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THE ECONOMICS OF PRIVATE ENTERPRISE

THE ECONOMICS OF PRIVATE ENTERPRISE

BY

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PREFACE

TO THE SECOND EDITION

BEFORE the first edition of this book was issued I was warned that its title would prove misleading. I disregarded the warning, but experience has shown that my friends were right. It has been assumed by many that the book was written for the purpose of defending the modern competitive system. No such defence is to be found in these pages. The final value of a system is not to be determined exclusively by economic considerations. If I had followed precedent I might have called the book "Elementary Economics" or "General Economics," for it is merely an elementary study of what is usually called Economics.

But I believe that I was justified in employing the present title. The science of economics, as at present defined, is based upon the assumption of private enterprise or economic freedom. It tells us nothing about a collectivist society, in which the price system, as we know it, cannot exist. Collectivism and individualism are real economic alternatives. A crude form of collectivism is to be found in Russia and (as far as I know) only in Russia; the principles of economics expounded in this and other books on economics are practically worthless as an interpretation of the Russian system, for they assume a legal framework, or law of contract, of a kind that does not exist in Russia.

"Private enterprise" is not, however, synonymous with "competition." The sphere of simple competition is, indeed, steadily shrinking, while that of monopoly is expanding. Moreover, the competitive force is obstructed at many points within its own sphere of operation and can only be said to work imperfectly. During a trade boom it is largely suspended; during a period of depression its victims endeavour to protect themselves against its fury by

forming defensive combinations. The limits and limitations of competition are stressed in this book, in which I have attempted to examine the society that we know rather than a purely imaginary society in which competition in all its forms reigns supreme. Nevertheless, economic activity is still guided by the price index.

But the economic system is not something rigid and unchanging: it is always changing in its details, many of which are important. Some recent changes represent attempts to prevent change. Science, invention, and organization bring changes in their train, of which the final results are admittedly beneficial. But their intermediate results may include injury to individuals. Progress, like war, has its victims. And such victims have usually sought to prevent or delay the progress from which they suffer. Hence we find defensive combinations, both of labour and of capital, pursuing policies that are admittedly inimical to the progress of society as a whole, although immediately and directly beneficial to their own members. Sometimes progress may be so rapid—in appearance if not in fact—as to cause widespread dismay. Science and invention outpace the capacity of society to organize effort and to absorb and enjoy its new resources. Hence we hear a plea that scientists and inventors should take a long holiday. In America a group of people are endeavouring to persuade the community that it can only enjoy the benefits of progress by refusing to employ the new resources to their fullest capacity. The technical instruments of social progress are feared as though they were instruments of war.

But there may be change which is not progress; and such change also has its victims. The War of 1914–18 brought many changes. It destroyed confidence and that element of continuity which was characteristic of an earlier period. Economic policy was afterwards governed by fear, and nations sought a degree of economic self-sufficiency and isolation that prevented the restoration of the kind of

industrial balance that existed before the War. Great Britain suffered from this change, and for the last fifteen years has been seeking a remedy for her ills. During this period of disorganization and depression we have seen economic groups attempting to protect themselves from the effects of the change. The search for security is not confined to any one section: it is almost universal. Trade unions have clung desperately to the standards (measured in terms of money) secured for their members. Organizations of employers have sought protection for the industries that they represent. I have elsewhere stated that everyone instinctively desires monopoly for himself and competition for others. In many industries competition has been supplanted by combination, embracing an important element of monopoly. In some cases voluntary effort has been supplemented by legislation or administrative support by the State. The orthodox methods of protection have now been supplemented by the quota system, or "quantitative regulation" of imports. In all cases there has been the same search for security, the same indirect or implied protest against change.

This statement is not made in a cynical or critical spirit. My purpose in referring to recent changes is merely to point out that the response to the price index is less rapid and less effective than it used to be. The restrictions upon competition are becoming more important; they cannot be stressed too heavily or too often. The assumptions of abstract theory are becoming less valid in many forms of economic activity. If, as some desire, we are to have a planned economy—planned money, planned production, planned distribution of goods—there will be need for a new, long and difficult chapter in economic theory. The reactions to the price index, already slow and difficult, may be profoundly modified. But that is a matter for the future. We still work and live under the system of private enterprise, and economic freedom is still the governing influence upon the activities of individuals. The restrictions upon

freedom, enterprise, and competition that now exist are examined in this book.

The new edition does not contain many changes. In Chapter II, Book II, I have added a short discussion of the southward trend of British industry; in Chapter VIII, Book III, a reference has been added to the quota system; Chapter X, Book III, contains a brief statement of the changes in the monetary system since the publication of the first edition. The most important addition is to be found in Chapter II, Book IV, where I have added a new section to the discussion of the trade cycle. This section includes a series of charts, together with a description of their main features. The charts were constructed by Mr. J. F. Smithies, LL.B., B.Sc., who was also responsible for the calculations upon which they were based and the statistical data that are contained in the text. The present edition also differs from the first in that it contains marginal notes. These notes, together with the index, were prepared by Mr. W. Prest, B.A., M.Com. It is a pleasure to acknowledge my indebtedness to two former students who have made possible the publication of a new edition without further delay.

J. H. JONES.

LEEDS,
October, 1933.

PREFACE

TO THE FIRST EDITION

HE who runs may read—but not economics. The organization of industry, trade, and all other forms of economic effort has become so complex that its explanation cannot be easy. But I have endeavoured to reduce it to the simplest language that I can find and to avoid technical terms that are not essential to the argument. Moreover, I have confined myself to an examination of economic society as we know it to-day, regarding the discussion of measures of reform as beyond the scope of economic science, though not beyond the province of economists. I have addressed myself more particularly to first year university students and to candidates for the business professions, such as accountancy, banking, and insurance; but I hope that the volume may prove useful to others who realize the importance of the contribution of economics to social reform and even to private business.

I am indebted to the editor of *Industrial Peace* for permission to draw upon articles already published in that journal, and to my colleague, Mr. H. D. Dickinson, for having read most of the book in manuscript.

J. H. JONES.

December, 1925

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THE ECONOMICS OF PRIVATE ENTERPRISE

BOOK I
Preliminary Survey

CHAPTER I

MAN *v.* NATURE

The niggardliness of nature

SOCIETY lives by the sweat of its brow. If it works reasonably hard and with intelligence, and if nature is not too niggardly, it lives well. The world is not a "lotus island," and even if it were the lot of mankind would not be enviable. Nor, on the other hand, are cataclysmic disturbances of nature so frequent and widespread, and the climate and soil everywhere so unfavourable, as to destroy all incentive to effort, and particularly to provision for the morrow. But society has to reckon with two opposing tendencies, which have been and may always be among the most potent factors in the history of civilization. In the first place there is a tendency for population to increase, and for the requirements of each individual to become more numerous and varied. Not only does each generation in turn inherit the desires of the past, but it also envisages new possibilities and generates new desires, which are the greater part of its distinctive legacy to posterity. For this twofold reason there is a steady increase in the demands which are made upon nature. In the second place nature, varying in generosity from place to place, everywhere tends to yield—and, in spite of human ingenuity, ultimately does yield—a diminishing return to additional effort. If the statement were not true it would be possible to feed,

clothe, and otherwise provide for the world's population from the proceeds of one square mile.

The reaction of society

Society is thus faced with three alternatives. It may adopt an attitude of helplessness and despair, in which case it will do little or nothing to counteract these tendencies, but will revert to a simpler and ruder mode of living—in economic phraseology it will accept a lower standard of life. This alternative may be dismissed. Universal instinct clings to what has been habitual and craves for more. Society will either attempt to restrict its own growth or endeavour to overcome the tendency to diminishing returns from nature, which are the two remaining alternatives. The first of these has been adopted in more than one instance—witness the custom of polyandry known to prevail in small islands remote from the mainland and from each other. On mainlands societies have split into groups that have separated and found new habitats. In the tendency to diminishing returns may be found the origin of the warring instincts of wandering tribes, and the mutual antipathies of modern political societies. Here, too, is to be found part explanation of Germany's desire for a "place in the sun," and the anxious interest of Australians in the policy of Japan. The fear of "over-population" entertained by many States may be the controlling influence in world politics in generations to come.

But all developed societies rely at present either wholly or partly upon the remaining alternative, which is that of fighting the tendency to diminishing returns. The weapons which they employ are invention and organization. They harness the forces of nature and employ them to overcome the reluctance of nature to give of her fruits. The economic system prevailing at each stage of human development represents the organized attempt of society to overcome the tendency to diminishing returns and to substitute a tendency to increasing returns. As new mechanical devices and better methods of organization

are discovered, the structure of economic society changes. In the past the process of change has sometimes been rapid and at other times slow, but at all times evolutionary rather than revolutionary. At all times there have been at work silent, persistent forces, which now and then cause eruptions but never cease to operate. Such an eruption started in the latter half of the eighteenth century and is still in progress. The differences between the seventeenth and twentieth centuries are so profound that the process of development during the period 1760–1850, when the most fundamental changes are said to have occurred, has been called an "industrial revolution."

The reward of effort

The consequences of these changes will be examined in due course. It may here be stated that the net effect has been to increase our command over nature and thereby to make possible a standard of living far higher than that which was within reach of our ancestors. The tendency to diminishing returns in this island was arrested, and a rapid increase in population during the nineteenth century was regarded as a blessing rather than a menace. It is noteworthy that as the gains resulting from the industrial revolution were consolidated and the standard of living of large sections of the community rapidly rose, the rate of increase in population declined. It is possible, though by no means proved, that the tendency towards a stationary or even declining population was due partly to biological causes; it is, however, certain that it was due largely to social causes. Improvident marriages diminished; people married later in life and, except in those cases where every child was regarded as a prospective bread-winner, showed a preference for a small number of children, who could be well cared for and adequately trained, over a larger number who would need to share the limited resources of parents whose ambitions kept pace with the growth in general wealth. Thus, not only had the threat of over-population lost its terror, but the prospect of a stationary or declining population was regarded

with misgiving. The pessimists were again heard, however, during the depression following the post-war trade boom. It was pointed out that our working population had been increasing more rapidly than in pre-war times, mainly on account of the cessation of emigration. Industry, it was held, would not be able to absorb all those in search of employment; the tendency to diminishing returns was operating with renewed force, and in the absence of emigration on a large scale the inhabitants of this island would not be able to maintain a standard of living already depressed as a direct and inevitable consequence of the war itself. We are not concerned, at this point, with the value of this pessimistic conclusion and the implication of the argument upon which it rests. These will be examined later. It is noted merely as an illustration of the fact that at various stages of economic development the community becomes keenly aware of those opposing tendencies which are the masters of our lives.

CHAPTER II

SPECIALIZATION AND CO-OPERATION

Division of Labour

Social and economic evolution

Economic society as we know it to-day is the result of slow growth—but not the final result. It is always changing, always developing, and therefore, in so far as its main features are under human control, it is always "at the cross-roads." Every stage of development represents a phase of the eternal struggle between man and nature. Those who have devoted themselves to the study of economic evolution seek, and often claim to have found, clearly marked epochs or chapters in the story of mankind at work. One writer (Maine) refers to the advance from status to contract, another (Spencer) from the military to the industrial state. Some distinguish progressively between the hunting, pastoral, agricultural, commercial and industrial stages, others between the stages of slavery, serfdom and free labour. Some divide history into the animal, vegetable and mineral periods, others into the periods of barter, money and credit. We may follow other writers in noting three distinct phases of development. The first was that in which the world was divided into self-sufficing economic units, such as the family or clan, which pursued a policy of economic isolation. Their method was communistic, that is, there was no interchange (within the unit) of essential products in which one was measured against the other. The members consumed jointly what they severally produced. Presumably the greedy minority were rationed by the majority. The second was characterized by what is known as village economy. Individuals traded with each other, at first by means of barter, but later by the use of money. The tasks of growing, extracting, and making were distinguished

from that of buying and selling, but society was still predominantly agricultural. The third phase, through which we are now passing, is that known as capitalism, the chief distinguishing feature being the employment of capital on a large enough scale to account for the emergence of the employer of labour. The last phase already covers a period long enough to include far-reaching changes, the most striking of recent ones being the growth of the large factory and of the still larger business unit; the intensification of competition leading, under certain circumstances, to industrial monopoly; the extension of the boundaries of markets until now the modern world may be regarded as one economic unit; and, finally, the concentration of large masses of people in small areas.

It is our object to try to understand the present organization of economic society. We cannot, of course, avoid reference to events and movements that are now history, for the roots of modern economic society are buried in the past, but we shall refer to history only in so far as it serves to illuminate the present. At first glance, economic society seems to be in a state of chaos. There appears to be no deliberate and collective control of economic effort; all, apparently, is left to "chance." We are apt to say that we muddle through, somehow. Our attention is so frequently called to gaps, defects, failures, abuses and sufferings that we are in danger of losing sight of the daily achievement of our economic organization. We hardly realize how much is taken for granted until the "system" breaks down under the stress of a world war. It is therefore desirable that we should now make a preliminary survey of the main features of economic society, and endeavour to view the problem as a whole.

Division of labour: (a) Social

All economic effort is essentially specialized and co-operative. Division of labour is as old as the Garden of Eden, where Adam delved and Eve span. But the process has been carried much farther since then. Production now represents a series of efforts each of which is, or may

be, indispensable to the remainder. When we live our ordinary lives as consumers we come into daily contact with two groups of people. The first consists of those who perform personal services. Doctors attend to us when we are ill; teachers try to educate us while we are young, and actors entertain us when we grow older; lawyers protect us against others—and sometimes against ourselves. The second group consists of those who provide us with goods of various kinds, necessaries and luxuries.[1]

We meet the former in our own homes or in offices or institutions. The latter we meet in the shops where they exhibit the goods for sale. The shopkeepers—grocers, fruiterers, ironmongers, butchers, drapers and others—in turn obtain their supplies from wholesale dealers, who may purchase either direct from the producers or from importers of goods produced abroad. There is, in short, a group of people who make up what is commonly known as the trading community, whose function it is to buy and sell rather than make, mine, or grow. They perform commercial services, and it will be shown that, as the needs of society are made articulate through them, they are largely influential in shaping industrial development. Behind the trading community stand the growers, the miners, and the manufacturers, that is, those who cultivate the fields and gardens, those who extract raw materials from the earth, and those who transform the materials into products of a kind required by the community. Goods must be moved from place to place, while people travel on business and for pleasure. Transportation thus forms another important branch of economic activity. This form of specialization of effort, creating large "blocks" of industries, commercial activities and personal services, is frequently called *social* division of labour.

When we go into more detail and examine the industries

[1] Whether the distinction between the two groups is so clearly marked as I have here assumed is a question we shall need to consider, but it is a useful one for our immediate purpose.

concerned with growing, mining and manufacture, we find that they reveal points of similarity and of difference. The latter, though important, are frequently ignored, and may be noted first. In some cases (e.g. wool and cotton production) the demand of the community varies with the seasons, in others it is fairly constant. In some cases (e.g housebuilding) production is influenced by weather changes, in others (e.g. boot and shoe manufacture) it varies little from one week to another. In some industries (e.g. wheat farming and cotton growing) the output per unit of effort is largely influenced by climatic factors and varies between wide limits, in others the output is determined almost entirely by the effort put forth, and is therefore more directly under human control. Again, industries differ in the nature of the work which is performed. Some are concerned with transforming raw material into a finished or half-finished product. In an iron and steel works, for example, the iron ore is converted into pig iron, the latter into steel, and the steel into plates or rails, or some other product. Usually the work is continuous and the product fairly simple and uniform. Other industries are concerned with assembling materials and constructing a composite product such as a ship, an engine or a house.[1] Industries differ, moreover, in their geographic relations to the markets which they serve. Some are widely distributed, each unit serving a local market. The most obvious examples are housebuilding and the supply of gas. Other industries are concentrated in particular regions which, for reasons to be given later,

(*b*) Territorial

[1] Engineering provides an excellent example of an industry which combines the two types, and illustrates the complexity which characterizes modern production. A firm may receive an order for a machine of a certain type and size, and consisting of a large number of detachable parts, each of which must be made in the factory. In such a case the available machine tools in the factory are allocated to the various parts, and the work is so arranged that all the parts reach the assembling department at approximately the same time If parallel progress is not attained the consequent delay in assembling or building up the new machine may seriously disorganize the establishment.

appear eminently suitable for the purpose. They distribute the product over a wide market and sometimes draw raw materials from great distances. The Lancashire cotton industry obtains its raw material from America and Egypt and sends its products across economic and political barriers to the ends of the earth. The concentration of industries in selected areas is often termed *territorial* division of labour.

(c) Industrial

When we carry our preliminary survey a little farther we find that, just as industries differ from each other, so, too, do the establishments of which an industry is composed. Some are large and others small; some employ large capital in the form of expensive machinery, others rely more largely upon manual workers; some specialize on one product or a small group of standardized products, others provide a large variety of goods. Often what appears to be a single industry is more correctly termed a group of industries, among which there is little or no rivalry or co-operation. They may use different material, as in wire-drawing, or make different types of products as in textile manufacture, engineering and shipbuilding. Where production is made up of a series of distinct processes, as in the making of steel products, some firms may concentrate on one process, while others combine all the processes. It is convenient to denote such differentiation of function within an industry by the words *industrial specialization.*

(d) Technical

One further aspect of specialization calls for comment. The internal arrangements of factories and other business establishments differ widely, but they all employ the method known as *technical* division (or *sub-division*) of labour. If we wander through a typical modern factory we observe first that the commercial and technical sides are separated. Moreover, a clear distinction is drawn between the salaried staff and the wage-earners. Of the latter some are direct or process workers (i.e. they manipulate the material), while others are indirect workers; some do manual work, others mental routine work; some do

skilled work, others unskilled. Some may be employed on work involving considerable personal discomfort, if not actual danger, others on light, pleasant tasks; some may be in regular employment, others employed on casual work; some may be working on machines, others with simple tools. One class of work may be performed by men, another by women and boys; some workers are paid time wages, others according to individual output; some may be very highly paid compared with others, and for no obvious reason. All, salaried staff and wage earners, are subject to that discipline which is inseparable from co-operative effort, be it in factory, in university, or on playing field.

Risk-taking as an example

The production of a commodity consists of a chain of operations, and therefore extends over a long period. It is estimated that even during the war, when the need was urgent, the first supply of shells from a new design was not forthcoming until three months after the order had been submitted. The time quoted before the war for building a standard cargo steamer of 7,000 tons gross was seven months, but there should be added the time necessary to prepare the materials for shipbuilding. Since production is a long process it follows that, in the main, it must be carried on in anticipation of demand.[1] It is inevitable that someone should take the risk of the market, and in modern industry risk-taking, in this sense, is a function that has become highly specialized.

In a large community, made up of creatures of habit, it would appear as though the risk of error involved in estimating future demand need not be very serious. In one sense it is, indeed, true to say that the risk is comparatively small. Social habits change but slowly, and it is this constancy of great numbers which makes possible not only insurance, but even the whole of modern organization. In the case of most commodities and services

[1] In some cases, such as housebuilding and ship construction, the contract between the producer and consumer still prevails.

it should be possible to estimate the total requirements of society in the immediate future within very small limits of error. But the individual producer is faced with the more difficult task of estimating the market for his own output. Moreover, it will be shown that, under present conditions, the financial consequences of a slight error may be very serious, resulting in gains or losses bearing no arithmetic relation to the degree of error. The "little more" and "little less" are of the first importance. The speculative character of production to meet an estimated future demand is even more pronounced in those cases (and they are many) where the production of one commodity necessarily involves the concurrent production of a second commodity. Coke and gas are produced jointly from coal, and the volatile matter given off in the process of slow carbonization is capable of being reduced to a number of other useful products. Sheep give us mutton and wool. Even a correct estimate of the future demand for one of the joint products might involve a serious error in respect of the other. But there are other cases in which the product may serve many needs, and has therefore several distinct markets, which tend to stabilize production by neutralizing error. It is the function of the speculator, be he the manufacturer himself or an intermediary, to estimate the probable future requirements of society and to translate such an estimate into a present effective demand from individual establishments. In this way alone is it possible to secure that continuity of production which is essential if modern economic organization is to be efficient.

Industrial Change

Higher standard of life due to improvements in organization

In the preceding paragraphs we noted some of the outstanding features of industrial society as it exists to-day, and called attention to some important differences between industries and between firms. But society is always changing, and our industrial structure is slowly but steadily

developing new features. By invention and organization we increase our command over natural forces, that is, we produce a given result with less expenditure of human effort and so, without injury to existing industries and satisfactions, set labour free to satisfy existing wants over a larger field or new wants created by new discoveries. When we compare the present with the still recent past, we realize how many new inventions and new forms of enjoyment have made their appearance—reference need only be made to the telegraph, telephone, broadcasting, and the cinema. Moreover, the general standard of housing, clothing, diet and education has been raised. We take far more things for granted than did our grandfathers, and this is perhaps the safest test of economic progress.

These are changes in the standard of living. Many changes have also occurred in the nature of economic organization. In the first place, engineering and transport have become vastly more important. These industries, in the broad sense, stand in a peculiar relation to the vast majority of the remainder. Unlike the latter, they tend to grow more rapidly than population, and therefore to absorb an increasing proportion of the available supply of labour. Improvements in other industries react upon them. When the steamship took the place of the sailing vessel, a new branch of engineering was created. When the hand-loom disappeared before the competition of the power loom, it became necessary to build a specialized branch of engineering for the manufacture of textile machinery. The same remark applies to boot and shoe manufacture, milling, printing, press work, transport by rail and road, and a host of other industries. Engineering, in short, is a group of industries, each branch being closely associated with some other industry of a different character. Again, every movement towards further differentiation of work, or greater concentration of industry in well-defined regions, adds to the importance of transport. The fact is

(*a*) Engineering and transport

so obvious that we need not multiply examples. In the second place, the relative growth of engineering, transport, and their ancillary trades has been accompanied by an increase in the amount of fixed capital employed in industry and a consequent growth in the scale of manufacture. The factory of the early nineteenth century bears no greater resemblance to the modern factory than a coaching inn bears to a modern hotel in a large city. The increase in the size of the factory has been followed by a change in the character of competition and a tendency towards industrial monopoly. (*b*) Ancillary trades

In the third place, a peculiar urgency attaches to the production of some commodities and services. Not only a supply, but a fairly continuous supply, is essential to the welfare of the community. Gas, electricity, and coal cannot be stored in sufficient quantities to enable society to contemplate with equanimity a prolonged cessation of production. Transport, being a service, cannot be stored. The recent war revealed the extent to which we rely upon a continuous flow of imports of foodstuffs and raw materials. The heavy penalty attaching to a break of continuity must be regarded as one of the most serious risks of modern economic and social organization. A temporary failure of the supply of water to a large city, or the cessation of activities connected with public health, may endanger the lives of multitudes. Closely connected with this risk is the further risk that the supplies may not be of the right sort. *Caveat emptor* no longer suffices as a guiding principle. The millions of people who drink milk in London every day cannot distinguish between, and make a selection from, good and indifferent milk in the way that an expert distinguishes between a good and an indifferent motor-car or golf club. The producer and buyer are so far removed from each other, and the temptation to "dilution" is so strong, that it has become necessary, in the case of many products, and even services, to provide some sort of safeguard for the buyer. (*c*) Continuity and quality of supply

Exchange

A measure of value

Division of labour necessitates exchange. A group of people combine to produce a steady supply of one commodity or service which they expect to exchange in due course for the large variety of things which they need as consumers. Two results follow. In the first place some means must be devised for measuring commodities and services against each other. The supply is so large and varied that the units cannot be directly measured, and some common measure or unit is employed, corresponding to the physical units of length and volume. Since the products are interchanged, the problem to be solved is that of determining how much of each shall be exchanged for a certain amount of another. The unit is therefore a unit or common denominator of value. In theory an index number would serve the purpose admirably. A ton of steel might be represented by the number 100. If a ton of steel were of the same value as two tons of brick, a ton of the latter would be represented by 50. But index numbers are a comparatively new development, and are not yet sufficiently understood to be employed for this purpose. Society at an earlier stage adopted, and continues to employ, another standard measure or index, namely, a certain quantity of gold. In this country we have employed as standard the sovereign, which represents a certain weight of fine gold.

A medium of exchange

In the second place, it becomes necessary to provide a method whereby the producer may be able to get rid of his product without exchanging it directly for those things which he desires to consume immediately or at a later date. Even if every worker produced independently of all others, and the village in which he lived were self-sufficing, barter would still be a laborious method of exchange. When people work in large groups, draw their raw materials from distant places, and send their products to many markets, at home and abroad, barter is a physical

impossibility. Producers must be able to exchange their product for something which, in turn, can be used, in almost any fraction, for the purpose of obtaining what they need and when they need it; in other words, some medium must be employed which represents purchasing power at all times. This medium is known as money.

Money

There are many forms of money, but until recently the most universal was gold. Society, in the interests of simplicity, adopted the same instrument to serve both as a medium of exchange and as a standard measure of value. The supply of gold is not easily adjusted to requirements, and it has been found desirable, if not absolutely necessary, to economize its use by employing other forms, such as paper money. Even paper money in the form of notes is not essential. For it should be observed that the employment of a medium of exchange is little more than a convenient method of accountancy. The amount of money or purchasing power in our possession, or within call, best indicates the extent of our claims, as compared with the claims of other people, over the supply of good things existing in the community. Index numbers might again serve the purpose, but society, which instinctively rejects the abstract in favour of the concrete, clung to gold, and still holds the view that such paper money as it employs is only useful as a medium in so far as it actually represents gold.

