Census data show that the major increase in the irrigated area took place prior to 1920, and that there has been only a 1.9 per cent increase between 1920 and 1930. A slightly smaller acreage of crops was harvested from irrigated land in 1934 than in 1929.

Considered in the long run, the entrance of new lands under irrigation which can produce more cheaply and often put out goods of better or more uniform quality is simply a form of the old problem of the new area competing with the old and forcing readjustments in the latter. In Chap. II we reviewed the effect of the New World on European agriculture, and in Chap. III we noted how the westward movement forced readjustments in land use in the states farther east. From a social point of view, the long-run interest is primarily in efficiency; let the principle of comparative advantage operate to determine land use. If this be the attitude, the

long-run policy should be to irrigate more land if this land can produce more at a lower cost than some land already in use, the latter to be put to a different agricultural use or to be withdrawn from agricultural uses entirely.

Another aspect of irrigation was brought to the public attention by the severe droughts of 1934 and 1936 in the Great Plains area. Irregular moisture leads to both misuse of land and great suffering. This experience probably explains in part renewed Federal support for irrigation, both in such projects as the giant Columbia Basin Project in central Washington and the smaller scattered projects under the Water Facilities Program of the U. S. Department of Agriculture.

Even though this latter principle be acknowledged, this need not justify some of the activities under the Reclamation Act. Not always have the projects to be developed been chosen on the basis of economic feasibility. Political pressure has at times influenced irrigation development more than the needs of the nation. A less valid criticism is the assertion that the Federal projects tend to be those which private capital would not undertake, thereby inferring that Federal projects have been in general unwise ones. This need not be true, for the government is in a position to undertake projects too gigantic for private enterprise. The aspect of reclamation by the Federal government which is most questionable is that of interest-free loans for construction. This has been viewed as a subsidy to irrigated farming as opposed to farming in the East, where the farmers had to pay interest on loans obtained for improvements. In addition, there are millions of acres east of the Great Plains in which erosion prevention, drainage, fertilization, or improved tillage and cropping practices would so raise the productivity of the soil as to offset the advantages of the rich desert but irrigated lands. Thus irrigation development would be unnecessary.

Policy for Tax-delinquent Lands.—The general practice of governmental jurisdictions has been to dispose as rapidly as possible of lands seized for taxes and thus return this property to the tax rolls. The pressure of revenue needs, the prevailing policy of land exploitation, and the absence of a scientific land policy have all led to this practice. Now that public officers and part of the public itself are aroused to the need of a land policy, it is time that here, in one of the most obvious opportunities for the execution of a land-use program, the practice should be changed.

What should be done with these tax-delinquent lands? The first step should be an inventory of the physical and economic characteristics of these lands, to be followed by a careful classification of the lands according to their proper use. The land could then be zoned according to its proper uses, as is explained in the following section, and thus the use of public lands could be correlated with the zoning of private lands. Some land may be found to be adapted for farming, particularly if tax burdens

are reduced, as suggested on pages 648 and 650, and farming methods reorganized. On the whole, it is probable that most of these lands will be classified as forest, grazing, or recreational lands. Furthermore, since private initiative cannot usually be expected to put such land to non-agricultural uses, particularly forest uses, it is necessary that this land remain in public hands and that it be put to proper use under public administration. In order to conduct a reforestation program properly, the government should have the power to exchange lands or buy up lands in order to organize reforestation areas of proper size for administration. Such laws have already been adopted in some states.

Policy for Private Lands.—From the standpoint of the execution of a land-use program once the land is classified, the most difficult question is, How can the use of privately-owned land be adjusted to fit the qualities of the land? With a system of private property, it is a question of how to take submarginal crop lands out of crop uses, and of how to prevent potential submarginal crop land from being put into crops. All of the suggested solutions involve problems of feasibility and of principle, the chief principle being that of private *versus* social control of land use. At least four methods have been discussed and partially applied.

First, when the land has been classified and the results of the classification released, reliance might be placed on private initiative, either to correct certain of the economic or physical characteristics of the land where possible, or to change the use of the land where the classification indicates that it is improperly used. Steps might be undertaken to relieve excessive tax burdens, as indicated on pages 649 to 651. Present owners might be sufficiently convinced by the classification that they would adjust the use of land when used improperly. Of more probable value, purchasers of land could use the land classification to guide them in selecting farm land, particularly to aid them in seeing through the land-salesman's arguments. But experience demonstrates that the action of individuals in adjusting land uses to the proper uses, as indicated by the land classification, will be slow and imperfect. The county-planning program now activated by the Bureau of Agricultural Economics and the extension and experiment station divisions of the land-grant colleges not only provides a means of disseminating information on desirable land use but also is a means of gaining farmer support for such improved land use. In this County Planning Program representatives of the farmers and of various state agencies and Federal action agencies, such as the AAA, F.C.A., F.S.A., F.S., S.C.S. and B.A.E., attempt to classify the land and recommend action programs to bring about proper land use. This is being correlated somewhat with the benefit payments from the AAA and the activities of other governmental agencies.

A second proposal is that governments, particularly the national government, purchase large areas of the submarginal and potential sub-

marginal crop lands and group these lands for forest, grazing or similar uses. The appropriation of 25 million dollars of the funds of the Federal Surplus Relief Corporation and the 20-million bond issue in New York state to purchase submarginal crop land and retire it to noncrop uses are steps in this direction. But when one considers the sum necessary to carry out such a policy for the millions of acres of land denoted submarginal, it hardly seems a feasible policy, certainly if sole reliance is to be placed on this means of adjusting land use.

Third, lending agencies, by granting or refusing loans on certain lands, or for carrying on certain farming practices, can restrain unwise and encourage desirable land use. Commercial banks have become more aware of the desirability of good land use, both from the point of view of the soundness of the particular loan and from the viewpoint of the economic future of their community. The F.C.A., representing as it does one giant loan agency, is in a better position to visualize and to execute a coordinated program of using its lending power as a means of affecting better land use. Finally, the F.S.A., in its program of assisting in relocating farmers and of assisting the hard-pressed, can do likewise. At the present time, with the relatively recent recognition of the problem, with the inexactitude of land classification, with the varied and changing circumstances affecting desirable land use, these agencies can hardly be expected to use their lending power to affect land use with results approaching perfection.

A fourth suggested device to prevent future misuse of lands for crop uses provides that governments refuse such public services as schools and roads to submarginal areas being developed for crop uses. The fact that the proposal is limited to future development of present undeveloped areas and the fact that local governments are amenable to pressure from interested groups point to the limited possibilities of this proposal.

The fifth device for bringing about "rational land use," the one now receiving wide support, is that of *land zoning*. Concerning the meaning and development of land zoning, George S. Wehrwein, who has made an extensive study of rural zoning in Wisconsin, says:

> Zoning is more than classification of land and then trying to induce the occupants to use the land in accordance with what is deemed the best use. It is more than directing settlers to good land and away from the land unsuited to agriculture and preventing sales of land in the "forest" areas or the withholding of public services from the restricted area in so far as this is legally possible. It is a *positive* control over land use, listing in each zone what the private owner may or may not do with his land and fixing a penalty for the violation of the ordinance. This use of the police power has been successfully established in cities since 1885, but its extension to non-urban territory dates back to 1923 when California and Wisconsin granted to counties the right to zone. However, this legal authority was at first used only in the urbanized territory about cities. The amendment

to the Wisconsin County Zoning Law in 1929 extending the power over farms, forest and recreational land opened the way for zoning in the marginal areas of the state, a step beyond California's rural zoning which has thus far included only urban zoning, protection of scenic areas and regulation of roadside land use, at least up to May, 1931.[1]

Zoning laws—even those which control only the future changes in the case of land, such as turning cut-over land into tilled land—have not had their constitutionality fully tested. More drastic zoning laws might be thrown out by the courts. A more drastic law would be one which would seek to control land use whenever the present owner sells his land, and thereby would facilitate the control of the use of submarginal land now in crops. But since zoning is primarily a device for preventing future additional misuses of land rather than a device to rectify speedily present land misuse, it is not enough. Wehrwein says:

> Zoning in itself does not reduce the high cost of schools, roads, and other public services; it merely prevents the incurring of future costs for these purposes through future isolated settlements. The final step should be the translocation of settlers by trading of land, purchase of submarginal land and the removal of settlers with the help of public money.[2]

A sixth device is that of financial remuneration to farmers who follow approved land-use policies. Thus the AAA is supplementing the informational work in county planning with benefit payments according to the type of crop or cropping practice followed. More energy in this program has been devoted to improved use of crop land than to effecting the permanent transfer of land to noncrop uses. Likewise, the Soil Conservation Service has certain project areas in which some assistance is given to farmers who take out of cultivation land which is eroding.

How Much Surplus Crop Land?—In the last few sections particular emphasis has been placed on what some term the *permanent* or *efficiency-in-use* aspect of the land-utilization movement. This program is not designed to bring large improvements at once but is aimed to correct so far as possible errors of the past and to provide a more rational use of the nation's land in the decades to come. Though recognizing the fundamental character of this longer view program, a large part of the attention in the 1930's has been concentrated on the *temporary* or *emergency* aspects of the movement to control the use of land. Particular emphasis has been placed on the reduction of the tilled area. That this temporary program has tended to become the permanent one was indicated in the last chapter.

The AAA program from the beginning has included provisions for the withdrawal of some land from crop use, although at first no attempt was made to select submarginal land. The whole plan of farm relief treated

[1] *Journal of Farm Economics*, January, 1934, p. 119.
[2] *Ibid.*, p. 125.

by this act received extensive attention in Chap. XXVI, but the allotment feature of the act is of significance here. This program—as well as its effects, and the possible future developments—has been well summarized by former Under Secretary of Agriculture Rexford G. Tugwell:

> We are only now beginning to move toward a more selective retirement of lands. If we continue as a nation to push or to be pushed toward a self-contained economic nationalism; if foreign trade remains at the low levels of recent years; and if we proceed with selective withdrawals on the basis of taking out the thinnest, meanest, most punishing areas rather than those of average productivity or better, we may have to retire as much as 100,000,000 acres of American soil from commercial cultivation.
>
> Possibly the effects of large withdrawals of marginal acres upon our total crop surpluses have been overemphasized. Dr. O. E. Baker of the Department of Agriculture estimates as a result of extensive land studies that we could take out of cultivation the worst 28 per cent of American farmlands, in terms of returned income (including an allowance for the family living), and still reduce our total commercial production of farm crops only about 3 per cent.
>
> Until we know whether we are going to farm for ourselves, as a nation, or farm in some measure for the whole world again, we can have, obviously, no hard and fast land program. Perhaps we shall never attain to that dream of the social philosopher, a blueprint room, with rigid, perfect plans for land and all national resources.[1]

Tugwell makes two significant points here: (1) Though the withdrawal of land from commercial crops under the domestic allotment program was not designed to select the poorer lands for withdrawal, this basis must change to one of withdrawing the poorer lands in large blocks if this general acreage-reduction program continues. (2) If we are going to conduct our economic activity on a self-contained national basis, the withdrawal of land from crop use must be permanent. If foreign demand does not expand, and if this acreage-restriction policy continues, the emergency land program will be merged into the permanent or long-run program.

OTHER LAND-USE PROBLEMS

The preceding sections have dealt with the problem of land-use on the basis of whether land was being utilized in the major use, such as crop production or grazing, for which it is best adapted. Another problem, partially independent, is whether land adapted for crops, or for grazing, or other major use, is being managed in such a way that its productivity is maintained. For rural uses of land the two most usual aspects of maintaining productivity are the interrelated problems of loss of fertility and erosion. Other problems, such as drainage, may arise on occasion.

[1] Rexford G. Tugwell, "Resettling America: A Vast Land Program," New York *Times*, Jan. 14, 1934.

The Erosion Problem.—Soil erosion has two aspects: (1) the erosion at higher altitudes which tends to destroy watersheds, and (2) the erosion of crop lands. The former cases of erosion, if the results of man's action, are the consequences of deforestation or excessive grazing. The policy of reforestation and limited grazing as a cure for much of such erosion has already been discussed. Erosion of crop lands occurs when one or more of the following conditions exist: (*a*) cropping practices have removed vegetable matter from the soil and the land is uncovered during heavy precipitation; (*b*) the soil is of a type which washes easily; (*c*) the topography of the farm land is markedly sloped. There is very little realization of the severity of the erosion of our crop lands, except among soil experts and the farmers of the regions where the erosion is most rapid. Some figures will be of assistance. Already 21 million acres, or an area equal to 6 per cent of our present crop land, have been withdrawn from cultivation because of erosion. In addition, 100 million acres, or almost 30 per cent of our crop land, is threatened and, if the same tillage and cropping practices are followed, will be forced out of production relatively soon. It is estimated that 75 per cent of the total acreage is suffering from more or less erosion.

This soil wastage, often of the best land, is a loss not to be overlooked even in a period of agricultural surplus. It not only is a distinct loss to the farmers affected but represents an almost irrevocable loss of a natural resource. The attack on the problem is through such devices as terracing, changed cropping systems so as at least partially to cover the land during the precipitation period, the use of grass strips on hillsides, and the return of the steeper hills to permanent pasture.

In recent years the erosion problem has been attacked both by the Soil Conservation Service (S.C.S.) and by the AAA. The former agency has carried on extensive research into causes of erosion in selected areas. Based upon the results of this and of other research, an intensive publicity campaign has been carried on to encourage farmers to use erosion-control farming practices. Moreover, in certain selected project areas, farmers have been assisted in developing and following desirable practices. The AAA, in turn, has sought to correlate its benefit payments for acreage reduction with rewarding farmers for crop and tillage practices which not only restore fertility but also check erosion.

The Problem of Fertility.—At times correlated with erosion, yet on occasion independent, is the effect of cropping and other farm practices on soil fertility. That one-crop farming has seriously affected soil fertility in major sections of this country has been indicated elsewhere in this book. That a speculative view of farming, whereby the major concern of the farmer has been in immediate crop returns and in a rise in land values, has had a deleterious effect on maintenance of soil fertility is generally recognized. And partially as a result of these attitudes,

technological advance for many crops has not increased yields but has merely kept them from declining.

Policy for Affecting Use of Crop Lands.—The problems of erosion control and maintenance of soil fertility are so interwoven that the discussion of means of control cannot be separated. For decades the extension services have been preaching practices to maintain fertility, and probably less pointedly, to control erosion. More recently two new agencies have entered the field: the AAA and the S.C.S. As was explained in more detail in Chap. XXVI, the AAA makes benefit payments to farmers for growing soil-conserving crops and for following certain approved tillage practices. The S.C.S., in addition to an intensive educational campaign on soil erosion, will provide seed, and sometimes equipment and CCC labor, for introducing some erosion-control practices on project areas.

The Subsistence-homestead Movement.—Though *part-time farming* by people obtaining their cash income from other employments has long been practiced both in this country and abroad, the social encouragement of this form of agriculture has recently attracted much attention as a means of providing a degree of economic security and a more desirable environment for families whose ordinary occupations no longer provide an adequate or certain income. Persons engaged in *part-time farming may* live on a *subsistence homestead.* Such a homestead consists of from a fraction of an acre to several acres and includes sites for a house and other buildings, with sufficient tilled ground to produce vegetables and fruit for the family and possible feed for a cow and chickens, together with possibly some pasture and woodland. The enterprise is essentially noncommercial; little, if any, labor is hired, and products are grown primarily for family use, not for sale.

Some of the problems faced in executing a subsistence-homestead program are: the location of suitable soil, the lack of agricultural skill among many urban workers, the question of the interest of urban laborers in producing their own food, and the obtaining of land and the building of homes at reasonable costs. It is significant that the English "small-holdings" movement which is similar to this subsistence-homestead idea has had but small success though given government support for many years. In 1934 the Division of Subsistence Homesteads, using a 25-million-dollar appropriation from the Public Works Administration, began an investigation of subsistence homesteads already in existence and undertook to establish experimental subsistence-homestead projects. This division has since been abolished but some of its former activities are being continued by the Farm Security Administration.

Summary.—The governmental influencing or controlling of the use of land is only part of a broader trend in social affairs—the trend toward a smaller degree of individual as opposed to group direction of economic

activities. In fact, some writers envision the social control of land use, as outlined in this chapter or as brought about under the Agricultural Adjustment program introduced in 1933, as only parts of a broad program of *social planning* of all economic activities. The mere introduction of certain policies relative to land already in public hands or even the process of zoning rural land for farm and nonfarm is hardly comparable to an attempt to direct the investment in or output of the shoe industry or of steel mills. However, land-use control, probably on a more complete scale than outlined in this chapter, would be an essential part of any broad program of economic planning—a topic to be considered in the closing chapters of this book.

Questions and Problems

1. Why has there come to be such a widespread interest in the land-use question?

2. Distinguish the *emergency* and the *permanent* or *long-run* land-utilization questions.

3. Outline the present use of the nation's land.

4. What are the objectives of a land-use program?

5. What are the steps to be taken in formulating a land-use program?

6. What information should be included in the land inventory?

7. Into what classes and subclasses may land be classified?

8. Explain the meaning of *submarginal land*, and point out why land may fall into this class.

9. What should be the policy for the various types of land which are now public property?

10. Distinguish four methods of influencing the use of private land. Which of the methods holds the greatest promise of success?

11. What factors may force the *emergency* land program into a permanent program?

12. What developments have occurred in the land-use program of this country since 1933?

13. Distinguish land classification from a program of proper use of crop lands. What agencies are interested in each, or in both programs?

14. What are the purposes of the subsistence-homestead movement?

15. Is the subsistence-homestead movement desirable or undesirable from the viewpoint of those engaged in commercial agriculture?

Suggested Readings

1. *Proceedings of the Conference on Land Utilization*, 1931, U. S. Government Printing Office, available from Superintendent of Documents, Washington, D.C.

2. C. E. Ladd, "State Land Use Commissions and Programs of Land Use," *Journal of Farm Economics*, April, 1933.

3. M. L. Wilson, "The Place of Subsistence Homesteads in Our National Economy," *Journal of Farm Economics*, January, 1934.

4. O. E. Baker, "A Graphical Summary of Physical Features and Land Utilization in the United States," U. S. Dept. of Agriculture, *Miscellaneous Publication* 260 (1937).

5. *Soils and Men*, the 1938 *Yearbook of Agriculture*, contains good articles on a number of phases of land use.

6. R. T. Ely and G. S. Wehrwein, *Land Economics* (1940), is a comprehensive treatise on land use and includes an extended bibliography of literature on the subject.

7. H. H. Bennett, *Soil Conservation* (1939), treats thoroughly both the need for soil conservation and the programs and techniques for accomplishing it.

8. B. H. Hibbard, *A History of the Public Land Policies* (1939), is a standard treatise on the subject indicated by the title.

9. National Resources Board, *Report on National Planning and Public Works in Relation to Natural Resources*, and including *Land Use and Water Resources* (1934), which is available from the Superintendent of Documents, Washington, D. C., furnishes an abundance of information about the land and water resources of the nation and recommendations for planning their future use.

CHAPTER XXVIII

BUSINESS CYCLES AND DEPRESSIONS

The growth which in the past has occurred in production, trade, and per capita income has not been a steady increase but has been subject to oscillations in the form of alternate periods of prosperity and depression. This is true whether the reference is to rural or to urban prosperity. In agriculture these changes have occurred primarily in prices received for goods sold on the market rather than in amount of production. In urban industries as a whole the change is to a greater degree in amount of production and trade than in prices. Though the prices of some urban products change as much as do prices of farm products, others do not change at all or but little, in spite of the fact that there are tremendous

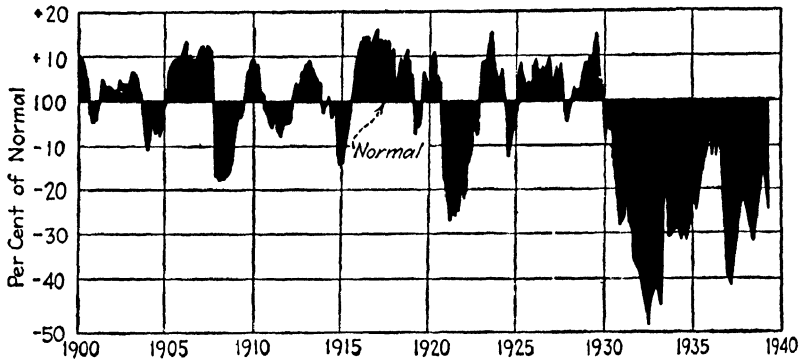


FIG. 59.—Variations in business activity in the United States 1900 to 1939. (*Business Bulletin, Cleveland Trust Company.*)

changes in employment and sales. Our concern in this chapter will be principally with changes in urban business activity, as it is the latter to which people ordinarily refer when they speak of business conditions, or the business cycle.

In Fig. 59 are represented changes in business activity since 1900, as calculated by the Cleveland Trust Company. More than normal business activity or prosperity is represented by the area above the 100 per cent line and depression by the black area below that line. It will be noted that an alternation of good and bad times has repeatedly occurred since 1900, and, if the chart had been extended backward, we should have seen alternating periods of good and bad times since we became a nation.

The chart shows during the two-fifths of a century from 1900 to 1939 ten periods of depression and an equal number of periods of relative

prosperity, some pronounced, some minor. If we were to refer to the whole of the index of "American Business Activity Since 1790," published by the Cleveland Trust Company, of which this is a part, we should note about thirty-five periods of prosperity and an equal number of depressions during this span of a little more than one hundred and forty years.

Our major past depressions are well known by their years of greatest severity. We have all read of the severe panics of 1837 and 1857. Men still living can recount the trials of '73 and '84, and of '93 in particular. The panic of 1907 is well remembered by those who lived through it, as is also the post-war collapse in 1921. Apparently this problem of "booms and depressions" has been a continuous one. Nevertheless, it is a problem which may be overcome or at least modified by human intelligence.

In the period from 1923 to 1929 we heard much of a New Era and of our successful battle against depression. But the years 1930–1933 witnessed the most severe decline in business activity from a previously attained level in our history. Some students of the depression of the early 1930's maintain, however, that it is more than an ordinary business depression or phase of a business cycle; that it was caused by particular dislocations in world-economic affairs growing out of the World War, or by peculiar happenings to our money and credit system.

Certainly these alternating periods of prosperity and of depression are one of our *greatest economic problems.* In comparison with it, most other problems seem minor, particularly if one considers that many of the other seemingly distinct problems are but ramifications of this major problem. The gravest of unemployment problems arise during business depressions. There is a direct relation between business conditions and the number of business failures. The unequal distribution of wealth and income is to some extent the result of the fortuitous benefits or unfortunate effects of prosperity and of depression on different individuals. We might go on to point out how bank failures, mortgage foreclosures, wage variations, stock-market fluctuations, and the efficiency of business managements are all related to the alternations of prosperity and depression.

If the effects of the recurrent periods of inactivity and low prices were spread uniformly over all members of society, the consequences would not be so severe as they now are. There would be only a general reduction in per capita income and in planes of living. But in fact, the burden rests primarily on those least able to bear the load—the unemployed worker, the weak business enterprise, and the farmer—a situation that makes these periods of depression an even graver social problem. Is it any wonder that some question the adequacy of the capitalistic system, particularly during such times as the early 1930's?

The serious effects of these oscillations in business and agricultural conditions are widely recognized. Quack remedies are as numerous as panaceas for rheumatism. Careful thinkers have attacked the problem, but a complete understanding of the nature and causes of depressions, and conclusions as to remedies, have not been reached. Much time and thought are being devoted to this question today. Our knowledge of the problem is increasing, and we may have hope that in the not far distant future, "booms and depressions" shall at least be reduced in severity.

THE NATURE OF BUSINESS CYCLES

Is There a Business Cycle?—The answer to this question must be preceded by a preliminary statement of what we mean by the business cycle. In general, this term refers to the somewhat rhythmic and continuous alternations of "booms and depressions," of swells and recessions in business activity, lasting from two to seven years and arising primarily from maladjustments within the business structure. Not all economists are agreed that such a cycle exists. They agree that there are changes in business but do not agree that these are sufficiently regular or general to be called *cycles*. Dean A. B. Adams insists that one cycle does not lead to another, but that each complete period of prosperity and depression is divorced from other periods, and that after a cycle has been completed, another cycle will not take place unless some external force, such as the development of a new industry, provides the motivating force. Others attack, with less validity, the idea of a cycle on the grounds that we cannot accurately forecast a depression at a regular interval of let us say three and one-half years, nor can we count on a given height of prosperity or depth of depression. In recent years some writers have objected to the term *business cycle* on the grounds that it gives a false impression of uniformity in the degree to which the various industries oscillate. Some industries may be depressed while industries on the average are prosperous. Again, certain industries may do quite well, while business as a whole is said to be in a depression. Even among those industries whose direction of change in activity corresponds to that of business as a whole, some will oscillate but little whereas others will fluctuate violently. Care should be taken to recognize all of these qualifications; yet there does seem to be merit in thinking of a business cycle or recurrent variations from normal conditions in industry as a whole.

Changes in business conditions are cyclical in the sense that periods of prosperity and depression alternate; prosperity is followed by depression, and depression by prosperity. The term *cycle* is not meant to give the impression that there is a uniform period of time between depressions and that all depressions or periods of prosperity are of the same intensity. Cycles vary in length. Professor Wesley C. Mitchell found that, though the average length of the twelve complete cycles occurring between 1878

and 1923 was 42 months, measured from trough to trough, individual cycles varied from 25 months for the 1919–1921 cycle to 74 months for the 1878–1885 cycle. Business cycles also differ widely in the degree of oscillation from normal, the minor depressions of early 1919, of 1924, and of 1927 being in sharp contrast to such major declines as those of 1907–1908 or 1920–1921. This is well shown in Fig. 59.

Kinds of Variations in Business Activity.—The best evidence of the existence of a business cycle comes from a consideration of the following four kinds of variations in the volume of production and trade.

1. *Secular Trend.*—Most data representative of business activity show a general tendency to increase over a period of from ten to fifty

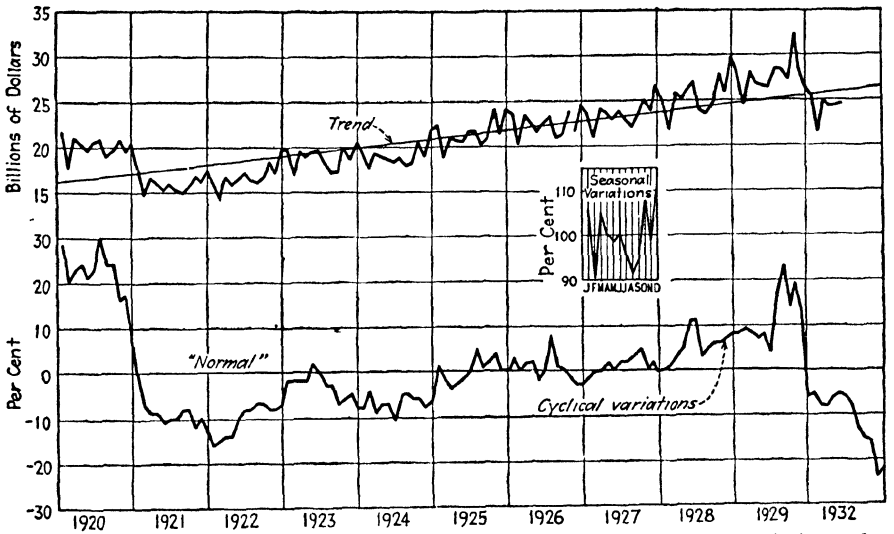


FIG. 60.—Bank debits: long-time trend, seasonal variations and cyclical variations, the United States, 1920–1932.

years—the long-time growth or secular trend of the industry or industries represented. Growth of total economic activity arises primarily from increases in population and changes in efficiency. Occasionally an individual economic series shows a distinct tendency to decline, as in the case of interest rates from 1900 to 1915 or of the production of kerosene or of carriages. Once in a while, data will be found which show no tendency to either increase or decrease but have a horizontal trend. In Fig. 60 is an illustration of a rising trend, depicted by the light line drawn through the irregular line showing the volume of bank debits in this country. By bank debits are meant the checks charged against individual deposit accounts in banks. These secular changes are not part of *business conditions;* they are anticipated and considered in the plans of individual producing units and of business in general. They are normal, in the sense that they are expected. They offer few problems as difficult

as those which arise when industry grows more or less rapidly than is expected.

The measurement of trend has been practically impossible since 1930. In view of the growth in population and the progress in technology, the continuation of great unemployment and idle capital leads to a question as to whether on occasion there may not be extended periods in which such bases for growth will not be utilized. Thus the *relatively* prosperous years of 1936–1937 did not bring industrial production up to most of the previously calculated levels of growth or trend. Unemployment was still six or seven millions, even though the actual volume of industrial production was as high as in 1929! It must be realized that measurements of trend are approximations; it is quite possible that Fig. 59 assumes too high a level for trend for 1939.

2. *Seasonal Changes.*—There occurs in most economic data a fairly regular, recurrent variation with the seasons of the year. In the case of bank debits we find that the greatest volume occurs usually in January, March, October, and December. In contrast, the smallest volume usually occurs in February, July, August, and September. Seasonal changes likewise occur in carloadings, pig-iron production, building contracts awarded, and other series of data by which business activity is measured. Occasionally seasonal variation changes, possibly even sharply, as in 1935, when the time of introducing new automobile models was moved from spring back to the preceding fall.

Trend, adjusted for seasonal variation, is called *normal* by statisticians. By this they mean that the long-term trend and seasonal variation are usual and expected and to a considerable extent measurable in advance. Such normal changes are in contrast to the irregular, abnormal variations of the business cycle.

3. *Cyclical Fluctuations.*—Even after long-time or secular trend and seasonal variation have been removed from economic series typical of production and trade, there will be seen clear-cut evidence of somewhat rhythmic variations, sometimes being above and sometimes below what would have been expected if the volume had just equaled long-time trend adjusted for seasonal variations. These cyclical swings are evident in the chart showing bank debits. These irregular alternations above and below normal, or trend adjusted for seasonal variation, are known as the *business cycle,* when the series analyzed is representative of business as a whole.

4. *Residual Changes.*—In addition to secular trend and seasonal and cyclical variations, there are residual fluctuations which do not come under any of these three types of change. Such changes are those arising from major strikes and from natural disasters such as a great flood. These changes cannot be separated statistically from cyclical variations and hence are left in the usual indexes and charts of business activity.

Prosperity and depression are relative terms—relative to what would have been expected on the basis of the general tendency of business volume to grow, with the usual seasonal variation. Prosperity indicates that business is above expectations, employment is more than normal, wages are fairly satisfactory, sales volume is high, prices are relatively high, and profits are unusually large. Depression indicates the reverse, particularly that the volume of sales or prices, or of both, is below those anticipated. Our present concern is with these alternating good and bad business conditions, a complete cycle covering usually from two to seven years. Our conception of business conditions includes all changes in the volume of industrial production and trade, and much of price changes, which are not of the character of long-time growth or of seasonal variations nor due to temporary residual factors.

When Did Business Cycles First Appear?—The peoples of the world have always enjoyed periods of good times and endured stretches of hardship, but these cannot all be classed as business cycles. The famines of Egypt, the pestilences of medieval Europe, and the crop failures of pioneer agriculture all brought more actual physical suffering than even our recent difficulties, but, in the words of Wesley C. Mitchell:

> It is not until the uses of money have reached an advanced stage in a country that its economic vicissitudes take on the character of the business cycle.
>
> This remark does not mean that the economic life of communities with simpler organization is free from crises, or from alternations of good and bad times. On the contrary, life seems to have been more precarious, economic fortune more fluctuating, in a medieval town than in a modern city. But until a large part of a population is living by getting and spending money incomes, producing wares on a considerable scale for wide markets, using credit devices, organizing in business enterprises with relatively few employers and many employees, the economic fluctuations which occur do not have the characteristics of business cycles. . . . [1]

The features outlined by Mitchell did not characterize American urban industry to any marked extent until after the Civil War. Previous depressions, with a few exceptions, were largely related to untoward developments in politics and government finance, or to natural events. More recent depressions have had more to do with developments within the business structure itself; overbuilding of capital equipment, overextension of bank credit, technological improvements, misdirection of productive effort in the consumers'-goods field or shortage of consumer buying power. With Mitchell's statement of the characteristics of an economic system subject to the business cycle in mind, we turn to the more exact statement of that species of industrial and commercial developments known as the business cycle.

Measurement of Business Activity.—Before studying the business cycle further, we should have a knowledge of the measures of the condi-

[1] *Business Cycles* (National Bureau of Economic Research, 1927), p. 75.

tion of business. It is only within the last decade or two that great progress has been made in the statistical measurement of business activity. Many series of data indicative of the volume of production and of trade are now available. Some leading data are pig-iron production, factory employment, freight car loadings, building permits, electric power production, and debits from individual bank accounts. Production data from many important industries, retail sales' volumes, and price data of many kinds are at hand. Unfortunately, not all of the data needed have yet been gathered. Data representing directly either the prices or the volume of farm products are not usually included, for the business cycle is regarded as primarily an urban phenomenon. Frequently two or more of the series listed above and others, not mentioned here, have been combined into a composite index number by the methods described in Chap. XIV. Examples are: (1) the Federal Reserve Board index of industrial production, including many kinds of production, and (2) the Bureau of Labor Statistics index of the wholesale prices of all commodities.

For purposes of measuring business activity, these data need to be submitted to certain mathematical treatment, for they measure all types of variation together: long-time growth, variations with the seasons of the year, rhythmic variations typical of "booms and depressions," and residual variations accompanying such events as major labor strikes or natural disasters. Typically the statistician has proceeded to eliminate from these data, by fairly well-established statistical devices, the long-time growth and the seasonal variations. In the past, statisticians have called these variations *normal* in the sense that they were recurrent and could be anticipated with fair accuracy. The reader should recall, however, the discussion of the difficulties and limitations involved in measuring trend at the present time. After the elimination of the effect of normal growth and of seasonal variation, the remaining variations are a combination of those which are cyclical in character and those termed residual—two types of change which cannot be separated statistically. We shall refer to the two together as cyclical oscillations, which are represented graphically as oscillations above and below a horizontal line, termed 100 or normal, as is done in Fig. 60 on page 667.

After the measure or index of business activity has been obtained, such as that presented in Fig. 59, we are interested in understanding the sequence of events in a typical business cycle. This is necessary if we are to make any progress either in understanding its cause, or in forecasting its course.

The Course of the Cycle.—The following description of the events of a typical cycle will not represent exactly the developments of any particular cycle, although there is probably a higher degree of similarity than of difference between cycles. Some series representative of important

developments in business are presented in Fig. 61. Cycles differ in the promptness and extent to which changes occur in such aspects of economic life as security prices, wages, or interest rates. Thus, although the prices of common stocks have usually declined several months before a general business recession began, in the 1929 recession business volume turned down about June, 1929, whereas stock prices continued upward until October of that year. Building construction, which frequently has declined in volume about six months before a decline occurred in general business, in the last major depression had begun to decline in 1928. In spite of these differences, there is sufficient similarity in the movement of particular price series, production series, and trade series, to warrant a description of those events which usually take place during

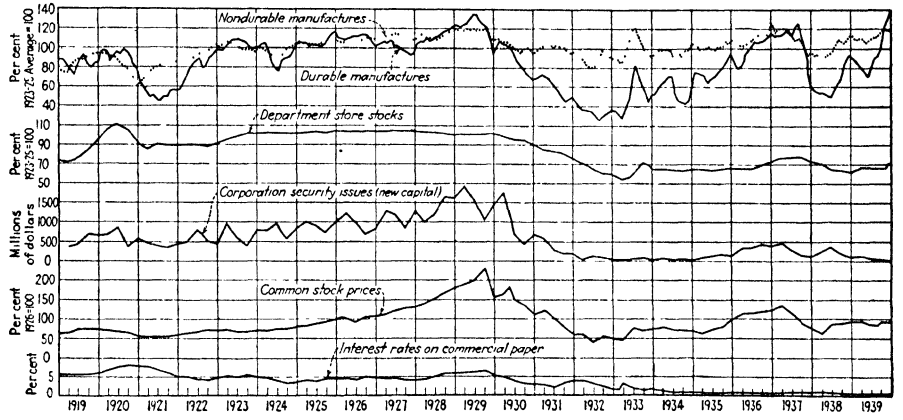


FIG. 61.—Variations in important economic series, 1919–1939.

the various parts of a business cycle. For purposes of description, the cycle is usually divided into four phases: (1) recovery, (2) prosperity, (3) recession, (4) depression. It makes little difference which phase is first described; we shall start with recovery.

1. *Recovery.*—Business moves from the depression phase into the recovery period with conditions favorable for expansion. Such conditions generally include the following: Bank reserves are large relative to deposits, and interest rates charged in large city banks have declined as in 1921–1922 (Fig. 61). Stocks of goods, particularly those of finished goods in the hands of merchants and consumers, are low, having been depleted by the fact that consumption has declined less than production during the depression. This was clearly true of department-store inventories in 1921 and again in 1930–1932. Manufacturers are more willing to increase production because costs, as affected by interest, wages, and the efficiency of labor, and the price of raw materials, are appreciably lower. Business failures have become fewer, and, since production has begun to increase, pay rolls and earnings of producers expand and buying

power is enlarged. Reviving demand encourages plant enlargement and modernization and the establishment of new industries. Consumer purchases of durable goods expand sharply, as in 1935–1937. The building of these capital goods further increases the demand for labor and raw materials and ultimately for consumers' goods. Each increase in expenditure for equipment or labor further increases buying at retail and wholesale, which in turn stimulates production. More credit is called for, and banks increase loans. The whole process becomes cumulative. Many economists, however, hold that no substantial revival can take place unless some particular stimulus is applied, such as a new field for capital investment, or some new and large but unsatisfied consumer want. Such new industries have frequently given a great impetus to business, as in the case of the stimulating influence of the expansion of the automobile industry and of urban building in 1921–1922, and, in fact, until 1928.

2. *Prosperity.*—The early part of the prosperity period is only an enlargement of the recovery phase. Production and trade continue to increase, unemployment decreasing and consumer income growing. Plant expansions take place in large number, stimulating such major industries as steel, lumber, and construction. Note the rapid increase in the output of durable goods from 1935 to 1937, as shown in Fig. 61. As unemployment declines, wages rise and labor becomes less efficient. The ease of making profits leads management to be extravagant and careless. Since to carry on the larger volume of business with many higher prices requires more bank funds, there is demand for more bank loans until bank-reserve ratios become lower and banks tend to raise interest rates and finally to restrict lending. Bank deposits rose sharply as a result of increased lending from 1919 to 1920 and again gradually from 1924 to 1929. Although no shortage of bank resources appeared to exist at the end of the latter period, interest rates rose noticeably in 1919–1920 and again in 1929, and later events proved that there had been many cases of overextension of credit on questionable security. Stocks of goods on hand tend to become larger, as was true in department stores in 1920 and in 1937. In 1929 such was the case only in the raw-materials field, such as farm products, copper, and oil. All in all, it becomes progressively more difficult to sell a larger volume at a higher price. At the same time production costs, even such contractual costs as rent and interest, gradually mount and in many cases the business profit margin becomes impaired. Sometimes in recognition of these conditions, the prices of common stocks decline.

3. *Recession.*—Economists do not agree concerning the fundamental cause of the transition from prosperity to a period of declining business activity. Sometimes the immediate, though rarely if ever the underlying, cause is an outstanding event, such as a large bank failure in 1907,

which upsets the scales and business tumbles. The decline may be sudden and sharp, as in 1921 and 1929, or more gradual, as in 1914. Frequently the recession has been accompanied by a financial panic, though this has by no means always been true. The depth to which the business decline will go seems to be related to the degree of maladjustment brought about during the prosperity phase.

The recession is characterized by a receding volume of production and trade, increasing unemployment, declining wholesale prices, declining profit margins, and a general feeling of pessimism, with much talk of returning prosperity, notably in 1921 and again in 1931–1932. Bankruptcies increase, as weak firms are unable to stand the strain. If credit is scarce, interest rates may at first rise, as embarrassed companies demand bank aid, as in 1920–1921. Construction and plant expansion almost come to a standstill, and even replacement of wornout producer and consumer capital goods almost ceases. Note the rapid and marked decline in activity in the producers' goods field during the two major depressions portrayed in Fig. 61. Raw-material industries frequently suffer most, the effect of falling prices and volume being passed back to them, which in turn cannot shift the burden.

4. *Depression.*—During the period of depression the way is paved for recovery. The preparation of the upward road is a matter of remedying at least some of the maladjustments which were developed during prosperity and which lead to recession, whether these maladjustments are in production, in credit, in consumer income, or elsewhere.

The depression is characterized by events opposite to those of prosperity. The volume of production and trade is small, especially of the more durable goods, in many kinds of which it usually is below consumption. Unemployment leads to lower wages and greater labor efficiency. Interest rates become low except where risk is great. Other costs of doing business also tend to fall into harmony with the entrepreneur's selling price, although, if certain prices and costs decline drastically while others remain rigid, the restoration of harmony in the price structure is delayed, as from 1930 to 1934. Management becomes more effective. Stocks of goods tend to decline. All in all, the outlook for a profit margin between gross income and costs becomes more promising. Business is now ready for the recovery phase.

WHAT CAUSES BUSINESS CYCLES

Business Economy.—Although people in ancient and early modern times had their periods of "hard times," the business cycle, as we have explained that term, is peculiar to the exchange or money economy or, as Wesley C. Mitchell prefers to call it, the *business economy.* We live in an era of the money-making and money-spending specialist, and the great economic problem arising therefrom is that of the coordination

of the activity of specialists. The high degree of division of labor with the consequent interdependence of people and of all phases of economic activity has given us an economic system which is a complicated mechanism. If it works smoothly, it is highly productive, but it is also a system which on occasion fails to keep all of its parts in proper coordination, one to another. The exchange economy may be compared to some such highly effective machine as a linotype or an adding machine, which may be rendered temporarily useless by a loose nut or broken cog. No one sits on high to prevent broken "economic cogs"; it is a system controlled by a motive, profits, not by a set group of persons. The coordination of the parts of the business-economy mechanism is the responsibility of profit-seeking entrepreneurs—a task which they apparently do not perform with complete success.

Points of Agreement.—If one general explanation of business cycles were to be given, it would be the word *maladjustment.* That term is almost self-explanatory, for the mere presence of depression with idle plants and unemployment suggests that the economic system is not in equilibrium. The difficult task is to fasten on the precise kind of maladjustment which seems to be at the root of the difficulty. Is it a matter of excess and then shortage of credit? Do our difficulties arise from a periodic shortage of consumer income? Is the overdevelopment in certain fields producing consumers' goods our basic difficulty?

Among students of business cycles there is general agreement that the most significant phenomenon of the business cycle is the fluctuation of investment, that is, of capital formation. In this concept of turning capital into durable goods by investment must be included such items as the following: use of depreciation reserves of business for plant and equipment replacement, turning working capital of business into inventories, use of consumer savings to purchase durable consumer goods, use of savings of individuals and business units to construct productive capital, or public capital. Thus it will be seen that "investment" means turning savings into goods, and that the term also includes goods of all degrees of durability. Chief emphasis is placed, however, on the turning of available funds into the more durable goods.

In Fig. 62 the estimated net capital formation by years from 1919 to 1937 is presented, together with estimates of the major types of capital formed. The general correlation of capital formation with the curve of business activity (Fig. 59) is striking. No evidence of the depth of the depression in 1931 to 1934 is more telling than the fact that net capital formation was minus during those years.