The problem of prices

It has been stated that money serves both as a medium of exchange and as a standard measure of the relative values of commodities or services. A woollen manufacturer makes cloth because he expects to exchange the cloth for money or general purchasing power. The amount of the latter which he receives for each unit of output is called the price of the cloth, and the total amount received for the output is called the gross receipts or revenue of the business, and represents the source of all payments in the form of raw material, wages, and other necessary expenses. Two questions immediately present themselves. The first

is, What determines the price of the cloth? The second is, What determines the proportions in which the gross receipts of the business are divided between those who have co-operated in producing the cloth? The first of these questions is ambiguous. Suppose the price of the cloth at any time to be 5s. per yard, which is also the price of two pounds of butter, it may be stated that the value in exchange of a yard of cloth is the same as the value in exchange of two pounds of butter. When we ask why it should be so, we are inquiring into the causes determining the relative price of cloth. But the relative price may remain constant while the absolute or money price undergoes considerable change. Our standard measure of value is not, like the yard or the pint, an invariable or unchanging standard. Recent experience, which will be examined later, shows that it may vary between wide limits. The prices of commodities and services may vary relatively to each other, or they may move together in the same general direction. When, again, we examine the second question, we find that those who co-operated with the woollen manufacturer provided either goods or services, so that the second question is essentially but a repetition of the first, and the same ambiguity arises. The questions may be reconstructed. We may ask, first, What determines the general level of prices? and second, What determines the relative prices of goods and services? When expressed in this form they broach the problem of valuation in all its aspects. It is important, however, to distinguish between the manufacturer and his product, the worker and his work, the landowner and his land. We shall need to consider not only what determines the value of A's product or B's services, but also what accounts for the fact that C is wealthy and D poor.

Organization and valuation

When we review the facts which have been described in this chapter it becomes evident that there are two distinct and more or less fundamental economic questions, that of organization or structure, and that of valuation.

The question of organization is concerned with form and method or technique, with the manner in which society satisfies its wants and the institutions which have been created for the purpose. The question of valuation is ultimately concerned with the results of organization upon the lives of the members of that society through the payment made to each for his contribution. An individual's possible standard of living is determined by the efficiency of the complex machinery of production, but his actual standard of living is determined largely by the valuation placed by society upon his individual contribution. This in turn depends partly, as we shall find, on inheritance and partly on character.

Although these two questions are distinct, they cannot be separated and placed in watertight compartments. For it will be shown that the governing motive is not service but gain, and that the form of organization adopted by individual producers or groups of producers is not necessarily that which is likely to secure the greatest output for the whole of society, but that which will, indirectly, give the producers the greatest claim upon the products of the rest of society. Thus, for example, the large trusts of America and the trade unions of this country owe their formation, and the form which they take, to the fact that they are more powerful instruments for bargaining with the community than were the previously competitive units.

CHAPTER III

THE PURPOSE OF PRODUCTION

PRODUCTION

Motives of production

IN the second chapter we attempted a preliminary survey of the manner in which society works. The governing principle is that of specialization and co-operation. Whence it comes that every worker has two interests—a narrow, concentrated interest as producer and a more varied and widely diffused interest as consumer. He or she assists in providing one thing, but in turn wants many things. Thus we have passed, almost without being aware of the transition, from the question "How do people produce?" to the question "Why do people produce?" The individual motive to effort is the need or desire for the results of effort by other people.

(*a*) Need

In its collective sense society produces because it wants the products and cannot obtain them otherwise. The statement is, of course, a truism, but, like many other truisms, it is frequently forgotten and so requires emphasis. It is obvious that reasonable beings would not toil to make things which nobody wanted; but they also want many things which already exist in sufficient quantities and for

(*b*) Scarcity

which they need not work. The air we breathe is the most obvious example, though there are others. The local authority in a seaside resort would not be so foolish as to convey sand from a neighbouring resort to add to the miles of sand on its own shore, but a parent may buy a load of sand and have it conveyed many miles inland in order to provide his children with a sand garden. We work only if the desired result cannot be achieved without working: in other words, "scarcity" is a second condition of effort. The full importance of scarcity as an economic force or influence will only become evident during the discussion

of the problem of valuation. There remains a third essential preliminary to effort. A builder would not erect a house on the summit of Ben Nevis for the personal use of a man constantly employed in South Africa. But someone in Virginia (if we can believe the label) has been employed in growing tobacco which some of us have been smoking to-day. Tobacco can be conveyed in ships to this country; a house cannot yet be exported. The one is portable, the other is not. It is not essential that the product itself should be portable; what *is* essential is that the product and the consumer should be brought into appropriate relations for the purpose of "consumption" or enjoyment. We go to Harrogate to drink the waters, or to Lord's to witness a cricket match. We see the actor in the theatre, but the singer at a broadcasting station may be a hundred miles from the chair in which we sit listening to him. Thus, a rational society is engaged in making things that are wanted because they are wanted, things that are too restricted in supply to satisfy existing demands because they are so restricted, and things that are made in a form convenient to the consumer or at a place within his reach, because in that form or place they can satisfy his needs. People whose work and the results of whose work satisfy these tests are assisting in production. Let there be no ambiguity on this point. Economic and ethical considerations are distinct and separate. The quality of the demand which issues from society has no bearing on the matter, nor yet the nature of the work. By work or labour we mean successful effort, consciously and deliberately undertaken for the purpose of satisfying an expressed need, or a need which will appear and be expressed after the product has been made or the services offered. Pleasure derived from the work is secondary or incidental. When anticipated pleasure is the motive force the effort falls into the category known as recreation. If work fails to achieve its purpose it is unproductive and represents economic waste. If a man builds a house

(c) Portability

"Productive labour"

where nobody wants it, the house represents economic waste and the work is unproductive. If, however, he builds a profitable casino and thereby helps to send many to perdition, his work is productive. Much confusion has resulted from the failure to separate economic and ethical conceptions. The economist is not concerned with the moral qualities or the idiosyncrasies of consumers, but with their needs as actually expressed in their demands.

It is important to stress the fact that the needs should be expressed in the form of demand, that is, an offer of purchase. The hungry child's wistful gaze through the window of a pork butcher's shop does not stimulate the butcher to greater effort unless he be, moreover, a philanthropist. Economic society pays no heed when we cry for the moon, but it is all attention when a Government decides to increase its fleet of airships. It remains unmoved so long as social reformers are like those crying in the wilderness, but it works with feverish activity when nations are engaged in mortal combat. The last example serves to remind us that the destruction of things which society still demands is, like misdirected effort, economic waste. The destruction of a ship which is in every sense derelict and in the way is essentially productive or constructive, for it eliminates waste; but the destruction of a ship which is still the object of demand represents economic waste. It represents, indeed, twofold waste, namely, that of the ship itself and that of the labour spent in destroying it. These illustrations are apt, for they remind us of two forms of economic activity which have acquired considerable importance during the last generation. In the first place, many " waste products " of industry, once flung aside as manure or rubbish, have acquired fresh value. Perishable goods, such as vegetables, fruit and meat are now preserved either by cold storage or by being tinned or bottled. The volatile matter in coal which once escaped through the chimney to pollute the atmosphere is now recovered, in many places, by slow

carbonization of coal in ovens, and split up into its constituent elements (toluol, benzol, tar, etc.), each of which is a valuable product. In the second place, a considerable amount of labour is spent in removing economic waste, and such labour is productive. Those who clean the streets, for example, help to produce what society wants, namely, clean streets. When ground leases expire people pull down the old dwellings in order to make room for other buildings which correspond more closely to the developing needs of the community.

WEALTH

Difficulty of definition

Thus we come to the consideration of the third leading question. We have already tried to show how and why society produces; now we ask what it produces, and enter a sphere in which technical terms and definitions become necessary. Where technical terms are concerned the economist is in a difficulty from which most other scientists are free. For his task is to interpret a branch of human experience, to indicate the significance of economic or business effort. He is thus compelled to accept, as far as possible, the terms already in common use, and with the meaning commonly expressed or implied. But ordinary language is often somewhat loosely used, and terms are given different connotations at different times, while the scientist must above all things be consistent and, having used a term in one sense, may not use it in any other sense without calling attention to the change. Society produces wealth. The term wealth is employed loosely in ordinary conversation. One may use the term to mean money, or the money value of all his "goods and chattels," another may use it to mean the actual commodities in his possession, including a house and a share certificate, though the certificate is strictly comparable only to the title deeds of the house. A third may include his own skill as engineer or physician.

Four attributes

It is convenient to define the term wealth with reference to the attributes or qualities of the items which it covers.

Three such attributes have already been given—capacity to satisfy a want, relative scarcity, and portability in the sense already indicated. The fourth is that it must be external to the owner and therefore capable of being transferred to some other individual, who will then become the owner. The term wealth would thus cover concrete and tangible or material objects and immaterial goods, such as the goodwill of a business, a lien on personal services, and a patent right, which is the title to the service of a machine. But it would not include personal services as such, for the latter are not transferable. As soon as they cease to be potential and become actual, they disappear; they are destroyed in the process of performance, and therefore cannot be transferred to some other owner without entirely changing their character. They either become embodied in goods or produce their effect upon human beings—in other words, they are consumed as they are produced. The processes of their production and consumption cannot be separated. If they were included, not only would they be included twice in cases where they were embodied in goods, but in other cases (consumption services) they would be included after they had disappeared, and, to be logical, concrete things, such as chocolates, would also continue to be included even after they had been eaten. If (as we should) we draw a distinction between material or other goods and the services which they render—between wealth and the service which it renders—the corresponding distinction between people and their services may be drawn. Our definition, therefore, rests upon a strong logical foundation, and is at the same time in accord with current usage. Thus wealth consists of material and immaterial goods which possess the four attributes already indicated; it must be distinguished both from the service rendered by wealth and from the property rights to it. A railway bond is merely evidence of ownership of wealth, which in this case is the railway and all that is connected with its operation. The fact that certain forms

Personal services

of wealth, such as the General Post Office, are owned by the Government possesses no significance in this connection. All wealth is owned; in other words, it is the subject of a property right, which may be vested in an individual or in an association, or, again, in the State.

The definition which has been submitted not only satisfies logical tests, but would also be accepted by the vast majority of business men as descriptive of the term when employed by themselves in circumstances calling for care and consistency in the use of language. There are, however, two cases which present some difficulty. The first is that of Government bonds representing loans made by the State during war and other periods of stress, and against which there are no tangible assets. The proceeds have been spent "unproductively." The assets in this case are represented by the future taxable capacity of the State—a sort of goodwill—and the Government stock represents a claim upon such assets. The second difficulty is that of placing "money." We are often told that money is not wealth, but a claim upon wealth. It is true that money represents purchasing power, and is not wanted for its own sake—except by a miser. We do not want to eat it or drink it, nor yet, even though it talks, to listen to it. Moreover, we have already shown that the value placed upon a man's wealth should be distinguished from wealth itself. The former is the measure, the latter the substance. Nevertheless, it seems to us a *non sequitur* to argue from this fact that money—cash and credit—is not wealth: to draw such a distinction is to assume that in order to be wealth, goods should not only be wanted, but wanted for their own sakes. Just as we distinguish between goods (wealth) and their valuation, so too we may distinguish between money and its valuation. We cannot increase the nation's wealth by multiplying money, for such multiplication would reduce its value. But it does not follow that money should be excluded from the category of wealth. And if we exclude

War Loan

Money

money solely on the ground that the service which it renders is peculiar we are adding a new attribute to our definition, and, while reducing the term's extension or denotation, we are also making its intension vague and elastic. For in that case gold would be wealth so long as it retained its bullion form, or if it were converted into a watch, but would cease to be wealth the moment it was converted into sovereigns.

Moreover, when, during periods of uncertainty, people buy diamonds as the most likely commodity to retain its value, and use them as a medium of exchange, they would cease to be wealth. Finally, paper which is pasted on walls would be regarded as wealth, but paper used as money, thereby rendering, in ordinary circumstances, far greater service (measured in value or otherwise) to society, would not be regarded as wealth. While, however, we conclude that money is wealth, we should not blind ourselves to the peculiarity of the service which it renders and the limitations imposed upon such service. These will be described in due course.

We may summarize the discussion as follows: If we exclude personal services, wealth includes anything which is bought and sold on the market, that is, anything which possesses exchange value, whether it be a material good, or an immaterial good, such as goodwill or a claim upon personal services or upon future taxable capacity. The receipts for payment, the deeds of a house, and a share certificate are all evidence of ownership. The criterion of wealth is found in the four qualities or attributes or implications that have been specified. The definition is a narrow one; the standpoint is strictly individual.

Society provides personal services as well as wealth

We have said that society produces wealth; but it does more than that. To a large and steadily-growing extent it is concerned with personal services which are not embodied in wealth but are rendered directly to people and are immediately productive, or intended to be productive, of health, knowledge, pleasure, etc. They may be called

consumption services, and fall into the same category as the services of final consumption goods. The latter may be distinguished from instrumental or production or intermediate goods, and these in turn are comparable with those personal services which find expression in goods. Thus, for example, the service of an actor may be compared with the service of tobacco, and that of the accountant or teacher of engineering science with the service of machinery or raw material.

We have said that the term wealth is employed in a somewhat narrow or individual sense, both in economics and in ordinary discussion.[1] The point of view is intensely individual and, further, ignores all ethical considerations. We should, therefore, be cautious in the deductions that we make from any theories based upon so narrow a conception. For example, the connection between wealth and welfare is neither so close nor so obvious as it would have been if the term wealth had been defined with reference to considerations of ethics and well-being. Again, wealth includes only what is relatively scarce. The purpose of effort is to translate scarcity into plenty; yet if we made any commodity exist in superabundance it would be removed from the category of wealth. The value of the various forms of wealth, moreover, does not vary in proportion to their amount. If, for instance, we doubled the supply we might quite conceivably reduce the total exchange value of that supply. Finally, when we consider

[1] The definition of wealth given above is wider than that submitted by those who argue that all wealth is the result of labour. If we add this further attribute we exclude all those economic goods which are the free gift of nature, and so give the term a much narrower significance than it enjoys in the business world. A landowner would regard his land as wealth quite as much as other parts of his estate; the owner of mineral rights would consider such rights as no less entitled to be included in the term wealth than the right conveyed by the leasehold of a factory. The argument of those who would exclude all material objects upon which no labour has been expended appears to be based upon the confusion of wealth with the services of wealth. It is obvious that coal, until labour has been expended upon it, cannot render any service, but the labour spent in extracting and exploiting merely adds to its value.

social well-being, rather than individual wealth, we should include other factors contributing to the former, of which wealth takes no cognizance. The problem of relating wealth to welfare in these senses is one which we shall have to examine at greater length in the last book of this volume.

CAPITAL

The distinction which was drawn above between consumption goods and production or intermediate goods leads to the consideration of the second term that has been borrowed by the economist from the business world —capital. Capital, like wealth, has been employed in different senses, and the difficulty of definition already indicated applies with even greater force here. But in this case we have the assistance of a profession, part of whose business is to know exactly what is meant by capital. The preparation and audit of balance sheets is the first task of financial accountancy, and we may therefore turn with confidence to accountants for guidance. In preparing financial returns, an accountant distinguishes between a capital account and a revenue account. A capital account is a statement of all assets and liabilities, and such a statement covers every item owned by the firm and possessing exchange value. It would include, for example, the factory, the tools, the raw material in stock, unsold finished product, all furniture, all the wine and spirits (if any) held in stock for the benefit of prospective customers,[1] as well as money in the form of petty cash and the balance at the bank. Thus, to the accountant, capital is the stock of wealth owned by the firm at any given time.[2] A capital account is, as it were, an instantaneous photograph. If we generalized from that instance, we might say that capital represents the stock of wealth held by the whole

The stock of wealth

[1] The last item is by no means inconsiderable in the case of social clubs.

[2] In money terms, it is the excess of assets over liabilities.

of the community, but the generalization is far too sweeping. If we included the novels lying in the room in which I write, the tobacco in my pouch, and the photographs on the mantelpiece—that is, all consumption goods in the hands of consumers—we should be using the term capital in a sense which was never intended by the accountant, and in which it is never employed in ordinary language. As consumers, we do not call in accountants to strike a balance sheet. Most of us do not even trouble to keep detailed accounts of our expenditure. The accountant is concerned mainly with a business undertaking, and the purpose of a business is to earn a return by providing service to the community. If the accountant were asked why he included every item in the assets as capital he would reply, unless he were a mere slave to tradition, that he did so because the assets were intended to provide an income. It has, indeed, been said that capital is that part of a man's stock from which he expects to derive income The stress here is laid upon the income-producing capacity of the assets; but income is secured by providing service to others, and by emphasizing the side of service some writers have been led to define capital as wealth which is intended to be used in further production. The first definition stresses the individual, the second the social point of view. Both evade some of the most serious difficulties of definition; neither is accepted by the Inland Revenue Department. Thus, to take the classic example, the owner of a house is taxed upon the revenue-producing capacity of the house, even when he lives in it himself. Yet if he is tenant as well as owner, the house represents a consumption good or consumable commodity in the hands of the consumer. But, it is possible to argue, the house may be leased or rented. It provides a service (shelter) which is itself wealth and may be bought and sold on the market; it represents in crystallized form a long series of such services. Such a statement introduces a new attribute—durability. A distinction is drawn

Wealth used in production

Durable wealth

between durable and perishable goods, the latter being goods which can only perform a service once, and which (like a strawberry) are destroyed in the process. If such an attribute were introduced it would eliminate from the list of capital goods in a firm's balance sheet all those commodities which are perishable. Moreover, a large proportion of consumption goods is of a durable character; a piano, a book or a picture may be hired out by the owner, who may, too, be "tenant" as well as owner. Is there any vital economic distinction between a piano and a house? Thus we are led to the conclusion that we cannot introduce durability as an attribute of capital, and we are thrown back upon the original definition that capital is that part of a man's wealth from which he expects to derive an income. But we are dealing with customary or majority use, and a house, even when it is occupied by the owner, may be regarded as capital because it is customary for people to derive income from property in houses, while we exclude a piano or a book in the hands of a consumer from the category of capital for the reason that it is not customary for people to derive income from pianos or books.[1]

Capital and and

We have not yet solved all the difficulties of definition. Most economists call attention to the fact that there are four agents of production—land, capital, labour and organization. They draw a distinction between land and capital, regarding them as mutually exclusive, on three grounds: (1) land is a gift of nature, while capital is the product of labour; (2) land is imperishable, while capital perishes slowly and has to be replaced; and (3) land is fixed in quantity, while capital is reproducible. Although these distinctions are not absolute and final, we may admit their importance. But it should be borne in mind that what is contrasted with land in this case is the sum total of capital goods, that is, the building, machinery, and other

[1] Piano makers and book publishers should be classed in this case not with owners of house property but with house builders.

forms of capital. But capital may be regarded from two points of view, first as tangible and intangible assets, and secondly as a sum of money representing the value of those assets. If a business man were asked what was his capital he would probably state a sum of money. The capital of a firm is always entered as a sum of money. Even capital in the sense of money capital is capable of two interpretations—the nominal capital and the capital value of the business as a going concern. This latter distinction we shall consider in due course ; what is important at this stage is to distinguish between money capital and capital goods. The distinction which is drawn between land and capital is important if by the latter we mean capital goods the constituent elements of which together make up capital. Not merely does it lose significance, but it actually becomes false if by capital we mean money capital, part of which may be spent in acquiring property in land. When we examine the various forms of capital goods, we find that some consist of durable goods in the sense that they perform service of some kind day after day and week after week; other forms, such as raw material, are transformed into finished products, that is, they perform the whole of their function in one use. The money spent upon the more durable forms of capital goods is called " fixed capital," while the money spent on perishable goods and in the payment of wages, on holding stock and giving credit to customers, is called circulating capital.

Income

Income and capital

The conception of capital is closely connected with that of income. The two terms are correlative. Any income, like capital, may be regarded from two points of view, the commodity and the monetary. Income is sometimes regarded as the net addition to wealth (i.e. allowing for replenishment of wasting assets) made during a given period ; at other times it is the money value of such addition. It is a term which possesses so much elasticity that it requires

an adjective to define its meaning in any given circumstances. When used in the individual sense, it usually refers to money, and when used in the social sense it refers to goods. In all cases, however, income is a term of two dimensions; it involves time and amount, whereas capital is a term of one dimension only—amount. Capital is a stock or reservoir, income a flow or stream; the one is a static view of wealth (however conceived), the other a dynamic view; the one is an instantaneous photograph of wealth, the other a moving picture.

Consumption goods and production goods

In the second chapter we were mainly concerned with the structure or anatomy of economic society, and in the present chapter we have seen that in the performance of its function it produces wealth (narrowly interpreted) and human services not embodied in such wealth. If we take a dynamic view of society, we realize that it produces income, that is, additions to wealth. Income, however, is a wide term. An individual with an income of, say, £1,000 per annum, may spend four-fifths and save the remainder. He may place the money in a bank, thus retaining it in "liquid" form, or he may lend it on mortgage to a business man or house owner; he may invest it in railway or other stock, or he may hand it over to an assurance company in return for an endowment policy. There are innumerable ways of saving, but in all cases (unless it be lent to hasten a rake's progress) it is ultimately invested as capital in some form of economic activity. It is spent in the purchase of capital goods in the form of buildings, machinery, raw material, and other requisites. It follows that the economic activities of society fall into two categories, the production of instrumental goods and the production of final consumption goods and services. The ultimate purpose of production is to provide a continuous and increasing flow of the latter, and it can only be done if one portion of society's effort is, as it were, set aside to maintain existing instruments of production in a state of repair and efficiency and to add to their supply. The

existing supply of capital goods is part of our heritage from the past, and it is usually regarded as the duty of each generation to bequeath to its successors not only as much as it inherited, but more. Thus the income which is continuously produced by economic society consists not only of final consumption goods and services, but also of capital, which is a condition of continuity in the future supply of the things which we eat and drink and with which we make merry. It follows from what has been said that the possible standard of living in the community at any given time (or for a short period) is determined not by the total amount produced by society, but by the total amount of consumption goods and services. Thus, if the community devotes more labour to the making of capital goods (i.e. if it increases its rate of saving) its standard of living falls, for the time being, below what it would have been if the community had saved less. The case is strictly analogous to that of the individual. If the recipient of £1,000 a year suddenly decides to save £300 instead of the customary £200, his standard of living during that year will fall. In due course he will benefit from the return upon the new capital, just as society will benefit from the additions which it has made to capital; but these are ultimate rather than immediate results. Stated in this form the proposition is axiomatic; nevertheless, failure to recognize its truth lies at the root of many false economic doctrines that are preached in every generation.

Industrial fluctuations

Economic society, we have said, is continually employed in the production of commodities and services, some of which are directly and finally consumed and thus satisfy those human wants which are translated into demands; the remainder strengthen the capital equipment of the community. Industry does not, however, move forward uniformly in a straight, horizontal line; trade does not flow smoothly and uninterruptedly; it ebbs and flows, like the tide, and the motion of industry is jerky. There are periods of good trade and bad trade, high prices and low

prices, overtime and unemployment. There are dislocations, maladjustments, and these, so far from being abnormal or accidental, are a normal feature of modern industry. Economic science, being an examination of economic forces, must include in its examination those which produce disharmony. We shall, therefore, need to devote a section to industrial fluctuation as a phenomenon which is characteristic of economic society, and therefore presumably due to inherent forces.

CHAPTER IV

THE ECONOMIC ORDER

PROPERTY

Industry and the State

IT has been said that economic forces operate within a legal framework. Whether the State is powerful enough to control all economic forces is a difficult subject, about which more will be said at a later stage of our investigation. But even if we reject that view, the above statement serves to remind us that we are citizens of a State, and that our economic activities are regulated by law. Economic society has been erected upon a legal foundation—property and contract—and the law of the land, even if it cannot subordinate all other economic forces to its own dictates, must itself be regarded as one, or as the combination of several, of such forces. It is therefore necessary to consider the relation of the State to the economic system, and in this connection we shall be concerned with some fundamental concepts: property, contract, competition, monopoly, equality and freedom. But we shall only examine them to the extent that is necessary for the study of economics. In this we must be strictly pragmatic, and avoid discussions which carry us into the fields of metaphysics and jurisprudence, but are not of much value in a volume on elementary economics.

Justification of private ownership

Individuals and groups of individuals "own," that is, enjoy property rights over, land, factories, houses, household goods, and a host of other concrete, tangible, external objects, as well as intangible things, such as the use of a patent, or the goodwill of a business. At one time, indeed, people owned men and women, who were then called slaves. It should be observed, first, that such rights are in fact legal rights, that is, they exist in law, and are protected by law and the force that lies behind law. If we take another

man's sheep we are guilty of theft, and, if convicted, we are punished: at one time the punishment was death. Although the right exists in law, its justification lies elsewhere. Nor does that lie in the origin of private property, which is found in seizure and user. It started among hunting tribes with movable objects, such as weapons, which "naturally" belonged to those who could make best use of them. When, at a later stage, tribes acquired fixed abodes and cultivated the soil, property in land and dwellings appeared, from which fact there emerged the theory of property based upon occupation, a theory still recognized by nations in their dealings with each other. As society became more complex and the most suitable land was fully occupied, the objects over which property rights were exercised multiplied in number and variety, and the "occupation" theory failed to fit the facts, with the result that it was urged that everyone had a right to what he produced. But this "labour" theory was found wanting when group production and exchange became characteristic features of economic society, and "incorporeal" property, such as goodwill, also acquired importance.

Private property has now been sanctified by age. It is so much taken for granted that people rarely reflect upon its justification. Just as the instinct of self-preservation is assumed to constitute a "natural right" to live, so, too, the instinct to claim "one's own" is regarded as a "natural right." There is, however, no "natural right" of ownership. Private property is not a "law of nature," unless we define the natural as the customary or as the ideal. Nature, in the sense of the original or prehistoric, was cruel, and recognized no right beyond that of might. And the origin of property is found partly in seizure, not only of waste land, but of the valued possessions of other people. Private property, in the sense of right, is a development; it was recognized first by custom and afterwards by law.

A property right, we have said, is a legal right.[1] It is, however, based upon necessity or expediency; its sanction is social. Property is an institution which is justified by results. The right of private property is a right which is conferred by society and may be withdrawn by society at its own risk. It is a condition of freedom which is itself a condition of progress. A slave could be forced to work in the interests of the master's future, but without private property there would be no provision for the morrow among free, rational beings. The continuity of social organization is guaranteed by private property. But society has never regarded property as an absolute, unrestricted right which must never be interfered with. It is a limited or restricted right, the degree of restriction being determined by social consequences. Society has always reserved the right to vary the conditions under which the private right is exercised and to restrict one or more of that group of rights which are associated with ownership. Absolute ownership or unrestricted right of property would include the right to hold or use, the right to destroy, the right to give away during lifetime, or bequeath at death, the right to sell and to determine the terms of sale, and the right to acquire, without limit, by contract. Society has never admitted an absolute right to property in the sense of including all these constituent rights. When property in slaves was acknowledged to be an iniquitous institution, it was abolished. A city dweller who possesses a good pair of lungs and a trumpet may not exercise the one on the other at dead of night to the annoyance of his neighbours. The owner of a dog is not permitted to leave it free to prowl along dark streets, though the owner of a cat is not punished if it visits our garden and disturbs our sleep. A man may not do what he likes with his house, but must have some regard for the amenities

Restrictions on its exercise

[1] It can only be enjoyed by a legal entity—it is even true to say that, in essence, a legal entity is a " person " recognized in law as capable of exercising a property right.

of the house next to his own. In some countries the right of bequest is curtailed. Copyrights and patent-rights are only of limited duration. A railway company may not charge what it likes for every service which it offers for sale. When undesirable features are intensified and the exercise of property rights is likely to bring in its train consequences that are admittedly anti-social in their character, the State steps in and imposes restrictions.