Equally important are the changes in the character of the capital formation. Business durable capital and residential construction accounted for much of the capital formation from 1923 to 1929. In contrast, only public capital and foreign claims showed a net gain during

1931 to 1934. Then in the recovery of 1935–1937, public capital, some business durable capital (machinery), and increased inventories accounted for the net gain in capital.

According to this analysis, then, the major feature of a recession is a sharp decline of investment, in the sense of capital formation. Part, even most, of the currently accumulating depreciation reserves and other individual and business savings are not being invested in new goods. Many paid-off loans are not replaced by new loans. An increasing portion of bank funds remain wholly idle, or are used to bid up the price of existing prime bonds. Thus the "circle flow of money," the use of saved

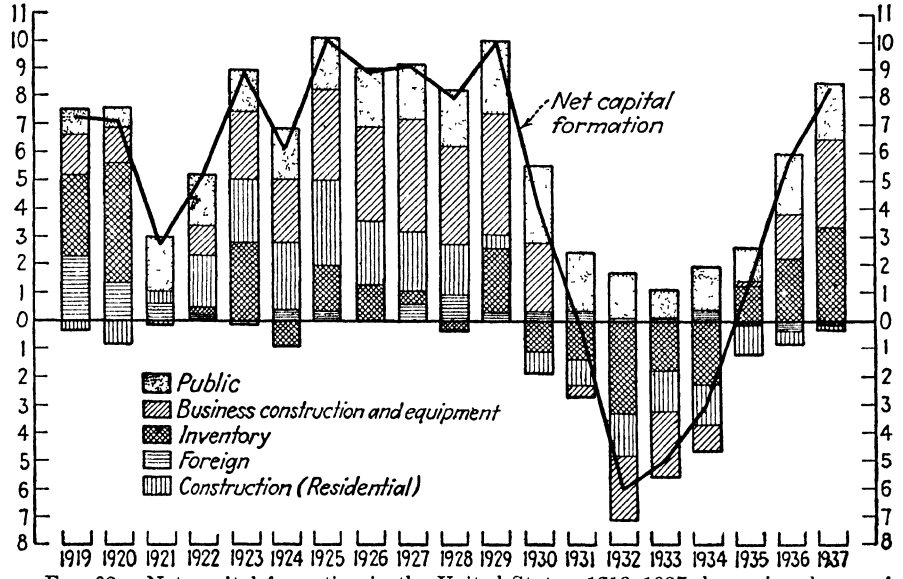


FIG. 62.—Net capital formation in the United States, 1919–1937, by major classes of capital in 1929 prices. (*From Simon Kuznets, Commodity Flow and Capital Formation, and by the same author, Bulletin 74, National Bureau of Economic Research.*)

funds to employ labor to produce consumer goods or build producer goods is partially broken. There is a lack of purchasing power in consumer hands to buy at profitable prices all that industry can produce, simply because there is a lack of investment. In fact, the influence of a decline of investment is cumulative. The reduction in consumer buying and in returns on capital in use further discourages investment.

In contrast, a period of recovery is a period of expanding investment. Idle funds of business are put to work, and new capital is acquired. In fact, a "boom" period is one in which investment exceeds current savings, uses up any uninvested savings of the preceding depression, and goes on to feed on created bank credit. It should be seen that capital investment tends to feed upon itself during the recovery stage. The increased incomes and returns on existing capital encourage further

investment. Later, of course, interest rates may rise and prospective returns fall.

Now from what has been presented in the preceding chapters it is clear that entrepreneurs will put capital to work when the prospective returns from such uses (marginal productivity) exceed the cost of acquiring that capital. Recovery and prosperity are periods of increasing prospects of returns—prospects which exceed market interest rates. In contrast, during recession and depression prospective returns are below interest rates. In fact, it is possible that prospective returns are negative.

Here is where agreement on the cause of business cycles ends. When writers undertake to explain *why* the fluctuations in investment, or why the variations in the relation of prospective returns on capital to the cost of capital, there are almost as many theories as writers. Clearly only the most widely respected theories can be presented here. And these theories will be presented according to whether the emphasis is placed on the variations in the market interest rate and the reasons therefor, or find the cause in developments which change the prospective returns on new investment. Occasionally, theories will straddle and find the explanation in factors which influence, in opposite directions, both the market interest rates and the marginal productivity of capital.

Another helpful division of theories is between (*a*) those which find the explanation of business cycles within the tendencies toward maladjustment and then readjustment of the business economy itself, and (*b*) those which insist that some external development originally starts the cycle.

a. According to these views, called *self-generating theories,* once fluctuation has begun, a series of developments is set in motion which will check this fluctuation and reverse the course of business. This new course will in turn be checked and reversed, and so on, with cycle after cycle occurring. Some light on this approach to cycle theory is shed by the description of the course of the typical cycle, presented on page 671.

b. Somewhat in contrast, other schools of thought hold that at least major cycles are initiated by forces *outside* the complex of business relationships—forces which affect the desirability of investing capital. It should be emphasized, however, that even persons who attribute cycles to an external cause agree that the resulting cyclical movement of business occurs because maladjustment and readjustment in business relationships take place in a manner described above.

1. External Forces. *a. Natural Phenomena.*—Two systematic attempts have been made to find the cause of urban business cycles in weather conditions with consequent good or bad crops. W. Stanley Jevons, writing about 1880, declared that he had found a distinct similarity between weather and business cycles from 1721 to 1878, the cycles of each being about ten years in length. Later computations indicate

that the cyclical period of neither series is ten years, and that there is a considerable dissimilarity in their respective cyclical periods. In 1914 H. L. Moore announced that he had discovered a thirty-three-year and an eight-year cycle in the rainfall of Ohio and Illinois, which is particularly interesting when one considers that Jevons' earlier calculations had been largely made with American data. Moore then maintained that there had been a high degree of similarity between these cycles and business conditions in this country.

Those who undertake to explain business cycles in terms of variations in weather, not only need to demonstrate a similarity in variation but also to point out how weather, through its effects on crops, can affect general business. Good crops mean low prices for farm products, which does not augur well for the salesman of urban products to farmers, even though the above investigators state that periods of heavy crop yields were periods of business prosperity. On the other hand, low yields of farm products, which usually lead to higher farm prices, mean high food prices for urban dwellers and low volume of business for processors and transporters of farm products. The interrelations of rural and urban prosperity have been considered in Chap. XXV. Here it can be said that those theories which trace business cycles to weather cycles have but little support from economists today.

Two more recent suggestions of the interrelationships of cycles in natural phenomena to business conditions appear to have a more logical causal explanation, even though both theories are far from established. Ellsworth Huntington holds that weather affects the health and the mental state of the population. From there on his explanation is much like the "psychological" theory discussed later. Garcia-Mata and Shaffner suggest that variations in sunspots affect the amount of ultraviolet rays and the magnetic activity of the earth. Human energy and emotions are influenced either by the variations in ultraviolet rays or changes in the magnetic effects on the electrical basis of nerve energy. If this line of causal explanation can be proved, the explanation of business cycles will be greatly simplified.

b. Innovations.—A theory which has gained in support as its logical basis has been explored and business-cycle history examined is that all eras of great prosperity have been periods of tremendous investment related to the commercial utilization of inventions. A few business men pioneer in the use of such "innovations," but it is only when a great number of initiators follow that the boom gets under way. Thus we had the railroad booms of the 1850's, 1870's, and 1880's. The boom of the 1920's is viewed as arising from the tremendous increase in automobiles from 8,226,000 registered in 1920 to 23,059,000 in 1929. Capital was required to purchase the automobiles, to build the plants for producing them, to construct the highways on which to use them, and to

develop the related petroleum industry. Coincident, and in part related, was the great shift of population from country to the cities, which brought a building boom. Industry generally is stimulated by the flow of capital into investment, which means augmented purchasing power. Such periods of innovation are always overdone: excessive credit is created, excessive plants are built, and costs get out of line with returns. Thus, though the innovation greatly increased the marginal productivity of capital, it later leads to a decline in these prospective returns, and probably also to a rise in the interest rates. Business goes into a slump, from which it may rise somewhat because of readjustment during a depression. It will not, according to this theory, go into a genuine boom again until another period of "innovation" gets under way.

c. Institutional Changes.—Occasional writers find the explanation of particular cycles in some preceding major change in economic processes or institutions brought about ordinarily by government acts. The most widely held of these ideas is that which holds that the depression of 1921–1922 and that following 1929 had their roots in the disarranging of credit, the destruction of capital, and the changes in the relative economic importance of industries and countries during the World War of 1914–1918. Leonard P. Ayres has attempted to develop a theory of "primary" and "secondary" post-war depressions and apply the idea to the post-Civil War period. The "primary depression" is a reaction to the shift from war to peace, related frequently to high interest rates, and followed by some deflation of credit and prices. It will be brief, however, and will be followed by a boom while capital flows into reconstruction, into utilization of technological developments which were held back by the war, and into replacing consumers durable capital which was not replaced during the war. Later there will come a crash, probably more severe than the "primary" depression. Although the disrupting influence of a major war is acknowledged, few students will accept it as the necessary, or at most primary, cause of the major depression ten years later.

Other major institutional changes, particularly in the field of money, or the threat thereof, have been held as responsible for certain depressions. Thus some maintain that the collapse of the 1890's arose from businessmen's fear of the effects of the silver already purchased and the threat of the remonetization of silver. In these cases other influences are at work, and it is impossible to say which force is dominant.

2. Psychological Theories.—Some writers on business cycles find their basic explanation in the mental state of business men, and, therefore, in the entrepreneurial class view of prospective returns on use of capital. Dr. C. O. Hardy points to the all-pervading uncertainty of business enterprise, "chiefly uncertainty on the part of producers and middlemen concerning the conditions that will prevail in the market

when they are ready to dispose of their goods," as the major cause of cyclical variations in business. This uncertainty has its root in the inability of the price system properly to govern production—an increase in demand encouraging many enterprisers to expand at the same time and leading to excessive output. Such a condition brings depression and a contraction which, being done by enterprisers acting independently, is also carried too far.

Dr. A. C. Pigou of England states that the emotional state of business men alternates from an optimistic error to a pessimistic error. The attitude of business leaders soon permeates the whole of industry and then the emotional error spreads, bringing either excessive production and buying, or the reverse.

The explanation of business cycles as being primarily due to psychological causes has not obtained wide acceptance among economists. It is generally granted that overoptimism may encourage the overextension of credit, overexpansion of plant, and the creation of other maladjustments. Similarly, pessimism tends to prevent the execution of plans for future production and thus deepens depression. However, it is only through facilitating other grave maladjustments within the business structure, so as to bring depression, that optimism can be said to lead to pessimism. The mental state of business men—those who invest in new capital goods in particular—does tend to amplify the swings of the business cycle, but this mental state is a reflection of present and prospective profit margins, which grow out of other causes. If a business depression is due primarily to other maladjustments, business cannot be revived merely by a change from pessimism to optimism unaccompanied by a correction of the basic maladjustments.

3. Credit and the Cycle.—A widely accepted explanation of business cycles is that which points to bank credit as the chief instigator of alternations in business. During a depression, bank reserve ratios have become high. If the outlook is for higher prices, business men will borrow from the banks, for a loan at 6 per cent interest will actually be without interest charge if the borrower's goods rise in price at 6 per cent a year. The tendency for prices to rise, particularly as business moves into the prosperity phase, in turn brings further credit expansion, for the borrower can both afford to borrow and must obtain a larger loan to do the same business at the higher prices. More and more bank loans are granted. But there is a limit to the volume of bank credit, determined by entrepreneurs' desires to borrow and by the banks' cash reserves. Banks must then take steps to protect their reserve ratio. They tend to make fewer new loans, require greater security, and charge higher interest rates; many requests for renewals are refused. This tightening of the credit reins is particularly felt where activity relies heavily on borrowed funds, as in the construction industry and by firms considering expan-

sion. Even ordinary manufacturing and commercial organizations feel the growing shortage of bank funds. Inability to secure additional credit or other causes check the upward movement and start a downward turn. This then becomes cumulative. If prices fall 10 per cent, this amounts to an additional 10 per cent interest charge. Some particularly embarrassed firms are forced to sacrifice goods on hand to get cash. Men are laid off, orders for materials are canceled, building of new plants is checked, raw-material industries curtail activity, and so on, deflation producing more deflation. During the following depression, credit conditions are rectified and the way prepared for recovery. Two outstanding defenders of the credit theory have been R. G. Hawtrey in England and Alvin H. Hansen in this country.

Among the economists of distinction who long have defended some form of money, credit, and interest theory of the business cycle is Irving Fisher. In his earlier writings he expressed the opinion that the failure of the commercial or contract interest rate to rise rapidly enough with rising prices, and its failure to fall rapidly enough with falling prices, was the greatest cause of the trouble. His later views he has summarized under the heading of "The Debt Deflation Theory of Great Depressions," as follows:[1]

(1) Economic changes include steady trends and unsteady occasional disturbances which act as starters for cyclical oscillations of innumerable kinds; (2) among the many occasional disturbances, are new opportunities to invest, especially because of new inventions; (3) these, with other causes, sometimes conspire to lead to a great volume of over-indebtedness; (4) this, in turn, leads to attempts to liquidate; (5) these, in turn, lead (*unless counteracted by reflation*) to falling prices or a swelling dollar; (6) the dollar may swell faster than the number of dollars owed shrinks; (7) in that case, liquidation does not really liquidate but actually aggravates the debts, and the depression grows worse instead of better, as indicated by all nine factors; (8) the ways out are either via laissez faire (bankruptcy) or scientific medication (reflation), and reflation might just as well have been applied in the first place.

Few economists would deny that the bank-credit and debt aspects of business cycles are important. The influences of bank credit and debt ramify into every part of economic life: production, distribution of goods, and consumption. Economists, however, are not agreed as to whether overexpansion and curtailment of credit are the basic cause of variations in business activity or just one feature which necessarily accompanies and amplifies the oscillations in activity which may be due fundamentally to other reasons.

4. The Use of Income: Saving.—There are three important theories which explain the occurrence of depressions in terms of the failure to get purchasing power into the hands of those who wish to buy consumption

[1] *Econometrica*, October, 1933, p. 349.

goods as rapidly as those goods are produced. The first of these theories, early expounded by the prophet of socialism, Karl Marx, and more recently refined by the Englishman, John A. Hobson, holds that too small a portion of the national income goes to labor. The portion going to capital is large relative to the number of people, and therefore some of the purchasing power is stored up in the hands of the wealthy. At the same time, production of goods continues or even expands because of the new plants developed out of the savings of the wealthy, leading to a storing up of inventories. Consequently, prices fall and business activity recedes. During the depression saving runs behind the amount required to expand equipment with the growth of population; hence consuming power, at the low prices, is sufficiently large to purchase the stored-up goods. To Hobson the solution to the cycle problem lies in a more equal distribution of the national income.

A theory which is similar in general framework but which offers a more precise exposition of causal relationships has been recently offered by R. T. Harrod. At times of prosperity, argues Harrod, the enlarged profits increase savings, and consumers generally are inclined to save more. Then the *rate of increase* of consumption begins to slow down, the well-known principle of *acceleration* thus being brought into play. This principle holds that a change in demand for finished goods brings a much greater change in demand for the producers' goods which make the finished goods. Therefore a decline in the *rate of increase* of consumption will bring an absolute decline in the demand for equipment. If consumption would cease to grow, the demand for additional equipment would disappear, and such producers'-goods industries will be called upon for replacement only.

The significance of the acceleration principle was pointed out long ago by J. M. Clark and others. The questions which are raised concerning Harrod's theory are (*a*) his assumption of the shift from consumption to savings during prosperity, and (*b*) his assertion that the acceleration principle is the only major and ever-present force leading to recession. It is certain, however, that (*a*) change in consumption brings a greater change in the demand for producers' goods, and (*b*) that producers' goods inevitably have wider cycles in activity than do consumers' goods.

5. Maladjusted Production.—Economists generally hold in harmony with Say's law that there can be no general overproduction in the sense of more goods than people want to consume and will buy, if production and prices of different goods are in proper relation to each other. However, there can be more goods than can be sold at prices which the sellers demand, or to which they are accustomed. Such a situation may arise out of a contraction in the circulating medium or its velocity, as in 1930–1932. This has been explained on pages 130 to 133, which the student

would do well to review at this point. In so far as this is the cause of *overproduction*, such a theory should come under credit theories; or under shortage of consumer buying power. The lack of buying power to buy goods at the price covering past production costs must come from the inability of the credit system to expand further, or from credit contraction, or from the failure of our system to give enough income to consumers. Goods to the usual amount could, however, be sold, if prices were sufficiently adjusted.

There can be overproduction of particular goods, which we call maladjusted production. The *planning* of production or coordination of productive effort among various products takes place according to the laws of price. But price does not act as a perfect coordinating influence. The presence of monopoly influence, and general inability of capital and labor to shift freely from one type of production to another, cause overproduction and unduly low prices for some kinds of goods in relation to other kinds. Producers of the relatively overproduced or low-priced goods cannot buy the high-priced goods because of lack of purchasing power, and the latter cease production because they do not have a sufficient market at the prices to which they have become accustomed. The inability of prices perfectly to coordinate production should not be taken as prima facie evidence of the undesirability of capitalism. We are not certain that social control—whether control by orthodox socialism, fascism, or that degree of control provided in the National Recovery Act—could do better.

Two general types of maladjustments are recognized. First, there is the vertical, a maladjustment which may occur between the production of producers' goods and of consumers' goods. During the prosperity stage of the cycle relatively too much effort is considered to be devoted toward the output of such producers' goods as plant and equipment. Because most of the money invested in producers' goods is indirectly paid out in wages (including salaries), those who receive such wages buy consumers' goods, the result being a good market for consumers' goods at satisfactory prices. But overconstruction results in such a large supply of producers' goods that customary returns on capital invested in them no longer appears probable, and expenditures for construction of plant and equipment to a great extent cease. The demand for the products of the producers'-goods industries declines, and it is considered unprofitable to continue the purchase of labor and material at previous rates. There is, therefore, a need to shift productive effort from these industries to consumers'-goods industries, with necessary readjustments in prices. This cannot be effected with sufficient rapidity to prevent unemployment, bankruptcies, and a depression.

Second, the maladjustment may be among industries producing different types of consumers' goods. During 1930–1933, writers in the

popular press spoke much of the excessive capacity in certain consumers'-goods industries such as those making shoes or radios. But few serious students of the business cycle see in those maladjustments alone sufficient power to upset the whole economic system.

A major reason why production maladjustments continue and their effects spread is that of *price rigidities.* When labor or capital seeks to migrate from the overexpanded industries to others they find many doors to employment closed by the rigid-price system. Relatively too much labor is therefore employed in the *open-door* competitive industries. Goods produced by these industries fall so low in price that those who produce them have not the purchasing power to buy the rigidly priced goods, and many in the rigid-price industries are unemployed. This view of the business depression has been expressed by Professor Edwin Cannan in an address as president of the Royal Economic Society of London, as follows:

> While the isolated individual satisfies his own needs directly by his own labors, in organized industry each of the associated individuals seeks to satisfy them by the indirect method of satisfying other personal needs, and having his own satisfied by what he gets from them in exchange. *When they fail to agree in the bargaining, unemployment appears.*

The Views of J. M. Keynes.—In Chap. XVI brief reference was made to the recent provocative suggestions of the English economist, J. M. Keynes. It is true that Keynes insists that he is not presenting a business-cycle theory but rather an explanation of the determinants of the level of employment over longer periods of time. In fact, he argues that during an extended period of underemployment it is possible to have cycles with the peak of activity failing to reach prosperity in the sense of full employment of all that can be expected to find work. A case of such a fluctuation of business activity was the rise from the low levels of 1933–1934 to the higher point of 1936–1937, followed by collapse in 1937–1938 (see Fig. 59). The peak unemployment exceeded 6 million, or was 3 to 4 million higher than in 1929.

Recalling the discussion on page 384, Keynes holds that the volume of savings is independent of the interest rate—that savings are determined by the habits of the people, particularly as influenced by income distribution. It is possible that a combination of circumstances—rich country, unequal income distribution, and strong tendency to save—will force interest rates down and down with diminishing marginal productivity on new investment. This would involve no difficulty as long as the market rate remains equal to or below the prospective return on new investment, *provided* that people will be willing to let their funds (saved for nonmonetary reasons) be used at lower and lower interest rates. Here, however, is the trouble, according to Keynes. When

rates fall below a remuneration for risk, cost of lending, and loss of liquidity, people would prefer to hold their savings as cash or idle deposits. If such a combination of circumstances were to occur, such hoarded funds would correspondingly reduce future income and production in the economy. Unemployment would result. Furthermore, there are no automatic correctives at work which will restore full employment. Nothing is happening automatically which will reduce the proportion of income saved or raise the returns on investment. The only possible solution is some development which will change people's attitudes—causing them to consume more and save less of income, to be willing to accept lower returns for permitting savings to be used, or to have the prospect of a greater return on capital. Keynes holds that these correctives can be administered only by government action. Propensity to consume would be increased by more equal income distribution. The "block" to the investment of accumulated savings could be broken by public use of capital. The consequent increase of incomes as savings flow into use would increase returns in private business and encourage entrepreneurs to use more capital.

Are Business Cycles Due to One Cause?—The marked disagreement concerning *the cause* of business cycles leads us to question whether any one theory will explain all cycles. Professor Wesley C. Mitchell, one of the most careful and thorough students of the business cycle, doubts that all cycles have a common root. He is inclined to believe that all of the various proposed theories are useful in understanding some or many of the cycles of the past seventy-five years. However, each cycle tends to be somewhat different; causal factors, important in one, may be less important in another business crisis.

It does seem, however, that there is much truth in several of the theories above summarized. The student should furthermore have noted that these different theories are to a large degree only different ways of viewing the same events. Expanding credit results in apparently high returns from invested capital. This leads to the desire to construct new plant and equipment. That results in more bank credit and more debt, which bring investing in excess of saving. All of this leads to full employment, optimism, ability to agree in the bargaining process, and prosperity. Contracting credit brings debt deflation, money loss to him who invested his savings in producers' goods, a pessimistic psychology, hoarding of money income which should be spent for consumers' goods or invested in new producers' goods, maladjustment in production and prices, and inability to agree in the bargaining process. The credit theory recognizes that, during recession and depression, interest rates and debt charges are too high. The same point is covered in the wrong-distribution-of-income theory when it holds that during depression not enough of the total purchasing power reaches those who will spend it for consumers' goods. The maladjustment-in-production

and the maldistribution-of-income theories recognize that one of the maladjustments of the depression period is that interest agreed on in contracts on long-term loans represents too large a part of the social income. The psychological theory also covers this point when it acknowledges that during the period of over-optimism there is a tendency to enter into debt and interest contracts which later become unduly burdensome.

The significant question is: How can the factors which cause depressions be controlled? To that question we shall now give brief attention.

CONTROLLING THE BUSINESS CYCLE

As would be expected, the proposed means of control vary in general according to the theory of the cause of the cycle held by the proposer. Some anticipate that the cycle may be at least modified through more intelligent action by business men. Most of the proposals anticipate social action at least in part. It should be emphasized, however, that so long as we maintain primarily a free enterprise system, social action can be effective only through influencing the prospective profits of business men.

Proposals will be divided into (*a*) those which are designed to prevent the crisis and recession by controls during prosperity and (*b*) those which are devised to overcome depression and facilitate recovery. Occasionally a proposal will contain plans for each phase of the cycle. Again, proposals may be classified as to whether they aim to influence the flow of investment through the control of the market rate of interest or through affecting prospective returns on such investment.

"Natural" Recovery.—Before attention is given to proposals for social control, a few comments should be made about "natural" recovery, a presumed process much discussed in the business press. According to this idea, recession is a necessary period of readjustment from which recovery will come in the absence of government or central-bank attempts to stimulate business. In fact, such attempts are alleged to retard improvement. Preceding a "natural" recovery must be a period of sharp readjustment. Excessive debt must be wiped out through bankruptcy. Probably overextended banks will fail. Above all, prices must be readjusted one to the other; particularly high prices must fall. Unconsciously, it is assumed that growth of population and demand will absorb excess plant capacity.

Although businessmen oppose government stimulants to business, they support ardently government programs which enable them to avoid bankruptcy or reorganization. They certainly welcomed R. F. C. loans in 1931–1932. Moreover the man who cuts price in order to get volume and incidentally keep up employment is called a "chiseler." The whole trend of business policy and action is to prevent readjustment, and therefore to impede natural recovery.

This is not to say that there is no tendency for business to readjust during a depression and to move upward. It is merely to point out the conflict between businessmen's speeches and their practices. It is also to raise the question whether, in view of the growing resistance to readjustment when maladjustment occurs, it will not be necessary for social action to intervene, either to lessen maladjustment or to assist in readjustment.

Credit Control and Price-level Stabilization.—Price-level stabilization is quite widely approved as a means of business stabilization. It is difficult to conceive of a severe depression without falling prices as a contributing factor. As the means of bringing about such price stabilization, the control of credit and interest rates in order to prevent its undue expansion or contraction has been widely supported. Such control, it has been urged, should be exercised by the Federal Reserve System, by its rediscount rate and through purchase and sale of government securities. The method by which reserve banks influence credit conditions was explained in Chap. XIII. But sublime faith in the reserve system's power, a prevalent feeling before 1929, has now been shattered. Possibly the system did not follow the wisest course, but it is also clear that no banking control, certainly not that of one nation alone, can resist a price-level decline against the great odds of war-debt and reparations' complications, gold shortage in many nations abroad, and the restrictions of all kinds placed on international trade. That the central bank can influence business conditions under certain circumstances was clearly demonstrated in the 1921, 1924, and 1927 depressions and in the 1919–1920 and 1923 periods of prosperity. It simply is not an all-powerful tool, nor can its administrators be all-wise. Even the augmented powers of the Federal Reserve plus the strong influence of Federal Treasury operations did not prevent the sharp recession of 1937. In fact, there is much support to the idea that the raising of bank reserve requirements by the board plus a sharp increase in Treasury receipts and decline in expenditures contributed to that recession.

Finally, price-level stabilization by one country may, on occasion, be affected by developments—monetary and in business activity—abroad. This is particularly true when the countries are on the gold standard. Most nations, therefore, have attempted to insulate themselves from such influences by introducing such controls over exchange rates that they are in reality off the gold standard. The United States at the present writing (1939) avoids some of these influences by controls and by the fact of holding four times the gold required for reserve purposes.

Planning of Public Works.—A second proposal for social influencing of business conditions is through the long-range planning of public works. It is proposed that all governmental agencies plan their public works

program for several years ahead and then postpone all but the immediately necessary construction to times of depression. This proposal should be distinguished from the idea of public works as a means of relief and of stimulating business once a severe depression has been entered. The proposal here is aimed to be a preventive, not a cure after the sickness has become acute. Construction plans, legal authorization, and means of financing would all need to be prepared in advance, ready to put a construction program into actual operation at the first signs of sharp curtailment in business activity. The public funds thus used would increase employment and buying and act as the leaven for renewed activity in private enterprise.

It is generally agreed that governments might well put off to depression time as much as possible of their construction, but whether this would act as an effective control of general business conditions has been questioned on the following grounds: (1) The public is not willing to anticipate its needs for public works and provide the authorization for bond issues. (2) Frequently the "postponable" works are located far from those centers of industry in which unemployment is the greatest. (3) Much of the unemployed labor is unfitted for construction work. (4) The total of postponable public works is so small compared with the total of our productive activity, that, even though it were undertaken at once upon the coming of a depression, it alone could not act as an effective "starter" for the whole of urban industry.

"Pump Priming."—During the years 1933–1939 much was heard, and practiced, of pump priming, or the use of large government borrowings to take care of the unemployed and build public works as a means of stimulating business. Such a program is based on the assumption that readjustment during a depression is slow and that the forces of natural recovery are weak. In its more academic form it is based on the doctrines of J. M. Keynes, which hold that market rates of interest will not necessarily so adjust to prospective returns that investment will be encouraged. In fact, at the bottom of the depression, prospective returns on new investment appear to be negative. The accumulated, uninvested savings reduce the national income and production. Therefore if the government will take some of these savings and spend them, the increase of consumer income and of profits in immediately affected industries will increase the profit prospects generally and start a renewed flow of private investment. The small "primer" of public investment will start the many times larger flow of private investment!

A more extensive analysis, and evaluation, of pump priming occupies a section in the following chapter.

Economic Planning.—During the troublous years 1930–1933, the idea of *economic planning* came rapidly to the fore as a means of business stabilization. The proponents of this means of social action for the

prevention of depressions find the chief difficulty of unregulated capitalism to be the inability of the price system to bring about a proper coordination of effort in the different fields of industry. Whether or not economic planning aimed primarily at the coordination of production will solve our difficulties depends not only upon whether the cycle finds its root in maladjusted production, but also upon whether production control which will prevent or correct such maladjustments can be either planned or carried into effect either under capitalism or under socialism. The question as to whether economic planning may not bring with it undesirable consequences such as the indirect social control of consumption, or have untoward consequences upon agriculture, will be discussed in Chap. XXX.

Questions and Problems

1. Why is the problem of the business cycle so important?

2. What is meant by the term *business cycle?* Distinguish the business cycle from other types of change in the volume of production and trade.

3. What are the characteristics of our 1939 economic system which give rise to business cycles?

4. Consult an index of industrial or business activity and note the changes which have taken place since the last of 1939.

5. What changes frequently take place in a business cycle in some of the major aspects of business, finance, and labor?

6. What is meant by "flow of investment" or "capital formation"? How does capital formation change in quantity during the stages of a business cycle? Why does capital formation vary?

7. Present a classification of theories or explanations of the business cycle. Show how each theory finds the cause in the change in interest rate or in business profits.

8. What are the difficulties with weather theories of the cycle?

9. Trace the changes in bank credit through the various phases of the business cycle. Do variations in bank credit seem to amplify the prosperity and depression phases of the cycle? Explain.

10. Explain Hobson's theory of the business cycle, and relate it to the purposes of the recovery program of 1933–1939.

11. What have *price rigidities* to do with the business-cycle problem?

12. Can business recover without government aid?

13. Evaluate the long-range planning of public works.

14. Explain the reasoning behind "pump priming?"

Suggested Readings

1. W. C. Mitchell, *Business Cycles* (1927) is the most complete, authoritative analysis of this subject.

2. Carl Snyder, *Business Cycles and Business Measurements* (1927) treats both the events of the cycle and their measurement.

3. A. B. Adams, *Trend of Business, 1922–1932* (1932) is a brief, readable description of the changes in the various aspects of business during this decade.

4. L. P. Ayres, *The Economic of Recovery* (1933) analyzes the recovery program and in general holds that it is ineffective as a recovery movement.

5. John Maurice Clark, *Strategic Factors in Business Cycles* (1934) is a brief and thoughtful analysis of business cycles which contains a minimum of statistical data.

6. E. C. Bratt, *Business Cycles and Forecasting* (1937) contains a good description of the changes in various phases of business during the business cycle. It also contains a good discussion of causal influences and summarizes much of the recent thinking on business cycles.

7. A. H. Hansen, *Full Recovery or Stagnation?* (1938), Part I, is recommended as a summary of recent business-cycle thought. Part II of the book discusses consumer income during the cycle and the possibility of influencing this income by the judicious use of the Federal social-security reserves. Part III deals with some international influences on business conditions. Part IV, on the Economic Outlook, contains, among other topics, a discussion of pump priming and of economic stagnation.

8. Gottfried von Haberler, *Prosperity and Depression* (1939) contains an excellent summary of business-cycle theories.

CHAPTER XXIX

ECONOMIC CONTROL UNDER THE NEW DEAL

The epoch-making national legislation of 1933–1938, variously referred to as the New Deal or the Recovery Program, represents an attempt on a broad front to bring economic recovery and reform by means of further social control of economic activity. As such, this legislation has modified somewhat the functioning of capitalism in the United States. Though some of these laws, particularly those relating to agriculture and to money and banking, have been described in some detail in the preceding chapters, other features, such as those contained in the National Industrial Recovery Act, have been treated less adequately. Therefore in this chapter these latter parts of the program will be presented more completely. At the same time, those parts of the New Deal which have been more amply discussed earlier will be here reviewed in order that the degree of unity which exists in the whole program will be seen, particularly in its social control aspects. On occasion it will be necessary to point out conflict among parts of the program. Finally, an attempt will be made to interpret the economic philosophy which this legislation represents. Prior to this description and analysis, a brief summary of preceding events is presented.

DEVELOPMENTS LEADING UP TO THE NEW DEAL

Disturbing Factors, 1928–1929.—In retrospect we can see at least three alarming factors affecting the United States in 1928 and 1929, which might, if fully realized at that time, have led to the anticipation of the events following the latter year. First, certain maladjustments in our productive system had become marked. The production of certain basic raw materials—petroleum, copper, soft coal, lumber, and other articles—had expanded and was in excess of consumption. Large excess inventories in them had accumulated, and these accumulations were accentuated by price-maintenance schemes which retarded consumption. Some consumer-goods industries, notably textiles, had long been in difficulties and others, such as automobiles and radios, had become overextended in the preceding years.

The second factor was the inflation of security prices, common stock prices having been forced in September, 1929, to a point 160 per cent above 1925. Some stocks were selling at fifty times their annual earnings. Those who thought coolly during this period of "paper profits"

foresaw an adjustment in business activity and in security prices, the latter to be rather severe, but few, if any, seem to have anticipated the depths of the business recession which was approaching.

The third force, portent of ill, was the general financial disequilibrium. Germany was poverty-stricken, saddled with an impossible reparations load. England's international position was in jeopardy. In the United States, debts, public and private, had increased much more rapidly than either the national wealth or income. International loans, particularly by the United States, during and after the war, had mounted to such totals that it was very questionable whether they could be repaid according to contractual agreements. Certainly their repayment would require such a reduction in our exports, or increase in imports, as to call for important changes in our economic activity. The world's monetary stock of gold was maldistributed—two nations, the United States and France, possessing a distinct surplus, whereas other countries were suffering for lack of reserves for their currency and credit systems. The general tendency of nations to return to the gold standard after 1924, by increasing the demand for gold, raised the question as to whether the world's gold stock was sufficient to maintain 1929 prices. Professors Warren and Pearson argue that it was not, whereas some others place the blame on the maldistribution of gold and other causes, contending that there is no adequate statistical proof of a world gold shortage.

Beginning of the Great Depression.—By July, 1929, a distinct decline in productive activity had begun, of which few were aware, their eyes following security prices as a barometer. The latter inevitably crashed, reacting to the prevailing high interest rates, to reduced business activity, and, above all, to the fact of their unwarranted height. After the security debacle of "black October," during which the prices of common stocks dropped 40 per cent, business distinctly paused but, at that, hardly dropped below normal. Publicists, politicians, and business leaders emphasized the "fundamental soundness" of the nation; few yet feared drastic recession. In fact, a distinct upward movement began in the spring of 1930, but soon exhausted itself. From then on, the downward movement was rapid and received no important check until March, 1933.

The depression during 1930 was without phenomenal developments as compared with the events of the three following years. Yet the continued and the rapid fall of prices of many classes of goods without changes in costs of other goods and services, during this period of twelve months, plus new barriers to international trade, did not augur well for the future. Every decline in wholesale prices brought added burdens to the debtor entrepreneurs and increased the price disparities between certain raw materials and similar highly competitive goods, on the one hand, and the prices of those goods influenced by monopoly, on the other. The existence of these latter "sticky" prices, as some writers aptly phrase

them, was distinctly more evident in this depression than formerly. Price declines, world-wide in their scope, plus barriers to the normal course of trade, contributed to the financial collapse of many nations in 1931 and following, notably of England, and thereby created for the world acute monetary problems. The working of these forces, however, was largely hidden, and the last of 1930 saw a strong feeling that 1931 would certainly bring better times.

The Years 1931 and 1932.—Ill-fated 1931 brought only financial difficulties, further price declines and price disparities, and continued decline in industrial production and trade. A series of banking difficulties in Europe spread to this country. Struggling Austria's Kreditanstalt failed in May, and the large Darmstaedter Bank in Germany in June. Then the demand for cash concentrated on London, forcing England off the gold standard in September. The consequent bank failures from September to December in this country reached the total of 1,360, and we were drained of 700 million dollars in gold during two months of this period, which, however, soon returned. Clearly such a pressure on financial institutions could only force further credit contraction, price declines, business failures, and general uncertainty.

A combination of governmental and Federal reserve action eased credit conditions in 1932. The formation of the Reconstruction Finance Corporation in January with 500 million dollars of capital supplied by the government and with power to sell bonds or debentures with which to make loans to banks or corporations eased some of the most stringent needs. The open-market purchases by the Federal reserve banks from March to June, to the unprecedented amount of about one billion dollars, put additional funds at the disposal of the hard-pressed banks. By late summer the banking situation was distinctly better, but by this time the level of business was so low that suffering was acute. Industrial production in August, 1932, was 53 per cent below 1929; about 13 million workers were unemployed. The resources of private charity were becoming exhausted. Some local governments were on the verge of bankruptcy, and even some states found it difficult to raise additional funds for relief. Congress authorized loans to the states by the Reconstruction Finance Corporation. In the fall, mild recovery took place in certain branches of industry, notably in textiles and shoe production, based on exhausted inventories of these goods, but no fundamental expansion got under way. The previous European market for American farm products had largely disappeared. Prices received by farmers for their products averaged in 1932 only 42 per cent of 1925 prices, or 65 per cent of 1909–1914 prices. Prices of goods bought by farmers, however, were still at 107 per cent of 1909–1914 prices (see Table 6, page 18).

By the winter of 1932–1933 the demand for inflation through the use of paper money, the remonetization of silver, or by some other means,

had grown to be a loud threat. Debtors were desperate, as was shown by violent resistance to foreclosures on farms in the Middle West.

The Year 1933.—After the turn of the year the financial uneasiness returned; banks and corporations called their funds home. In late February, bank holidays were declared in some states, notably in Michigan, and, from this announcement of the gravity of the situation, uncertainty spread like wild fire, so that the new President, immediately after his inauguration on March 4, ordered a nation-wide bank holiday pending the working out of a plan for financial stability. The subsequent legislation gave almost unlimited powers to the national executive on monetary matters, including the suspension of the gold standard, the issue of additional money, and the reopening of the banks. Within two weeks after the bank holiday was declared on March 6, about 13,000 out of the 18,000 banks previously in operation had been reopened. The country knew that the condition of these banks had been approved and that the government had almost unlimited powers of currency issue in order to support these banks. Confidence returned, deposits grew, hoarding of cash declined, and the banking situation improved.

In his inaugural address and in subsequent statements, President Franklin D. Roosevelt clearly indicated his intention to take steps designed to increase the price level. Three acts made his purpose and his method more definite. First, he asked and received from Congress almost unlimited currency powers, including the power to issue up to three billion dollars of additional currency, the power to reduce the gold content of the dollar as much as 50 per cent, and the power to authorize the purchase of additional securities by the Federal reserve banks up to three billion dollars—any or all of these means to be used at his discretion. Second, in April he refused to license further exports of gold, thus cutting the dollar loose from parity with gold. Enthusiastic buying of commodities and of stocks began, but, more fundamentally, industrial production increased 26 per cent between March and May. Third, the President's refusal to agree to the stabilization of the dollar at a fixed ratio to such gold currencies as the franc, even though tremendous pressure to do so came from many of the nations meeting in the World Economic Conference in June and July of 1933, indicated clearly his intention to force prices upward. Roosevelt's stand was that the money system should be so changed and controlled as to force prices up to a point where debts could again be paid on the average with the same quantity of goods as would pay these debts at the time when they were contracted.

GENERAL CHARACTER OF THE NEW DEAL

Economic Philosophy of the New Deal.—Those who aided in designing the New Deal have written much of their economic philosophy. Profes-

sor A. A. Berle, Jr., who is credited with having had much to do with the formation of the program has the following to say:

There is no mystery about the economics of the New Deal. For several generations, governments ran their affairs on the theory that natural economic forces balance themselves out. The law of supply and demand would regulate price. When there was too little supply, the price would go up, and this would automatically increase the supply. When there was too much, the price would go down, and this would automatically decrease the supply. The efficient producer would succeed, the inefficient would fail, and this would keep the productive capacity of the country about in line with the needs for consumption. When credit was needed, bankers would supply it; when too much credit had been extended, there was a period of general inflation[1] cutting down the debt. All this was comprehended in the governmental theory of the time which was really based on the classical economics of Adam Smith.

A tremendous force came into the world in the middle of the nineteenth century. It is usually tied up with what is called the industrial revolution and the advent of large-scale production. But we know now that the actual forces released ran further than that. The power and force of organization had come into economics. Originally this collected around great investments of capital in huge plants, such as railroads, steel companies and the like. But as the economic machinery adapted itself to the idea of great organizations to run these plants, it became possible to have great organizations only partly dependent upon such plants.

This has led to a revision in some of our economic thinking. No longer can we rely on the economics of balance to take care of human needs. The effect of organization will distort and delay the forces leading to a balance to a degree as yet unmeasured. . . . A big inefficient plant does not shut down because it cannot make a profit. It reorganizes, cuts its debt to nothing, and goes right on. Then it has no interest charges to pay, and only a small investment. It can accordingly undersell a more efficient producer, and drive him into bankruptcy, too. And this is repeated all through the industry.[2]

[1] Berle says "inflation." Inflation, however, does not cut down debt; deflation does that. Inflation causes debt to be less burdensome and causes it to be increased. Deflation causes it to be more burdensome and causes it to be reduced. The word "inflation" in Berle's published statement may be a misprint.

[2] Later in this chapter we shall comment critically upon some of the ideas expressed by Berle and other features of New Deal policy. Here the reader should note, however, that "organization" is criticized by Berle because it "will distort and delay the forces leading to a balance" in our economic life, but that the New Deal has encouraged the kind of organization which has that effect. Furthermore, the "big inefficient plant" is criticized because it does not shut down, but "cuts its debt to nothing and goes right on." Thus apparently it is considered an evil to adjust capital costs (as for interest) downward. Nevertheless parts of the New Deal program apparently assume that unemployment is due to too much of the returns from production going to capital and also is due to employers as a whole deliberately discharging employees and paying low wages when they have plenty of money with which to employ more people and pay higher wages. Berle's statement and the New Deal program include other inconsistencies.

Only after the entire industry has been bankrupted, do inefficient plants actually begin to go out of business. This process may take fifteen or twenty years, during which time the capital, the labor, the customers, and the industry generally, suffer from the effects of a disorganized and unsound condition.

The old economic forces still work and they do produce a balance after a while. But they take so long to do it and they crush so many men in the process that the strain on the social system becomes intolerable. Leaving economic forces to work themselves out as they now stand will produce an economic balance, but in the course of it you may have half of the entire country begging in the streets or starving to death.

The New Deal may be said to be merely a recognition of the fact that human beings cannot indefinitely be sacrificed by millions to the operation of economic forces accentuated by this factor of organization. Further, the mere process of organization which could create the economic mechanism can be invoked to prevent the shocking toll of life and health and happiness which readjustment under modern conditions demands.[1]

Thus the New Deal philosophy is aimed to replace the older doctrine of laissez faire. Under this older ideal, government was to be judge and referee, and to set the rules of the game. The actual playing, however, was to be in private hands, and the coordination of specialists, the adjustment to change, and the provision of balance were to be done by the market. There, through the effect of changes in supply and demand upon profits, the entrepreneur would change his production and balance would be obtained. Under the New Deal philosophy, however, the government will not hesitate to step in actively as a player—possibly the star—in order to stimulate recovery and to guarantee more permanent good times thereafter.