Nevertheless, the rights are more obvious and important than the restrictions. They act as an incentive to production and are the conditions under which foresight, thrift and enterprise can be exercised. It is clearly possible to encroach upon these rights to such an extent as to destroy their value. The British Government does not and would not question its own right to impose taxation; but if it imposed an income-tax of twenty shillings in the pound (thereby, incidentally, reducing everybody to pauperism) the incentive to work would be destroyed and the community would quickly be reduced to a state of abject poverty, if not of actual starvation. In a society where experiment is always difficult, where unsuccessful experiment on this point might result in calamity, it is one of the most difficult problems of statesmanship to discover precisely at what point encroachment upon property rights begins to reduce the value to society of the rights themselves. An illustration of the difficulty is to be found in building by-laws. If, in order to prevent overcrowding and rapid creation of slums, the regulations restricting the freedom of builders became so onerous as to destroy the incentive to build, housing conditions would become worse rather than better.

Freedom of Contract and Enterprise

Restrictions on freedom of contract

When exchange takes place between individuals, what is exchanged is ownership or property right. Every exchange connotes a contract, written or verbal, explicit

or implicit, and a contract is enforceable at law. The system under which we work and live is frequently said to be based upon freedom of contract. But this freedom, like property right, is not absolute. A man is not free to sell his own freedom; a contract between two parties which imposes slavery upon one is not enforceable at law. Nevertheless, an individual is free to enter into a contract which reduces his freedom to enter into other contracts. He may bind himself, for example, not to enter into competition with someone else for a period of years. Freedom of contract, like property right, is hedged round by restrictions.

The State aims at economic freedom (to which reference will presently be made), first, by enacting a law of contract, and, secondly, through the restrictions imposed by that law. Without a law of contract economic freedom would be unattainable; without restrictions upon freedom of contract it would be impossible to secure that degree of equality between the parties which is a condition of a "reasonable" contract. Without contract, trade and industry as we now know them would be impossible; without factory laws laying down minimum requirements regarding sanitation and safety, many workpeople would be working under conditions which the State regards as intolerable.

Freedom of the consumer

The law of contract permits, even aims at, economic freedom. Such freedom is not absolute; it is restricted by specific laws, but here again the open field is larger and more important than the closed area. In the absence of special laws to the contrary, the individual enjoys a legal right to do many things which possess economic significance. He may buy what he wants wherever he likes; he may compete with other buyers or form an association with the latter for joint purchase—that is, he enjoys freedom in the capacity of consumer. He is even free to enter into a contract restricting his liberty of choice in the future —and this is done every day in the business world, when

buyers and sellers enter into agreements for future delivery.[1] When the State, in its wisdom, desires to protect the consumer from the consequences of his own folly, it usually does so in an indirect manner, by imposing restrictions upon those who produce for or sell to the consumer. The State no longer compels us to attend church on Sunday, but it compels theatrical producers to submit their plays to the Censor. It forbids chemists to sell poison indiscriminately and tobacconists to satisfy the unhealthy desires of young children. The Prohibition law of the United States of America aimed at protecting the buyer mainly by restricting the liberty of the seller.

And of the producer

Economic freedom, however, is a term which is usually employed to denote the conditions under which we live as producers rather than consumers. We are free, in law, to select any occupation we like; we may go where we like; we may compete with those in the same sphere as ourselves or combine with them to form an association—provided the latter is not used in restraint of trade. We may open a shop, build a warehouse or start a factory. We cannot construct a railway without the sanction of the State; a special Act of Parliament has curtailed our freedom in this direction. Where there is no special restrictive legislation our freedom is complete. We may open business as an accountant, but not as a doctor unless we fulfil certain requirements laid down by the State. Such, in brief, is what is meant by economic freedom, or freedom of enterprise. It indicates a condition in law, and a condition of equality. The law of contract is no respecter of persons—it prescribes forms and conditions which are applicable to all alike. It offers the same opportunity to everybody. Equality and freedom are the aim and the achievement of the law of contract. But the words are employed in a sense which is so narrow that the statement

[1] The freedom of the consumer was seriously curtailed during the war when, for example, the householder, after registering at a shop, purchased "controlled" articles there and nowhere else during the registration period

becomes almost a truism, and by no means exhausts the subject.

Private and public enterprise

Following the late Dr. Alfred Marshall, we have used the words economic freedom, or freedom of enterprise, to denote the fundamental legal characteristic of economic society. In such a society private enterprise is allowed wide scope ; so much so that the economic system has been called the system of private enterprise, the word " private " being used to distinguish it from exclusively public or State enterprise, and to include enterprise by associations working within the State. It is not, however, intended to suggest that the State does not pursue any form of economic activity. No modern State could avoid doing so. And some States have taken over certain forms of economic activity, such as railway transport, which in other countries remain under private control. But in such cases the State becomes an *ad hoc* body, subject to the same discipline and working under the same law of contract as private individuals or other legal entities, such as joint-stock companies. It enjoys no greater legal privileges than might be conferred, in respect of similar enterprises, upon other bodies. Thus the Post Office is a State monopoly which is subject to restrictions similar to those imposed in the case of railways, which are a " private " monopoly. It is controlled and operated by a department of State which, like a private company, obtains its powers under the law of contract and against which proceedings may be taken if it evades its legal obligations. The fact that it is a public authority does not place it above the law. It has no legal powers beyond those which might have been enjoyed by a private company in similar circumstances. It cannot prevent competitors from entering the field ; such restriction of competition, where it exists, is imposed by Parliament, not by the public department, and it would presumably have been imposed if the enterprise were under the control of a private company. A public authority, again, may enter the competitive field.

A municipal department supplying electricity to the public (a monopolistic enterprise) may also act in the capacity of a firm of electrical engineers. It may offer to wire a private house and sell electrical fittings, and in so doing compete against private companies. As a competitor in this field it enjoys no special privileges, in law, which are not enjoyed by its competitors, though it may enjoy economic advantages, such as the opportunity which it offers of centralizing responsibility for the instalment and the light and heat desired by the consumer. If a public authority set up a milk depot or opened a boot shop in competition with others, it would occupy the same position, in law, as its competitors.

Thus the system of economic freedom or private enterprise is one which admits of enterprise by individuals, groups of individuals and public authorities. Freedom is implied, and regulations are regarded as encroachments upon such freedom. Such regulations or restrictions are always found in the statutes; what cannot be found does not exist. In the absence of any definite restriction the individual assumes liberty of action. The true alternative would be found in the system of economic conscription or coercion, in which the State would determine individual action. It would necessitate a new law of contract. Where freedom of action was permitted, such permission would be found in the statutes, and would be regarded as an encroachment upon coercion. In the absence of any definite and specified encroachment of this character, the individual could not assume liberty of action. Such a system has never been tried.[1]

Competition

Kinds of competition

The economic system under which we live is often said to be competitive, a statement which is both true and

[1] An approach towards the system was made during the war, when a considerable measure of economic conscription was introduced.

false. There are many kinds of competition. When we hesitate between tea and coffee, or between the theatre and a quiet evening over a novel, such commodities or services are competing with each other for our favour. When the claims of Egyptian cotton are advocated against those of American cotton, or the charms of Cornwall are measured (on railway posters) against those of the Riviera, we find instances of competition between regions. When candidates sit for a civil service examination we witness a form of personal competition. In this wider sense competition is hardly distinguishable from economic freedom, being an integral part of the latter. Personal competition is, indeed, as wide as life itself, though much of it is unconscious rather than deliberate. We find, moreover, that competition between different forms of economic service and economic effort is almost universal. Even if the municipality owned and controlled every form of mechanical transport, we might elect to walk to our destination. When a manufacturer hesitates between a machine and a group of workers, or a mistress between an extra maid and labour-saving devices in the house, it reveals a form of competition between capital and labour.

When, however, reference is made to the competitive aspect of economic society, people usually mean rivalry between makers for, or sellers in, the same market. Woollen manufacturers compete with each other; grocers struggle for our "valued custom." When the term is used in the sense of industrial and trade rivalry it is not wholly true to say that our system is competitive. The competitive force remains strong—stronger, perhaps, than we sometimes assume—but it does not operate throughout the whole of industry and trade. In some industries, such as railway transport, the producing unit is essentially monopolistic. Competition would involve so large a measure of duplication as to prove too costly in human effort. In other industries, where there are many producing units, competition may be modified or even eliminated by price

Competition and monopoly

agreements, pools, trusts and other forms of combination. We shall find, moreover, that even in those industries in which the force of competition appears to be operative, it is actually in a state of suspense during those periods of great trade activity and high prices which recur at fairly regular intervals and will call for examination at a later stage. When steel or cotton manufacturers compete with each other in a market their rivalry is usually revealed in the prices at which they offer their goods for sale, but in some trades prices are "sticky," being fixed largely by custom, and the competitive force operates through other media, of which the most obvious is quality. When, again, we turn to services, we find that the prices or fees that are charged may be fixed by agreement or tradition, and that competition takes that personal form to which reference has already been made. Finally, it may be pointed out that competition among employed workpeople has been considerably modified by the formation of trade unions and the institution of collective bargaining. The economic system of the present century is, therefore, competitive only in a restricted sense. The field of industrial or trade competition is being invaded by monopolistic and other forms of economic associations.

Self-interest and Moral Obligation

The legal basis of society

When we review what has been said above on the relation of the State to industry, we see that economic society is self-organized. The State has laid a legal foundation upon which a vast economic structure has been erected by private initiative and enterprise, and as time goes on the foundation is strengthened. For the rest the State relies upon the appeal to self-interest. The nature of this appeal has been so frequently misunderstood that it seems necessary to describe it at some length. Before we do so, it may be worth while recalling the part played by the State in the daily life of its members. The State has enacted certain laws which we must obey, that is, it has

set up a certain minimum standard of conduct which must be observed by everybody. We may not fight in the public street or otherwise be a public nuisance; we may not ill-treat our children; we may not commit burglary; we must keep to the left when driving a vehicle and observe existing regulations regarding speed. If we break any of these laws we are liable to punishment. There are certain acts which are defined as crimes, and others which are called by names less offensive, but which are essentially of the same character. Even the State, however, would not be content, nor does it assume that we would be content, if everybody aimed only at escaping the arm of the law. It merely lays down a minimum, not a satisfactory, standard of conduct, and punishes those who do not reach that minimum. Above the minimum of the law there is a social or customary or moral standard which must be observed by everyone who wishes to be regarded as a satisfactory member of society and to earn the respect of others. Moreover, there is room for leadership in matters of conduct. People may forgive those who do them injury, love their neighbours, and act as their brothers' keepers. They may devote their lives entirely to the service of others and forgo pleasures which they might enjoy without sacrificing the respect of their friends. Their conception of duty may be far higher than that which is prevalent among the majority. Two further points call for consideration. The first is that law is progressive; the legal minimum standard is steadily rising. Moral or customary standards spread outwards, and are ultimately translated into law and thereby universalized. Leadership, too, is rewarded by success in moulding moral standards, and assumptions are gradually changed. The second point is that moral responsibility is determined by power, which, in the last resort, is mainly knowledge. It is not suggested that moral instincts are determined by knowledge, much less that people who have received formal education are finer in spirit than uneducated people. What, however,

may be suggested is that an educated person may be expected to attain a higher conception of his obligations to society than he would have attained without education.

Reconciliation of private and public interests

The relation of the State to economic activity resembles in some respects its relation to the non-economic activities of the citizen. We have observed that the State has constructed a legal framework within which the economic picture is drawn or, to change the metaphor, that it has prepared a legal foundation upon which the economic structure has been erected by individual effort. The effort has been forthcoming in response to the appeal to self-interest. The individual is assumed to be actuated by the motive of private gain which, in turn, can only be secured by supplying a public need. Private gain is the individual goal, public service the collective result. The individual seeks a claim upon the results of other people's work, and such a claim will only be recognized, under ordinary circumstances, if and in so far as he supplies the others with what they in turn want. Each individual will therefore be actively concerned to discover social wants that are not already satisfied, one or more of which he will endeavour, in his own interest, to satisfy. He does so not from any motive of philanthropy, but because such effort on his part is a condition of success in securing what he in turn desires. The State, in the law of contract, defines the conditions under which he may work, and sets up a minimum standard of economic conduct. Moreover, it assumes that the force of competition—the rivalry, or potential rivalry, of other people in the same field of effort—will prevent the power of the individual over the rest of society from becoming a menace. In this way competition achieves the union of contraries : it reconciles the conflict of interests between the one and the many, between the individual and the community. If, in fact, and by virtue of monopoly or some other circumstance, the individual acquires too much power, the State steps in and curtails it in one way or another. Such is the bare theory of the economic

state, expressed in simple terms. Until we have seen how it works out in practice, we cannot subject it to any serious tests ; nevertheless it calls for some comment at this stage.

The ethical test

The first is that it is based upon an ethical foundation, that is, it is supposed to satisfy ethical requirements. We have said that if any individual acquires too much economic power the State steps in and curtails it. Thus the State admits, by implication, that an individual *can* acquire too much power, and so assumes a certain criterion or standard of judgment. The criterion which it implicitly accepts is the result that would be achieved if competition were really effective in the given circumstances. The ethical criterion is found in the competitive result.

The motive of private gain

The second comment is concerned with the motive of private gain or self-interest, which is not necessarily a selfish motive, nor yet the active, compelling motive in every individual transaction. Private gain is a means to an end, and the end may be noble. It would be a profound error to regard the individual as a sort of vulture ready to pounce upon its prey. There are, and always have been, human vultures in society, and it may be (though it must remain for the present a matter of conjecture) that modern economic institutions offer greater opportunity to such people than the institutions of earlier periods of history. But the nature of the appeal of private gain must be considered in its relation to the typical member of economic society. He is compelled, first and foremost, to seek the means of living, and his choice of occupation is influenced by a number of considerations—family tradition, education, skill and aptitude, wealth, opportunity and other circumstances, some of which may be purely accidental. One will be led to the teaching profession, another to shipbroking, and a third to a foreign agency. Some, while working at one occupation, may see opportunities for meeting a strong but hitherto ignored demand in another direction, and so reaping rich financial reward, while others may find themselves unsuited to their

first occupation and seek more congenial and possibly more remunerative work elsewhere. When a man is engaged in gainful occupation the chief factor in his life may be, and usually is, the welfare of his family, present or future; his ambition in the sphere of his work is derived from the desire to do what he conceives to be his duty to those who are economically dependent upon him, or, if he is a young, care-free bachelor, from the desire to prepare for a future in which others will share. The family remains the social unit, and its collective needs are the origin of economic ambition and the mainspring of effort. The self which is connoted in self-interest is a wider self than the individual, and the term is therefore free from that stigma which is deservedly attached to "selfish interest." As the individual grows older he may, and frequently does, show evidence of moral growth by being influenced more largely by the motive of public service, which may be as strong and as widespread in industry and trade as in professional life.

The picture which I have tried to present of the average individual in pursuit of wealth seems to bear no resemblance to that abstraction, the "economic man"—a bundle of selfish motives—which was once thought to be the fundamental assumption upon which the whole of economic science rested. Yet there is a striking resemblance between the two. When an average individual, be he never so generous and unselfish, is drawn into the sphere of economic effort (be it professional or industrial) he is compelled to accept competitive standards. It is not (as we shall find) that he is anxious to squeeze every penny he can out of his customers, but rather that competitive forces, on both sides, determine the conditions of the transaction. The individual cannot control these forces; when he is strong enough even to influence them to any marked degree he is said to enjoy monopolistic power. Hence the truth and relevance of two of the fundamental assumptions of economic science—first, that the greater gain is preferred to

the less, and secondly, that, on the one side, the seller charges what the market will bear, and, on the other, the buyer will not pay more than the market demands.

These assumptions are not true in every single instance, but they are true over so large a part of the economic field that they produce *general results* which would not be materially changed even if they were always true. And economics, being a social science, dealing with large aggregates, is only concerned with assumptions which are true in general and with forces which operate over a sufficiently wide area to influence general results. The science is not, therefore, erected upon a cynical or pessimistic view of human nature.

Law and morality

A third comment may be offered upon the theory of the State already outlined. It is that the State assumes that the legal minimum standard which it has established will be reinforced by other and higher standards. In other departments of life, as has already been shown, the State assumes that most people will not remain content with avoiding crime and other illegalities, and that public opinion sets up a higher moral standard. Similarly it assumes that, in the conduct of economic affairs, the great majority will do more than merely satisfy the minimum requirements of law; it assumes that public opinion will set up a standard which will be observed in general practice, though it cannot be legally enforced.

Business in general assumes honesty; it is built up on faith, and the faith is justified. There are dishonest workers in all categories of activity, as there are criminals. And such cases achieve so much publicity that some are apt to assume that people are as dishonest as they dare be in business life. But such a view is entirely false; if it ever became true the economic structure that we know in this country would collapse. Not only is honest dealing a condition of modern trade, but industries and professions set up standards of conduct which the members are morally compelled to adopt. Those standards vary between

different groups, but in most cases they are above the legal minimum and are slowly rising. We pride ourselves, moreover, that in this country the standard of business morality is higher than in any other part of the world. Not only do we recognize moral responsibility and obligation in economic affairs, but many of our citizens refuse to rest content with existing standards and are always striving, by wise leadership, to raise them more rapidly. Nevertheless, it remains true that it is upon the appeal to self-interest, as already defined, that the community, through the present economic system, relies for the social service rendered by industry in general. Individual gain, or the prospect of gain, points the way ; what is secondary, or incidental, from the point of view of the individual is the purpose of, or chief result aimed at by society in that kind of control which it has established over the various forms of economic activity.

CHAPTER V

THE NATURE OF ECONOMIC STUDY

MEANING OF ECONOMICS

The development of economic thought

THE principle of specialization and co-operation has been applied to scientific inquiry as well as to industry. In the days of ancient Greece economic organization was so elementary and existence generally so simple that it was possible to view life as a whole. "Men love to wonder, and that is the seed of our science." Socrates and Plato were filled with wonder, and created wonder in others; and its fruits are gathered in philosophy and the physical and human sciences. Of the human sciences economics is one of the oldest, though it has developed but slowly. Plato describes the village community in his *Republic*, and Aristotle, in his *Politics*, makes acute observations on monetary theory. But the study of economics as a separate subject made little headway before Adam Smith published the *Wealth of Nations* (1776). He was almost the first who "loved to wonder" about economic phenomena; his predecessors were pamphleteers who, when they wrote, had a definite and immediate object in view, other than the pursuit of knowledge. And even Adam Smith's epoch-making treatise conveys the impression that he had to fight the devil of propagandism within him.

The progress of the science was also slow for the reason that the economic system which now prevails is of comparatively recent date, and within the period of its existence has changed, in many important respects, with almost bewildering rapidity. The economic works of Adam Smith, Ricardo, Mill and others are now worth reading not so much for the knowledge of economic conditions which they supply as to enable us to understand how great minds regarded the problems of the times in which they lived. Respect for authority means, not slavish adherence

to principles or to doctrines which have worn thin, but appreciation of the spirit and method of inquiry. Finally, the growth of science has been retarded by the difficulty of obtaining the material of the science. Being in part empirical, its development is conditioned by research into facts, and for these the economist has hitherto been compelled to rely mainly upon Government publications of a fragmentary character and upon fugitive inquiries by private individuals or groups.

Economic thought and social institutions

Economics represents an attempt to systematize or organize our knowledge of human society in its efforts to satisfy its needs. It examines the way in which society works, and the results of such work. It is, therefore, essentially a social or human study. Yet it is not a complete study of human welfare, which is partly determined by considerations beyond the scope of economics. It is also a positive study, that is, it deals with people and activities as we find them, or as they may be; it does not tell us what ought to be. The object of economists is to assist in promoting human welfare, and the ultimate justification for the time spent upon the study of economics may be sought in the contribution which it makes to social progress. But the economist, like every other scientist, must ignore the final social purpose of his study and concentrate his energies upon the immediate task which he has set himself. Before we can say what ought to be we must know both what is, or may be, and what we want, and economics is concerned with the former. That, however, is not the complete measure of the task. We have said above that economics is concerned with conditions which either now exist or may conceivably exist. The economics of Feudal England is not the same as the economics of society as we now know it, nor is the latter the same as the economics of a collectivist society. It is for this reason that this book has been given the title, *The Economics of Private Enterprise.*

It is a study of the economic system which is in operation

to-day. There are, of course, certain fundamental statements which may be accepted as true of society at all stages of development; but these are so few and so unenlightening that they cannot be accepted as exhausting the scope of economic inquiry. At the same time, it is important that they should be carefully distinguished, as we proceed, from those which are based upon assumptions that are true of one stage of development but possibly false of another stage.

Methods of Economics

Economics as a science

Is economics a science? The question does not admit of a categorical reply, for the simple reason that people are not agreed as to the meaning of science. It is, at least, a scientific study; that is, its method is scientific. It observes, classifies and, as far as possible, explains phenomena, thereby achieving a deeper understanding of conditions, actual and possible. It is a study of cause and effect. Since many of the phenomena with which it deals are capable of quantitative measurement, it is rapidly becoming, in part, a study of quantities. But if (as some people contend) the test of a science be found in the power of prediction, economics in that respect must be regarded as in its infancy. It is not an exact science, though its demands upon reason and judgment are not, on that account, any less exacting. Its boundaries are hard to define. Essentially it covers the problems of organization and valuation, to which reference has already been made, and in recent years the tendency has been towards further restriction of scope, the resulting gaps being filled by newer sciences, such as human geography and sociology. Economists have been accused of walking boldly where angels fear to tread and of holding back where fools rush in. But tributes are frequently offered in the form of accusation. Restriction of scope has made possible greater thoroughness of investigation, leading to confidence where confidence is justified, and caution where pitfalls are discovered, or suspected.

Deductive method

Scientists are bound to examine, periodically, the nature of the instruments which they employ in their investigations. The methods or instruments of investigation have been the subject of possibly more serious controversy in economics than in any of the other sciences. It has been argued that, in the main, economics is a deductive or hypothetical science. By this we mean that it starts with a few general assumptions, based upon preliminary observation, and argues to a conclusion from those assumptions. Reasoning takes the form of a syllogism. Given A, B and C, we obtain the result X. Given, for example, competition and all that competition implies, price will approximate closely to the cost of production. Given an increase in the quantity of money, a constant velocity of circulation and supply of goods to be exchanged, it follows that the value of money will show a corresponding fall. A considerable proportion of the pages of the *Wealth of Nations* is devoted to economic history; nevertheless, the main portion of Adam Smith's work is highly deductive in character. Mill and Jevons also employed the same method, of which Professor Pigou is, perhaps, the greatest living exponent. But Ricardo is usually regarded as the most deductive in method of all economists, past and present.

nductive nethod

The alternative to deduction is induction, by which is meant the erection of a generalization upon a foundation of particular cases. The inductive method may be used in several ways, of which the two most important call for comment. One is called by logicians the method of difference, and is usually employed where experiment is possible. Two sets of instances are compared, which differ only in one significant respect, a certain cause being present in one and absent from the other, and the comparison is repeated again and again. In this way the effects of the cause are revealed. Suppose, for example, an engineering firm employs men wholly on time-work for a period of one month, and then introduces a system of piece-work,

it follows that, provided other conditions remain unchanged, the difference in the output may be attributed to the change in the method of payment. If the experiment be repeated again and again, not only in one establishment, but in many establishments, and produces similar results, then it may be stated with confidence amounting almost to certainty that such results are due to the change of method of payment, that is, to the cause which has been deliberately introduced for the purpose of investigating its effects. Clearly the scope of experiment in economics is very restricted. The phenomena cannot be deliberately produced and afterwards exactly reproduced; even when the exact conditions are known, the necessary control over those conditions cannot be secured. Legislation may be regarded, within limits, as an economic experiment, but its value in this respect is heavily discounted by the variety of conditions to which it applies. The Australian minimum wage legislation, for example, has produced results which may not be repeated in an older and more densely peopled community, where the economic conditions are wholly different.

The other and, in economics, the more usual way in which induction is employed is that of generalizing from a large number of observed instances in which the same cause is operating under a variety of conditions. If it be observed, for example, that, in one factory after another, and in industries which differ materially from each other, the system of vocational selection operates where the labour turnover is relatively low, a strong presumption exists that the small turnover is due to vocational selection. But it is no more than a presumption. Three men may get drunk on whisky and soda, brandy and soda, and gin and soda, but it cannot be concluded that soda-water is the operating cause! There is also another common factor—alcohol. Hence the method is always one which should be used with caution. Moreover, its trustworthiness as a method of investigation diminishes as the phenomena

under examination become more complex and causes are (or may be) multiplied. Thus it is not one which can safely be employed in estimating the effects of a system of protection.

The controversy about methods of study has lost much of its importance. It is now generally admitted that deduction cannot be completely separated from induction. The general principles or assumptions which form the starting-point of the former are based upon observation —no economist evolves a society from his own inner consciousness. Moreover, induction necessitates reasoning, and is inevitably accompanied by deduction. The difference is now mainly one of emphasis, and the method employed by the economist is largely determined by his own intellectual "get up," or the avenue along which he approaches the science. Some incline to the abstract or deductive method, because the abstract method in general appeals to them more strongly than any other method; others approach economics through history and seek to understand the present through the medium of the past; yet others are of the quality of geologists, and revel in using the hammer. All contribute to the advancement of the science by finding useful corners within it for the kind of investigation that appeals to them.

Economic Law

Economic forces and economic laws

Science seeks the universal. Some sciences are known as "exact" because the truths which they discover are, within their own sphere, of universal application; they consist of statements of fact which, under the prescribed conditions, admit of no exception. For nature is not arbitrary. What is called the force of gravity never goes on holiday; hence the law of gravitation is a universal statement of fact, namely, that bodies are mutually attracted—to take a simple example, that a stone thrown into the air will fall to the ground. But there is an implied assumption even in that statement. Iron-stone may be

attracted upwards towards a suspended magnet. Assuming other things equal, it is, however, universally true that every stone will return to earth. Prediction on the point is always exact and accurate. No experiment ever failed; and it may be stated with complete confidence that no experiment will fail in the future. If it ever does fail, life will become topsy-turvy, if not impossible.

Some economic forces, being natural forces, are as persistent and regular as the force of gravity, but the great majority are human forces, and do not possess that inevitability which attaches to the first group. Consequently the statements that may be made regarding their co-operation or conflict are not so widely applicable as those statements which may be made about natural forces. But even human forces are not so arbitrary as they may appear to be at first glance. There are two reasons for this. The first is that few people are as original as they believe themselves to be. We are creatures of habit, and our individual habits are largely determined by social custom, by common instincts, or by sheer necessity. Most of us behave in almost the same manner under similar conditions. The second reason is that, if humanity is taken in the mass—by nations, classes, industries, or other large groups—individual idiosyncrasies cancel out, and human behaviour shows great regularity and uniformity. This is the foundation of the science of statistics and of the business of banking and of insurance. It is, therefore, possible to make fairly safe generalizations about our behaviour and the effects of our behaviour. Some of these generalizations become assumptions upon which deductive economics is built up. We prefer, for example, the greater gain to the less. Other assumptions, such as the tendency to diminishing returns, are based upon the working of natural forces, and are therefore universally and permanently true. The remaining assumptions, such as the assumption of competition, are connected with law, that is, the economic order in the

sense in which the words were used in the previous chapter. The assumptions drawn from these three main sources are known as economic forces or influences. The statements which are made regarding the interplay of such forces are known as economic laws. They are general statements regarding the effects of our behaviour under certain conditions. Those economists who employ the deductive method express the results of their investigations in the form of conditional statements, while those who employ the inductive method express the results in the form of general statements of facts, or statements of observed tendencies. The latter are content to interpret the conditions which actually exist, but the former examine not only the actual but also many other possible combinations of circumstances. Both groups frame what are known as economic laws, which must be clearly distinguished from economic forces or influences. Economic laws are concerned with the results of the interaction of economic influences, which may be legal, social or physical.

Difficulties of application

Generalizations based upon inductive inquiry cannot be applied to individual cases. If it be agreed that, in general, a reduction in hours of work from 12 to 10 per day is accompanied by an increase in output, it does not follow that John Smith will do more work in the shorter day. He may prove to be an exception to the general rule. Economic laws based upon deductive inquiry, and expressed in the form of conditional statements, may seem to approach more closely to the universal. "Given certain conditions, certain results follow," may seem a fairly safe statement, which admits of no exceptions so long as the conditions remain constant. But the case is not so simple as it appears. In the first place, the conditions which are expressed, though possibly in most cases the most important conditions, are not the only ones which must be taken into account. Life is complex; a multitude of other circumstances appear in all cases, and these may never be twice the same. Hence it is only safe to say, "Given

certain conditions, certain results may be expected to follow." Moreover, if *all* the forces in operation could be examined—in isolation and in their possible combinations—they would probably prove to be so numerous as to defy generalization. Although economics, like physics, seeks the truths of widest application, it cannot often reach the universal. Being a human science most of its assumptions are observed generalizations, not inevitable conditions. It is not true to say, as an eminent statesman once said, that the laws of economics are "immutable and eternal," for they are true only so long as the influences or forces remain constant and their action is not disturbed by new influences. Some laws, or truths, are axiomatic of all stages of human development. We cannot, as some people assume, eat our cake and have it, nor will our remotest descendants be any more fortunate. The laws of utility and demand (*see* Book III, Ch. II) will remain true so long as human nature remains what it is. But economic laws or generalizations based upon the assumption of competition will call for modification whenever they are applied to actual economic conditions, where the force of competition never acts *in vacuo*. In other words, one of the most universal of economic forces is that commonly known as friction,[1] which rarely operates twice with the same intensity and persistence and in the same direction.

A well-known writer has said that "economic forces operate within a legal framework." This means that the structure of society—its institutions, such as those of property, inheritance, government, economic freedom, etc., and its customs and laws—conditions the extent and form of action of economic forces and thus modifies the results of their action. Thus the laws of utility and demand are universally true, but their effect on price depends upon whether competition or monopoly is prevalent in

[1] Friction has been cynically called a lumber-room category for forces not properly understood or not investigated, or, simply, that do not square with the writer's theories.

the market. The law of diminishing returns will produce different effects under a régime of peasant proprietorship from what it will under a landlord-and-tenant system, but it is equally valid in both cases. On the other hand, we must not assume that economic forces can always be effectively controlled by law. No legislation will invalidate the truth of the quantity theory of money, or of the statement that a rise in the possible standard of living is inconsistent with a reduction in industrial efficiency.

Economic laws, then, may be defined as statements of tendencies. The statement may take the form either of a conditional statement (i.e. a statement of what may be expected to happen under specified conditions) or of a general statement based upon observation of actual conditions. Thus we may say either that, under certain conditions, a tax will probably have a certain result or that the tax does, in practice, tend to have a certain result. Deductive inquiry leads to the framing of laws in the first sense, while inductive inquiry results in general statements of the second kind. It will be necessary to employ both methods in the pages that follow, and the results will therefore be stated sometimes in one form and at other times in the other form. Thus, in dealing with the relation of prices to cost of production, we shall be compelled, by the nature of our inquiry, to employ the deductive method, even though illustrations be drawn from experience. But industrial fluctuations cannot be studied except by the process of induction from actual experience, and even though the final conclusions be framed in the form of hypothetical statements, they must be suggested by generalizations based upon observation of the fluctuations that have taken place in the recent past. The conflict between deduction and induction has disappeared, and the two methods are almost always employed, in greater or less degree, by all modern economists.

Difficulties of formulation

The student of economics is faced with a peculiar two-fold difficulty from which the student of mathematics or

natural science is free. In the first place, he is a member of the society which he is studying. The social status and traditions of his family tend to make his horizon limited, if not narrow. If his sense of moral indignation has been aroused by evidence of suffering, his powers of patient analysis may be severely tested, and he may be inclined to deny importance to what is remote and indirect. It is probable that in nearly all cases a certain amount of initial prejudice has to be overcome. The twin gifts of " social " imagination and sympathy are essential requirements of a successful economist—but they must be accompanied by those other gifts which are indispensable to scientific investigation in any field. Moreover, the economist, above all other scientists, requires moral courage. Almost every economic truth which he discovers reacts directly or indirectly upon the interests or prejudices of his fellow citizens. What he expounds arouses, somewhere or other, antipathy and, maybe, passion. While, by frequent self-examination, he must endeavour to conquer his own prejudices and to take a purely objective or detached view of the economic activities of society, he must be prepared to meet the prejudice and resentment of vested interests and of people crying for the moon.

Closely connected with the first difficulty is the further difficulty of obtaining the materials for investigation. During recent years Government departments have published numerous volumes of statistical material relating to trade and commerce, employment, prices, and other aspects of economic activity. Moreover, a vast quantity of statistical material has been made available from other sources. The result is that some branches of economics are becoming more statistical in character. Not only does the Government, through its many departments, periodically publish statistical data, but, through *ad hoc* commissions and committees, and in other ways, it has added much to our knowledge of economic organization and the results of the working of the economic system.

Thus, for example, the reports of the Poor Law Commission (1905–1909) are a mine of information on employment, poverty and pauperism, while the reports of the Linlithgow Committee (1923) together form a treatise on the organization of the agricultural industry in this country. Again, the economist finds valuable material for his task in law reports. Cases are often taken to court necessitating evidence which contains economic data. Apart from official reports and the private researches of scientists, the student of economics is compelled to rely largely upon information supplied by private bodies. Many of these bodies serve political or sectional ends, and the information which they publish should be regarded with suspicion. Usually they cannot be accepted as true evidence upon which to construct economic theories, but, in the hands of a cautious and competent student, they are not entirely without value.

Fallacies in Economics

As in geography, the difficulty of securing adequate data exposes the economist to the temptation of making generalizations of a sweeping character. But there are other dangers which lie in the path of every other scientist. A section on logic would not be relevant to our present purpose, but it may be useful to indicate some of the fallacies which appear most frequently in popular economic controversies. Reference has already been made to the abuse of the inductive method by arguing that a common factor in a series of phenomena is necessarily the true cause of observed results. In the illustrations employed, the investigation was far too restricted to permit of any general conclusion. Other popular fallacies may be briefly noted. The first is that of generalizing from one or a few observed cases. It is argued, for example, that because the workers in one or a small group of trades are benefited by a rise in money wages, a general rise in money wages will necessarily mean an improvement in the position of all workers; and, again, that because one industry has derived

Some popular fallacies

an advantage from a duty imposed upon competing imports, a general tariff will prove an advantage to all industries. But it may be that the benefit to the one or few can only follow so long as the treatment is not made general, and that the more widely the treatment is extended the smaller the benefit that results to each. A second fallacy is *post hoc ergo propter hoc*—if A follows B, then it is caused by B. If the formation of a trust is followed by a fall in prices the trust takes the credit, though it may but check a fall which would otherwise have been more pronounced. Political parties employ the fallacy without blushing when it suits their purpose to do so.

Another common error is to attribute the relationship of cause and effect to two phenomena which are both due to a common cause. During the depression in trade following the post-war boom, wages fell heavily in a number of industries in which the slump was very marked; we are also told that the individual efficiency of the worker increased, from which it has been argued that people work harder when wages are low. But the true cause of the increased efficiency was the depression, which added to the precariousness of work. While there were people outside the factory gates ready to take their places the workers inside would have responded to the stimulus of fear whether wages were relatively high or relatively low. Closely connected with this error is that of regarding an exciting cause or a contributory factor as the true cause of a phenomenon. The exciting cause of one well-known strike during the war was a burst of warm sunshine at the end of a long, extremely cold winter, during which the people concerned had worked hard, without intermission; but the real grievances of the workers were deep-seated, and were in no way connected with the vagaries of our climate. It is well known, again, that the occasion of a general election rarely provides a clue to its real causes, though the electors may be invited to believe otherwise—and may accept the invitation.

One cause amongst many

The fallacies which we have indicated, though common in popular controversy on economic subjects, are not often committed in serious investigations. But there is one which is sometimes committed even by scientists of repute. It is that of assuming the existence of a single dominating cause to which a phenomenon must be attributed. Thus, for example, it is assumed that the rhythmic movement of trade, known as the trade cycle, must be due to some single force—*causa causans*—which, if it could be clearly detected and revealed, might be neutralized in some way or other. But it may—and probably is—due to a combination of circumstances which together constitute its cause. If such is the case, then the removal or modification of any one of these circumstances would destroy the combination, so that a new combination would be formed, which might produce entirely different results. Again, people often seek to explain the prosperity of a country by emphasizing one set of circumstances, such as free trade or protection, high wages or low wages, natural conditions or the vigour of its inhabitants. In economics, more often perhaps than in any of the human sciences, the true cause is to be sought in a combination of circumstances no one of which, regarded in isolation, may be defined as the cause of the phenomenon which is being investigated. For it will be admitted that, while there are many silent, persistent forces in operation, phenomena are rarely so faithfully repeated as to enable us to attribute their main features to any one of those forces. The most notable exceptions to this very broad generalization are to be found in the sphere of financial organization, and an illustration is provided in the relationship which always exists between the general level of prices and the quantity of money in circulation. But such simple relations of cause and effect are comparatively rare, and the explanation of economic phenomena is usually to be found in a combination of circumstances, which combination constitutes the cause.

BOOK II
Industrial Organization

CHAPTER I

DIVISION OF LABOUR

CONSEQUENCES

1 Advantages analysed by the classical economists

ADAM SMITH reduces the advantages resulting from division of labour to three. "First, the increase of dexterity in every particular workman; secondly, the saving of the time which is commonly lost in passing from one species of work to another; and, lastly, the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many." Subsequent writers (such as Babbage and Mill), in commenting on the first of these, call attention to its twofold character. "The advantage," writes Mill, "is not confined to the greater efficiency ultimately attained, but includes also the diminished loss of time, and waste of material in learning the art." Two further advantages have been indicated by other early writers. Thus Rae calls attention to the economy in the use of tools. "If any man had all the tools which many different occupations require, at least three-fourths of them would constantly be idle and useless." The corresponding advantages of division of labour are therefore great. "In the first place, the various implements, being in constant employment, yield a better return for what has been laid out in procuring them. In consequence, their owners can afford to have them of better quality and more complete construction. The result is that a larger provision is made for the future wants of the whole 'Society.'" The next advantage is that many kinds of skill are required, and that, accordingly, workers, by being classed according to capacity, can be more economically

employed. Work other than the best of which the individual is capable involves waste of skill or physical strength. Mill points out that division of labour is, however, limited in two ways, first by the extent of the market (that is, the population within reach) and, secondly, by the nature of the industry. Agriculture, for example, where one man must perform many tasks, does not provide the same scope as manufacturing industry. The digging of a canal permits a considerable degree of simple co-operation, but of far less complex, unconscious co-operation such as is found in engineering or iron production. "A canal or a railway embankment," says Mill, "cannot be made without a combination of many labourers; but they are all excavators, except the engineer and a few clerks."[1]

The above considerations are fundamental. Many changes in industrial organization have occurred since the publication (1848) of Mill's treatise, and modern writers have elaborated more fully the advantages of division of labour. But those which are associated with that system, strictly defined, were observed by the early writers, and may be reduced to the terms which they employed. All that follows in this volume may be regarded as the consequences of division of labour, and what remains for us to do in this chapter is to select and consider those consequences which may be regarded as so far-reaching that they fashion the structure of any economic society that may be erected upon the system of division of labour.

2. Co-operation and co-ordination

The first point that may be noted is that division of labour or specialization is synonymous with co-operation. When we perform our special daily task we do not work in conscious and deliberate co-operation with the rest of society for the purpose of supplying our daily wants. We do indeed assume that everything we need (or, rather, effectively demand) will be forthcoming, but we think only of our individual tasks. The competitive aspect

[1] All the above quotations are taken from J. S. Mill, *Principles of Political Economy*, Book I, Chap. VIII.

of our work has been so much more prominent in our minds that we have become accustomed to use the word " co-operation " in a narrow, technical sense, as representing a form of economic organization which stands in contrast to the competitive form. But the moment we begin to think about it we realize that co-operation is not merely involved in, but synonymous with, specialization. Division of labour means not only that one individual works as an engineer, but also, as we have seen, that others supply him daily with bread, milk, and other commodities and services.

Secondly, it may be observed that when division of labour has reached the stage of subdivision or technical division of labour—that is specialization within a trade—it necessitates integration or co-ordination of a special character. Even the most elementary form of division of labour necessitates some form of co-ordination or control of the direction of effort. Each producer specializes in the production of one thing, and exchanges the surplus of his product, above his own needs, for the surpluses of other producers. Here, as we shall presently see, the necessary control is provided by value-in-exchange, or price. We are now concerned, however, with another problem, namely, that of co-ordinating the efforts of a group of specialized workers who are consciously co-operating in the production of a given commodity or service. A few command and many obey. The worker performs not only a special task, but an allotted task. In a cricket match the order of batting is prescribed by the captain ; in a factory or workshop the " master " tells the others what to do and when and how to do it.

Co-ordination is a specialized function

The next point to which attention may be drawn is that labour, in its broadest sense, is divided into a large and growing number of groups or occupations. Some of these occupations require greater skill than others ; skill may be general or specialized skill, and the latter may mean nothing more than dexterity in performing a routine task. Work requiring general skill necessitates a long

course of training, and those who have been trained by long apprenticeship, or otherwise, form a considerable proportion of the community. Highly skilled workers may be roughly divided into two classes. First, there are those whose skill is of a technical character—they may be capable engineers, or flour millers, or accountants, or lawyers, or sheet-metal workers. Secondly, there are people who are skilled as leaders of men or as organizers of functions, or are more able or willing risk-takers than their fellows. The former are far more specialized and less mobile in the industrial sense than the latter, whose qualities are required in all industries and trades. When division of labour has been carried to an advanced stage, and the workshop has become a large industrial enterprise, employing many hundreds of workpeople, it is clear that the economic responsibility of those who rule, by taking the risk of enterprise and organizing the tasks of a large army of workers, is enormously increased. We shall need to examine their economic functions and responsibilities in greater detail as we proceed. At the other end of the scale we find workers, more or less capable at the tasks which they perform, who are not specialists to the same extent as the skilled workers. Usually they are either manual workers or employed on mental routine work in larger establishments, and they may move from one in dustry to another; but they also include small shopkeepers, men working on commission, home-workers employed on contract, and miscellaneous workers who elude classification.

3. Lengthy process of production

Next we may note the fact that progressive division of labour results in the lengthening of the chain of production. The purpose or end of production is to supply final consumption goods—food, drink, clothing and all those other commodities and services which constitute the necessaries, comforts and luxuries of life. But the great majority of trades are not occupied with the final products, most of which pass through many industrial processes and distributive agencies before they are ready and in the right place

for consumption. It follows that the importance of capital to economic society has enormously increased and is steadily increasing, and a considerable proportion of the workers of the community is employed in maintaining the instruments of production in repair and adding to their number. It will thus be seen that a large and growing number of workers are employed in large and disciplined groups, upon specialized tasks, and producing but a small fraction of a product which will only be finished in the future by others.

Marketing is a specialized function

But the lengthening of the chain of production, combined with the concentration of industries in selected regions, has also resulted in the separation of the two functions of making, mining, or growing, on the one hand, and of selling the product on the other. In the early, more or less self-contained, village community, and even at a later stage, when town and country satisfied each other's daily needs, the selling function was comparatively simple. The decay of the handicraft system and the birth of modern capitalism is, indeed, associated with the growth of merchanting. Merchants gave out the material to be spun and woven in the houses of the workers, and took the finished product to the markets. The factory appeared later. Again, the East India and other trading companies were merchants or traders, and they were by no means the oldest. "Merchant Venturers" have existed ever since inter-local trade was carried on.

But even at the time of Adam Smith the function of selling was regarded as inexpensive and unimportant, and the classical economists of the nineteenth century followed Smith in practically ignoring the distributive side of industry. They saw, it is true, that economic activity was based upon speculation, and emphasized the importance of freedom of enterprise. There were no greater advocates of liberty, in the economic sphere, than Adam Smith and his successors. But they lived during a period of rapid change in the methods of manufacture and of finance,

and their descriptive writings are mainly concerned with the factory and the bank. The commercial, as distinguished from the industrial, revolution followed the period of railway expansion in the middle of the nineteenth century, and the results of that revolution have only received serious attention in the writings of the economists of the twentieth century. The importance of the commercial side of economic activity is not yet fully recognized, though it should occupy a prominent place in an analysis of the industrial system.

Marketing and Distribution

1. Market risks

We have already seen that economic activity is speculative in character. Production is carried on in advance of consumption, and is therefore based upon estimated needs and demands. A manufacturer (including in the term, for the remainder of this chapter, the farmer and mine owner) may produce his goods either in accordance with the terms of a contract or for the purpose of selling them on the market. If he does the former, the other party to the contract may sell them on the market or he may actually require the goods for his own consumption, in which case the market risk has been reduced. Thus, a building contractor may build a house under contract for an owner who wishes to dwell in it, or an engineer may construct a machine for a woollen manufacturer. The contractor is guaranteed a market and a price for the product, and his speculation consists solely of his attempt to supply the product at a cost that will not exceed the price fixed in the contract. One of the uncertain elements in his cost is the price that he has to pay for the raw material. In many cases, however, the manufacturer produces goods not under contract but for stock, that is, for sale on the market at a price determined by the conditions prevailing on the market at the time of sale. In so doing he accepts an additional risk, and in order to increase his efficiency as a risk-taker in this sense he builds

up a selling organization in connection with his factory. Even if he confines himself to the execution of definite contracts, the search for such contracts frequently necessitates a large and expensive sales organization, particularly in industries the products of which are distributed far and wide.

Creation of demand

Selling the product is not a simple matter. The product is usually made not in response to a known demand, but in anticipation of a future demand, which may itself have to be created. Demand does not precede supply, but usually follows it. The problem of the salesman is not merely to supply what the public wants, but also to make the public want what he supplies. We form habits, and these change but slowly. Many of our wants can therefore be easily estimated in advance and the means of satisfaction regularly supplied. New desires, however, do not usually arise spontaneously when the old are satisfied; they are created by knowledge of new possibilities and the existence of means of satisfaction. Sometimes a vague desire for something better than the article that we actually employ stimulates invention and supply. Thus, for example, the safety razor and the telephone found a ready public when they appeared on the market; yet even their possibilities had first to be advertised. But dissatisfaction with what exists and a vague longing for something better are not always prerequisites of new wants and demands. The latter are often deliberately created, through wide advertisement, by producers of new articles. New patent medicines are thrust upon our notice every year, and, although we are blissfully ignorant of their constituents, we are led to believe that we suffer from precisely those ailments for which they provide an infallible cure, and we buy them, though we may afterwards forget—or fear—to use them. Thus supply, judiciously brought to our notice, creates demand. And it is the function of a sales organization not merely to discover and to satisfy existing demands, but to create new demands by offering supplies of new commodities.

The illustration which we have employed is by no means extravagant. Producers are ever anxious that we should abandon the old and take up the new. An engineering firm making electrical coal-cutters and conveyors, devotes considerable effort and expense to the education of potential clients, though it actually builds the machinery under contract. It issues a quarterly journal which is admittedly of considerable scientific value, and therein publishes the results of experiments with different types of machines working under different conditions. It maintains a widely distributed sales organization, which employs highly skilled experimentalists and carries on, in the pits, educational work of scientific value, resulting ultimately in the employment of more efficient methods of mining and a corresponding reduction in costs. Without an elaborate and apparently expensive sales organization these results could not be achieved. Supply, or the possibility of supply, precedes demand, which has to be created by evidence of usefulness. So, too, in the case of education. The provision of schools and universities not only revealed a demand hitherto latent, but actually created a demand which did not previously exist.

2. Organization of marketing

There is no uniform method of selling and marketing the produce. The characteristics of the agencies that deal with the product are determined by its properties—largely upon whether or not it is in a form ready for consumption by the public. The consumers obtain the goods that they require from the retail store, which frequently obtains its supplies from wholesale stores. The latter, in turn, obtain their supplies from the middleman or merchant. The three stages of distribution are common in the grocery and fruit trades. In the case of vegetables, the grower may deal direct with the retail store or send the supplies to the wholesale dealer. The fish dealers of Grimsby buy from the trawlers at the quay-side, and supply direct to the large hotels of our cities and to the retail shops. A well-organized system of transport, by which

The middleman

the supplies of a perishable commodity may be carried rapidly to their destination, is a prerequisite of efficient marketing. These examples illustrate one obvious general statement, namely, that the market for perishable goods is necessarily narrower than that for durable goods. Fish merchants do not build up stocks. Nor is there an elaborate subdivision of functions between various types of middlemen. The merchants buy in large quantities and pack and place upon the waiting train suitable supplies for their customers.

Durable commodities command a wider market and may be stored for short or long periods. Stocks are accumulated at convenient points and drawn upon according to need. In such cases the organization of marketing is usually more complex, and room is found for the retailer, the wholesale dealer and the merchant. The retailer supplies a narrow market, in the geographic sense, with a great variety of goods. The wholesale dealer usually concentrates upon a narrower range of commodities and supplies a wider geographic market, consisting of retail dealers. The merchant usually concentrates upon one product or a small group of allied products which may be collected from producers in all parts of the world. It is through the merchant group that the needs, or estimated needs, of the consuming public are communicated to the manufacturer. The merchants, moreover, make it their business to know the producing capacity of the world in respect of the commodities in which they are interested. Probably they see better than anyone else what is happening on both sides of the fence upon which they sit—though the fence is sometimes so low that even they cannot see more than a small fraction of what they would like to see. Like the retailer and the wholesale dealer, they carry stocks, and place them at convenient—and, usually, widely distributed—points. In one sense they may be said to be the centre of the economic system. They serve as a link not only between the producer and the wholesale dealer, but

also, in many industries, between the manufacturer and the producer of raw material.

3. Merchant and manufacturer

If there were no merchants or middlemen, the manufacturer would be obliged to perform tasks of which he is now, in many cases, relieved. He would have to get into contact with the actual producers of raw material here and abroad, and with those customers in every part of the world who needed his goods for purposes other than resale; he would need, in many cases, to carry heavy stocks and to maintain a system of advertising and exhibiting the product far more elaborate than that which is now absolutely necessary. Nevertheless, many manufacturers do maintain a selling agency which eliminates the middleman. Boot manufacturers act as their own wholesale dealers, and even, in some cases, set up their own retail stores. But the functions of marketing and distribution remain. And these functions are briefly to forecast the future demands of society, to collect and concentrate supplies from many sources, and to carry stocks. The specialist merchant forecasts through knowledge gathered from wholesale and retail dealers and places orders in accordance with this forecast.

It will be evident that the manufacture and the marketing of a commodity do not form two absolute and mutually exclusive categories of economic activity. No manufacturer can altogether escape from the problem of marketing, nor can the merchant completely avoid the problems connected with organizing an establishment. Moreover, in some industries the manufacturer can only hope to succeed by also acting as merchant. This statement is true of engineering. In the woollen industry success depends to a large extent upon buying the right kind of wool. Being an animal product, raw wool varies in quality and calls for inspection; the top-maker or his representative examines the wool at the London sales before making a purchase. Nevertheless the distinction which has been drawn between the functions of production, in

the narrow sense, and marketing is always useful, and in many industries corresponds to the facts of organization.