Amelioration, Recovery, and Reform.—During no six-year period in our history has such a comprehensive and varied program of legislation been put in effect as from 1933 to 1938. Almost every phase of economic life is touched; the rules under which business is conducted have been drastically rewritten. Three broad objectives appear to have stimulated this increased legislation. Underlying all objectives is the assumption that government is to be primarily responsible for economic affairs.

First, there was need to ameliorate the dire condition of great segments of our population while recovery was getting under way. The 14 million unemployed and large portions of the farm population were either in actual want or were facing the loss of their property. Thousands of families were threatened with the loss of their homes through foreclosure. Business and financial firms, many of them of gigantic size, were on the verge of bankruptcy. Even whole cities were in similar financial straits. To solve these immediate situations a number of acts were passed. Public works, work relief, and direct relief assuaged the ills of the unem-

[1] A. A. Berle, Jr., "The Social Economics of the New Deal," *New York Times*, Oct. 29, 1933.

ployed. Refinancing of farm mortgages, as explained in Chap. XXIV, helped the farmers. A similar program was carried out for home owners by the Home Owners Loan Corporation set up in 1933. The R.F.C. was enlarged and provided funds to assist banks to reopen after the bank holiday and to make loans to industrial and railroad companies.

Second, a large portion of the legislation was designed to assist the upward movement of industrial production and the price level and to restore the 1929 level of incomes. Some of the steps taken might be viewed as *facilitating* the recovery in which upward movement would be primarily caused by a *natural* improvement in profit prospects. By general agreement, the handling and "cleaning up" of the banking situation of March, 1933, is in that category. Some would hold that the departure from the international gold standard was necessary, that the gold standard was pulling our prices downward. Business men generally would hold that government aid to prevent bankruptcy was an aid to recovery, although the reader should refer again to page 685 for an evaluation of this claim. The major emphasis in the recovery program, however, was on governmental acts to *stimulate* the recovery of business by creating better profit prospects.

Third, the New Deal undertook a major program of changing economic institutions and practices in directions which its promulgators considered to be reform. Phases of our economic processes which they held contributed to depressions were to be changed or brought under control. Injustices, such as those which had surrounded some security issues or which were involved in at least some employer-employee relations, were to be abolished. Both as a means of preventing future depressions and in order to bring greater economic justice, income distribution was to be made more equal.

THE RECOVERY PROGRAM

View of Recovery Problem.—An analysis of the recovery laws indicates a belief that increasing profit prospects awaited increased consumer income and a correction of the extreme price disparities brought by the price-level collapse after 1929 (see Chap. XIV, pages 320–327). Rather than attempt to bring individual commodity and service prices into harmony by forcing the "sticky" ones downward, the program was to force the low, flexible prices upward. Agricultural prices were to be attacked directly under the farm program (Chap. XXVI). The monetary and credit-expansion program was to raise agricultural and other flexible prices relative to the more rigid prices (Chap. XIV, pages 331–332). Of course, farmers' purchasing power was expected to rise. Labor's spendable income was to be augmented directly through relief to the unemployed and jobs on public works. Chiefly, however, labor's income

was to grow as a result of the wage raising under the National Industrial Recovery Act, to be described in the next section.

In various parts of this program one sees the objective of increasing business confidence. Insurance of bank deposits reduced to near zero the chances of runs on the banks. The departure from gold and the use of government stimulants were designed to bring rising prices and destroy the fear of falling prices. Government spending and other programs were expected to stimulate retail trade; a greater volume of business for industry was envisaged.

In the early years of the New Deal, no steps were taken directly to stimulate the flow of long-term capital except the forcing downward of interest rates. Federal reserve purchases and bank purchases (the latter by creation of credit by banks) of the frequent issues of government bonds necessitated by the rapidly growing Federal debt, at a time when there was little private demand for loanable funds, forced short-term interest rates to near the zero point. Bond yields, *on prime bonds*, followed downward. Indirectly the New Deal proponents expected the stimulation of consumer purchases to encourage not only the use of working capital for inventories but also the use of depreciation reserves for plant modernization, and use of new long-term capital for expansion.

The National Industrial Recovery Act.—In the fall of 1933, with parades and speeches reminiscent of 1917–1918, the war on depression was undertaken. The National Industrial Recovery Act's administration, popularly known as NRA, undertook so to influence wages, prices, and production that recovery would come. Even though the NRA did not bring recovery and was declared unconstitutional in 1935, it will be presented here in some detail for two reasons. First, some features of the act, notably those dealing with labor topics, have been reenacted into law. Second, its industrial-control features represent a philosophy which is far from dead—the theory that *industrial planning* is a better way to control prices and production than is a free market.

The basic assumption of the New Deal proponents of the NRA was that spreading work by shorter hours and increasing wage rates would increase consumer spending and stimulate business. The NRA was designed, then, as the mechanism to accomplish this purpose. Incorporated into the law, however, were the measures permitting production control, fixing of minimum prices, regulating terms of sale, and facilitating the unionization of labor. In fact, the actual law represented a compromise among conflicting groups with divergent views of the needs of the times.

Group Interpretations of the NRA.—As was stated above, the New Deal viewed the NRA as a device to increase labor's income and increase consumer spending. Organized labor saw a golden opportunity to accomplish its ends—shorter hours, higher wages, and a free hand to organize the

yet unorganized majority of American workers. To a large extent, the government's and labor's objectives required the same steps. Industrialists, on the other hand, were much concerned about problems of idle capacity, price cutting, and terms under which they sold their goods. For some months prior to the NRA some industrial leaders had been urging *industrial planning*, or group control of production, prices, and selling terms under the general supervision of the government. Above all, they wanted to avoid price competition, bankruptcies, and readjustment of capacity. They wanted to share the existing business at "fair" prices, awaiting the revival of demand. They were willing, at least at the time the NRA was instigated, to accept collective bargaining by labor, higher wage rates, and shorter hours in return for this industrial planning.

Provisions of the Law.—Under the NRA a *code of fair competition* was to be drawn up for each industry, the provisions of which were subject to the approval of the administration. These codes contained provisions governing minimum wages and maximum hours of employees, providing for collective bargaining between employees and employers, prohibiting the employment of children, and regulating such selling practices as credit terms and cash and quantity discounts to the buyer. Frequently the codes permitted the code authority for the industry to control the volume of production by assigning production quotas and, in a few cases, by restricting plant modernization or enlargement. In a number of codes arrangements were made for setting minimum prices, usually in some relation to the average cost for the industry.

Operations under NRA.—The *NRA* went into operation with a wave of enthusiasm. Business executives spent much of their time in conference on codes or in Washington negotiating with the administrator or his hierarchy of assistants. From the time when it was known that the law would be enacted until July, when it went into effect, there was an increase in both employment and production. Labor unionization grew apace. Wage advances were quite general. Many previously employed worked fewer hours. Other business executives tried to devise schemes to cut labor costs. Sometimes more machine production was the answer. Prices of commodities affected by the codes generally increased, some to the pre-depression level.

Nevertheless, there was no sustained recovery. Between July, 1933, when the NRA went into effect, and December of that year, industrial production declined 25 per cent. Employer-employee relations became more strained. "Chiseling" on code prices became general. Business men lost their confidence in the administrator and temporarily at least, in industrial planning. Almost everyone was relieved when the Supreme Court declared the act unconstitutional in June, 1935.

NRA as a Recovery Device.—The abysmal failure of the NRA as a recovery device may have been due to one or more of the following

reasons. It was an impossible administrative job to set up in a few months efficient machinery for governing all the industrial and mercantile activities of this country. Because of the size of the task undertaken, lack of guiding principles, and limitations of legal power, code provisions were not enforced, and the NRA progressively lost the support of businessmen. There was a fundamental conflict between the objectives of the government and leaders of organized labor on the one hand and of spokesmen for business on the other. Business needed lower costs and greater demand. Instead, it got higher costs in exchange for the promise of greater demand—if and when higher wages and the spreading of employment brought larger retail trade.

Fundamentally, the difficulty with the NRA was that it was an effort at reform and not a recovery measure. It was essentially a plan for group control of economic affairs under strong government supervision. It was based on a mistaken view of what increases or decreases purchasing power. Variations in labor's income during a business cycle are chiefly due to changes in employment. In fact, wage rates usually change less than cost of living. Reemployment, not higher wages, was the first need of the times. Though the number of persons employed did increase under the NRA, this was done by spreading work through shorter hours. A Brookings Institution study shows that total man-hours of work were less under the NRA than in the months immediately preceding the application of that law.[1] Furthermore, changes in prices may equal or exceed changes in labor income. The NRA facilitated monopolistic pricing. Added to that, increased wage rates are marginal costs which will be assumed only when prices are high enough to justify the employment of labor. Finally, rising commodity prices tended to offset the expected increase in the income of farmers under the AAA. Taken as a device to stimulate production and the flow of investment, it is evident that (*a*) NRA increased wage costs for businessmen who were already operating at a loss; (*b*) increases in consumer purchasing power were uncertain and in the future; and (*c*) investment for plant modernization and expansion was discouraged by the system of production quotas, by emphasis on price rather than volume, and by the existence of artificially high labor costs.

Attempts to Stimulate Flow of Investment.—Progressively the Federal administration became persuaded that the government must take steps to increase the flow of capital, primarily long-term. Government public works and relief, government loans to individuals and businesses, and government sharing of risk with financial institutions have all been tried.

Government Lending to Business.—The R.F.C. (Reconstruction Finance Corporation) rôle was partially changed from that of emergency lender to borrowers threatened with bankruptcy to that of lender for

[1] Leverett S. Lyon and others, *The National Recovery Administration* (1935), chart on page 834.

operations and expansion. Some type of loans are to be made directly, some with the participation of banks. The Federal reserve banks undertook to participate with member banks in longer-term loans to business. The Export-Import bank was set up to finance foreign trade—in practice to make loans to exporters or the foreign purchasers of exports. The R.E.A. is to make long-term loans to rural cooperative electricity-distribution organizations and to rural purchasers of electrical equipment.

The principle of government-sharing of the risks on loans was given its widest use under the Federal Housing Act. Loans under this act are made by financial institutions, but on loans qualifying under the act the government will reimburse the lender up to 20 per cent for losses taken. A fund for this purpose is built up by a small charge on each borrower. It is agreed that the F.H.A. has stimulated residential building, but the provisions for loans for slum clearance have been less effective.

Pump Priming.—Although the Federal government had undertaken heavy borrowings to get funds for R.F.C. loans prior to 1933 and for enlarged public works and direct relief after 1933, pump priming did not become a major part of the recovery program until 1935. By that time the NRA had failed, and the monetary manipulations and Federal Reserve easing of credit conditions had not brought a sustained rise in business volume or in prices. Large government expenditures in excess of tax receipts were then adopted as the major recovery device.

The data presented in Fig. 63 show the salient features of the deficit financing from 1931 to 1937 with some data for 1938. The large outlay for recoverable loans and investments in 1932 and in 1934 indicate the two years of greatest R.F.C. activity. Federal expenditures for relief and security programs during 1931 and 1932 are not shown, but little if any outlays for those purposes were made in those years. Pump priming reached its peak in the fiscal year 1936 both in terms of largest annual Federal deficit and in terms of outlays to stimulate recovery, whether for durable improvements or for relief and security.

Progressively the program came to depend on expenditures for durable goods in contrast to loans and in contrast to direct relief. Then a renewed pump priming after the recession of 1937 witnessed somewhat of a swing back to direct relief. The Federal expenditures for the fiscal year ending June 30, 1939, were 9,142 million dollars or about half a billion above the previous peak in 1936. It is anticipated that the total Federal deficit for the ten-year period July 1, 1931, to June 30, 1940, will equal 26,831 million dollars.

By a comparison of Fig. 63 with the curve of business activity in Fig. 59, the reader will note (*a*) that two years of heavy Federal deficits (fiscal year 1935 ends June 30 of that year) preceded the strong upward surge of business activity from mid-1935 to the first half of 1937, and (*b*) that the peak of pump priming, 1936, preceded the peak of business

activity by from 6 to 12 months. Then occurred a renewal of pump priming in the 1939 fiscal year (not shown in Fig. 63). Did the upward surge of 1935–1937 come because of Federal spending or because of the collapse of the NRA followed by more *natural* recovery forces? Did the "pump" not catch the prime in 1935–1937 and hence the recovery collapse when the inflow of Federal funds receded? Did the managers of the program withdraw the Federal stimulus too early or too rapidly? Or did unexpected Congressional interference hamper the management of the program? Or was the recession a reaction simply to the collapse of a speculative boom in security and commodity prices? No complete answer to these and other questions can be given here, but the following points seem to be pertinent:

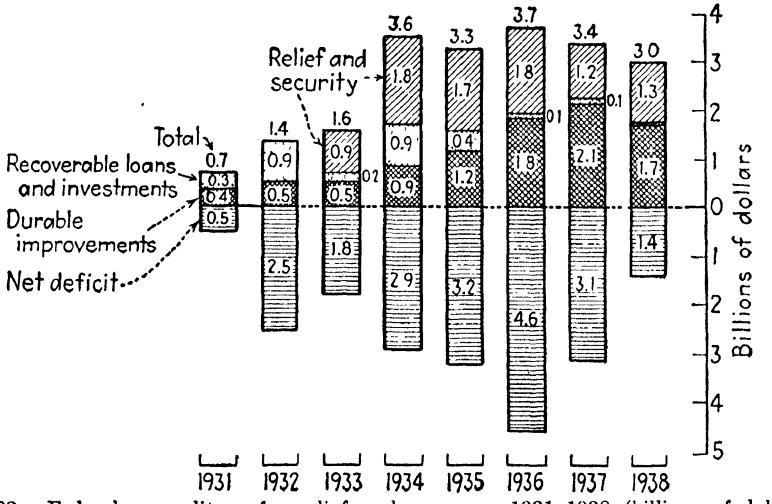


FIG. 63.—Federal expenditure for relief and recovery, 1931–1938 (billions of dollars). (*Adapted from National Industrial Conference Board Economic Record, Vol. I, No. 7.*)

a. Even from the point of view of the advocates of this program, its successful operation rests upon the proper control *as to amount* and *as to time* of the increase or decrease of the deficit financing. Congress, over the President's veto, authorized immediate payment of the soldiers' bonus in 1936. This brought an unexpected increase of 1,773 million dollars in Federal expenditures for that year. This increased retail trade and probably contributed to the building up of excess inventories and to price increases. Then the collections of taxes under the social-security programs began in January, 1937, although little of the money so collected was spent for relief. The net result was that by the late summer of 1937 the Federal government was taking in more money than it was spending. This sharp contraction of the deficit financing from the unexpected peak of 1936 to the excess of receipts in the summer of 1937 was probably not wise.

b. Business men generally were not convinced that pump priming provided a sound basis for recovery and for capital outlays. They were disturbed by the mounting Federal debt, with the threat either of marked inflation or of very heavy taxation as the means of retiring that debt. *Whether or not the business men's reaction was logical, the mere fact that they so interpret deficit financing and do not invest as in the usual recovery tends to defeat the program.* The increase in capital flow during 1935–1937 was almost entirely for public or consumer uses, or for inventory building or machinery replacement by industry. Practically no new long-term capital formation by industry took place. See Fig. 62,page 675.

c. The concurrent reform programs to be described below so changed the rules under which business was conducted that business men were not in a state of mind for capital expansion. In this sense, the New Deal was not true to the deficit-financing device for stimulating recovery as worked out by J. M. Keynes and others. These writers urged the device as a means of increasing the prospective returns on capital, but if at the same time the entrepreneur's costs are artificially raised, and the rules under which he finances himself, produces, and sells are changed to his disadvantage, and threaten to change more, *his view of prospective returns on capital is a pessimistic one.*

The Problem of a Maturing Economy.—A number of economists and sociologists have come to emphasize that the recovery problem in the United States is largely a problem brought by the maturing, at a rapid rate, of the American economy. The marked decline of the birth rate, the filling-in of our geographical frontiers, and the fact that we have developed our basic industries have all led to a decline in the demand for capital. Several European countries have gone through this experience, but not one has moved from youth to maturity in such a short period as from 1914 to 1930. Furthermore, no one of these countries had such a high per capita income or such a capacity to save. Finally, these countries found an outlet for much of their new savings in foreign investments.

If these views on the maturing of the American economy are correct, some difficult problems of readjustment are facing us. Prolonged war with its destruction of capital on the one hand but its political restrictions on the other would have an uncertain effect on both our domestic demand for capital and our export of capital. Aside from such an influence, maturity means either (*a*) reduced savings, probably through income distribution, or (*b*) finding new ways to use capital. Among the latter are (1) increased use for consumer durable goods, (2) greater capitalization of production, that is, greater use of capital per man in production, (3) public use of capital, and (4) foreign investments. Presumably, lower interest rates would automatically encourage all but the public use of capital. There remains, however, the question of speed of adjustment.

Will these new uses develop rapidly enough to absorb the great block of current savings? Finally, one should recall the argument of Keynes that if interest rates fall below a minimum necessary to reward the saver for risk, trouble, and loss of liquidity, investing is discouraged.

No final conclusions are presented here with respect to this problem of the flow of investment and particularly with respect to whether savings will flow into investment without government aid. Economists have yet to think through the problem and reach general agreement. The basic nature of the problem cannot be denied. The reader should follow the current economic literature on the subject.

THE REFORM PROGRAM

Money and Credit.—The legislative and administrative acts with reference to money and banking can be summarized under the heading *money management.* The doctrine of the gold standard as an automatic control of the volume and value of money was dropped. Even the return to a form of the gold standard in 1934 did not mean a departure from the principles of administrative control of the money standard. The remaining discretionary powers of the President plus the fact of large surplus gold holdings left room for free action by the administration.

Added to the control of money in the narrow sense were the strengthened Federal Reserve and Treasury controls of credit. What vestiges of the older doctrine of automatic credit control through the wise action of individual banks had been left by the Federal Reserve Act of 1913 were struck out by the Banking Act of 1935. Now the doctrine adopted was strictly one of the *quantity* of bank credit, controlled by governmental agencies. Finally, as a means of stimulating increases when desired in the quantity and rise of bank credit, the pump-priming theory was given a major trial.

The government has now assumed responsibility for the volume and degree of use of money and bank credit.

Business and Financial Processes and Practices.—Two pieces of legislation were aimed at changing practices in the floating and sale of corporate securities. First, the Banking Act of 1933 forbade commercial banks to engage in investment banking. Some unwise action by investment affiliates of large commercial banks during the 1920's had convinced the public that the assumption of the dual rôle by the banks had contributed to the victimizing of many investors. Other banking practices, such as loans to directors and loans on securities, were subjected to increasing restriction. More comprehensive in scope was the Securities and Exchange Act, which undertook so to change procedures and practices in the sale of securities by investment houses that the investor would have a better basis upon which to judge the merits of the stocks and bonds.

The SEC, as the administrative commission is called, filled a generally recognized need, although the cumbersomeness of its machinery and the uncertainty of its practices in the first years of its operation probably impeded the needed flow of new long-term capital into industry.

In somewhat similar vein, the Public Utility Holding Company Act was passed with the purpose of forcing a simplification of corporate structures in the electric-power field. Evidence was presented to Congress which showed that frequently the practice of building holding company upon holding company had been for the purpose of manipulating the affairs of some companies, and more particularly had led to the sale of securities which became worthless at the time of a reversal from prosperity. The Insull utility empire crashed, and the securities of several other super-holding companies became nearly worthless. The SEC was given the power to force changes in corporate holdings and forms with the general objective of destroying holding companies, except those which could demonstrate their merit.

Shifting now to business practices, the Robinson-Patman Act of 1936 revived some of the NRA restrictions on business practices. The major purpose of this law was to prevent the giving of excessive quantity, cash, or other discounts. Large buyers, who were in a strong bargaining position, had been able to obtain such favorable discounts. The general rule set down by this law is that a seller can sell to various buyers at different prices only when, and to the extent that, the different orders represent differences in the seller's cost of doing business. Thus a quantity discount cannot be greater than the demonstrable economy to the seller in producing or handling the larger order. Preceding this move to strengthen competition and equalize opportunity, however, had been the Miller-Tydings bill, which gave the manufacturer power over the resale price of his goods. Clearly this latter law strengthens one of the most invidious forms of monopolistic competition in this country—the nationally advertised brand.

The last major aspect of business practices refers to the basic problem of whether control of economic affairs is to be through the market or through organized groups under governmental supervision. That the latter was the view of the NRA was indicated on page 699. After the collapse of that movement, the administration fluctuated between the two policies. Then in 1938 the combined legislative-administrative Temporary National Economic Committee was formed. Although called the "Monopoly Committee," the TNEC did not hasten to propose legislative or administrative attacks on monopoly. Rather it undertook a comprehensive examination of functioning of the whole economic order—a study which is far from complete at this writing (July, 1940).

Labor Legislation.—Some light on the government's view of the economic order is shed by its labor policy. Certainly this labor policy is

not consistent with an attempt to break up large industrial enterprises in order to make competition more pure, for governmental action facilitated the formation of giant labor bargaining groups. Rather it would appear that the Wagner Labor Relations Act with its administrative National Labor Relations Board was an attempt to assist labor to form organizations equal in scope and power to the existing industrial corporations, or even as large as the whole of industries which were dominated by monopolistic competition.

The underlying purpose of the Fair Labor Standards Act is not clear. One could have considered a law which restricted *excessively* low wages and *excessively* long hours as a necessary device to prevent injustice where supply and demand in the labor market did not properly protect the worker. When, however, the law undertakes to fix minimum wages above that low point, and even more drastically reduce hours to 40 a week, the government has replaced the market as the governor of labor costs in large segments of our economic system.