Both manufacturer and merchant are "venturers,"[1] that is, they accept tasks involving risks. But the risks connected with the two functions are not the same, nor are the qualities required in the two callings identical. We shall find, in the next book, that the manufacturer undertakes the major risk of enterprise when he embarks upon his venture and erects a factory, opens a mine, or sets up a farm. Having done so, his chief task, *qua* manufacturer, is technical. He becomes the organizer of an establishment, and is mainly interested in the efficiency of that establishment. He endeavours to reduce to the lowest possible level the human costs of making the article. Wherever possible, he tries to eliminate those risks which are extraneous to the main task of organization. He insures against the risk of fire, accident, bad debts and other insurable risks. When he receives a contract for a supply of the product he may make a covering contract for the supply of raw material, and may even himself undertake the earlier stages of production, if by so doing he escapes market risks on that side. He may go still farther, and eliminate "Futures" or reduce the speculative element in his work by buying "futures." Suppose, for example, a miller expects to sell flour three months hence. He first purchases a supply of wheat, sufficient for his purpose, for delivery two months hence, at a price fixed now on the basis of current market prices for wheat. By so doing he has eliminated one risk, that of not having on hand a supply of raw material. But he has incurred another risk, for the price of wheat two months hence may be considerably lower than the present price, and those of his competitors who buy at that

[1] J. B. Say, himself a Frenchman, used the word *entrepreneur*, and it has since been widely employed by English economists. Some of the latter have also attempted to introduce an English equivalent, "undertaker" or "enterpriser." Why they should have abandoned the old English word "venturer," which carries its meaning on its face, has not been explained.

time for immediate delivery (that is, buy " spot " on the market) will, in that case, be more favourably placed than himself and able to undersell him when he places his flour on the market. He secures himself against this risk by " hedging " his purchase or " selling forward," that is, by selling now, for delivery two months hence, wheat which he does not possess. When the time for delivery arrives he will buy " spot " at the lower price then ruling and fulfil his contract. Thus he will gain on this transaction what he loses through buying for his mill now sufficient wheat for conversion into flour. If, two months hence, the price of wheat is higher than it is to-day he loses on his " futures," but, having bought his wheat for conversion at the lower price, he gains as miller what he loses as a dealer in " futures," for it is clear that those of his competitors who rely on " spot " dealings (at the higher price) for their wheat will be at a disadvantage. Thus the miller in question not only guarantees a supply of wheat for himself by contracting for it now (that is, buying forward), but also, by selling forward, he secures himself against loss that might otherwise be suffered through changes in the selling prices of wheat. The miller aims at market security in respect of his raw material and endeavours to make his gain by efficiency as a miller. He is not a market specialist, but he employs the market operations that have been described as a means of defence against market risks. They represent a form of insurance.

The manufacturer does not usually regard it as his business to keep in closest touch with the ultimate sources of raw material, which may be distributed over all the continents, or with the final consumers of the product, who may be spread over many countries. He needs, and is prepared to pay for, a convenient market from which he knows that he can obtain materials according to need without having to pay more than market conditions determine, and another convenient market upon which he can rely for the sale of his goods without having to accept in

payment less than market conditions require. He unloads the functions of providing these markets upon merchants who are specially trained for the purpose.

The merchant is a market specialist. His function, we have seen, is twofold. Along with his competitors he provides the needed market for the manufacturer or wholesale dealer, and takes the risk of changes in prices. It is his business to focus the widely-distributed demand—or estimated demand—of the community and to redistribute it over the producing group. He collects and concentrates the supplies of the latter and redistributes them, often through wholesale and retail dealers, to the people who want them. The performance of his function necessitates, on the one hand, either the carrying of considerable stocks or the ability to secure supplies as they are required, and, on the other hand, finding a market for the supplies that are forthcoming. In short, the merchanting function is that of determining the direction of other forms of economic effort.

The Price Index

Speculation and gambling

It has been stated that both manufacturers and middlemen are venturers. The term venturer may indeed be extended to cover all who take the risk of the market, and there is hardly a worker in the community who does not, at some stage in his life, take that risk. The lawyer, the accountant, and even the physician, may have a larger or smaller clientele. The engineer-apprentice and the railway apprentice are venturers. Even the student preparing for the Church or the teaching profession takes the risk that his services may not be required. But the term venturer, or enterpriser, is usually restricted to denote the "business man," that is, the man whose occupation is a daily or perpetual financial venture. He is essentially a risk-taker, though the nature of the risk varies from one industry to another, and differs materially between manufacture and merchanting, that is, between making and

selling. The venturer seeks to make a gain for himself by creating a difference in his favour between cost and price. There is a speculative element in every transaction, and also in the process of searching for a transaction or market. Risks are involved in buying, in making and in selling.

Nevertheless, venturing is not gambling. The order that exists in the economic world would be absent from a condition of things that was nothing but a huge gamble. We know from long experience that the baker will deliver the bread that we ordered, and that the butcher is likely to offer the usual choice of joints. When, for some reason, our expectations are not realized, we say that conditions are "abnormal," thus implying that our expectations are usually realized. The present housing shortage is the creation of war conditions, not those of peace. A family returned from a week-end journey, during which the house was closed, and when they returned an essential food was absent which the tradesman's messenger had promised to deliver before their return. Either he had forgotten his promise or he had gambled upon the fact that their return would be delayed. Gambling results in disorder

Adjustments attained by movement of prices

The order (not the perfection) which is so evident in the economic life of the community is due to some operating cause. There must be, in the economic system, something which makes it a system. The unifying force is found in the action taken by the venturer when acting in obedience to the motive of gain, the gain itself being promised by the venture.

Other things being equal, the gain is determined by prices; the prospect of gain is strengthened when the selling price is raised or the prices of materials and labour fall. We shall find that selling price rises when either supplies fall off or the demand of the community for the commodity is increased. When, therefore, the seller (whether he be manufacturer or merchant) forecasts a rise in price and prepares for it by increasing the supply which

he is able to offer for sale, it follows, upon the assumption that his forecast is correct, that in making such preparation he is serving the community by supplying its most urgent requirements. A shortage of coal sends up the price of coal, and the rise in price, by offering a prospect of greater gain, induces the merchant to increase his stocks for sale, and his additional demands cause the output of the mines to increase. Thus in time the shortage is removed. A fall in the prices of materials shows that they exist in plenty and may be used to meet less urgent demands from the community. The fall in price opens up a prospect of greater gain to the venturer, who thereupon buys on a larger scale and sells the product to a wider community by offering it at a lower price.

The reverse side of the picture is also true. When the community is almost satisfied it offers less and less money in return for a given supply; the fall in price lessens the probable margin of gain to the venturer, who consequently reduces his supply. Again, a rise in the price of raw materials reveals a shortage, and, by reducing the margin of gain, induces the venturer to use less and therefore to offer less of the product to the community. The community is thus compelled to economize, the economy being enforced through a rise in prices. Price acts as a centripetal force, tending to keep everybody working within the circle of demand.

Imperfect operation

It must not be assumed, however, that because the system works, it is a perfect system. It is, indeed, imperfect in the following fundamental respects. First, the forecast of future demands may be erroneous. Correct forecasts are in practice rare, and it will be shown[1] that even slight errors may bring serious consequences in their train. Secondly, the assumption of competition which is implied in the previous paragraphs is not always justified by events. Competition may have been supplanted by monopoly, and it will be shown[2] that under monopolistic

[1] Book III—Section I, Ch. III. [2] Book III—Section I, Ch. V.

control a smaller output may be more advantageous to the producer than a larger output. Further, even when there is no monopoly, either artificially created or natural, the essential conditions of effective competition—knowledge of the market, mobility, and the desire to make fullest use of a competitive advantage—may be lacking. In such cases price variations fail to act as an automatic corrective to supply. Thirdly, under the system that we have examined above, production follows those needs which are made articulate on the market. There are urgent needs which, owing to the poverty of the individual, are never converted into effective demand. These three features of the system will call for separate attention and appropriate emphasis as we proceed.

CHAPTER II

LOCALIZATION OF INDUSTRY

REGIONAL CONCENTRATION

Territorial division of labour

DURING the last century the world has become, as we have seen, practically one economic unit. Communities no longer live and work in isolation ; to a great and growing extent they are interdependent—members one of another. A world war compels fundamental adjustments, and these take time—meanwhile large communities are threatened with starvation. In other words, modern economic development has been accompanied—even made possible —by territorial division of labour. Many vital industries are carried on in clearly defined regions. Some of them draw their materials from the ends of the earth ; most of them send their products to all the continents and to most of the countries of the world. It is, therefore, important to examine the forces that determine their geographic distribution.

Personal services

When we do so, the first point we note is the restriction which is imposed upon the tendency towards the concentration of industries in selected regions. Concentration of this character is obviously conditioned by the existence of transport facilities ; until the latter appeared, every industry was necessarily carried on within easy reach—almost within sight—of the consumer. Personal services directly rendered to human beings are still, in the main, of such a kind that they must be provided on the spot. We cannot, for example, travel a hundred miles for a hair-cut. Those who dwell in the " provinces " do not habitually travel from their homes to London to witness a play at a theatre, though some people may do so for a special performance. Hence we find that a large proportion of the workers in a community—lawyers, accountants,

hotel-keepers and others—are engaged in providing services which are essentially local in character. The motor car has enabled a general practitioner to serve a wider area, but the need for doctors is not thereby diminished. Specialists tend to congregate in populous districts, but the medical service is distributed more widely over the world than ever before. Theatres are found in practically all towns, and cinemas in most large villages—but broadcasting is, or starts by being, strongly localized, for the human voice can be transported more easily and cheaply than the owner. The many services usually supplied by public authorities—water, gas, electricity, highways and byways, light transport, education, public health services and those of social insurance, employment exchanges, etc.—are also "tied" to the locality. A considerable proportion of the workers of every district is employed on repair work and in the distributive trades connected with food, drink, tobacco and clothing.

Bulky and perishable goods

Again, many industries are widely distributed because their products will not bear the cost of transport, or perish too quickly. Transport resolves itself into a question of time and cost. Bulky articles which cost but little to produce—such as building bricks—are made near the place of utilization or consumption; they cannot bear heavy transport charges. Australian mutton, because it perished quickly, was once a drug on the local market. But the discovery of methods of preserving perishable foodstuffs transformed this and similar industries by making the products capable of transportation to distant markets. Thus fish is brought by trawlers from our northern seas, and after having lain a month on ice is sold "fresh" in English markets.

Extractive industries

The second point we note is that, even in the case of some localized industries serving world-wide markets, the choice of region is restricted by natural conditions. The restriction is evident, for example, in the case of coal-mining, where the choice obviously lies between different

coal-bearing regions. In all agricultural and extractive industries nature imposes definite limitations upon the range of choice. Manufacturing industry offers greater freedom, and the problem of localization becomes important in respect of those industries engaged in the production of commodities which can be carried a considerable distance. Even here, however (witness the case of brick manufacture), we shall see that the ultimate determining factor is the cost of transport.

Manufacturing industry

In dealing with the problem of territorial division of labour it is important to distinguish between the two kinds of competition which are always present. Region struggles against region for the industry as a whole or a large part of it; within the successful region there is often keen competition between small districts for the establishments which comprise the industry. The West Riding of Yorkshire is the chief area for the manufacture of woollen and worsted fabrics; within the West Riding there are valleys which have become important centres of special branches of the trade and others which have not yet been industrialized. For the present we shall be concerned wholly with competition between large regions. Again, it is necessary to distinguish between those forces or expected advantages which originally attracted an industry to a particular region and the advantages which result from concentration. The latter advantages, though created by man, often achieve considerable importance, and give the industry a momentum which carries it forward long after the original causes of attraction have ceased to operate.

Natural Advantages

Initial influence

In some cases the establishment of an industry in a particular region was due to causes which must be sought in the remote past. But the industry could not have survived the industrial revolution of the eighteenth and early nineteenth centuries if natural conditions had been unfavourable. Many places in this country are strewn

with the wrecks of industries to which they were at one time suited, but which, through changes in the methods of production and conditions of marketing, have gravitated elsewhere. Flour-milling and iron production may be quoted as illustrations of this movement. It is, therefore, sufficient for our purpose if we consider the natural forces which influence the competition of regions for a new or rapidly-growing industry.

Costs of production

The costs of production fall into three classes, namely, the cost of assembling the materials, the cost of manufacture, and the cost of distributing the product to the various markets. If a considerable part of the material is wasted in the process of transforming it into the finished product, a considerable economy in transport is secured when the manufacturing industry is situated near the source of the raw material. Again, an important element in the cost of manufacture is the cost of providing power. Before the nineteenth century, when power was provided by wind and water—mainly the latter—factories employing machinery were necessarily built upon the banks of rivers with a good natural fall. In modern times steam boilers have done the work, and they are heated by means of coal. Since the coal is destroyed in the process, the cost of providing power increases with the distance which the coal is carried. Finally, the portability of the product varies with the relation of its value to its shape, bulk and weight. The tinplate industry serves as an excellent illustration of the importance of this consideration. A tinplate is a plate of steel coated with tin. A box of plates not much larger than some ledger books weighs approximately a hundredweight, and costs more than twice as much as the same weight of steel. It is therefore easily packed and contains considerable value in small bulk; it is also, for practical purposes, imperishable while the box remains watertight. The consequence is that the tinplate manufacturing industry is more highly concentrated, geographically, than almost any industry in this country. Tinplate

is needed for many purposes, mainly for making articles such as tobacco tins, oil cans, household utensils, fruit and meat cans, etc. These are all bulky and of awkward shape. The consequence is that the industry engaged in working up the plate into the final article is distributed throughout the world. Cocoa and tobacco firms in this country make their own tins for packing purposes; oil cans are made near the oil mines in Romania and elsewhere; every considerable village in the country had its tinsmith until recent years. The "pull" of the market in this case is irresistible, due to the magnitude of transport charges. Flour-milling and the baking of bread are two related industries which, for slightly different reasons, provide a contrast similar to that provided by the manufacture and manipulation of tinplate.

Raw material, power, and market

All industries are subjected to these three forces—power, raw material, market. The region which is naturally best suited to an industry is that in which they are in equilibrium. The more widely distributed the market, the weaker is the influence which it exercises. The greater the waste of material in the process of production, the stronger is the tug of the district from which the material is obtained. The more mobile the source of power, the weaker the force which it exercises. The substitution of electricity for coal as the source of power is said to reduce the handicap of regions remote from the coalfields. In so far as this is true such substitution should prove to be a great decentralizing force. It is further held that electricity itself is capable of being conveyed, at low cost, a great distance from the generating station. For this reason the electrical-supply industry will itself tend to become highly centralized and will facilitate the diffusion of other industries over wider areas.

Acquired Advantages

Subsequent influence

We have already observed that when an industry has been established in any region it tends to gather momentum.

It gradually accumulates advantages for itself which enhance the superiority of the district over its potential rivals. These advantages are partly general and partly technical or internal to the industry. The former are to be found wherever there is a large population. They include such things as transport facilities, both light and heavy, and, in coastal regions, docks and shipping facilities; warehouse and general storage facilities; distributive agencies, both wholesale and retail, which keep in stock the small accessories usually required in industry, and those banking, commercial, and professional services which are required in all kinds of business.

1. Training of expert labour

The more specialized or technical advantages resulting from geographic concentration may be grouped under five heads. In the first place, an adequate supply of expert labour is trained; losses are easily replaced and development is facilitated. The importance of this factor depends largely upon the character of the industry. If the work is highly skilled or intensely specialized, as in shipbuilding and the manufacture of heavy chains, it may outweigh all other factors and lead to a territorial monopoly. When fabricated ships were made in the United States of America during the Great War, the cables were imported from the Cradley Heath district in this country. When, under the shelter of the McKinley tariff, American manufacturers commenced to manufacture tinplate, they found it necessary to import skilled workers from South Wales. There seems to be little doubt that the prestige of the Clyde area as a shipbuilding centre is largely due to the quality of the workmanship. But the "heavy" engineers of that district cannot easily adapt themselves to "light" engineering, such as is carried on in the Wolverhampton, Birmingham, and Coventry districts, where the skilled craftsmen work to much finer limits.

2. Rise of subsidiary industries

In the second place, when an industry has been firmly established, subsidiary industries spring up in the neighbourhood. Engineering attracts foundries in which the

castings are made ; wagon and locomotive building attracts drop-forging establishments, in which couplings and other accessories are produced ; motor-car building attracts shops in which motor-radiators, bonnets, petrol tanks, and other sheet-metal products are manufactured. There is no need to multiply illustrations. Thus the basis of industry in the district is expanded, and a greater diversity of occupation made available to the people. At the same time, since they are all helping to shape a single final product, they are similarly affected by the vicissitudes of trade.

Not only do subsidiary trades settle in the neighbourhood of the main industry, but the former are highly specialized, being adapted to meet the particular requirements of the latter. They are therefore able to avail themselves of the economies connected with extreme specialism. Thus, the marine-engine shops of the shipbuilding districts specialize upon particular types of engines and machinery ; the Keighley and Halifax engineering industries specialize upon machinery required in the woollen and worsted industries ; in Leicester hosiery machinery, and in Grantham agricultural machinery, finds a home, while Manchester, Bolton and Oldham specialize in cotton machinery. This form of specialism may be of extreme importance. The two industries are so closely interwoven that the engineer is fully aware of the peculiar needs of the special market of the main industry. Co-operation between the two branches facilitates invention and accelerates improvement in organization. An excellent illustration of the possibilities of advance in this direction is provided by the co-operation which has recently been established between the coal-mining industry and that department of engineering concerned with the building of coal-cutting machinery and mechanical conveyors. The pioneer work now being performed by the engineers is rapidly revolutionizing the methods of coal-mining in this country.

3. Specialization within main industry

In the third place, we may note a tendency towards specialization within the main industry in the region.

Thus, for example, the wool textile industry of the West Riding shows marked evidence of specialization of this character. Bradford is essentially the centre of the worsted trade. Huddersfield produces worsteds and fine woollen cloths, but the tweed trade is centred upon the Colne valley. In the area comprising Dewsbury, Batley, and Morley, low woollen (or " heavy " woollen) cloths are produced. Each of these areas is dependent, in the main, upon a given class of raw material. Thus, merino wools and the finer cross-bred wools are essential to the production of the high-grade fabrics of the worsted area. In the tweed-making and woollen area the firms are able to work on coarser, shorter-fibred wools. In the heavy-woollen centres rags are the vital form of raw material, and cloths may be made into which little or no new wool enters. The " soft " rags are ground up to make the " shoddy " from which the yarns are spun. The " hard " or shorter-fibred rags are ground into " mungo," which is a valuable collateral supply of raw material to the low woollen manufacturer.

4 Organized markets

In the fourth place, a firmly established industry acquires commercial economies due to the establishment of an organized market for materials or product, or both, and the firms enjoy advantages which are beyond the reach of isolated competitors or, for a time, of new competing regions. The Birmingham Metal Exchange, the Manchester Cotton Exchange, and the London Wool Exchange may be cited as examples of such markets. Trade journals may be published, collective experiment and research may be organized. In the West Riding, the woollen and dyeing industries benefit by the existence of three institutions for higher education, in all of which scientific research bearing upon the local industries is pursued.

5. Cognate industries attracted

The economies resulting from localization increase the attracting power of the region not only for the industry itself, but also for other industries of a similar or complementary nature. The extension from marine engines to stationary engines is relatively easy for a large shipbuilding

area like the Clyde or the North East coast. The manufacture of galvanized sheets was a natural development in South Wales, which was already the centre of tinplate manufacture. The growth of industries (such as cold stamping and pressing) which employ female labour was much easier in the Midlands, where the remaining industries (such as wagon-building and steel manufacture) employed male labour, than in Lancashire, where the main industry (cotton manufacture) utilized both male and (to a greater extent) female labour.

Changes in location

The relative influences of the natural and acquired advantages which have been indicated gradually change. Industries tend to persist where they were first established on a large scale ; as already stated, they gather momentum, which carries them forward long after the original causes have ceased to operate, and when the momentum has been lost they possess sufficient inertia to prevent them being pushed aside entirely. But if we examine their history over a generation or more we find that their circumstances undergo gradual change. The centre of gravity of the industry may move from one region to another. Both East Lancashire and the West Riding have retained their pre-eminence in textile manufacture in this country ; the advantages which they offer, compared with those offered by other districts, seem to be at least as pronounced as ever. But the Indian cotton industry and the woollen industries of Italy and Japan have changed in relative importance for the international market. In iron and steel manufacture the Birmingham district at one time stood first ; but as the need to import iron ore became more pronounced and the shipbuilding and foreign markets for steel became more important, a steady movement began towards coastal regions—South Wales, the Clyde Valley, the North East Coast, and more recently, Lincolnshire, Cumberland, and North Wales. Nor is that all. New countries, in particular the United States, Germany, and Belgium, fostered the growth of competing industries

within their own borders, and compelled us to adapt our own industry to new requirements. Hence we find, again and again, a new orientation of industrial regions and of industry.

The post-war southward trend

One of the most important changes in industrial structure in the modern history of Great Britain is that shown by the post-war growth of industry in the south of England, particularly in that part which is within easy reach of London. This growth has coincided with a marked increase of unemployment in the industries of the north of England, of the west of Scotland, and of South Wales. Since the War Great Britain seems to have been divided into two parts. If a line be drawn from the Wash to Bristol it is broadly true to say that the area lying south and east of that line has made rapid industrial progress, and in a normal year (that is to say, excluding a period of cyclical depression) has not suffered from greater unemployment than was characteristic of the pre-War period. The area west and north of that line has suffered from persistent depression since the collapse of the post-War boom. For this reason it is frequently assumed that there has been a real southward trend in industry; in other words, that industries tend to leave the north for the south. This general assumption is erroneous.

The chief exporting industries of Great Britain are situated in the depressed area, and the persistent depression in that area has been due to a permanent fall in the export trade, and this, in turn, to the growth of competing industries in other parts of the world. The cotton industry of Lancashire, for example, has suffered from a persistent depression, not on account of the development of cotton manufacture in the south, but on account of the growth of rival industries in Japan, India, and other countries. The development of industry in the south has been due mainly to the growth of new industries. The explanation of the preference for the south shown by such industries may be summed up in a few sentences. In the first place, electricity,

which can be supplied at any point at a price differing but little from that charged elsewhere, is the chief source of power. So long as coal was the chief source of power, industries were more or less tied to the coalfields by the heavy cost of transport; but the change to electricity reduced the attracting power of the coalfields. For it should not be forgotten that the new industries are light industries in which the cost of power forms a smaller proportion of the total cost of production than in the heavier industries of the nineteenth century. These considerations, however, do not afford a complete explanation of the attraction of the south; the changes merely enlarged the area of competition for such industries without necessarily implying that coal-producing areas lacked other and sufficient attractions. The changes already indicated merely created new possibilities. The south has been preferred to the north for several reasons. Wages rates were lower and working conditions freer and more adaptable. In the early stages of the movement the rent of land was lower The so-called southward trend of industry has been associated with a process of decentralization; the new industries were usually established in rural or semi-rural areas. Further, the new industries, in many cases, were attracted to the south-east on account of the fact that London provided the largest part of the domestic market. Such industries have not been, as a rule, dependent to any great extent upon foreign markets, with the result that proximity to London in their case has been as important as proximity to shipping ports in the case of industries that are largely engaged in supplying products for export. For these reasons the south has acquired an industrial momentum that has carried it farther, relatively to the north, than might have been expected from a strict comparison based upon purely financial considerations. Although the extent of the movement has frequently been exaggerated, the exaggeration being due to the obvious and necessary growth of subordinate industries and local services depending upon the

new industries, the movement undoubtedly represents a change of the first importance in the economic structure of the country.

Factory sites

Before we give further consideration to the competition of large regions, it is necessary to refer briefly to the factors determining the exact places, within the region, at which the establishments are erected. Some of these factors are closely related to the specified advantages acquired by the regions. During the nineteenth century factories of similar character, like birds of a feather, flocked together, for, in close proximity, they enjoyed economies which would not have been available if they had been widely separated. The location of factories is also largely determined by the lie of the land, the availability of adequate supplies of clean water, proximity to railways and similar technical considerations. These form the economic basis of an urban district which ultimately develops into a town or group of towns. In some of the older industrial districts of this country, such as those around Leeds, Manchester, and Birmingham, the older factories may be found within the inner parts of the town; but there is a marked tendency for modern establishments, particularly those which cover a large area, to be erected on the outskirts and even beyond the administrative boundaries. In this way far greater space can be secured at lower ground rents, while, if they are beyond the boundary, the local rates may be much lower. In the town itself the valuable space is taken up by establishments which can afford higher ground rents—warehouses, which may be extended upwards, hotels, offices and shops. Near the centre of the towns, moreover, may be found factories approximating to the warehouse type, that is, factories which may be arranged in floors and in which ground space can be economized. Usually they make light articles, such as clothing and stamped ware; often they make valuable products such as silver ware. There are also to be found factories for which, in the technical sense, the

outskirts may appear to offer greater advantages but which must be within reach of railway stations for the important reason that they also serve as the " showroom " for customers. Thus, for example, certain types even of heavy engineering may be carried on in places where the ground rent is heavy and the site appears better adapted for other purposes. Finally, it is advantageous to establish a factory within easy reach of the town centre if the work requires a highly expert class of labour, which is only to be found in a large centre of population, or if the work is done by women and thus offers opportunities to the families of warehousemen, transport workers, clerks, and numerous other classes of male workers found in the towns.

Comparative Advantages

The cotton industry

We have left until last the most important single factor in the localization of industry, namely, the relative, as distinguished from the absolute, advantage which one region may enjoy over others. We shall meet it again later, in the discussion of international trade, under the theory of comparative costs. It may be advantageously approached by considering the circumstances of one industry—say cotton manufacture. Various authorities have informed us that Lancashire (including neighbouring parts of Cheshire, Derbyshire and Yorkshire) offers unrivalled advantages in respect of cotton spinning, weaving and finishing. The natural advantages include a convenient supply of coal from the Wigan coal-field ; a damp climate suitable for spinning ; an ample supply of water peculiarly suitable for bleaching and calico-printing, and accessibility (*via* the port of Liverpool, close at hand) to raw material and to foreign markets for piece goods. The development of the industry in the county, due to these natural advantages, led to the growth of other advantages. The construction of the Manchester Ship Canal intensified the advantage previously afforded to Lancashire by the importance of Liverpool as a collecting and distributing centre.

Subsidiary industries were created to minister to the requirements of cotton manufacture; in particular there arose in and around Manchester a large engineering industry which specialized in the building of cotton machinery. Being near the main industry, it was able to co-operate effectively with the latter, and the resulting dovetailing and specialization were of mutual advantage and their effects cumulative. Further, since cotton manufacture depended mainly upon female labour, the complementary engineering industry was able to draw upon an ample supply of male workers and to drain away the male labour not required in cotton production. The establishment of market facilities at Liverpool and Manchester strengthened the relative position of Lancashire.[1]

[1] Cotton is even more completely standardized than wheat. It is easily graded, and therefore bought and sold by sample, or even by label or number, without being examined. Both wheat and cotton are agricultural products. Wool is an animal product; its quantity is variable, depending partly upon climate, but largely upon the care of the sheep. It cannot therefore be sold by sample. The wool has to be examined on the spot and in bulk by experts London is therefore the obvious market. It collects the wool from different parts of the world more easily than any other port, and is more conveniently situated for Continental buyers If wool had been like cotton, Hull or Liverpool would have been the obvious importing centre for the West Riding, but, in view of its natural characteristics, it continues to be transported *via* London, the position of which, as the central wool market, is growing stronger rather than weaker. Success in woollen and worsted manufacture is based more largely upon ability in buying than upon technical efficiency at the factory. In the cotton industry the purchasing of the raw material has been reduced to routine. This initial difference explains other differences in the organization of the two most important sections of the textile trades.

One further point calls for comment as illustrating the above general considerations. Specialization within the cotton industry has been carried almost to the utmost stage. South Lancashire confines itself almost entirely to spinning, and North and East Lancashire to weaving. The finishing branch (i.e. bleaching, dyeing and printing) seems to be more widely spread; it is carried on by firms which specialize in such work, and in places where ample supplies of pure water are obtainable. Returning to spinning, we find that Bolton and Manchester concentrate upon fine spinning (that is, counts of 60's to 300's), coarse spinning (that is, counts of 1's to 60's) being carried on in the Oldham, Rochdale, and Stockport districts. Individual firms specialize within still narrower limits. In weaving we find similar specialization by districts. Blackburn and East Lancashire concentrate on fabrics for the Indian market:

Lancashire and the Cly

All these advantages may be admitted. The combination of the original and the acquired advantages is now so formidable that no other region in this country can hope to compete with Lancashire in this industry. But if we go back to the days when the latter was in its infancy we find that Lancashire had to struggle for the supremacy, and that one of the most potent factors in its success was its obvious unsuitability for agriculture and other important industries. Thus, for example, the Clyde Valley was as plentifully supplied with coal as Lancashire; the humidity of the atmosphere was sufficient to satisfy the most exacting requirements; there was no lack of pure water for bleaching; the potentiality of Glasgow as a cotton port was second only to that of Liverpool. Cotton manufacture did, in fact, make headway in that district. Why, then, did Lancashire forge ahead? The answer is to be found in the available alternatives. The industry of a region is limited by population. The word specialization itself implies a choice. No region can expect or is able to make everything for itself. In making its choice it selects the line of least resistance or greatest advantage. The Clyde region might have made a strong fight for the cotton industry, but it could make an easy conquest of the steel and shipbuilding industries. It became a question of relative rather than absolute advantage. The advantage which it enjoyed over other districts in respect of shipbuilding was more pronounced than the advantage, if any, which it might have enjoyed over Lancashire in respect of cotton manufacture. Relative, not absolute, advantage is the governing factor which determines the lines of economic specialization, be it personal or territorial,

Preston on shirtings, sheetings and fancy cloths; Burnley on printing cloths; Nelson and Colne on sateens and brocades; Radcliffe on weaving from dyed yarns, and Oldham on fustians. Similar specialization is also found in marketing. Some merchants concentrate on the domestic market, others on shipping orders; of the latter some concentrate on one overseas market, others on another (such as China), the reason being that the demand is more or less standardized.—*Report on the Textile Industries after the War.*

industrial or professional. And the silent and subtle changes in the organization of regions over long periods are due to changes in the relative advantages, be they natural or acquired. Thus, for example, the sterility of the steel industry in the Clyde region during the decade ending with the World War was due to the importance of the relative advantage of shipbuilding, which thus continued to absorb relatively more of the energies of the inhabitants. If, as some believe, the shipbuilding industry has reached the limit of growth (due to foreign competition), the relative advantage of the steel industry may become more pronounced and lead to a revival and development in that direction which, directly and indirectly, will absorb more and more of the growing population. In the cotton districts of Lancashire there was no other industry, with the possible exception of woollen manufacture, which was obviously competing with cotton manufacture. Yorkshire was a competitor for the former. Consequently, Lancashire gladly accepted what the Clyde district surrendered, and in turn surrendered the woollen industry to the West Riding.

This is not a fancy picture but a true, though very general, statement of the results of the operation of those silent, persistent forces which have been specified in this chapter. Illustrations of the same tendency might be drawn from other industries and other regions in this country; and it will be shown that the same tendencies are observable in the sphere of international economic organization. Once we grasp the fact that a community, like an individual, must make a choice of occupation, and that its choice, like that of the individual, is decided by the relative advantages offered by different occupations, we shall easily surmount an obstacle which might otherwise prove troublesome when we approach the problem of trade between nations.

'Key" and lependent ndustries

We have referred to the fact that the great majority of the people are employed in providing goods and services

for the local market. Even in those regions which appear to specialize in industries providing goods for sale in distant markets such industries directly employ a comparatively small proportion of the working population. Nevertheless, they are the " key " industries of their respective places. Their products are sent elsewhere in payment for the things that are brought into the districts from outside. Thus, for example, the food, clothing, etc., which are sent into Manchester are ultimately paid for by means of the machinery and cotton, etc., sent away from that city, in exactly the same way as the necessaries and luxuries of a barrister or the necessaries and elementary comforts of a teacher are paid for by means of the services which he renders. It follows that while the majority are providing " local services," their work, and the sustenance of the people as a whole, can only be continued so long as the localized industries hold their own. If such industries are defeated in the competitive struggle, the district must either find other industries serving external needs or disintegrate. The people of the region cannot live by taking in each other's washing.

Transport Facilities

Transport improvemen

We started by saying that industrial concentration was conditioned by the existence of adequate transport facilities. The word " adequate " must clearly be used in a relative sense. There is no absolute standard of adequacy. An improvement of transport facilities may express itself in the form of a more frequent service or a more rapid service or a cheaper service. A more frequent and rapid service enlarges the market for perishable goods. Strawberries are now sent from the Channel Islands *via* Southampton to Newcastle. London draws large supplies of milk and vegetables from distant counties. A cheaper service means that durable goods are also sent farther afield.[1]

[1] Building bricks were recently imported into Hull from the Continent.

Moreover, the economy to be achieved by eliminating the cost of transport of waste is reduced. Thus the pull of the sources of raw material and power and that of the market are weakened.

It is frequently stated that an improvement in transport facilities strengthens the tendency towards geographic concentration, but this generalization is far too sweeping. Without transport facilities concentration would, of course, be impossible, but it does not follow that every improvement must be accompanied by still greater concentration. All that can safely be said is that inventiveness, organizing and executive skill and enterprise, would become more important factors and that natural obstacles to concentration would diminish. If human ability to organize and operate a given industry were widely diffused it is likely that, other things being equal, the industry itself would be widely spread. On the other hand, if the advantage resulting from localization and large-scale manufacture were very pronounced, the tendency to further concentration would be strengthened.

Tariffs

While it may be, and is, unsafe to generalize regarding the ultimate effects of improvements in transport, it is safe to say that the improvements which have hitherto been effected have resulted in greater concentration. This result has been so marked that most industrial nations have become alarmed, and have endeavoured to neutralize it by reintroducing a barrier of a kind similar to transport costs. A customs duty upon imports increases the cost of transport towards the country which imposes it, and its effect is essentially the same as that which would be produced if the ships conveying the goods were regularly delayed by storms and their owners compelled to impose higher freight charges to meet the increased costs of fuel and wages and the increased overhead charges. The tendency would be for the industry concerned to be more widely distributed, which is the desired result. To make such an obvious statement is not to state that the tariff

is necessarily harmful. Such a conclusion implies that territorial division of labour, carried to its logical end, is beneficial to the community. That implication has not yet been examined. It is important, nevertheless, that we should realize the similarity, within limits, of an obstacle to transport, or greater inefficiency in transport, to a customs duty. It is further obvious that, if each of two countries imposed duties upon *all* the goods coming from the other, the similarity between such a case and diminished efficiency of transport would be still greater; but it will later become evident that even these are not strictly analogous.

CHAPTER III

THE COMPETITIVE BUSINESS UNIT

Establishment, business unit, and controlling entity

IT is necessary at the outset to draw a clear distinction between a factory or other industrial or commercial establishment, a business unit, and the entity which owns and controls that unit. The controlling entity may be a single individual, a private partnership, a joint-stock company (or other form of association, such as a co-operative society), or a public authority. The question of business control will be considered later, and in the present chapter we shall only be concerned with the business unit (which, when convenient, we shall call a firm) and the establishment or establishments in which it carries on its work. Thus it is immaterial to our immediate purpose whether the unit is controlled by the owning individual or by a group of shareholders.

Definition of a business unit

It has already been stated that a photograph of an industry would reveal factories or establishments of different sizes. It would also reveal business units with widely different ramifications. Some would control one establishment only, others two, three, or more establishments. Some would be found restricting their activities to one process or stage of manufacture or marketing, others extending their operations to two or more stages. Again, a "moving picture" of an industry would reveal evolutionary changes in structure. In the great majority of cases it would show a gradual increase in the size of the typical establishment and in many cases a steady expansion in the typical business unit. Consequently a classification of trades which is satisfactory at one time or for one purpose may prove unsuited to another time or for another purpose. It is not difficult to define a business unit; it is the unit which is ultimately responsible for contracts of purchase,

sale and employment. If the manager of a factory receives his orders from an outside body which also controls other factories, that factory is not a business unit.

And of an industry

If all business units were homogeneous—if, that is, they bought the same material and sold similar products in the same markets—they would constitute an industry or trade. They would have many interests in common, for any event which affected the common supply of materials or labour, or affected the market for their common products, would react upon the positions of all. Community of interests, within limits, is recognized by the growth of organized markets, the creation of associations and the publication of trade journals. On the other side, the units, being mutually competitive, would have conflicting interests; they would compete for materials, and for markets. Business units are not, however, homogeneous. Some confine their attention to one link in the long chain of production, while others spread their efforts over two or more links. Thus, for example, one weldless-tube manufacturer may buy hollow bloom, another may buy the solid bloom, while a third may also produce the ingot from which the bloom is made. Some firms control all stages in steel production, from coal and ironstone mining, the production of coke and the quarrying of limestone, right through to the manufacture of steel rails, boiler plates, and even engineering castings and products; other firms control one, two or more of the many processes included in this series. Again, in textile manufacture, some firms seem to content themselves with spinning fibre, weaving cloth or finishing (calendering, bleaching, and dyeing) the fabric, while others control two or more of these processes.

The earlier differentiation of processes was accompanied by corresponding differentiation of business control, but now we are witnessing a tendency towards reintegration, mainly of business units, but also, in some cases, of the actual processes of production. Hence it is becoming

increasingly difficult to define an industry or trade. It is not sufficient to say that a trade consists of all those members who meet in a market (whether that for raw material or that for the product for sale), for there are many who control similar processes, yet, by combining them with earlier and later processes, do not appear on either of those markets. Two other factors increase the difficulty of defining a trade. Some trades are complementary, or one may be subsidiary to a second. Thus, iron ore and limestone are complementary products; so, too, are boots and bootlaces. Such trades, though they bear no technical resemblance to each other, are frequently controlled by the same business units. Secondly, products which are mutually competitive, such as wooden and metal bedsteads, or hot-drawn and cold-drawn tubes, appear to constitute the same trade, and the respective business units compete with each other as though they made precisely the same articles; yet the processes of manufacture and often the materials employed are wholly different.

In all cases the firm aims at making itself an efficient competitive unit, thereby monopolizing, as far as possible, the custom of the purchasers of the commodity or service. In order to achieve this end it endeavours to avail itself of all the economies of production. Some of those economies are of a technical character, and apply to the establishment, while others apply to the commercial functions of the firm. Where they appear they are reflected in the cost of production. It is therefore desirable, at this stage, to investigate and classify the costs which are incurred in the supply of a commodity or service, and to proceed by considering first a simple case, such as the supply of a standardized product, of which steel offers a striking example.

Cost of Production

Initial expenses of production

A firm about to enter the industry known as steel manufacture requires first to purchase or lease a site for the plant,

and in carrying out this task it seeks the advice of technical experts, who consider the requirements of the site in view of present needs and future developments. Next the firm enters into a contract for the erection of the factory, the purchase and instalment of the machinery, the construction of a railway siding and the many accessories of an establishment of this character. When the factory is almost ready for use the firm enters into contracts for the purchase of raw materials, such as pig iron, boiler fuel, etc., and, if necessary, a supply of gas for the furnaces. It also proceeds to collect a group of workpeople of all categories required in the industry, and to build up a selling organization. As soon as it is ready to start it makes provision for insurance against many of the risks of industry; it is also visited by the local rating officials and the establishment is assessed for rating purposes. Again, if the firm does not already possess sufficient capital to erect the establishment it endeavours, at the outset, to borrow the difference by mortgaging the factory, in which event it has to pay an annual sum as interest on the loan. In any case it seeks an arrangement with a bank, under which it will be able to borrow money for current purposes (such as the payment of wages and the costs of materials) pending the receipt of payment for the product which is sold, and for this temporary and repeated accommodation or credit it has to pay interest.

Average cos

At the end of each year the firm makes a survey of the year's working; it compares the total expenditure for the year with the total earnings or revenue, and estimates the actual financial position as the result of the work of the year. In other words, it prepares a profit and loss account in order to determine the profits earned during the year, and also prepares a statement of assets and liabilities at the end of the year, the net assets indicating, from one point of view, the actual position (i.e. capital) of the firm at that time. The total expenditure of the year (after allowing for necessary adjustments) represents the cost of supplying

the total quantity of steel produced during the same period, and by dividing the former by the latter the firm is able to find the average cost of steel per ton.

Specific unit-costs

The average cost, derived in this way, is not, however, of much assistance to the firm in determining its policy from day to day, or in respect of particular orders from customers. Even if it were otherwise of value, it is known too late to be of any use. The firm is therefore compelled to approach the problem of costs from another point. It deserts the time-unit in favour of another unit—the product or process. It endeavours to ascertain the cost actually incurred in making one unit of the product, or in performing each operation involved in producing that unit. But the task of ascertaining the specific cost of production is by no means simple. Some items of cost, it is found, vary directly and exactly with the output, and can therefore be assigned to particular units of product. They consist of the wages (including insurance and incidental expenses, if any) of the process (or tonnage) workers, wear and tear of machinery, and costs of raw materials. These items are reduced or increased in amount for every ton of steel less or more produced in the factory. But other items of cost, though elastic, do not vary with the same exactness. Thus, for example, the wages of the unskilled day men employed about the yard, the wages of those employed on structural repairs and in the tool room, and the wages of timekeepers, clerks and foremen, are practically constant for a week or two, though they vary with substantial changes in the output. Even less elasticity is shown by other elements in cost, such as lighting charges and the salaries of many of the higher officials. Finally, there are costs which are practically constant for a year and even longer. In this category would be included the rent of land (if held on lease), the directors' fees, and the salaries of some of the higher officials, local rates, and interest on loans.

Extent to which costs vary with the total output

Prime costs and oncosts

Those costs which vary directly with the output are

usually called prime costs or running charges ; they represent the direct costs incurred in increasing the output, or the costs which are obviated in reducing the output, and they can be allocated to specific units of output. The remaining costs are usually called supplementary costs, or standing charges, or overhead charges, or oncosts. They are " fixed " relatively to that increase or decrease in output which is the subject of consideration ; they cannot be allocated to specific units of output, for they would exist even if such units were not produced. It is clear that these two classes of costs do not fall into two absolute and mutually exclusive categories of output. It is true that such prime costs as we have specified—raw material and tonnage wages—vary exactly with the smallest variation in output. Moreover, there are certain costs, such as interest on fixed loans, which are almost completely independent of variations in output. But the bulk of oncosts do, in fact, vary with substantial variations in output, some requiring greater change than others in order to produce variation in themselves. Thus, for example, if the establishment were closed for a fortnight or a month in consequence of a coal strike, or the need for rebuilding furnaces, or on account of a trade depression, most of the day men and clerks, and possibly the foremen, would be given a holiday without pay, and the wages bill thereby reduced ; but the higher officials employed at a salary would probably suffer no loss. It is therefore desirable to distinguish between fixed oncosts and fluctuating oncosts, the latter resembling running or prime costs with reference to substantial changes in output. Thus, for a change in output of one ton per week, all oncosts would be fixed oncosts ; a change of 500 tons per week would seriously affect some of the oncosts, while others would still remain fixed, and a change of 1,000 tons per week would materially alter some of the latter. It is important to emphasize this fact, for it is frequently assumed, in economic theory, that costs are divided into

Fixed and fluctuating oncosts

prime costs and fixed costs. Such is not the case, the true distinction being that between prime costs and oncosts. Prime costs are those costs which can be assigned to specific units of output, and oncosts are those which cannot be assigned to specific units of output. The former vary directly with the output; the latter vary, but the degree of variation differs according to their character, some varying with comparatively small changes in output, others only with comparatively big changes, others, again, being practically fixed. Thus, the "additional net cost" involved in producing an additional supply of a commodity or service must include prime costs and may include some elements among the oncosts; and the greater the change in the supply the more important are those constituents of oncosts which must be included.

Allocation of oncosts in engineering

In the case we have considered (steel manufacture) the distribution of oncosts presents no serious difficulty. The product is standardized—it is always the same—and the oncosts may be spread evenly over the supply. But the problem of estimating the total cost of the product (that is, of distributing the oncosts) presents serious difficulties in more complex industries, and insuperable difficulties in a few of the most important. An engineering establishment with, say, a hundred lathes and other machine tools may be employed in making dozens of different kinds of products on those machines. Prime costs, such as those of material and direct labour, are easily ascertained. Power, lighting, the cost of superintendence, and the wages of crane men and labourers may be allocated between the different departments or "shops." But their distribution between different products is not an easy matter. There seems to be no satisfactory *principle* on which other oncosts, such as tool-room costs, the costs of works organization and the expenses of financial and sales organization, may always be allocated even to the different departments, and a rule-of-thumb method is generally adopted.

In manufacture of joint products

But the problem presented by an engineering establishment engaged in the manufacture of a group of unrelated products is less difficult than that presented by an establishment in which joint products are made. Joint products are such that if one is made the other (or others) is also inevitably produced—although it may be flung aside as waste product. Thus, the slow carbonization of coal produces coke and volatile matter from which a number of products—gas, toluol, benzol, crude tar, etc.—may be extracted. In a coke-oven and by-product plant, even the discovery of prime costs and their distribution is a matter of considerable difficulty. There are costs (such as coal and the wages of piece-workers) which vary directly with the output, but as in this case the output is a joint one, the costs cannot be allocated to specific units of the constituent parts of that output, and they should therefore strictly be regarded as fluctuating oncosts. Some of the more general oncosts (e.g. those connected with the recovery plant) are capable of classification, and, within limits, of allocation. Agriculture combines in itself the difficulties encountered in general engineering and in the making of joint products. Milk, sheep and wheat represent a group of unrelated commodities which may be produced in varying proportions. Wool and mutton, wheat and straw, represent joint products which may also, within limits, deliberately be provided in varying proportions.[1] Thus, just as in a gasworks the production of coke is partially sacrificed to that of gas, or, as in a coke-oven plant, gas is subordinated to coke, so too, in agriculture, the supply of mutton may be subordinated to that of wool. The distribution of oncosts in such a way as to provide a satisfactory measure of the total cost incurred in supplying one of the numerous products of a farm constitutes a problem which has hitherto proved insolvable.

And in transportati

As a final illustration we may investigate another type

[1] In some industries the relative amounts of the constituent products (such as oil and oil cakes) cannot be varied.

of economic activity—railway transport. Here we find that all costs are oncosts. The costs of providing transport by rail may be divided into four groups. The first includes fixed charges such as interest on debenture bonds and the rent of land; the second consists mainly of the general expenses of managing and supervising, soliciting traffic, accounting, maintenance of plant (in so far as depreciation is due to climate), insurance, etc. The third group consists of terminal charges, such as those incurred in making up trains, loading and unloading, collecting goods, making repairs necessitated by use, etc. These vary broadly with the volume of traffic, though not with the distance which it is conveyed. The final group includes all operating costs involved in the production of the actual service of transport, that is of simply conveying goods from one place to another. These costs may be illustrated by such examples as the cost of coal, the wages of the engine driver and guard, the cost of lighting, and the expenses incurred in the maintenance of the rolling stock in so far as the latter deteriorates through use. As far as the first three groups are concerned, the problem of distribution is so difficult that it is impossible even to say what share should be assigned to goods traffic as a whole and what proportion to passenger traffic as a whole. Operating costs can be defined more exactly, and they vary more closely with the volume of traffic, or, more strictly, the provision of train mileage [1] But transport service is of a peculiar character; it may vary from that of carrying an infant a distance of a mile to that of carrying a battalion of soldiers a distance of many hundreds of miles; it may consist in carrying a box of hairpins from Birmingham to London, or a heavy gun from Sheffield to Newcastle. Although the methods of organization and operation are in a sense standardized, the product is not. The direct cost actually incurred in providing

[1] By train mileage for a given period is meant the total mileage covered by all the trains run during that period. Assuming that all the trains are of "economical" length and fully loaded, it gives a rough measure of the service provided.

the service of carrying a passenger or a small parcel from one station to the next is usually so minute as to be negligible. Changes even in operating costs may only occur with substantial changes in the amount of traffic carried. Nor is it possible to assign such costs to specific items of traffic, unless the latter are so large as to be divisible into smaller units. It follows that in railway transport all costs are, in the strict sense of the term, oncosts. The term prime costs or running charges is frequently employed, but in such cases it is related to a large group of services rather than to any one small item within that group, and is therefore used in the sense of fluctuating oncosts.

The examples which have been submitted serve to show the difficulty of estimating the total cost incurred in the production of a commodity or the provision of a service. We may refer with confidence either to the average cost of supply or to the additional net cost incurred in providing a small increase in the supply, but we should beware of the danger of careless use of the words " cost of production " in the sense of the total cost of producing one unit of supply. The additional net cost of production is an important factor (sometimes the only important factor) determining the policy of a firm from day to day, that is, its tactics; but its strategy is influenced far more profoundly by the total cost.

CHAPTER IV

THE SIZE OF THE BUSINESS

General Considerations

Differences in scale of production

AN industrial survey reveals wide divergencies in the types of firms and establishments at any given time. In some industries the predominating firms are small, in others they are large. In practically all industries there are firms which deviate considerably from the predominant type, both in size and in methods of organization. In the great majority of industries, however, one can observe a tendency to grow on the part of the predominant type. Two questions naturally present themselves. First, what determines the size of the most efficient firm? Secondly, given that the most efficient firm is a large and growing one, how are we to explain the fact that large and small firms, and firms of intermediate sizes, continue to exist side by side, and apparently to compete successfully against each other? The remainder of this chapter will be devoted to an attempt to answer these questions.

Limits imposed by nature of product

It may first be observed that the minimum size of the production unit or *establishment* (and therefore one limit of possible variation) is determined by the nature of the product or service. An "establishment" for the sale of newspapers may be no more than a wheelbarrow; but a shipyard capable of building a battleship or an Atlantic liner must be of considerable size, and the berth must be enlarged as the dimensions of the ship to be constructed increase. The smallest establishment in the heavy-engineering trade is comparatively large, but a repair shop may be no larger than a dwelling-house. A railway between two widely separated towns is essentially a large-scale undertaking. From the very nature of their services banking and insurance must be conducted on a relatively large scale. But even shipyards tend to grow in size in

the sense that the number of berths increases; railways tend to grow larger in the sense that the engines increase in size and drawing power, the trains become longer, the traffic becomes heavier, the passenger and goods stations are enlarged, and more use is made of mechanical appliances, and, finally, four lines are used instead of two and the beds are strengthened Banking companies amalgamate, and the unit of organization is steadily growing.

Technical methods and scale of production

An increase in the size or scale of production reveals itself in different ways. Comparison of a large, modern iron works with those erected half a century ago shows not only a greater number of blast furnaces (say six instead of one or two), but also furnaces of an entirely different—and larger—type, each with a producing capacity at least twice as great as that of a furnace of the older type. In large steel and copper works we find not only more furnaces and heavier mills, but a technique entirely different from that employed even in modern works of smaller size. In light engineering (and other industries which exhibit certain similarities, such as the manufacture of textiles and of boots and shoes) the difference between large and small establishments is largely a difference in the number of the machines—the types and qualities of machines employed may be the same in the two cases. Not so in iron and steel manufacture. In foundry work and heavy engineering the difference between large and small scale production is to be found to a large extent in the auxiliary appliances, such as electrically driven overhead cranes. Consequently the relative importance of the considerations that follow varies according to the technical features of the industry concerned.

External and internal economies

We have to consider the factors determining the size of the most efficient establishment and business unit in those cases which offer a field of choice and thereby permit a variety of type—a tramway system serving a given area, if it is to exist at all, must be of a certain minimum size. In approaching this problem it is advisable to

distinguish between the external and internal economies that are available to the business unit. By external economies are meant those that are available to all the firms either in the district or in the industry. The former have already been discussed in the chapter on the localization of industry; the latter are those connected with the general organization of the industry where, as in the case of building and general engineering, it extends over two or more regions. Trade newspapers, institutes for research, regular meetings for discussion and other devices for diffusing knowledge and encouraging enterprise fall under this head. We should also include the advantages offered by an orderly government and all the factors making for general efficiency in the community. External economies of this character react upon internal economies, and are only important for us at this stage in so far as and in the manner that they do so.

Internal economies are those which are strictly individual in character. They may be divided into two classes, (*a*) technical, and (*b*) administrative and commercial. The former are concerned with the establishment in the narrow sense of the term; the latter influence the size of the business unit and determine whether or not the most efficient business unit will control two or even more establishments.