Economic Security.—The program of greater security for the aged, widows, defectives, and the unemployed has received general approbation. During the first few years the needy aged will receive a pension provided by Federal and state funds. Increasingly it is expected that old-age security will be provided by an annuity paid for by deductions from the employee's salary, matched by an equal payment by his employer. The system of unemployment reserves, described on page 437, will not only provide greater security for workers, but will provide a cushion to business recession by the more nearly sustained purchasing power of workers. There is this factor, however, that unemployment compensation will make labor less willing to take wage cuts and will probably make wage rates more resistant to reduction during depressions.

Not all security is for labor. Certainly the government has undertaken a variety of programs to protect farmers against the rigors of competition. Bank depositors are protected by deposit insurance. The Miller-Tydings Act strengthens the protective device of the trade-mark by permitting manufacturers to fix the resale price of their goods. Governmental agencies of various sorts have offered loans on easy terms to hard-pressed farmers, homeowners, railroads, banks, and industries.

Agricultural Program.—The agricultural program started out definitely as one to ameliorate the condition of the farmers and to stimulate general business recovery by means of increased farm income. It was expected that the reopening of foreign markets and the revival of foreign demand and enlarged domestic purchasing power would shortly remove the need for the production and marketing controls instituted under the AAA. That hoped-for recovery of demand has not occurred. Even then the government has not been willing to let low prices force agricul-

ture to readjust its output. Rather a continued general program of price lifting, through the varied devices described in Chap. XXVI and with different degrees of effectiveness according to commodities, has characterized the government's activities.

Though it is true that the government's programs for particular commodities have been dominated by the exigencies of the moment, it is possible to see in these programs the germ of a plan for changing price-making forces in agriculture. On the supply side, agricultural products have one or more of the following peculiarities: (*a*) that there are sharp variations in annual output of many commodities, (*b*) that many products are perishable or at least entail very heavy costs of carrying, and (*c*) that production must be planned from several months to several years in advance and once started cannot be stopped. On the other hand, the demand for many farm products is inelastic. The net results of these demand and supply peculiarities are wide variations in price for most farm products. Farming is therefore quite speculative. This, on the one hand, leads to frequent periods of heavy loss, which is made the more severe by heavy taxes and indebtedness, and by the rigidity of the prices of commodities bought by farmers. On the other hand, farmers' management becomes a matter of estimating prices, both in selecting what to produce and when to sell—questions which the farmer is not qualified to answer.

It is possible, therefore, to argue that the AAA programs are a step toward putting a floor under farm prices. In particular, by acreage control, by assisting in carrying over by marketing quotas, or by subsidized exports, a minimum level of prices would be set. Clearly such influences should not keep prices high enough to cover costs, else production will be stimulated. For the more perishable goods, excess supplies are to be kept from the market by marketing agreements and orders by the Secretary of Agriculture. In substance, this view of the agricultural problem is that agriculture needs an organization and powers over its supplies comparable to that exercised by urban industries which are dominated by monopolistic competition.

In another sense also, the governmental agencies have been attempting to change the way the free-enterprise system has worked in agriculture, namely through the soil-conservation and land-use program. Progressively the AAA has been attempting to swing its acreage control activities in the direction of better soil-management practices and better types of land use. In this sense it is supplementing the educational work of the S.C.S. and the extension services. To a considerable extent benefit payments are encouraging better tillage and cropping practices and better selection of use for particular lands. Thus the AAA pays farmers for doing what they should do themselves if fully enlightened. In another sense, because of the public's interest in our land resources,

farmers are being paid for following practices which will rebuild the farmers' capital—their land.

Foreign-trade Program.—The reciprocal-trade-agreement program is placed under reform rather than under recovery because it has been carried out so slowly, probably of necessity, that it could have only a minor effect on recovery. That it correlates with the economist's view of the free-enterprise system is obvious. That it assumes that stability of demand and of supply will be augmented by the enlarged sources of supply and outlets should be evident on slight reflection. That it is the most orthodox part, economically, of the New Deal program should be clear to readers of the preceding chapters. That the technique adopted was that of bilateral agreements rather than a general lowering of our tariffs was a result merely of the conclusion that this was the surest method of obtaining freer international trade. A major issue is raised, however, in whether there is consistency between greater freedom in international trade and other features of New Deal policy. On that we shall comment further.

Some Questions.—First, does the New Deal program look forward to economic internationalism or economic nationalism? The trade-agreement program stands alone as a step to preserve and strengthen international trade and the working of world-wide economic forces. In contrast, the monetary program has been definitely nationalistic with only occasional cooperative steps with other countries which were not inconsistent with the national monetary program. The AAA has been nationalistic in its attempt to insulate the farmers from world influences. Certainly, subsidized exports do not encourage, except possibly by threat, the reducing of trade restrictions abroad. The NRA was nationalistic; it gave emergency tariff powers to the President which he might use to protect domestic industries which were engaging in the cost raising and price raising of the NRA. Less obvious but more significant is a conflict between the New Deal's tariff program and its labor program. As was pointed out in Chaps. VI and XX, the law of comparative advantage justifies free international trade. Furthermore, it shows how exports can be made by a high-wage country to a low-wage country, since high wages are the result of high efficiency and low costs. *This law,* however, *assumes that the high wages are a reflection of high efficiency as shown by the bidding of employers for labor in a competitive market.* In contrast, if through union monopoly or government authority wages are forced above the level justified by efficiency, then to lower tariffs and to expose to international competition the industries paying such wages is to destroy the capital and eventually the employment opportunities in such industries. There is ample evidence that such have been the effects on a number of industries. Moreover, such procedures is to misuse an economic principle which is valid under competitive con-

ditions only. Finally *if* the New Deal objective is complete economic planning, such a program must be nationalistic, since little can be controlled beyond our borders.

Second, do the New Deal's program for urban industry and the steps taken for agriculture conflict? The latter program aimed to raise farm prices and reduce their downward flexibility. The urban program, on the other hand, was designed to raise wages, which, however, are also costs. These higher costs, combined with generally strengthened monopolistic competition, led to price increases which tended to offset increased farm prices. More basically, the artificially high wages, the major changes in the rules under which business is conducted, were contributing factors, though not the sole reasons, for the stagnation in investment. As a result, urban business did not employ all the available city employees, let alone provide jobs for thousands who should probably leave the farms in order to reduce agriculture's productive capacity relative to that of nonfarm industries.

Third, is there a conflict between security and progress? Moves for security, particularly when they take the form of group power to prevent price declines, interfere with that adjustability of the economy which is so essential to progress. Certainly if new products and new processes are to be introduced, and if demand changes are to be permitted, the economy must adjust to such dynamic influences. And unless the government is to direct these adjustments, the only method available is through the influence of price and volume changes on the plans of enterprisers. It is possible, however, that now we want more security and less progress. If so, we must be on our guard, for previous economies which emphasized security rather than progress, such as that of the manor or of the craft guilds, ended with little progress and little security.

Fourth, did the program stimulate recovery? Clearly some steps called "recovery" actually had the reverse influence. Enough has been said above of the NRA. Likewise, the confusion of wage rates with wage income and the probable effect on the flow of investment have been indicated. Other points are more debatable—for instance, the monetary and pump-priming programs. Some certainly facilitated the upward movement, such as the banking-reform legislation. The major problem is that of the conflict of recovery and reform. Even though legislation changing the rules under which business operates are genuine improvements, and not merely change, their introduction during a depression would probably impede recovery. It takes time for business to adjust its practices and for businessmen to change their thought processes. During this lag, this period of uncertainty, enterprisers will be inclined to hold back on plans. The flow of investment will be slowed down. In contrast, rarely can needed reform be enacted into law when

business is booming. Thus a slow recovery may be the price of reform, that is, unless recovery is so slow that the whole economic order, reformed or not, is kicked out the window. Possibly reform in smaller doses would be more lasting—a subject on which final judgment cannot be given at this time.

Summary. The Economic Philosophy of the New Deal.—Some phases of the theory of the relation of government to industry and of the concept of the nature and functioning of the economic order which underlies the New Deal program can be seen clearly. Other phases are quite obscure. Clearly the rôle of government is viewed as a positive one, not merely the job of referee. The government is not to let the play of economic forces alone determine economic processes and income distribution. The government is to ameliorate economic ills. *But on the basic question of whether economic affairs are to be governed chiefly by market prices or by governmental authority,* the conclusion of New Deal leaders is not evident. On the one hand, they do not seem to look forward to comprehensive, detailed economic planning by the government. On the other, their legislation does not always seem to be designed to improve the market as the governor of economic affairs. It is true that their monetary and even their pump-priming activities are general in their influence and are not inconsistent with reliance on market prices. In fact, a growing school of economists would approve these steps as essential to the preservation of the free enterprise system. The New Deal has not been beyond fixing or influencing individual commodity and service prices at levels far above "floors" or minima set to prevent grave suffering. Finally, the switching back and forth between the government-sponsored monopoly of the NRA and labor programs to the trust-busting by the Justice Department and to the "Monopoly Investigation" initiated in 1938 leaves one uncertain concerning the New Dealers' view of the nature and functions of the price system.

In the next chapter alternatives to and modifications of the capitalistic system are considered. After reading this concluding chapter, the reader should reexamine the New Deal program and consider whether he can see therein a unified economic philosophy.

Questions and Problems

1. What conditions—psychological, economic, and political—explain the passage of the New Deal legislation?

2. Distinguish the philosophy of such men as A. A. Berle, Jr., from that of the supporters of 1930 capitalism.

3. Classify New Deal legislation as to purpose (*a*) in amelioration, (*b*) in recovery, and (*c*) in reform.

4. What was the view of the steps necessary to recovery as shown by New Deal legislation?

5. Distinguish three points of view from which the purposes of the NRA may be considered.

6. Evaluate the NRA as a recovery measure.

7. Why did the capital-goods industries lag behind in the recovery? Has anything been done to assist in their recovery?

8. Explain the theory, working out, and effects of pump priming.

9. What evidence is there that our economy is maturing? Of what significance is economic maturity to the study of the operations of that economy?

10. What is the major principle involved in the New Deal's monetary and credit program.

11. Compare or contrast the objectives of the Robinson-Patman Act with that of the Miller-Tydings Act.

12. Is the new labor legislation aimed to prevent unfair and unjust hours and wages or to influence the level of specific wages?

13. In what ways could the agricultural program be viewed as steps toward a change in the way in which farming is carried on and its prices determined?

14. Compare or contrast the economic philosophy of the reciprocal-trade-agreements program with other parts of the New Deal.

15. Does a contradiction exist among the recovery and the reorganization features of the New Deal?

16. Is there a conflict between security and progress? Discuss.

17. What conclusions can you reach concerning the economic philosophy back of the New Deal program?

Suggested Readings

1. Howard Piquet, *An Outline of the New Deal Legislation* (1934) gives the major provisions of the various laws enacted in the early history of the New Deal.

2. Dale Yoder and G. R. Davies, *Depression and Recovery* (1934) is a comprehensive statement of the conditions leading to the New Deal and its purposes and characteristics. It also contains a large bibliography of recent books.

3. Douglass V. Brown and others, *The Economics of the Recovery Program* (1934) is a series of essays appraising various aspects of the program.

4. Charles Dearing and others, *The ABC of the NRA* (1934) is an analysis of the purposes, provisions, and procedure under the National Industrial Recovery Act.

5. James D. Magee, *Collapse and Recovery* (1934) gives much factual information about the New Deal program and its background.

6. Leverett S. Lyon and associates, *The National Recovery Administration* (1935) is a comprehensive review of the organization, activities, and results of the NRA.

7. G. B. Galloway and associates, *Industrial Planning under the Codes* (1935) contains a sympathetic treatment of the problems and the progress of industrial group activities.

8. W. L. Thorpe, *et al.*, *Economic Problems in A Changing World* (1939) contains a discussion of current economic and business problems which is friendly to the reform movement of 1933–1939.

9. Some discussion of the question of the maturing of our economy is contained in A. H. Hansen, "Progress and Declining Population," *American Economic Review*, March, 1939, pp. 1–15; and Oscar Lange, "Is the American Economy Contracting," *ibid.*, September, 1939, pp. 503–513.

10. Harry D. Gideonse, "Foreign Trade and New Deal Policies," *American Economic Review*, March, 1940, includes a presentation of numerous inconsistencies in New Deal policy.

CHAPTER XXX

CAPITALISM AND ITS CRITICS

Present-day capitalism is under fire. To be sure, occasional "radicals" and "intelligentsia" have been sniping at it for over a century. But, following 1930, the attack grew to be an active skirmish, and some heavy artillery came into use, as journalists, public officials, educators, and even some business men, joined the attack. Especially to be noted are those who have joined the forces for change, people who were highly satisfied with present-day capitalism while it was treating them luxuriously in the late 1920's. This shift of sympathies illustrates two points which we should keep in mind. First, people's attitudes toward any social system depend, in most cases, largely on how they feel it is treating them personally. Therefore we should be careful to sift emotion from real thought and to pay particular attention to the ideas of those people who have given the matter special study and who would not gain personally from the changes which they advocate or who are not benefited by the continuance of the present economic system. We should also be careful not to be led astray by writers and speakers who profit from making sensational popular appeals not based on actual facts or thoroughgoing analysis. Second, we should note the dangers of "opportunism," or of adopting here and there steps which appear to be of immediate advantage, but which in their ultimate consequences call for changes in the social system, of such a character that we should not favor them even under the pressure of severe immediate social stress.

Neither present-day capitalism nor proposed other economic systems are worthy of unquestioning worship on the one hand, or deserving of unintelligent criticism on the other. "Institutions . . . are good or bad according to the degree of human development and the problems of the time," are the previously quoted words of H. J. Davenport. In this spirit, our purpose here is neither to attack nor to defend our present system but to appraise it as best we can within the limits of this chapter and of our ability. We wish to consider whether this system fits the "degree of human development and the problems of the time."

Alternatives to present-day capitalism vary from proposals that the world return to a state of increased laissez faire, involving perhaps even a greater freedom of individual activity than has been known in this country for at least three-quarters of a century, to opposite proposals of complete state ownership and of control under socialism or communism.

Each of the major proposals will be considered more completely below. First we shall undertake to appraise the merits and demerits of capitalism.

CHARGES AGAINST CAPITALISM

The indictment of capitalism is chiefly that it has outlived its usefulness, that it was tolerably well adapted to 1850 America but is not suited to the needs of the United States of 1930. In part, though, the critics disparage the whole idea of competition and of individual self-seeking. The former major point, that capitalism has been antiquated by events, has been strongly described by George Soule.[1]

A Nation Walking Backwards

For one hundred and fifty years the eyes of the American people have been fixed on the manifestoes appropriate to a time when an infant capitalism was freeing itself from the womb of feudal aristocracy, declarations enthusiastically taken up by leaders in our own pioneer, agricultural and revolutionary land. So preoccupied, we have walked backward for a century and a half into a civilization of railroads, mass production, far-flung kilowatts, multi-storied buildings, automobiles, radio, centralized banking, nation-wide and world-wide markets. As we have walked, we have frequently stumbled and cracked our skulls. Fumbling behind our backs, we have invented all sorts of devices to surmount particular obstacles. The principles which our eyes have enshrined emphasize such things as the right and the freedom of individuals to do as they please, particularly in economic affairs, complete separation between government and economic enterprise, and the least possible government altogether. But the country we have backed into is characterized by the close dependence of the individuals on one another and on groups, and by rapidly expanding government. The devices we have improvised in order to deal with it consist of controls of all sorts, which are meant to restrict, in one field or another, planless freedom.

Each of these agencies has been conceived much as if the situation with which it dealt were an isolated and accidental phenomenon. We cling to our old slogans in general, while we throw out a new control in particular as a concession to exigency. On principle, we have done no more controlling than was absolutely necessary. We grouse at the multiplicity of boards, and immediately set up another. We do this, not because we want to do it, but because we have to. The controls, in many cases, work badly. But do we abolish them? Almost never. When we investigate the reasons for their faulty operation, we have to give them more plan and more power. And, having done this, we declaim the bill of rights and pretend that the country behind us, into which we are retrogressing by force of circumstances, is at least about to offer easy walking for unguided feet.

The specific criticisms aimed at capitalism are almost as varied as the number of critics. No attempt can be made here to survey even all of the more thoughtful and constructively aimed criticisms of the present

[1] G. Soule, *A Planned Society* (Macmillan, 1932), pp. 154–156.

system, and no attempt will be made to include those which arise merely from prejudice or emotion. The most noteworthy condemnations have frequently emphasized the following points.

The Distribution of Wealth and Income.—The maldistribution of wealth and income stands clearly as a major weakness of capitalism, a defect acknowledged by most thoughtful defenders of the system.[1] Maldistribution means more than unequal distribution, for the latter literally means that individuals receive differing amounts of income or possess differing amounts of wealth. Maldistribution refers to such great inequalities in wealth and income distribution as to be socially unjustifiable, or as to portend economic ill, or both. The distribution in the United States today is held to be a cause of business depression by some economists, a view given vociferous support by many who defended the New Deal of 1933. Present distribution leaves much to be desired; yet the facts in regard to it are widely misrepresented.

Before considering the causes and consequences of maldistribution of wealth and income, we shall consider briefly the available facts concerning income and wealth distribution in the United States.

In a study of income, the results of which are summarized in Table 59, the income recipients were classified by family units, consisting of about 29 million families and about 10 million single men and women living alone, a total of 39,458,300 units. The average income for each such unit was $1,502. An understanding of the extent of inequality of distribution is facilitated by dividing the income-receiving family units into the lower third, middle third, and upper third in amount of income received, which has not been done in the table. On that basis the results may be summarized as follows:

1. One-third of the national income was received by that two-thirds of all the families which received lowest incomes.
2. Two-thirds of the national income was received by that one-third of all the families which received highest incomes.
3. The lower third in income of the family groups received average incomes of $471 per family and consisted entirely of families receiving $780 per family or less. This did not include public assistance in the form of relief.
4. The middle third of family groups received an average of $1,076 per family and consisted entirely of families receiving between $780 and $1,450 per family.
5. The upper third included all families receiving above $1,450 and received an average of $3,000 of income per family.
6. All the family groups which received as much as $5,000 or more of income constituted between 2 and 3 per cent of all the families and received approximately 20 per cent of the national income.

[1] The reference here is to the distribution of income among individuals and families, not to the division of the social income among the factors of production. These two types of income distribution may be quite different because of the fact that an individual may receive income from two or more productive agencies.

7. Families receiving over $25,000 each constituted about one-sixth of 1 per cent of all families and received a little over 6 per cent of the national income.

8. If all the income received by all families who received $5,000 or more had been divided evenly and added to the existing income of the families constituting the lowest third in income received, the average income of the lowest third of all families would still have been less than $1,500.[1]

The distribution of wealth logically shows a higher degree of concentration in the hands of a relatively few persons, since such a large portion of our population earn all or nearly all of their incomes by personal service. Yet this concentration shows how the mass of the people are dependent on the less certain income from services, and that these people do not have an accumulation to provide for sickness or old age or to pass on to their heirs.

TABLE 59.—DISTRIBUTION OF FAMILIES AND SINGLE INDIVIDUALS AND OF AGGREGATE INCOMES RECEIVED BY INCOME LEVELS FOR 1935–1936[1]

Income group	Number of family units	Total income (in thousands)	Group percentages		Cumulative percentages	
			Recipients	Income received	Recipients	Income received
Under $1,000	18,363,893	$10,802,848	46.54	18.23	46.54	18.23
$1,000 and under $2,000	13,920,888	19,567,199	35.28	33.02	81.82	51.25
$2,000 and under $3,000	4,403,546	10,577,665	11.24	17.85	93.06	69.10
$3,000 and under $5,000	1,815,082	6,642,892	4.60	11.21	97.66	80.31
$5,000 and under $10,000	595,820	4,094,771	1.51	6.91	99.17	87.22
$10,000 and under $25,000	260,425	3,810,330	0.66	6.43	99.83	93.65
Over $25,000	98,646	3,762,923	0.17	6.35	100.00	100.00
Total	39,458,300	$59,258,628	100.00	100.00		

[1] Condensed from *Consumer Incomes in the United States* (1938), Table 2, National Resources Committee.

According to W. I. King's estimates, summarized in Table 60, the wealthiest 4.3 per cent of our property owners possessed 50.6 per cent of the wealth, and the wealthiest 10.7 per cent had 65.1 per cent of the wealth. In contrast, the poorest 12.9 per cent, or those owning $1,000 or less of property, owned only 1.3 per cent of the nation's wealth.

[1] See the pamphlet "The Consumer Spends His Income," by the National Resources Committee, available from the Superintendent of Documents, Washington, D.C., for 10 cents.

Marked differences in wealth and income of individuals have been a significant accompaniment of capitalism. Even though both wealth and income had been evenly distributed among individuals or families at some time in a nation's history, this equality in the economic position of the people would have soon disappeared. Some—the more alert, aggressive, thrifty, subtle, or sometimes, unethical—come to have a larger and larger share of the wealth and income of the society. Contrarily, the shiftless, the defective, the soft-hearted, and the victims of the subtle and the unethical will come to have less and less until some are dependent on charity. This tendency has been illustrated in many parts

TABLE 60.—THE ESTIMATED DISTRIBUTION OF WEALTH AMONG PROPERTY OWNERS IN THE CONTINENTAL UNITED STATES, DEC. 31, 1921[1]

Wealth per property owner		Cumulative percentages	
		Property owners	Amount of wealth
		100.0	100.0
More than $	1,000	87.1	98.7
	2,000	57.4	92.2
	3,000	39.3	85.8
	5,000	21.7	76.1
	10,000	10.7	65.1
	25,000	4.3	50.6
	50,000	1.5	37.3
	100,000	0.63	28.1
	500,000	0.07	11.5
	1,000,000	0.018	6.3

[1] Adapted from Table III of "Wealth Distribution in Continental United States," *Journal of the American Statistical Association*, Vol. 22, new series, No. 158, June, 1927, p. 152.

of pioneer America, in which the economic equality of the early settlers soon disappeared and distinct differences arose in the wealth and income of the members of the community. The principle here illustrated in pioneer areas is held by the socialists to be a fundamental characteristic of a system based on private property. It is maintained that the wealthy become fewer and more wealthy and that the poor become poorer and more numerous. With reference to *absolute* income, if among the poor we include any great number, they have not become poorer, but as a relative matter, it is possible that the wealthy have come to have *relatively* more income.