Internal Economies: Technical

Nature of technical economies

We shall first examine the technical economies which influence the size of the establishment. They do not differ essentially from those that are enjoyed to the full in an hotel or boarding-house, but are beyond the reach of the average household, such as that of a manual worker with a small family or a senior clerk whose wife is assisted by one maid. In the larger establishment there are several maids, and the work of each is more or less specialized. The chambermaid is not expected to cook the dinner or wash the linen, nor is the cook constantly

interrupted by calls from the sitting-rooms. Vacuum cleaners are used to do the heavy cleaning, and the cost of the cleaner (interest and depreciation charges) is considerably less than the wages of the extra maid, whose services can now be dispensed with. The cook uses modern stoves which economize fuel and space. There is said to be less waste in cooking. It is easier to estimate the requirements of a large group than those of a small family, while the less amount per head left over is not wasted, but made use of in various ways. The housekeeper of a large establishment is also able to secure favourable terms from the shopkeepers. Real economies may thus be effected in running the establishment, in consumption and in marketing.

1. Efficiency of plant

The large business unit is similarly situated. First, a large establishment enjoys economies related to fixed capital, that is, economies due to purely technological causes which cannot be examined by an economist who is not also a technical expert. A large blast furnace can produce proportionately more than a small furnace. The masses of coke, limestone and iron ore conveyed to and tipped into the furnace are so large and heavy that they are mechanically transported, and therefore moved with greater rapidity—compare the vacuum cleaner in a house. If, in a steel works, the rolling mill is able to keep six furnaces in full operation, there are obvious economies to be gained by building six (or seven, allowing for the need for repairs) rather than three or four. In general it may be stated that the correlation of the different stages in the manufacture of a product is easier in a large than in a small establishment. The cost of providing power in a factory does not increase so rapidly as the amount of power supplied —there are obvious economies in coal and wages, in space, and in the capital costs of the boiler plant.

A large establishment will boast of railway sidings, which obviate the necessity for double loading and many of the delays and irregularities experienced by the small establishment isolated from the railway. But this factor

has now lost much of its importance. Small firms realize the importance of sidings and both large and small establishments make use of motor transport, which prevents delays due to transhipment and other causes.[1] The mining of valuable ores by modern methods necessitates expensive machinery and treatment. In railway transport it is found that four lines are relatively less expensive to build than two, and can carry relatively more traffic; more powerful engines are more economical than less powerful ones; mechanical "handling" in large goods yards is relatively cheaper than handling by men. Mechanical lifters are cheaper than human carriers of corn on large farms. An examination of the mechanical or chemical causes of such economies, as already stated, would carry us into the region of natural and mechanical science. We merely note the fact that these economies exist.

Limitations of the market

It should be observed, however, that they only become fully available if and when the plant is fully operated. The market must be of sufficient extent to absorb all that is produced in the establishment. A large, expensive plant, continuously employed, probably produces more cheaply per unit than a small plant, but if it is not given full scope the cost of production per unit may be far higher than in the latter. This fact is clearly seen in the case of railway transport, if four lines do no more work than could be done by two lines; or in a lawyer's office, if the only clerk sits in a room capable of seating a dozen workers. The market may thus set a limit to the possible growth in the size of the plant. It is partly for this reason that stone quarries, brick works, and other establishments making cheap products for local markets are so small in comparison with those existing in other industries.

2 Standardization and specialization

The second group of economies available in large scale production are those connected with voluntary and deliberate specialization and standardization. They are to be

[1] But a large fleet of motor vans can be operated at lower average cost than a small fleet.

found mainly in those industries (such as engineering and boot and shoe manufacture) which employ machine tools. In a small engineering shop, in which a variety of products is made upon a limited number of machines, there is evidently a great deal of waste. The machines may not be of quite the best type for the particular processes that have to be performed at any given time, though they may be, on the average, better than any other group equally small and called upon to do the same variety of work. An odd job may be taking up the time of a highly-skilled worker and a valuable machine. Engineers tell us that there are enormous differences between the estimates submitted for different jobs by different firms. Firm A may quote a much higher price than firm B for one job, and a much lower price for another. For the manner in which the job is built up is determined by the available machines, and the latter also determine the prime cost. It is inevitable, under such conditions, that a firm should tend to concentrate upon those products to which the group of machines is best suited. This initial tendency towards specialization is strengthened by the further adaptation of the machine tools to the needs of the specialized products, and, if a large enough market can be secured, the tendency results in complete standardization and "mass production."

Standardization of product and method

There has been a great deal of misunderstanding about standardization of this kind, due mainly to the fact that it was so largely prevalent in engineering during the Great War when, as in all wars, standardized products were in great demand. In some industries, such as steel and copper ingot manufacture, the product is essentially standardized, whether the individual establishment be large or small. In others, such as transport and the manufacture of stamped and pressed ware and of solid drawn tube, the method of production is standardized, even when the product is not. But in engineering there was a large field within which neither the product nor the method of production had

been standardized; and it is there that progress has been made in recent years. Two points should be observed, however, in this connection. The first is that standardization of product (and consequently of method) does not necessarily involve production on a large scale. A machine-tool shop in which, let us suppose, one type of lathe is made may be of but moderate size compared with other engineering establishments, and yet sufficiently large to enjoy all the direct economies of specialization and standardization. The second observation follows from the first. Diversity of product is compatible with standardization if only the establishment is sufficiently large. And this is what we find to-day over a great part of the engineering industry and of those industries, such as woodworking and boot and shoe manufacture, which resemble engineering in some essential features. There is a tendency towards standardization up to the limit necessary for securing all the economies of standardization, and, beyond this, a further tendency towards the production of a group of standardized products. Thus one manufacturing department of an engineering establishment may be devoted entirely to the making of one product and another to the making of a different product. There are also cases where establishments grow in size and actually add to the variety of their products for the purpose of securing the benefits of standardization. In this case the products are closely related, and the differentiation only begins near the final stage of manufacture. Thus, in the pressed metal ware trade, hundreds of articles, from coffin furniture to door-knobs, and umbrella ferrules to cartridge cases, are made from similar half-stamped blanks, the final destination of which may be any one of half a dozen power presses employed on different work. Standardization at one stage here necessitates variation in the final stages.

Standardization and large-scale production

The actual advantages of specialization and standardization have already been foreshadowed. On the one side the machines are adapted to the special purpose for which

Resultant economies

they are used. They are no better than they need be and are always "on the stretch"—there is no waste of mechanical effort. The machines are placed in appropriate order and the task of conveying material from one to the other is reduced to a minimum: the planning and designing of the shop is an important factor. Specialization facilitates invention—when a machine is always employed on the same job it is usually much easier to design improvements than when it is employed upon a variety of jobs.[1] Again, considerable economies are effected through the standardization of patterns (which may be used again and again) and the substitution of machine moulding for hand moulding. In the works office, too, standardization economizes effort; estimating and specification, costing, and the work of the staff in supervising the progress of the constituent parts through the shops towards the assembling department—all these are simplified. On the other side, specialization intensifies those advantages of division of labour which were described in the first chapter of this section. The worker performs a narrower function and becomes a routine worker. If, therefore, an appropriate type of worker is employed, there is less waste of skill; but if a highly-skilled worker is employed to do the routine work, there is obvious waste. As the work becomes more mechanical, new possibilities for machinery are opened out, and on this side, as well as on that of machinery itself, specialization facilitates invention. The use of the band-saw and electrical knife for cutting patterns in light-clothing factories may be quoted as a simple illustration of this tendency. Further, such specialization opens out new possibilities in parallel directions. Heavy nuts and bolts, once forged by the smith, are now made by automatic

[1] In isolated cases, for other reasons, variety in the product tends to increase the size of the establishment. On account of the difficulty of packing, no big firm could specialize on one type and size of enamelled or tinned ware, but a firm producing a variety of sizes could overcome most of the difficulties of packing and so remove an obstacle to growth.

machines. Perhaps one of the most striking results of extreme specialization is to be found in the machinery into which a thin coiled rod is drawn and from which a finished nail is dropped every second or oftener. All the " process " workers seem to have been eliminated. But one machine of this type exhausts the economies of standardization and the factors that make for further growth must be sought elsewhere.

The partial confusion of large-scale production with standardization seems to be due to the fact that in some of the most frequently quoted cases of " mass production," the product (e.g. a motor-car) is so large and made up of so many parts that, provided all the component parts are made on the spot, standardization inevitably means a large establishment. It should be observed, however, that, although standardization does not necessarily mean production on a large scale, it is an essential preliminary to the latter. The standardization which is a condition of large-scale production (in the technical sense) is that of method rather than of product, and includes the latter only if it is itself a condition of standardization of method.

3. Miscellaneous economies

The third group of technical economies connected with large-scale production are of a more miscellaneous character, which can only be illustrated by means of examples.

Conservation of heat

In the " furnace " industries there is a marked tendency, for technical reasons, towards " physical integration," that is, combining the successive stages of production. A manufacturer of copper plates usually combines the three processes of smelting, refining and rolling in one establishment; in order to secure the necessary quality of ingot for his purpose he may even forgo possible economies of smelting on a much larger scale. In the blast furnaces of the nineteenth century the pig iron was allowed to run cold and was then sold to ironfounders and steel manufacturers; but in the modern establishments the blast furnaces and steel works constitute practically one establishment, and most of the pig is conveyed in liquid form

from the former and poured into the steel furnace. Conservation of heat in this manner represents an economy of the first importance, and since it entails heavy expenditure on ladles and other appliances, it is only possible in large works.

And of waste products

In a small establishment there are waste products which may be thrown aside because they cannot be utilized, but in a large establishment they are collected and all their possibilities realized. Waste steam, for example, may be used for heating, or for drying refractory materials before they are baked in the kilns. But the general importance of the economy effected through the utilization of by-products may be exaggerated. Similar economies may be enjoyed through the establishment of special recovery plants serving a group of small establishments. Thus, for example, a small corner of a large tinplate works may be devoted to " de-tinning," that is, recovering the tin from the scrap left after cutting the plate ; but the smaller firms may send the scrap to a small, independent de-tinning factory in the neighbourhood.

Research

A third illustration is found in the opportunities offered by large establishments for research and experiment, and in their ability to wait a long time for the results. In the long run the knowledge of such results will spread, and after fourteen years patent rights in new inventions expire. During the interval, however, the firm which has fostered research or conducted experiments enjoys a competitive advantage. Research departments economize effort, and their existence may therefore legitimately be regarded as one of the economies of large-scale production. The importance of systematic research is now universally admitted, and firms which are not sufficiently large to work independently tend to collaborate for the purpose of subsidizing research institutes already existing. The tendency towards the socialization of research of this character—in universities and technical institutions—has the effect of transforming an " internal

economy " into an " external economy," and of bringing it within the reach of smaller establishments. As an economy of large-scale production it might therefore be thought that its importance would tend to become on the whole less marked, but the fact that large establishments continue to attach so much value to experiment and research of a private character is ample evidence of its continued value.

Internal Economies: Administrative and Commercial

Real economies in a large business unit

We have hitherto confined our attention to the more or less technical economies available in greater degree to a large establishment than to a small establishment. We may now proceed to consider those economies of a more administrative and commercial character enjoyed by the business unit, whether it be in control of one or more than one establishment. At this stage it is necessary to bear in mind one important distinction. We are concerned with true economy of effort, that is, with factors that tend to reduce the expenditure of effort required to achieve a given result, or to increase the result of a given amount of human effort. The business unit is concerned to strengthen its position as a competitive unit. It aims at real economy of effort, but it does so in order to increase its competitive power. Increased efficiency is sought in so far as it is a condition of additional gain to the unit. There are other methods of adding to individual gain. One of these—the formation of a monopolistic association —will occupy our attention in the sixth chapter. There are other devices for increasing gain which do not directly or obviously, even if they may finally, economize effort. Thus, for example, it is by no means clear that if A gives longer credit than B, the former is necessarily the more efficient business unit. By acting as a moneylender he may secure so strong a control over a group of purchasers as to retain their custom even when his competitors produce similar goods at lower real costs and offer them at lower

prices. Many retail grocers know the power of credit of this character. We are here concerned, however, with real economies, which have the effect of reducing the cost of production measured in human effort.

Advertising and sales staff

The first and most obvious economy is that of advertising. The goods of large firms, when they have achieved a certain circulation, advertise themselves; the cost of advertisement, which may be enormous at first, diminishes per unit of sale as the amount sold increases. Small firms have to struggle hard by relatively costly advertisements in order to retain their place in the market Similarly they incur disproportionately heavy expenditure in travellers. The economy is obvious when we consider the case of two small firms, A and B, each of which sends a traveller through the same district. If they amalgamated they would be able to canvass a much larger area without any increase in travelling staff, or to canvass the previous area with a much smaller staff. Similar economies may be effected in advertising. Such economies partly explain the fact that in the metal trades a business unit tends to increase the number of similar establishments under its control. But it also accounts for the tendency to amalgamate on the part of business units supplying different products sold in the same retail establishments. A traveller calling on John Smith, ironmonger, is a much smaller item of cost if he is able to offer not only pen-knives, but numerous other products sold in the shop. The possibilities of economizing in the organization of sales have only attracted serious attention in this country during the present century. A large engineering establishment making heavy machinery for the South American market may be sufficiently strong to maintain a staff in that continent, and thereby to strengthen its position in competition with foreign rivals; but such a staff involves heavy expenditure, and a real economy is effected if its members are able to deal at the same time with other classes of engineering products sent to the same region. Again, a British coal-mining company may find

it profitable to maintain its own selling organization on the Continent. But if it produces and sells only one kind of coal, the cost per ton of maintaining that organization may be far greater than it would be if it sold many classes of coal. The economy which can be achieved in this sphere is thus a factor tending not merely to an increase (through amalgamation or otherwise) in the number of establishments of like character controlled by a business unit, but also to the creation of business units each of which controls establishments making different, though allied, products. Some of the larger firms now existing in the steel and engineering industries are responsible for the production, in many establishments, of a great variety of products, and are therefore able to enjoy substantial economies in sale and advertisement.[1]

Administrative control

The second economy is closely related to the first; it is also closely related to the technical economies due to specialization and standardization. Production and marketing on a large scale involve a problem of administration on a corresponding scale. The principle of specialization can be applied to the office organization to a degree corresponding to the size of that organization, and the advantages of division of labour thereby increased. Moreover, adequate administrative control facilitates technical supervision and accurate costing, and these in turn facilitate the efforts of the business to eliminate waste in material and in human energy. One of the disadvantages of small-scale production is the difficulty of keeping accurate records and thereby detecting waste. It may be true that " the master's eye is everywhere " (though not at the same time) and that personal supervision by the one who stands to gain most by economy is an advantage not to be despised; but the small employer lacks that mechanical equipment for testing the adequacy of his methods which is enjoyed in a large establishment. Through specialization the large

[1] Advertisements found in the technical journals of these industries provide evidence in support of this statement

firm is able to reduce administrative and commercial charges per unit of output in spite of the large absolute amount of such expenditure.

Purchase of materials

Again, a large firm is likely to be able to purchase materials on more favourable terms than a small firm. It is in closer contact with the market and is able to buy at the best time. Being an important customer, its requirements receive more careful attention; unlike the small firm, it is not allowed to suffer when materials are scarce. Freight charges may also be lower, for it is able to offer full cargo, and, in the last resort, to compete with railway and road transport companies by employing its own fleet of motor vans. In numerous ways it shows itself a potential competitor of those firms which supply materials and services, for it may at any time invade the industries of the latter.

Large-scale Organization

Expansion of the establishment and of the business unit

The economies in marketing and administration which we have specified may justify the growth of the *establishment* beyond that scale at which the technical economies exercise their maximum strength. They also explain the tendency on the part of firms to extend their operations over a group of allied products serving the same retail store or geographical area. Thus, for example, a printing firm may make account books and a multitude of other things required in a stationery shop serving the needs of business establishments. These economies, as it were, often fight against the technical economies of large-scale manufacture.

But they also co-operate with other economies of a slightly different character to produce a twofold tendency observable in modern industry, namely, the tendency towards vertical integration on the one side and, on the other, towards horizontal combination. By vertical integration is meant the process of bringing successive stages of production under single control, and by horizontal

combination is meant the amalgamation of firms supplying the same product or products. These tendencies now call for examination.

Vertical integration

Reference has already been made to one aspect of the tendency in some industries towards the linking up of the successive stages of manufacture. Heat is conserved and other technical economies are effected when iron is conveyed in the molten state from the blast furnace to the steel plant, or when, as in the Morgan combination (rod) mill, the steel billet is passed on through successive rollers until it reaches the final stage. Such economies transform the technical features of the manufacturing process. But they do not explain the tendency towards unification of control in establishments which already existed before the new methods of production were largely employed, nor do they account for the merging of, say, steel and shipbuilding firms. Vertical integration of that character is due to a different set of economies. A shipbuilding firm requires a substantial guarantee of an adequate supply, at all times, of machinery of the appropriate type and of ship plates of the right size and quality. For machinery it may rely upon a firm of marine engineers which, having specialized in marine engines and boilers, is well equipped to supply its needs. But, in the event of a boom in trade, the firm may not be able to obtain delivery. Consequently, to ensure delivery and quality, it may either build an engineering establishment to supply its own needs, or enter into full partnership with the engineering firm. Again, it may purchase ship plates from a separate steel firm, and the latter, if it is guaranteed sufficient orders, may adapt its plant to meet the former's requirements. Such adaptation reduces costs of production, but necessitates surrender of freedom, in greater or less degree, on the part of both buyer and seller, and involves a corresponding degree of risk. Full and permanent adaptation of the establishment of the one to the requirements of the other reduces costs of production and marketing,

but, on account of the greater risk which is involved in separate ownership, it leads inevitably to some form of interlocking of capital. Adaptation of plant, the reduction of market costs and the additional security of a market for one and a continuous supply of material for the other, are the desirable ends which may be achieved by vertical integration, as distinguished from large-scale manufacture.

Horizontal combination

The tendency towards the amalgamation of like units supplying the same market is due mainly to the opportunity which it offers of giving full effect to the economies of specialization and standardization. Sometimes a firm extends its control merely in order to meet the needs of its growth. Being successful as a competitive unit, its share of orders increases beyond the capacity of its establishment (which is already at its full efficiency scale), and therefore it buys out some of its competitors or erects new establishments. But although further economy is not the primary motive that governs its policy, it may discover that further economies are possible through additional specialization. Again, the new establishments may be bought or erected nearer the circumference of the market, thus leading to the enlargement of the latter and a considerable saving of charges on cross-freights.

Retail trade

The most obvious example of both vertical and horizontal combination is found in the retail trades. The " multiple shop " system is spreading rapidly through the trades of selling groceries, meat, milk, boots and shoes, and drugs. In some cases this may be regarded as an example of vertical integration. When a boot manufacturing firm establishes shops in most towns for the purpose of selling its own product to the exclusion of all others, its purpose is to reduce marketing costs and to carry the competitive struggle to a later stage. The result in the towns is a form of specialization, and the customer has to make his choice of quality before entering the shop. Such specialization reduces selling costs, but takes away from the convenience of the customer. In other cases the

multiple-shop system may be regarded as an illustration of horizontal combination, and the economies which appear are of a different character. Examples may be found in the retail tobacco and milk trades, as well as in the grocery trade. A firm owning many shops reduces waste in the case of perishable goods ; it is able to offer a greater variety of goods, constantly replaced, without multiplying the total stock in each shop by the number of shops, for each utilizes the others as a reservoir upon which to draw necessary supplies. The firm is also able to buy on advantageous terms. When, however, the shops increase greatly in number and provide a large and steady market for goods, the firm tends to manufacture some of the goods that it sells ; it spreads vertically downwards as well as horizontally.

Manufacturing industry

The double tendency is also observable in manufacturing industry, and the two movements are so closely interwoven that it is often impossible to discuss them separately. Thus, for example, a firm that combines iron and steel manufacture with engineering and shipbuilding, though it may have been impelled by the economies of vertical integration, finds that in order to secure such economies it is necessary to control units which are not exactly correlated. In order to provide a secure market for steel it may need to extend its operations and to control two or more similar establishments at a later stage ; moreover, it may find it desirable to enter other trades using the same raw material. Hence we find a marked tendency for the iron, steel and heavy-engineering trades to fall into the hands of large firms, each exemplifying the movement towards both vertical and horizontal combination. Such a firm may own coal mines, iron and steel plants, rolling mills (in several places) and a number of engineering, shipbuilding and other constructional works. It may build ships and make guns, machine tools, electrical machinery, motor-cars, bicycles, wheels and axles, telephones, wireless apparatus, and numerous other things, all ultimately resting upon iron and steel production.

The purpose of the firm is to make itself a strong competitive unit. But it is clear that when this stage has been reached the nature of competition has been profoundly changed. Half a century ago many small firms competed with each other for a relatively small market, and each of such firms confined its attention mainly, if not wholly, to one stage in the manufacture of a product. Differentiation of function had already been carried to an advanced stage, but the movement towards integration of control had not made its appearance. Similar conditions still predominate in agriculture, coal mining, cotton and woollen manufacture, some branches of engineering, and many miscellaneous industries. But over a considerable—and growing—part of the industrial field, notably the " heavy " metal trades, we now find keen competition between a relatively small number of firms, controlling two or more stages of manufacture and several establishments at each stage. In some cases the individual firm is so large as to be able to control price movements by its action, and it approaches in type the American trust, to which reference will be made in Chapter VI. It will there be shown, moreover, that the reduction in the number of competing units (due to the economies of large-scale enterprise) has facilitated the growth of monopoly in manufacturing industry.

Limits to large-scale production

There is obviously a limit to the economies of production on a large scale. In some cases, as already stated, the limit is not reached until the market is completely served by one unit. There are some industries which are essentially monopolistic, that is a single unit of the most efficient size is able to satisfy the requirements of the market. Thus, duplication of a railway or tramway system or a gasworks serving a given area would be wasteful. Other industries are essentially competitive, that is more than one unit of the most efficient type is required to satisfy current needs. After a certain stage has been reached in the growth of the unit the economies either

remain constant or, in many cases, grow less. The final limit is set by the difficulty experienced in securing ability of a sufficiently high order to direct the policy and organization of the unit. The latter becomes too unwieldy for effective control. When mammoth enterprises are built up by individuals with exceptional gifts they are apt to break up or, if they remain whole, to become expensive to the community when the successors to their architects are appointed. Even joint-stock enterprises and private firms on a much smaller scale often owe their success to the exceptional capacity of their creators, and as time goes on show less initiative and organizing capacity on the part of the leaders, and rising costs of production per unit.

The Representative Firm

Size of the typical firm

The size of the typical progressive business unit in an industry is determined by the importance of the economies which have been indicated in this chapter. Such is the answer to the first of the two questions with which this chapter opens.[1] It may be suggested that, in general, external economies tend to exercise greater influence than in the past. What was once confined to a few business units is now widely spread through a district or a trade, owing to the development of markets, the publication of trade journals, and the growth of transport facilities.

Varies from industry to industry

Again, it is generally true that the smaller units are typical in those industries which are near the end of the chain of production. At that stage the individuality of the ultimate consumer needs to be consulted, and production cannot be reduced to routine. The market is apt to be small and irregular. In what may be called artistic trades, such as jewel-cutting, both the establishment and the business unit are usually small. In other cases, such as canning and jam-making, where perishable goods are manipulated, the establishment is usually small, though the business

[1] The question is, What determines the size of the most efficient firm?

unit may be in control of many such establishments. Repair work also is usually carried on by small firms. Building contractors competing for public and other large buildings are obviously of a different grade from the speculative builder of workmen's dwellings.

In some standardized industries, such as drop-forging, cold-pressing and chain-making, most of the technical economies are within the reach of a comparatively small establishment, and in large establishments one finds many classes of the product made, in order to secure important commercial economies. In other industries the small establishment has become relatively so expensive that it is rapidly disappearing. It is thus impossible, in any individual case, to submit any precise statement without careful inquiry into all the relevant circumstances. But it is a serious error to assume that large-scale enterprise necessarily means cheap production and that where the typical unit remains small the manufacturers are necessarily ignorant and unprogressive. It is, indeed, an open question whether, in some cases, the business unit has not grown beyond the best size for true efficiency.

Large and Small Units

Survival of small units

The second question which we asked ourselves was as follows: Given that the considerations which have been enumerated favour a business unit of a particular size, how do we account for the fact that, in practice, units of different sizes (and therefore, by assumption, less efficient) appear to flourish in spite of their own relative inefficiency and of the competition of the more efficient units? Before we attempt to answer that question we should note two facts. The first is that in many cases competition is more apparent than real. From what has already been stated it is clear that many of the units supply different markets possessing peculiar features: they supply special qualities or sizes; they "pick their market," taking small orders which are ignored by large

Reality of competition

firms, or orders for quick delivery or for special designs—in short, they constitute separate industries, each of which favours a distinct " efficiency scale " of production. Thus, for example, silica bricks form a separate product from ordinary building bricks, and the manufacture of nozzles, stoppers and pipes (for steel melting plants) is distinct from the manufacture of fire-bricks, and calls for a special knowledge of the steel industry which is not necessary in the latter case. Again, the small-ingot (steel) industry of South Wales and the heavy-ingot industries of the North East coast are governed by different considerations, which favour different efficiency scales of production.

Alternative economies

The second observation is that the various economies already specified achieve their maximum strengths at different scales of output ; one economy reaches its maximum at scale X, another at scale $X + Y$, and a third at scale $X + Y + Z$. If the scale is increased beyond X the first economy may diminish, and if it is increased beyond $X + Y$ part of the second economy may likewise be sacrificed. When all the economies are set against each other at various scales they may favour two or more efficiency scales ; no one type or scale of production stands out as being definitely more efficient (i.e. less costly in human effort) than the others. A smaller unit may gain in administrative efficiency what it loses in technical efficiency ; a larger unit may gain in its selling organization what it loses in internal administration. Engineering is an industry in parts of which there seems to be ample scope for variety of this character ; there appear to be no dominating influences, such as are found in iron and steel manufacture, producing a distinct type of organization which will inevitably render all other types obsolete.

Process of elimination

We have now to consider the case where there is a distinct advantage in large-scale manufacture, and to examine the causes of the deviations that exist in practice. The first is obvious. A photograph of an industry tells us too little about its features, which are constantly changing.