The maldistribution of wealth and income arises from a variety of factors, some of which are individual in their origin and some of which are social. Physical and mental defects may be inherited, and even among those people who are not positively defective there exists a wide range of native physical and mental capabilities. Though variations in native

ability are a significant factor in explaining differences in income, the major explanation of these differences, and, more particularly of differences in wealth, seems to be the effect of certain social forces on the individual and his economic position. Young people are often handicapped by the necessity of going to work at an early age at the most available job, in order to aid in the support of the family. Various kinds of rules by government or by organizations close the door to some occupations to many people. Some young people start with an advantage due to the wealth, social position, or "connections" of their family, a fact which at times leads one to question whether there really is equality of opportunity. Opportunities for education and training for some are limited, in spite of the prevalence of public education. Environmental influences, ideals, and ambitions urge some to strive for great business success, lead others to be more concerned with present enjoyments, and affect codes of ethics and methods of self-advancement. Inheritance of fortunes plays a large part in the uneven distribution of income. Nevertheless, the example of Henry Ford, in recent years one of the two largest receivers of income in the nation, shows that great wealth can be amassed in one life time. It also shows that a large private income may be invested so as to produce economically a good that the masses of the people desire.

The extent to which capitalism should be held responsible for the existing wealth-and-income distribution depends upon (1) the extent to which capitalism creates the conditions leading to the situation, and (2) the extent to which a system should be expected to compensate those of low native abilities. Under 1 we have seen that the institution of inheritance and certain forms of unfair competition which have been characteristics of capitalism (though not necessarily so) are important causes of maldistribution. The offering of ample reward to the successful tends to put a premium on unscrupulous acts. The answer to (2) is problematical, except to the extent that, on the one hand, even under capitalism an attempt is made to keep everyone from starving, and many with physical defects are well cared for, and that, on the other hand, few socialists propose an absolutely even income distribution.

Below we shall consider whether the distribution of wealth and income can be made more equal under a system which would still be fundamentally capitalistic, or whether the system must be completely revised if this objective is to be obtained.

Economic Slavery and Insecurity.—Critics of capitalism, especially the socialists, often maintain that, although slavery has been legally abolished, in reality the masses are still slaves—wage slaves. Workers are legally free to quit their jobs, but economically they are bound to their jobs by the necessity of making a living. If they quit they face the possibility of extended idleness. The salaried class is somewhat similarly held to the maintenance of connections once established. And even the

employers are held to the task; and almost every waking thought must be devoted to business in order to meet competition. People, the conclusion runs, have become the servants of the system, rather than having their full life considered the objective of the system.

Not only are people's bodies and minds bound to the job, the critics insist, but the system provides no security of economic position. Unemployment, industrial accident or sickness, and bankruptcy, all without adequate compensation, are recurrent burdens of many of those who work or who invest incomes, and the living standards of the victims of such ill events are reduced. They are then forced to accept any work offered them and work under almost any circumstances. Economic insecurity is a fundamental problem of the day, and the task is to provide means whereby it may be minimized. And it is probable, particularly in depression years, that a large portion of our people would be willing to sacrifice some of the opportunities for economic advancement if they could thereby gain a certain, though smaller, income.

Economic Maladjustments.—A third and major criticism of capitalism has been the fact that this system fails to bring about a satisfactory degree of adjustment between various economic activities, particularly between the productive capacities in different phases of economic activity. In part as a consequence of these maladjustments, great waste of effort, machinery, and resources takes place. The price system fails to coordinate activities so that equipment can be used continuously to capacity and all labor can be employed. This argument is one of the major theories of the business cycle reviewed in Chap. XXVIII. The examples of capacity to produce 900 million pairs of shoes when we can sell only 300 million, the capacity to make seven million automobiles when maximum sales cannot be ordinarily expected to exceed half that amount, and so on, have been paraded before reading Americans in recent years. These facts must be acknowledged by the defenders of capitalism. But they in turn can point to the fact that much of this excess capacity comes from shifts in demand, more from the building of new and better plants, and that only a part is real overextension of the same kind of plant. Moreover, the defenders of the existing system emphasize the tendency for these maladjustments to disappear; for the productive capacities and consumers' desires to tend toward equilibrium. In contrast, the critics emphasize the tendencies toward disequilibrium in the capitalistic order.

Economic Waste.—The proponents of a new economic system have made much of the waste which occurs under the system of free enterprise. Stuart Chase identifies four kinds of waste: "The production of nonessentials, idleness, bad technical methods, and losses in natural resources."[1]

[1] *Tragedy of Waste* (Macmillan, 1925), p. 27.

The production of nonessentials includes both the production of those things which are positively harmful and those things which, though not harmful, do not give an adequate value to the purchaser. The typical patent medicine is an often-quoted example of the former kind of waste in consumption, though adulterated foods, dangerous buildings, habit-forming drugs, and similar items are included in the list. Of those items in which the consumer does not receive full value for money paid, Chase lists articles varying from prepared breakfast foods to automobiles. He holds that the former has too high a price for its caloric content, and that the latter, the automobile, could be made to serve much longer with but little additional production cost.

Idleness refers to the unused capacity of factories and to unemployment. Unused capacity may be due to seasonal factors, but according to most critics refers to the misdirection of capital—the excessive investment in certain kinds of buildings, equipment, or other improvements. The chief reference is to the failure of the price system to apportion perfectly the factors of production among the various industries as consumers desire the products of these industries. Although a considerable portion of these maladjustments arise, either from shifts in consumer demand, or changes in the technique of production—maladjustments which would tend to exist in any but a retrogressing society—the critics of capitalism are inclined to lay all such misalignments at the door of the present system.

The waste in the form of idleness which goes with a business depression is usually assigned by the critics as due to capitalism. However, it is by no means certain that there would not be similar shutdowns in production under a socialistic or some other system. Strikes of those engaged in a particular industry for more pay, as compared with those engaged in other industries, might easily occur under socialism, unless prohibited in a despotic manner by severe penalties. Under the type of socialism known as a *guild socialism,* under which not the state but the workers in each particular industry are expected to both own and operate the means of production of that industry, it is quite possible that large shutdowns in industry might occur because of failure of workers in different industries to agree on the division of the product. The fact that many strikes now occur over "jurisdictional disputes" between unions in different trades illustrates this.

The waste due to bad technical methods refers to the use of out-of-date machinery, processes, and organization. Particular emphasis is laid on the lack of standardization in many products, a fact which greatly increases producing and handling costs. A particular point of criticism is the distribution of goods, particularly retail merchandising. Nearly all advertising is viewed by these critics as waste. Altogether, the criticism is that the opportunity for the free exercise of the individual initia-

tive has not brought efficiency, has not always led to the use of the best method, and has not eliminated the inefficient and superfluous enterprises.

The waste of natural resources under free enterprise has long been recognized, and the prevention of such waste, either by strict government control or by permitting monopoly among those exploiting these resources, accompanied perhaps by special taxes, has long been advocated by many who believe that free enterprise in other fields of industry is desirable. The wasteful methods of cutting timber, mining coal, and drilling for oil have been widely publicized. Clearly no one enterprise, say in the oil industry, can undertake to eliminate these wastes, if by wasting resources or investment more money can be made. Unity of action is required. Tardily some social action has been taken, but clearly it has not gone far enough.

Wrong Motives.—Capitalism is accused of being based on, and fostering, undesirable motives, chiefly that of self-interest. The whole price system, the freedom of enterprise and competition, is based on self-interest. Critics assert that not only is unsocial conduct the necessary consequence of this motive but also that it emphasizes the baser qualities of human beings. Self-striving and competition are ugly. Cooperation and altruism are higher ideals. Capitalism rewards material, not cultural, advancement. Capitalism seeks to build cheaply, not for beauty. Self-interest leads to the destruction of beauty, when money can be made thereby.

MERITS OF CAPITALISM

Freedom of Initiative.—The capitalistic system provides for relatively few restraints on the individual in his economic activities. He may own productive instruments; he may put them to work in almost any industry he sees fit; he may change methods of producing or of conducting business transactions; he may buy and sell largely as he pleases and at such prices as he thinks proper. Though the law places few restrictions on the individual, it is true that he is subject to the pressure of public opinion, that he sometimes finds it desirable to join such voluntary associations for cooperative action as are allowed by law, and, above all, that he is subject to economic pressure. The individual is not so free economically as he is legally. The type of business in which a man wishes to engage, because of his preparation for, or particular interest in, that work, may already be overcrowded.

This large degree of individual freedom has brought two beneficial consequences. First, it has paved the way for rapid and marked progress in the technique of production, a point which will be considered more completely in a moment. The second consequence is psychological, the "psychic income" derived from absence of legal restraint. Although such income is not measurable in dollars, that does not matter, for the

purpose of all economic activity is the satisfaction of wants. And if people's environment under capitalism—namely, absence of restraint—is productive of large psychic values, that is to the distinct credit of the system. Although the degree to which the rank and file of Americans have actually had the privilege of any large degree of real freedom is debated, there is a strong feeling among the populace, and among many students of the social sciences, that capitalism does yield a large total of mental pleasure arising from absence of minute legal restraints.

The individual enjoys a *high degree* of absence of restraint, both as a producer and as a consumer. The law lists only a few occupations as forbidden, though at times legal support is given to limiting the opportunities for investment, as in the public utility field, or for employment, as in government service, or sometimes in professions, as that of the practice of medicine. On the whole, men are legally free to enter that kind of work which they anticipate will give them the greatest money income, or pleasure in the work, or other intangible returns. And in most cases, in so far as there are restrictions on choice of occupation, they are self-imposed by those in the occupation, or they are restrictions arising from the economic necessity of getting a job at whatever work is available.

As a consumer, the individual choice of goods to consume is restrained by law supposedly only in cases in which the consumption of the desired product is considered socially injurious, as in the case of harmful drugs. Under socialism the state may control what kinds of goods people may consume and how much of different kinds. Certainly a large range of legal freedom in consumption is essential to happiness, whether under capitalism or socialism.

Efficiency under Capitalism.—The standard of living of the countries of Western civilization has made great advances under the capitalistic regime. The law permits the individual to exercise his initiative and to profit therefrom. This fact has stimulated the development and production of revolutionary improvements in all phases of economic activity. One can hardly picture the possibility of the English Industrial Revolution occurring under thoroughly enforced mercantilism. In this country the opportunity to establish a fortune by hard work, thrift, and ingenuity encouraged the development of our resources and, more significantly, the development of laborsaving devices, so that man's power was made manifold.

The application of science to production has been concerned, not only with the methods of production, but with the products themselves. Though consumers' fundamental wants are today similar to those of their ancestors, the goods which are offered as the means of satisfying wants have changed. The changes in consumer goods have not been initiated by consumers, or even by scientists, but by profit seekers, who have studied the consumers' fancies and the scientists' advances and have

encouraged and financed the bringing out of new goods, varying from chewing gum to electric refrigerators. The consumer is essentially passive; the leadership has come from the unrestrained, profit-seeking entrepreneur.

Even some of the most severe critics of capitalism have recognized its merits as a system under which technical progress has been made rapidly. Using bourgeoisie as referring to the owning and managerial groups, and asserting that capitalism is dominated by this class, Karl Marx, the founder of modern socialism, said in 1848:

> The bourgeoisie during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of nature's forces to man, machinery, application of chemistry to industry and agriculture, steam navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalization of rivers, whole populations conjured out of the ground—what earlier century had ever a presentiment that such productive forces slumbered in the lap of social labor?[1]

This tendency of individual initiative to surpass operation under complete social control in supplying goods, including services, is illustrated by the fact that where the two kinds or systems of operation have had an opportunity to compete side by side (each being required to be self-sustaining), individual or capitalistic operation has never been eliminated. Many socialistic and communistic communities have been started but have always failed when the alternative of private operation has been permitted. In Russia from 1921 to 1928, under the "New Economic Policy," private business for profit in a number of occupational classifications was permitted under very heavy burdens, and yet it made a very excellent showing until it was completely prohibited by the socialistic state.

The question of relative efficiency in production is of more importance than many critics of the present capitalistic order realize. W. I. King[2] points out that if *all* the income received in 1926 by all persons receiving $8,309 or more ($5,000 in terms of 1913 purchasing power of money) had been distributed evenly among all persons receiving less than that amount, the increase to those in the lower group would have been less than the increase in the nation's income due to increased productiveness between 1922 and 1926. Otherwise expressed, the nation gained from increase in productiveness between 1922 and 1926 more than the amount of all the income received in 1926 by all persons receiving $8,309 or more.

Consumer Direction.—Under capitalism the entrepreneurs are not the final governors of what shall be produced; this rôle is occupied largely by the consumers. The entropreneur may prepare goods, he may even

[1] "Communist Manifesto," 1848.

[2] W. I. King, *The National Income and Its Purchasing Power* (National Bureau of Economic Research, 1930), p. 178.

undertake to persuade the consumer of their want-satisfying qualities, but the final decision to purchase or not rests with the consumer. It is readily acknowledged that the consumer is influenced by custom, by style, and by advertising, but still the decision rests with consumers. The latter think they have freedom of choice, which of itself is of some significance; and, in reality, consumers do have a large degree of choice. It tends to be the exception rather than the rule that advertising or salesmanship can for an extended period convince consumers of the want-satisfying power of goods which are devoid of utility.

Furthermore, consumers *tend* to obtain these goods, under competition, at a price covering the costs to the majority of the producers. At times prices are higher or lower than this point, and under monopoly they may be considerably above it. If the government supplies services, prices charged may vary from sufficiently above cost to yield a large revenue to the public treasury to much below cost, in which case the deficit must be made up, however, by revenues obtained from some other source. But competition *tends* to give people what they want at prices covering the necessary costs of putting those goods on the market.

Summary.—The discussion thus far has been confined to the merits and weaknesses of capitalism. The critics maintain that the system does not conduce to a full life, to the enjoyment of a relatively high plane of living by the masses, to the psychic pleasures of security, or to the nonmaterial aspects of a full life, such as an artistic and cultural environment or interest on the part of the people. Instead, they insist, much *illth* (as opposed to *wealth*) is produced and consumed. The defendants, on the other hand, point to the material advance that is possible under capitalism and that actually has been made. They point to the relative flexibility of the system in adopting new methods or producing new articles, a characteristic arising from the fact that decisions in such matters are not up to one board or one person, but that some bold person may test those new things as actual methods of production, or as actual goods to be offered to consumers. They point to the fact that the capitalistic method has always prevailed since the time of feudalism, and has given greatest satisfaction when competition on an equal basis between it and other methods has been permitted side by side in the same country. Psychic, as well as material, advantages are claimed for freedom of initiative in production and freedom of consumption. But thus far we have not considered the positive merits—or the defects—of alternative systems. Preparatory to this appraisal we shall consider the chief features of these proposed substitutes for present-day capitalism.

PROPOSED ALTERNATIVE SYSTEMS

The systems proposed to replace the 1930 type of capitalism are here classified according to the degree of social control, or change, which is

advocated. The proposals differ from one to the other largely in degree, although between the extremes great differences can be noticed. The following proposals will be considered: (1) greater laissez faire and (2) further social regulation of private enterprise, both of which are essentially capitalistic programs; (3) a planned economy, also usually considered capitalistic, and obviously so when practiced only to a limited degree, though many persons who have given the matter much thought regard thoroughgoing planning as inconsistent with capitalism; (4) socialism and communism.

Greater Laissez Faire.—At various places throughout this book emphasis has been placed on the increasing rigidity of our system, due to the further introduction of monopoly and of government regulation. The consequences of this rigidity on the functioning of the system have been pointed out. In order to overcome the difficulties arising within a system which is part rigid and part flexible, some have proposed the restoration of a greater degree of freedom of enterprise and of competition than, in reality, we have had for several decades. This is a logical suggestion in the sense that the increased rigidity has brought many difficulties; but it ignores the difficulty of restoring flexibility. Though governmental regulation of public utilities is recognized as necessary by practically everyone, we must recognize that prices under government regulation tend to become rigid. In previously unregulated fields, the large corporation with its degree of automatic monopoly influence has resulted in most cases from the demands of production technique. Producers in industries with heavy fixed investments and few competitors will, legally or otherwise, engage in cooperative activities in their common interest. Though here and there some monopoly can and should be destroyed, the restoration of completely free competition seems to be both impossible and undesirable.

Further Governmental Regulation.—The probabilities are that the future will see further moves in the direction of social control of economic activities. Differences of opinion arise when the question of the degree of control is raised. Many defenders of capitalism see opportunities for the improvement of the system by the application of additional social control here and there. The control may be designed either to prevent the evils of capitalism from occurring, at least in part, or to remedy the consequences. As preventives, the government could undertake to forbid many of those practices whereby one person gets ahead of another, to prohibit the marked economic advantage of inherited wealth, to further develop people's native abilities through even a more complete system of public education, to prevent the birth of children from defective parents, and to give medical aid to the physically deficient. Public utilities and other monopolies could be more intelligently regulated. As partial cures for the ill effects of capitalism, heavily progressive inheritance and

income taxes will restore greater equality in wealth and income. All in all, additional social action in certain directions might mitigate the major evils of capitalism to the extent that it would be as desirable as any human system can be.

A "Planned Economy."—Though all social action is in a sense social planning, and the term *planning* has come to be used with a great variety of meanings, those who propose a planned economy are, at least in many instances, really proposing that society directly control the volume and kind of production of most goods, the flow of capital into various industries, and, to a certain extent, the technical methods of production. In short, the government would direct the productive activities of society. The planned economy is used in opposition to a system of free enterprise, which is called planless. The capitalistic system is not without order, however, for the price system gives a degree of order to the flow of capital into industries, the output of goods, and the quality of goods. The objection of the critics is that the price system does not control the economic system properly, and that, therefore, conscious social direction is necessary.

The proposals for economic planning may be divided into two general types: (1) those in which the initiative is to come from industry, and in which the government is to exercise only general supervisory powers; and (2) those in which government is to take the initiative, work out the plans, and force industry to follow the program. Though numerous writers, especially since 1930, have advanced plans, we shall here consider briefly the Swope Plan as representative of the first class, and the Beard Plan as an example of the second group.

1. The Swope Plan, by Gerard Swope, president of the General Electric Company, was much publicized previous to the establishment of the NRA, which in part attempted to carry out the theory of that plan. It proposed the legalization of many cooperative activities by trade associations, which were illegal and in large measure still are, in order that through joint action business men may provide for unemployment insurance, standardize systems of accounts, gather and disseminate among members information on costs and market opportunities, and do various other things, including the regulation of output and therefore prices. The Chamber of Commerce of the United States proposed during this same period of time that contracts among members "to keep production correlated with demand" should be permitted. Swope proposed that a super-organization be set up, representative of national trade associations, for the purpose of coordinating the activities of the separate associations. The national government should then undertake to exercise certain controls over the trade associations and the national super-organization, for purposes of promoting the public interest. But the plan clearly expected that governmental supervision would be a minor factor and that, in general, industry will be self-governing.

2. The substance of the Beard Plan, formulated by Charles A. Beard about a decade ago, was to make a public utility of every important industry producing staple goods—to subject all enterprises in all the industries to control similar to that now exercised over the railroads and electrical power companies. Industries producing non-staple goods, those in which style is important, in which new goods are being brought out, were not, immediately, to be subjected to control. According to this plan, the anti-trust laws would be repealed and the necessary changes made in the Federal Constitution to allow almost free action to the government in economic matters. Then the enterprises in each industry were to be organized into giant syndicates for purposes of production control, for providing steady employment and adequate wages, and in fact for the planning of all activities. The activities of the various syndicates were to be controlled and coordinated by a National Economic Council selected by and receiving authority from the Federal government. The separate enterprises were still to remain independent in conducting their day-to-day operations. All through the plan, the government was to take the leadership, to force enterprises into the syndicates, to work out, in the National Economic Council, plans for the various industries, and to force the adoption of plans.

Socialism and Communism.—Socialism and communism are contrasts to capitalism primarily in that they provide for the collective, as opposed to private, ownership of the instruments of production. Though there is a fairly general agreement concerning this ultimate objective among those advocating collective ownership, there is a disagreement as to the program for the immediate future, as to the proper methods whereby the new system is to be brought about, and as to the exact form of the collective ownership. The immediate program of some socialists provides for nothing more than the extension of government regulation and here and there of government ownership, as of utilities and banks. Other socialists propose the immediate establishment of collective ownership of all production goods, to be brought about by political, as opposed to violent, means. Marx and Lenin used the terms *socialist* and *communist* interchangeably. Where a distinction is drawn between socialists and communists, as is often done in the political parties in Europe, the difference tends to lie in that the communists demand the immediate establishment of the collective state, and that by violent means if necessary. Therefore the communists have come to hate and ridicule the more conservative socialists as weak-hearted apologists for capitalism. Another meaning of communism, as opposed to socialism, is that the former calls for an equal division of income, all things in common, whereas the latter asks for less complete equality of treatment.

The term *state socialism* has been used to refer to the progress of social legislation carried out in Germany under Bismarck. Hence this term should not be applied to socialism proper. But state socialism more

generally refers to state ownership of all means of production. Utopian socialism derived its title from the tendency of its advocates to deal imaginatively with a state, "Utopia," in which men would be reasonable and would be governed by an altruism so pure as to be non-existent in the economic life of actual states. Guild socialists advocate an economic organization for the ownership of productive property in which the direction of economic activities is to be quite distinct from the political government. Guild socialism would organize the workers of each plant and industry into guilds for the carrying on of production. The means of production for each industry would be owned and operated by the workers in that industry. The activities of the separate industries would be coordinated by a form of national economic congress, distinct from a political congress, which would also be retained.

The dominant group of socialists may be called the Marxians on account of their attempt to follow the teachings of Karl Marx literally. Because of the importance of this group, and the wide tendency of reformers to refer to the teachings of Marx, we shall briefly note the major features of this philosophy.

The Marxian Philosophy.—The Marxian socialists have prided themselves on being "scientific," to have studied economic history, and to have found that economic organization continuously evolves as methods of production change and that capitalism is doomed by this evolutionary process (that is, evolutionary until socialism arrives). They maintain that history is governed by economic determinism—that is, by economic factors—and that the prevailing situation is a perpetual class struggle between the "Haves" and the "Have nots." This struggle started between master and slave, continued between lord and serf, and in capitalism is a struggle between employer and wage earner. The rich are becoming fewer and richer, the poor more numerous and more poverty-stricken. As the working masses—the proletariat—come to see that they have no opportunity to become capitalists, they will develop a class consciousness, a willingness to sacrifice for the cause of labor. Thus the class struggle becomes more bitter, hampering the capitalist. The greed of the capitalists aggravates the major structural flaw in capitalism—the recurring business depressions. These, Marx prophesied, would become more and more severe until capitalism became so weak that the proletariat could easily overthrow it. Marx's explanation of the inevitability of these depressions under capitalism was a special variation of the oversaving business-cycle theory, based on the labor theory of value.

The labor theory of value, which holds that labor creates all values, is the central theme of the Marxian critique of capitalism and would form the basis of the new socialistic state. Marx and others have proceeded then to develop the *surplus-value* theory. They declare that,

though labor produces all value, it is paid only a share, the remainder going to the "exploiters," the capitalists. The latter, by saving a very considerable portion of their income, bring about periodic shortages of purchasing power in the markets for consumers' goods. Because of the increasing concentration of wealth, Marxians expect these depressions to become worse and thus prepare for the downfall of capitalism.

Marx's doctrines, in spite of giving the impression of being logical, have numerous flaws, a fact acknowledged by many of his most thoughtful followers today. Historical events are influenced by a variety of forces, although the economic ones probably are dominant. But certainly the class struggle as outlined by Marx is not the only major contest within society, for religious struggles and national rivalries, among other struggles, have been and are major. The labor theory of value is inaccurate, for even if we assume that all costs are labor costs, the theory fails to recognize that value arises from human wants—the utility aspect of the value problem.

In his theory of depressions, Marx seems to have thought that saved purchasing power was completely lost to the consumers'-goods market. In reality it is invested and spent, and employs labor, as does other income, except that during the periods of fear and panic of a depression a certain amount of hoarding occurs, which delays such purchasing power being spent for goods in such a way as to give employment to labor. Though it is debatable whether "crises" have tended to become worse, it is true that they are a major sore spot in capitalism.

In the system forecast by Marx the workers were to rule, and the assumption is that they would all be wise and would regard all their interests as identical—that there would be no strife and no waste. In Russia, rulership by the workers was attempted but was replaced by dictatorship from above, and according to reports there is yet much waste.

Fascism.—Beginning with the suspension of representative government in Italy in 1923, a somewhat distinct doctrine of *Fascism* has come to the fore. Under the name of Nazism in Germany and under other guises in a number of countries, this doctrine has by 1940 come to command more attention than communism. Fascism provides for the subordination of property and personal rights to the state, which in turn is simply a dictatorship. It has usually arisen out of a national emergency which called for decisive action. Hence it is decidedly nationalistic and militant in foreign policy. In the economic realm, it has meant progressively greater planning—control of private business operations—designed, however, to strengthen the nation militarily. Thus it has some features of older mercantilism. Progressively, the economic affairs have passed into the hands of the government, until hardly the shell of private enterprise is left.

Though in its early stages Fascism often has the support of conservative interests which fear communism, wealth-sharing, and similar schemes, the industrialists have soon found that their independence of action is gone. Fascistic states have come increasingly to approach socialism under a dictatorship, with a definite militaristic tone.

At the same time Russia's so-called communism has acquired some aspects of a state capitalism and lost most of its international viewpoint. Thus the two types of economies, communism and Fascism, have ceased to be economic in essential features and have become schemes whereby the state dominates the whole life of the individual.

EVALUATION OF PROPOSALS

The evaluation of social systems involving a high degree of social control is largely a matter of conjecture, for these systems, in so far as they would apply to an advanced industrial nation, are merely projected outlines—they do not exist nor have they existed. This is not to say that no evaluation can be made—but rather that it must be incomplete and tentative. The major point to be raised in this appraisal is: Can we be reasonably certain that the alternatives proposed will enable us to satisfy in a larger measure our material and immaterial desires?

The proposed social systems are in the future and are in outline. The fact that they do not exist tends to lead those who are dissatisfied with the present to see only the attractive features of the alternatives—security, protection from strong competitors, and so on. This is the human counterpart of the proverbial cow which always sees greener grass beyond its own pasture. The fact that these proposals are in outline leads the student of economic relations to observe that those who sponsor them for the most part neglect their major problems. In other words, these plans in outline appear as does a forest on a distant mountain side—a symmetrical and a beautiful whole. But as one comes closer to that forest he sees bare spots, broken and dead trees, and dwarfs among the giants. Similarly the broad outlines of proposed social systems come to lose their air of simplicity as one concretely considers their application—particularly under the present degree of division of labor. As we mentally scrutinize more closely the actual application of these social control schemes, boulders, jagged precipices, and swamps and mires appear.

Motivation.—On the whole the proposed alternatives to capitalism assume that self-interest will continue to be a major motive, but they expect to restrict the degree to which an individual can seek his own self-interest. Furthermore, they anticipate that other motives as love of beauty, altruism, pride in workmanship, and desire for esteem of others

will come to play a larger part in people's lives. Yet the reformers anticipate that men will still have to work in order to receive an income, and they propose to pay different wages to different levels of skill and productivity, though by no means such differences as exist under capitalism.

Underestimate Control Problem.—Economists are quite generally of the opinion that most enthusiasts for a high degree of social control underestimate the difficulties of effectively exercising that control. The enthusiasts overlook the complicated character of economic relations in their anxiety to paint an impressionistic picture of their scheme.

Some evidence of the complications arising when social control is applied may be gained by observing our past experience with social control. Each time control is applied to a certain aspect of business, old, established relations are disrupted and often additional control becomes necessary in places in which it was not originally intended to exercise control. Regulation of railroad rates led by successive steps to regulation of railroad accounts, service, construction of new lines, and capital issues. And there is much present criticism of the way in which these controls are exercised. In some states the budgets of public utilities are subject to alteration by state authority. Controlled, rigid railroad and utility rates come to be out of step with the more flexible prices of other industries, which, among other factors, led business men to demand, and the NRA to grant in some cases, the right to collectively control their products' prices. Another of the many examples comes from the NRA wage-raising, hour-shortening program, particularly in the textile industry. Because this raised wage costs by one-fourth or more, employers logically sought to introduce improved machinery, which would use relatively less labor. But this would have expanded the output of textiles and aggravated still further the overproduction problem of that industry. Therefore an appeal was made to the NRA for a grant of power to the Textile Code Authority to control the introduction of machinery.

The *economic planners* and socialists would face their fundamental task in apportioning the productive factors among the various fields. But to some of them it appears simple, as in the following quotation:[1]

> The first step, as during the war, is a survey of requirements. But such requirements instead of running primarily in terms of tons of T.N.T., 75 mm. guns, khaki cloth, Liberty motors, bombing planes and barbed wire entanglements, will run in terms of cubic feet of housing, bushels of corn, pounds of meat and silk, square yards of cotton and woolen goods, schooling space, playgrounds, power lines, surfaced high roads. The General Staff finds by turning to the records of the Council of National Defense—which had already begun the task of calculating national requirements—that the country needs each year approximately:

[1] Stuart Chase, *The Tragedy of Waste* (Macmillan, 1925), p. 18.

290,000,000 pairs of shoes.
3,800,000,000 square yards of cotton and silk woven goods
635,000,000 square yards of woolen woven goods.
95,000,000 dozen pairs of hosiery.
11,000,000,000 pounds of meat.
5,300,000,000 pounds of sugar.

This appears simple until the requirements are examined. What type, color, design, or quality of cloth is desired? What style of shoes? What kind of meat? Assuming that these are average figures, what about the tendency of the consumption of meat and sugar to increase and of cotton cloth to decrease? Can such tendencies be projected into the future so as to adjust productive capacity to meet them? And a still more fundamental question—the above data do not take into consideration the elasticity of demand. At what prices would the above quantities be consumed?

There is, of course, one way whereby many of these complications could be simplified—by artificial standardization of products, by refusing to bend production to changes in consumers' tastes, by requiring, so to speak, that all wear uniforms, and by largely refusing to use technical improvements. But such procedure will not fulfill the ultimate objectives of the reformers themselves—greater human welfare.

The Efficiency of Social Control.—Clearly the success of plans involving a dominance of social control would rest on the ability of organized society to control economic activities intelligently and effectively both in their larger aspects and in detail. Some enthusiasts see clearly the inefficiencies, the absurdities arising under capitalism, and assume that social control, the mere "passing a law about it," will bring the millennium. Not only are economic relations and prices complicated, as was noted in the last section, but we should consider the efficiency of government as a control agency.

The concern here is primarily with the ability of government to formulate intelligently a program adapted to present and future conditions, and to work out the means whereby the program is to be put into effect. The concern is not with the ability of government to supervise standardized routine work, such as that involved in the operation of post offices or a power plant; it is with more complicated matters.

The best criterion that we have of a government's capabilities is its past record in those cases in which social control has been attempted. Here is one writer's opinion of government control by an all-powerful board, interpreted in the light of experience:

> How, in cold fact, would either board be likely to work out? Is there any good reason to suppose that it would do any better than either of our two most respected boards so far—the Federal Reserve Board and the Interstate Commerce

Commission? How foresighted were they before the 1929 crisis? What influence did they exert toward stability? What did they do to curb the excesses of the bankers and the industrialists? For the most part, they did precisely the opposite of what they should have done.

The Commerce Commission might have permitted the railroads to raise their rates before 1930, compelling them to build up a reserve out of the proceeds; it failed to do so, but when the crash came it illogically ordered an increase of freight rates when all other prices were falling. The Federal Reserve Board had neither the sense nor the courage to raise rediscount rates in 1928; it knew that such an action would be unpopular, and it feared the wrath of the Messrs. Mellon and Coolidge. It even refused to allow the New York Federal Reserve Bank to raise its rate when it wanted to.

Another government "planning" body was the Federal Farm Board. Its contribution to stabilization was to buy wheat when it was selling far above a dollar and to sell it out at 50 and 40 cents; thus aggravating the violence of the wheat collapse and incidentally throwing away several hundred millions of the taxpayer's money. Finally, apart from the errors of its delegates, let us not forget how Congress bungled the war debts and that it passed the Smoot-Hawley tariff in 1930.

Whatever the misdeeds of our business men and bankers may have been, however great their stupidity and corruption, the record indicates clearly enough that the politicians and the "expert" political boards between them brought about consequences that were even worse. Never at any time did the politicians or the boards show more foresight than the captains of finance and industry. The major decisions of those boards, on the contrary, were always dictated primarily by political and not by economic considerations.[1]

Persons who see the shortcomings of the agencies of social control, as does the author of the above, do not advocate complete absence of social control. They know that some social control is necessary. They are desirous of improving it, and in some cases extending it. But they recognize that all human institutions are imperfect, and that to expect from the new proposed systems the idealistic perfection which is often pictured by their sponsors is to be doomed to disappointment.

One other critic of the planned economy will be quoted. He writes as follows:

If we wish revival without an early relapse into chaos, I do not think we shall go far with the advocates of the planned economy. They cannot make a comprehensive plan. The ablest and best trained brains, given unlimited power, could not do it. The ablest students of economic theory can, for a little while, at times when their energies run high, see in theoretic outline, in schematic outline, an abstract picture of the economic order. The concatenation of prices and costs, the interrelations among the industries, the international interrelations, the relations of capital market, money market, securities market and industry—there is a body of economic theory dealing with these matters sufficiently definite

[1] Henry Hazlitt, "Philosophers of the New Deal," *The American Mercury*, January, 1934.

and sufficiently clear to enable us to reach some very important practical conclusions regarding public policy. But to put flesh and blood upon this abstract skeleton, so as to make it a thing adequate for conscious control of industrial life, is an impossibility. We have an immense mass of statistical detail regarding many phases of economic life, but not nearly enough for purposes of this sort, and not, moreover, in manageable form. Further, it cannot be assembled with sufficient speed to enable one central planning body or one central brain to use it in making day by day decisions. Neither economic theory nor statistics begins to supply the necessary foundation for dealing with such a problem. The best industrial and financial intelligence sees only a part of the picture with definite realism. The coordination of the multitudinous elements must be through the markets, and not through a central brain or central authority.

But, further, no one supposes that if we are to have a planned economic order the matter would be turned over to the men who have trained themselves to see the whole economic picture. They would not be regarded as competent to handle the administrative problem—and they would not be. The thing would be turned over to practical administrators, chosen primarily with respect to their ability to get along with men, and with respect to their acceptability to controlling political groups, and instead of *economic planning* we should get *political compromise*. The plans that would be made would be only partially harmonious from the standpoint of economic consistency. They would be, in large part, a mere resultant of political pressures, contradictory in their economic implications.[1]

Some of the more careful proponents of a new social system realize the inefficiencies of government but are hopeful that the complete transition to social control will solve the problem. Then, it is expected, the more able people will seek political office and government position, because opportunities will not exist for such rich monetary rewards in industry as now are received by the able and fortunate. Furthermore, the citizens, it is thought, will be more mindful of their task as voters, because their welfare will depend even more than at present on government action. It remains true, nevertheless, that economic matters will be decided by political methods. Either there must be appeals to popular majorities, which will not assure the continuity of policy envisaged by the advocates of thoroughgoing economic planning; or faith must be placed in a dictatorship of some form, whether or not it be on the Russian or the German model.

A Changing or a Static System.—One of the great purposes of increased social control would be to acquire an increased degree of economic stability. How perfectly can this stability be gained, particularly through social control, without barring changes in demand, improvements in technique, and the introduction of new consumer goods?

According to some critics of the present, change goes on too rapidly. They insist that many new products today have no merit unless it be profits for the introducer. Stuart Chase goes so far as to curse the

[1] B. M. Anderson, *The Chase Economic Bulletin*. June. 1933.

inventors and assert that the rapid introduction of new techniques of production is conducive of unstable economic relations.

Since it is much easier to control a static system than to adapt the system to changes intelligently, it would seem logical that such an attitude as that expressed by Chase would tend to dominate a socialist or planned state. In fact, such societies as that of the manor, controlled by custom, or that of the medieval town, dominated by the guilds, were accompanied by relative stagnation, in so far as improvements in technology are concerned. And technical progress is still needed, for technology has not yet advanced to such a stage that what many regard as merely a decent living could be promised to all, even though incomes were quite evenly distributed. If, during the active and prosperous years 1924–1928, the national income had been equally divided among all the gainfully employed, it would have amounted to an average of only $1,885 per year per employed person, and this includes as part of the income the rental value of homes occupied by their owners. According to reports on budget studies, an income of that amount would hardly support a family in health and decency.

Of course, if we assume that control could abolish all the waste and inefficiency of capitalism, this income could be considerably increased. But it is quite naïve to assume that such would be the case. Among the greatest wastes, according to many critics, are those of marketing. But as we have shown in the chapter on marketing, most of marketing costs are for services which most people prefer rather than reduced costs. These costs are not so great in Russia as with us, but neither are the services the same. If large groups of individuals prefer reduced costs in marketing to present services, they may secure the decrease without a change of the economic system.

The Individual in a System of Social Control.—The objective of social organization, as well as of production, is the welfare of the individual. The individual's welfare is measured primarily in terms of psychological enjoyments. In order to satisfy these desires to any great extent, it seems necessary that the individual must have a certain sphere of freedom. This is not to say there must be complete absence of restraint on the individual, nor to deny that there may properly be a large sphere of social control. Particularly in order to restrain one person from taking an undue advantage of others, certain restraints are properly placed. Examples are the regulation of food and drugs, of public utilities, of some competitive practices, of banks, and probably of aspects of business not yet to any great extent controlled by government. Certainly freedom is not to be commended if it means great freedom for a few and subjugation for the masses.

The individual desires some freedom in the choice of his occupation. Can this desire be allowed free operation if production is to be completely planned by social control?

Freedom of consumption is even more vital. But if production is controlled it follows that consumption will be controlled, at least to a considerable extent. The behavior of those exercising social control will tend to be to oppose change because of the problems it brings; and the loss of the capital invested in industries faced by decreased demand will tempt the administrators of society to refuse to change production as demand does change, and thus introduce a degree, at least, of autocratic control of consumption. The planners and socialists have assumed a body of statistical information, a stability of human wants, and altogether a predictability of human wants that seem unreal to many of the students of these subjects. Today business by using the latest information and methods of study undertakes to "follow current demand with vigilance, to take advantage of every favorable change; to guard against every decline with all of the skill which mother wit and practical experience can muster."[1]

The Trend of Affairs.—The trend of the times is distinctly in the direction of further social control of economic life. It does not seem probable, however, that the United States will soon be thrust into either a socialistic or communistic order. Instead, the additional social control will be applied here and there where it seems necessary. At times the rate of change will be more rapid, as during 1933 and 1934; at times government will cease to assume new regulatory powers, or may even withdraw somewhat from previously assumed activities.

Since economic affairs will probably come to depend to a greater extent upon government, it is axiomatic that government must be improved if the highest possible degree of economic welfare is to be assured. It must demonstrate more intelligence, must learn to work out integrated plans, and must develop a technique of control which will preserve the good in the past, in particular that degree of freedom of men as producers and as consumers which is not inconsistent with the exercise of a similar degree of choice by others.

Questions and Problems

1. What are the major features of capitalism? Compare or contrast its features with those of other existing or proposed systems.
2. What is the general criticism of capitalism as a system for today?
3. Give the salient facts concerning the personal distribution of wealth and income in the United States. What factors explain this wealth and income distribution, in part at least?
4. Upon what additional specific grounds is capitalism criticized?
5. What "psychic income" is said to be received by those living under a considerable degree of laissez faire? How does this argument fit with your observation?
6. Compare probable progress in production technique under laissez faire and under a planned economy.

[1] W. C. Mitchell, *Business Cycles* (National Bureau of Economic Research, 1927), p. 155.

7. Distinguish various types of socialism. Compare or contrast, as far as possible, a planned economy with socialism and communism.

8. Compare two types of economic plans.

9. Explain the chief features of the doctrines of Karl Marx. Discuss their accuracy or inaccuracy.

10. Upon what grounds may the efficiency of a system of a high degree of social control be questioned?

11. What are some of the complicated control problems which would have to be faced in a system of social control?

12. With reference to socialism and similar plans, what factors raise the question concerning a static or a changing system? Of what importance is this question?

13. What are the possibilities of bringing needed reforms within a system which remains essentially one of free enterprise?

14. Summarize the recent economic changes from the point of view of their effect on the type of economic system under which we live.

15. In what direction does our economic system seem to be tending? Why?

Suggested Readings

1. George Soule, *A Planned Society* (1932) is among the best recent criticisms of the system of laissez faire.

2. H. W. Laidler, *Socialism in Thought and Action* (1920) is an excellent exposition of that subject.

3. F. W. Taussig, *Principles of Economics* (1939), Chaps. 67 and 68, furnishes a well-balanced consideration of socialism.

4. S. H. Patterson and K. W. H. Scholz, *Economic Problems of Modern Life* (1931) furnishes a good brief summary of various types of socialism.

5. Benjamin Anderson, "A Planned Economy and a Planned Price Level," *Chase Economic Bulletin*, June, 1933 (and also other issues of this bulletin), deals with merits of capitalism and the defects of social interference. The same subject is discussed in numerous issues of the monthly *Letter on Economic Conditions* by the National City Bank of New York.

6. G. S. Counts and others, *Bolshevism, Fascism,* and *Capitalism* (1932) is a recent comparison of these three systems.

7. W. H. Chamberlin, *Soviet Russia* (1930) is a scholarly and interesting account and a well-balanced interpretation of events in Russia. *Russia's Iron Age* (1934) records more recent events in Russia and in the light of these events is more critical of the communistic experiment.

8. Lionel Robbins, *The Great Depression* (1934) is a keen analysis of the coming of depression in 1929 to 1932 and an evaluation of governmental attempts to "plan."

9. Leven, Moulton, and Warburton, *America's Capacity to Consume* (1934) gives many recent data on the size of our national income and how it is divided.

10. W. N. Laucks and J. W. Hoot, *Comparative Economic Systems* (1938) is recommended as a brief analysis of proposed and existing economic systems.

11. Walter Lippmann, *The Good Society* (1937) places the various economic plans in their political and philosophical background.

12. H. G. Moulton, *Income and Economic Progress* (1935) is an argument for more flexible prices, particularly where production costs have fallen.

13. Among the leading books on socialism written by economists are L. Von Mises, *Socialism* (Tr. by J. Kahan in 1937) and A. C. Pigou, *Socialism vs Capitalism* (1937).

14. H. S. Parkes, *Marxism, An Autopsy* (1939) is a critical analysis of the Marxian doctrine.

15. Carl Snyder, *Capitalism the Creator* (1940), attempts to show not only that capitalism is highly creative, but also how it can be made to function best.

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