The methods employed in the large firms are new; the others are old, and, sooner or later, will be scrapped. The latter are being subjected to the silent pressure of competition. This pressure varies from time to time ; during a trade boom it is relaxed, and during a trade slump it is intensified. The smaller firms must " get on or get out " ; if they survive one slump they succumb to the next, unless they mend their ways. The position shown by a photograph is not the final position ; the most efficient firm pulls the others along. The second cause is almost indistinguishable from the first. No firm can be always " scrapping " its methods in favour of newer and more efficient ones. A steel plant which was always in the hands of constructional engineers would produce but little steel and would only produce that small amount at an exorbitant cost. Once a tramway system has been constructed we must do the best we can with it for some years, in spite of the (supposed) superiority of motor transport. A coal company which has sunk a pit cannot immediately scrap its shafts and methods in favour of a better method discovered afterwards. When a particular scale and method of production has been established it must be employed for a considerable period ; and it can be employed to the advantage both of the owner and of society. One of the greatest factors making for success in industrial enterprise is to know, not merely what methods are the best for the purpose in view, but also at what time the existing methods should be discarded in their favour.

Fixed cal

Further, if attempts were made simultaneously to introduce the latest methods into all the establishments in the industry, a sufficient supply of the new appliances would not be forthcoming. Thus, for example, if every colliery proprietor in this country decided to introduce mechanical coal-cutters during 1934 and to dispense with the services of hewers, they would be unable to carry out their decision. Behind every industry there is another, or group of others, which supplies the appliances of production for the former.

The latter is only of sufficient size to meet the normal wastage of machinery, etc., and to provide for those extensions which experience has shown to be normal. Although what is normal is not inevitable, and improvements could in fact be accelerated, there is, nevertheless, an inevitable limit to the rate at which capital can be renewed If this limit (which may be sought in the experience of the most successful firms from the point of view of production) were exceeded, our industrial organization would be strained, its efficiency impaired, and, in the last resort, its stability endangered.

Advantages of situation

The third cause raises considerations of a different character. Differences in costs may be due partly to differences in natural advantages. This is clearly the case in agriculture, where lands vary in fertility and in their geographic relation to the market. Again, Cardiff is better situated than Newcastle as a port for shipment across the Atlantic Ocean or to the Mediterranean. Steel works in Birmingham are handicapped by heavy transport charges to the coast. Hence it follows that a less efficient firm may be able to compete on equal terms with a more efficient firm which is unfavourably situated—frequently the result is a geographical division of the market. Unprogressive farmers, tenants of easy-going landlords, may continue to hold their own if their lands are fertile, while other farmers, less fortunate in their land, find life a severe struggle even when they employ the most effective methods of cultivation.

CHAPTER V

INCREASING AND DIMINISHING RETURNS

Normal output

THIS chapter will be largely concerned with theoretical considerations based upon the descriptive account already given of the economies of large-scale enterprise. Here and at a later stage we shall be using the words "normal output," and it may be wise to begin by removing an ambiguity which attaches to those words. In ordinary language the term normal is generally employed in the sense of usual or customary. The normal output of a factory is said to be the customary output in a given set of circumstances; we speak of the normal output of the building industry, for example, as being greater in summer than in winter. In economics, however, the term normal is used in the sense of defining the results that would follow the operation of constant forces if they were allowed to work without hindrance, that is it indicates the position of equilibrium of such forces. In this sense, as we shall see, the normal output of a factory of a given size, with a given equipment, is that output which can be produced with least expenditure of labour and capital per unit. We may also call it the maximum efficiency scale of output. The normal output of a railway system is that which is produced when the lines are economically employed and the trains are of economical length and fully loaded.

Normal costs

We have already stated that the total cost of production is made up of prime costs and oncosts or supplementary costs. If a factory[1] is worked to a small fraction of its capacity the oncosts are spread over a relatively small output, and the average total cost per unit is relatively high. When the scale of actual production per week

[1] What is true of a factory is also true of every other kind of establishment.

(or any other unit of time) is increased, the cost per unit of the additional output is considerably less than the average total cost per unit of the original output; the standing charges are spread over a greater total output and the average total cost per unit of the total output is less than before. As the scale of actual production is increased, the layer of standing charges becomes thinner and thinner. The additional cost at length begins to increase, though it may not, at first, increase so rapidly as the standing charges per unit are reduced. But a stage is finally reached—the output may be called X units—at which the additional cost per unit increases by an amount greater than that by which the standing charges are reduced, and at which, therefore, the total cost for the additional units is greater than the average total cost per unit for X units. The normal production (or "efficiency scale" of production) of the factory is therefore X units per week; that is, provided that the equipment of the factory remains unchanged, the conditions of production with maximum efficiency are satisfied at that scale. In the long run, effective competition will secure that the factory will be worked at that scale (*see* Book IV), and in that sense the normal output is the customary output. In some cases, such as railway transport, the additional cost of the additional output makes a big jump when that scale is exceeded. In other cases, such as engineering, trade unions, by regulating the hours of work, fix a normal output by enforcing high rates of pay for overtime and may thus cause a big jump in the additional cost of additional output. In yet other cases, such as steel manufacture, where three shifts are worked and the machinery is never idle, the additional cost of additional output increases rapidly through extra wear and tear of furnaces and rolling mills. Moreover, the output can only be increased within narrow limits—that is, the additional cost rapidly becomes infinitely large. The case of agriculture will be considered separately.

We shall always mean, by the normal output of an establishment, the output which is produced at the most economical scale of production, and by the normal cost of production we shall mean the average total cost per unit of the normal output. Such cost will be less than at any other scale of supply with the same appliances or equipment. Definition

Law of Increasing Returns

When an increase in the supply of a commodity (or service) is accompanied by a fall in the cost per unit, the law of increasing returns (or diminishing costs) is said to operate.[1] The law has been employed loosely in economic discussion, and we should seek precision if we are to avoid using it in different senses without being aware of the change from one sense to another. It has been used in five different senses by different writers. The first has already been suggested in the paragraph on the meaning of normal output. We are often told that the law of increasing returns operates in railway transport in the sense that additional traffic can be conveyed without any additional expenditure on plant and equipment. An underworked system is expensive, a fully-worked system proportionately less expensive. The statement is, of course, true, not only of railway transport, but also of every other branch of economic effort. It follows from the definition of normal output that every increase in supply up to that scale is obtained without additional "fixed" costs, and that the average cost per unit is reduced. Most economic discussions, however, assume that the establishments are fully employed, and economic policy, as distinguished from emergency or exceptional measures, is based upon the same assumption. We should, therefore, not use the law in this special sense without calling attention to the fact that we are doing so. In general we shall assume, when referring to the law, that every production unit is working

1 Utilization of existing equipment

[1] It should not be forgotten that "law," in this sense, is merely a statement of tendency, not a categorical imperative.

at the economical scale, that is, producing the normal supply. Moreover, we shall first assume that the appliances are the best available for producing that normal supply. There are good and bad firms, old and new establishments. An old establishment, which has been repeatedly extended and adapted to meet new conditions, may have a normal output of X units, and that may also be the normal output of a new establishment, which has been better planned and is using more efficient methods. The cost of production will be higher in the former than in the latter. We shall assume that the true normal cost of producing X units is the cost in the new establishment, and proceed to consider the second and third senses in which the law of increasing returns is used.

In the previous chapter we enumerated many of the possible economies of large-scale production. We found that as the scale of production was increased it was possible to introduce new forms of labour combination, heavier and more powerful machinery, larger boilers, etc., as the result of which the total output of the establishment increased more rapidly than the expenditure of capital, land and labour. A manufacturer, knowing all the available alternatives and their possibilities, would obviously select that technical equipment which was most economical for the selected output, or, alternatively, aim at that output which the selected equipment could supply most cheaply. In comparing the relative advantages of X units and $X + Y$ units he would find that the best equipment for supplying X units would give a normal cost higher than that incurred in producing $X + Y$ units with the best equipment available for that supply. It is in that sense that we use the law of increasing returns in reference to an establishment, the law being that the cost per unit diminishes as the scale of supply (that is, the normal output) increases. Probably I have laboured the obvious; but the paragraph has not been wasted if I have forced the reader's attention to the fact that the true comparison

is a comparison of the costs of different normal outputs, or costs under different maximum efficiency scales. Readers often assume that the law refers to extensions of plant or to new inventions.

2. Expansion of the establishment

In the statement that the normal cost is reduced when the normal output is increased, the meaning implied in the words normal cost was the average total cost per unit of the normal output—the law states that the average total cost per unit of $X + Y$ units is lower than the average total cost per unit of X units. It is clear that the total additional cost of producing the additional supply, Y units, may be regarded as the specific cost incurred in producing that supply, and that the average cost per unit of producing the additional Y units is even lower than the average cost of producing $X + Y$ units. Some people stress the specific or additional cost rather than the average total cost. It makes no difference which of the two is used. If one is true, the other must also be true.

3 Of the business unit

Economies of large-scale production are not confined to the establishment—some are found in the administrative and commercial departments of the firm's activities. Consequently the firm, as already stated, may extend its operations beyond the scale at which establishment economies reach the maximum; it may even sacrifice some of these economies in order to secure more important economies of the other order. The law may thus be used in a third sense, closely related to the second. For commercial and administrative reasons it may be found that the average total cost per unit of a normal supply of $X + Y + Z$ units is less than that of $X + Y$ units.

4. Of the industry

In the next place, the law is frequently used in a special sense, with reference to the industry as a whole. If the industry is conducted on a scale represented by $P + Q$ units, it may avail itself of many economies, internal to the industry, but external to the individual firms, which would not be available if it only supplied P units. The new economies are not due to the growth of the individual

firms—for these might be as large, though less numerous, if the industry were conducted on the smaller scale. The new economies are due to the multiplication of firms. When used in this sense, the law may have important practical applications; it may, indeed, be suggested that one important argument for protection (known as the infant-industry argument) is largely based upon its operation in this sense.

So far we have neglected the time element. In all four senses the law is regarded as a static conception, and it excludes new inventions and improved methods of organization. It is based upon a comparison of normal costs at different scales of production, with known appliances and devices. The average cost is reduced when the scale of operations is enlarged, not because new methods are discovered, but because methods already known are more economical at some scales than others at other scales, and because any one method is more economical at one scale than at another. Thus, for example, it is cheaper not to use electrically-driven overhead cranes in a small foundry, which would be more efficiently organized along less ambitious lines; on the other hand, a large foundry using such cranes is a more efficient unit of production (and so produces castings more cheaply) than a small foundry which has the most efficient organization for its own scale. There is no question of time or new inventions; it is merely a question of comparing alternatives, each employing the best method already known for its own scale of production.

5. Dynamic tendencies

But the law is also used in what may conveniently be called the dynamic sense. As time goes on new inventions and better methods of organization are discovered, and when these are substituted for the older they result in a reduction in the cost per unit. Production at a scale represented by X units of products becomes cheaper than production on the same scale with the older methods, that is, a new establishment or firm can produce X units

at a lower normal cost than its older rival, or a given expenditure of labour and capital, which once produced X units, can now produce $X + Y$ units. It will be observed that we have not here compared the normal costs at different scales of output; the comparison is strictly between the normal costs, at the same scale of output, under the old and the newly-discovered methods.

In practice, however, it frequently happens that the new methods favour the larger scales of output, and only such scales. In such cases they intensify the operation of the law of (that is, strengthen the tendency towards) increasing returns, in the second and third senses already indicated. For this reason the static and dynamic applications of the law have often, indeed usually, been confounded. But they are logically distinct; moreover, it is of practical importance that they should be clearly distinguished. The law will continue to operate in the last sense when, even in manufacturing industry, it has ceased to operate in the second and third senses. Inventions have usually favoured a large production unit, but this result is not inevitable. On the contrary, some new discoveries, such as the cheap production of mobile power (from electricity and oil) already favour the smaller unit more strongly than the larger. We hope to escape gigantic factories and mammoth firms in many of our industries at the same time as we hope that new methods will everywhere economize human effort and thereby reduce costs; that is, we hope that the law of increasing returns will operate in the dynamic sense when it has reached its limit in the static sense.

The strength with which the dynamic law operates in practice is restricted by the fact that one cannot everywhere substitute new methods for old just as rapidly as the former are discovered. In many cases the employment of the new methods to the best advantage would necessitate the entire reconstruction of the establishment, a task beyond the means of many firms and itself involving a serious

risk of loss due to the possible early discovery of a still better method. In practice, therefore, we find that firms attempt to modernize their establishments and organization by adjustments and adaptations. These, then, compare unfavourably, in planning and equipment, with newer establishments, though they represent an improvement upon their earlier forms. Hence we find that the rate of industrial progress is slower than might be expected from the rate at which new discoveries are made.

Law of Diminishing Returns

Nature of diminishing returns

The forces tending to produce increasing returns, in the dynamic sense, are persistent and universal; that is to say, humanity, by invention and organization, is always striving to conserve energy and thereby reduce the cost of achieving a given result. But the effects which would otherwise be produced may be neutralized, as we shall see, by a growth of population and demand more rapid than the rate of improvement. The effect of an increase in population and, consequently, in demand, may be (and presently will be) examined as a static rather than a dynamic problem; it calls for comparisons between the effects of demands of different amounts. But population hardly ever remains stationary for long periods, and it has increased rapidly from time to time; consequently we have been accustomed to compound the effects of the universal and persistent forces making for increasing returns with the effects of increasing demands due to growth of population, and to restrict the dynamic use of the law to those conditions in which the forces of invention and organization prove stronger. It is, however, strictly true to say that the dynamic tendency of increasing returns is always in operation. Its effect is only hidden, as we shall presently find, when the law of diminishing returns is operating with greater strength.

But there is obviously a limit, imposed from within, to the operation of the static law of increasing returns.

When a certain scale of output has been reached—it may be represented by M units—any further increase in the scale will involve an additional expenditure relatively greater than the additional output, that is, it will raise the cost of production per unit. When that stage is reached, the law of diminishing returns (or increasing costs) is said to operate. In discussing this law we may conveniently follow the same order of treatment as before. The first case is clear, for we defined the normal output of an establishment as the output such that any addition to it (with the existing equipment) involves an additional cost greater than the average total cost per unit of the existing output. The average total cost per unit of the larger output is therefore higher than that of the normal output.

1 Utilization of existing equipment

In the next three cases we assume, as before, that at each scale of enterprise the normal output is produced and that we may therefore compare normal costs of production at each scale. There are limits to the establishment economies of large-scale production available with methods already known. If these are reached at the scale of production represented by M units, then a larger establishment, with a normal production of $M + N$ units, would be proportionately more expensive; that is, the average total (normal) cost per unit of $M + N$ units would be higher than that of M units—which is the second case. A firm would not erect an establishment of the larger capacity, and sacrifice some economies available in the smaller, unless there were compensating economies in the administrative and commercial spheres. But there are limits beyond which even a firm cannot go without sacrificing economies available at a smaller scale of supply, and any increase beyond the scale of maximum efficiency involves a rise in the total average (normal) cost. At this point the law of diminishing returns comes into operation in respect of business units, as distinguished from establishments. Such is the third case. In the second and third cases—indeed, in all cases—the law, like that of increasing

2. Expansion of the establishment

3. Of the business unit

returns, may be expressed in two ways, one emphasizing, as above, the rise in the average total cost per unit of the normal output as the output is increased, the other emphasizing the rise in the specific cost of producing the additional supply. The total difference between the cost of producing M units and $M + N$ units may be regarded as the actual cost of producing the additional N units, and it is clear that the average total cost per unit of the latter is higher than that of $M + N$ units. As before, it is often a matter of indifference whether emphasis be laid upon the one or the other—if one is true, the other must also be true. But for some purposes, as we shall find presently, it is important to emphasize the rise in the total specific cost of the additional output.

4 Of the whole industry

The fourth case is that of the law in its application to the industry as a whole. The scale of production may be increased in either, or a combination, of two ways, the enlargement of each producing unit, or an increase in the number of units. By assumption, each of the existing units is producing a normal output, and the stage has been reached at which any further increase involves a loss in respect of some economies now operating with maximum strength. That assumption involves the further assumption that the best sites have been occupied by the existing units. If, therefore, the supply of the industry is increased by the multiplication of producing units, the latter, though they may copy the methods of the others (for we are considering costs under different scales of production), are forced to occupy less suitable sites. Such sites may be farther from the market, or their "quality" may be inferior.[1] For this reason the normal cost of production is higher than in the other cases. If the supply of the industry is increased by the enlargement of firms beyond the maximum efficiency scale of production the normal cost of the larger output of each firm is raised, that is, the law

[1] Quality here is of chief significance in agriculture and the extractive industries, but it is relevant to all industries.

of diminishing returns operates in the case of each of the constituent firms. Whether the total supply be increased in one way or the other, or by a combination of the two the law operates in the industry as a whole.

5 Dynamic tendencies

It will be observed that in all the senses already indicated the law of decreasing returns, like the law of increasing returns, is used in the static sense. The time element does not enter, nor is the question of inventions or improvements of any kind relevant. All that we have done has been to compare the relative average total costs per unit at different scales of output, and at each scale the output is the normal output, and the normal output has been produced under conditions of maximum efficiency for that output; in other words, we have compared, as before, the alternatives available with our existing knowledge. But an increase in supply is due to a growth in demand, and such growth actually takes place over a period. While, therefore, it is true that the conception of decreasing returns is a static conception (that is, we are comparing costs at any given time for different scales of supply), the larger scale is actually required at a later stage than the smaller scale. Consequently the actual comparisons are made at different times. If the tendency, as already defined, is in operation, it is in conflict with the dynamic tendency to increasing returns due to new inventions and improvements in organization. If the former is stronger than the latter, there is a sense in which it is true to say that the dynamic law of diminishing returns is in operation. But in no other sense can this be true, for it may be presumed that humanity will not deliberately abandon the knowledge and facilities which may be its own property for all time. The dynamic law of diminishing returns in this narrow sense is not parallel to the dynamic law of increasing returns. The former, it may be repeated, is the result of a conflict between the latter and the static law of diminishing returns.

Constant returns

Before proceeding to consider the special case of agriculture, three further points call for observation. The first is that at the point at which the forces favouring increasing returns and diminishing returns balance each other the law of constant returns operates, that is, the normal or average total costs per unit are identical at the higher and lower scales of production. This law, which may operate in any of the first four senses already indicated, is clearly a static law. The second point relates to the importance, for some purposes, of emphasizing (in the case where the law of diminishing returns is in operation) the rise in the specific cost of the additional rather than the rise in the average total cost per unit of the whole supply when the latter is increased.

Marginal supply and marginal cost

In the illustration already employed it was stated that the average cost per unit of $M + N$ units was lower than the average cost per unit of the N units additionally supplied at the larger scale of production; the former lay between the latter and the average cost per unit of M units. If a firm is to produce on the larger, rather than the smaller, scale, it will require to be reimbursed for the specific cost incurred in producing the additional N units. It is not sufficient that the price should be barely sufficient to cover the average cost of producing $M + N$ units, for in that case the gain to the firm would be less than would be secured by producing M units; an actual and avoidable loss is incurred in producing the extra units. Suppose, for example, that when the normal output is 100 units the average total cost is 10s. per unit, and that when the normal output is 110 units the average total cost is 11s., it follows that the last 10 units cost 210s., that is 21s. per unit. If the actual price is, say, 15s. per unit, on the smaller output the total gain would be 500s., and on the larger output 440s. At any price below 21s. the total gain would be greater on the smaller output than on the larger output, and a price not less than 21s. would be necessary to make the larger output relatively profitable. When dealing with the theory of

prices we shall find that the additional cost of the additional output, under these conditions, is an important consideration. The additional output is often called by economists the marginal supply, and the specific cost incurred in producing it is then called the marginal cost of production. The conception is of greatest practical importance in dealing with land.

Factors of production

The third point is that we have applied the laws of increasing and diminishing returns to producing units, whether establishments or firms, not to the factors of production, namely, land, labour and capital. Production, as already stated, always requires the co-operation of all three factors. It is possible, in theory, to consider the laws in relation to each factor in turn, but the treatment of this further problem, which is mainly of academic interest, involves considerations which are not suitable for treatment in an elementary discussion. It is, however, important to call attention to the fact that writers sometimes apply the laws, as already described, somewhat loosely to land and capital, instead of to the producing unit, whether it be in agriculture or in manufacturing industry.

AGRICULTURE

Conflicting tendencies

The law of increasing returns is usually associated with manufacturing industry, and the law of diminishing returns with agriculture. The latter was enunciated while England was still, in the main, an agricultural state ; it was vigorously described by Ricardo a century ago, and was shown by him to be the controlling factor in the determination of rent. The law of increasing returns was first regarded as a modification of the other law, which appeared to be rendered inoperative in manufacture by the rapid progress of invention. · Then followed a tendency to emphasize differences in the nature of such laws, while some writers, having witnessed the spread of profitable agriculture in America, even denied the tendency to diminishing returns in that industry. These controversies

arose in consequence of failure to distinguish between the static and dynamic conceptions of the two laws. In the static sense the *tendency* to diminishing returns always looms in the background of manufacture as well as agriculture. The law of increasing returns operates only within comparatively narrow limits. In the dynamic sense the *tendency* to increasing returns, both in manufacture and in agriculture, is permanent. The tendency, in the static sense, to diminishing returns may be, and has hitherto been, counteracted by new inventions and better organization; the tendency, in the dynamic sense, to increasing returns, has been held in check, again and again, by a growth of population more rapid than the progress of invention and organization.

Agriculture and industry

The difference between agriculture and manufacture is not fundamental. Agriculture, it is true, possesses many features which are probably peculiar to itself. In that industry the work of the farmer and his employees is woven into the very texture of their lives. They work and live on the farm, or, if they are workers living away from the farm house, they dwell in farm cottages or other similar cottages. On the smaller farms those workers who "live in" "put their legs under the same table" as their employers at meals; they discuss farm problems, and the more intelligent learn far more about the working of a farm than an industrial worker can ever learn about the working of the factory, and they sometimes look forward to becoming independent farmers; in many places they are "hired," on hiring-day, by the year or half-year, and thus enjoy a security of tenure unknown in manufacturing industry. They work long hours, but their work is not continuous. Like that of the housewife, their work is never done. A farm cannot be run, like a factory, on a regular "working-day" of so many hours, after which the workers are free to return home. Horses must be stabled, cleaned, and regularly fed; in sickness they must be tended. The cowman must be ready for milking time;

the shepherd cannot desert his flock when the clock strikes the hour. Field employment varies considerably with the seasons, and such work as pea picking and potato digging is dependent from day to day upon weather conditions. The words "standardization" and "collective discipline" do not appear in the farmer's dictionary. Moreover, the conditions of work render the monetary results a less dominating factor in "business" policy. To the farmer and those beastmen and shepherds who "live in," the farm is home as well as factory; to many their work is their life. The farmer is essentially conservative and fatalistic; the worker values a "good table," and his willingness to remain for a second "hiring" may be determined by the quality of the table and sleeping accommodation as much as by the wage or the disposition of the farmer.

1 Normal output of a farm

These and other distinctive features of agriculture are important in their own sphere, but they are no more relevant to our present purpose than are the distinctive features of engineering or cotton manufacture. Consequently they may be ignored in the discussion of the operation of the laws of increasing and diminishing returns, and that discussion will proceed along the same lines as before. Corresponding to a farm of any given size, with a given equipment in the form of a dairy and of cowsheds and other outhouses, there is a normal output: that is to say, if we assume the farm to be operated in the most appropriate way, it will give an output at which the average cost of production per unit is lower than at any other output. This output is the normal output of the farm. Any increase in expenditure on materials and labour gives an increasing return up to the normal output, and a decreasing return (that is, a less than proportionate increase in product) beyond the normal output. Thus, for example, for an expenditure of £800 (including standing charges) the product may be 3,000 cwt. of corn; for an expenditure of £1,000 it may be 4,000 cwt., and for an expenditure of £1,200,

4,600 cwt.; the average costs per cwt. are 5s. 4d., 5s., and about 5s. 2½d. respectively, the specific cost of the last 600 cwt. being 6s. 8d. per cwt. It should not be forgotten that we are not comparing two types of farming, but the costs of producing below and above the normal output, assuming the employment of the best-known methods of farming.

2. Expansion in normal output of a farm

In the second case we compare the relative costs of farming at different normal scales of output. Each holding is assumed to employ the best-known and most appropriate method for its own size, some of the benefits of intensive cultivation being sacrificed, if necessary, in order to secure the benefit of extensive cultivation It is found that, until a certain stage is reached, an increase in the size of the holding brings new economies into operation,[1] but beyond that stage the law of diminishing returns operates. The following table relating to a number of farms of varying sizes serves as a rough illustration of the operation of the laws, though they must be used with caution—

Size of Holding	Capital Invested per Acre	Net Output per Acre	Per cent of Capital.
	£ s. d.	£ s. d.	
Under 25 acres . .	55 10 –	2 11 –	4·6
25 to 50 ,, . .	45 18 –	3 8 –	7·4
50 to 75 ,, . .	46 2 –	3 13 –	8·0
75 to 100 ,, . .	44 4 –	3 14 –	8·4
100 to 250 ,, . .	39 18 0	3 3 0	7·9
Over 250 ,, .	39 17 –	3 – –	7·5

It will be observed that although the amount of capital expenditure per acre diminishes as the size of the farm increases, the net output per acre increases until a maximum is reached for a farm of 75 to 100 acres, and thereafter

[1] A poultry farmer on a large scale may be able to convey eggs to the shopkeepers in the towns two or three times a week, and thereby secure a better price for the eggs than a small farmer, who may not have sufficient supplies to justify transport more than once in two or three weeks.

diminishes. Such a farm also provides the highest percentage return on the capital invested per acre. Provided, therefore, that each holding produces the normal output, it may be concluded that the most economical unit is one containing between 75 and 100 acres. Two further points call for comment. First, the output is quoted in terms of money, not of produce, which consists of many products capable of being supplied in varying proportions. It is necessary, if comparisons are to be made at all, that the various alternative products should be expressed in terms of some common unit. Moreover, not only is money the most readily available unit, but it is quite legitimate to employ that unit. For we are comparing the relative efficiencies of holdings of various sizes as producing units supplying value to society at any one time. If we were comparing holdings at different periods—say in two separate years—it would be necessary to take into account the changes, if any, in the relative values of the constituent products. In this respect farming differs materially (though the difference is one of degree, not of kind) from most manufacturing industries. A farm is more adaptable than a factory, for a farmer is able to vary the individual products according to the state of the market for each in turn.[1]

The second comment is that the above illustration ignores differences in the fertility of land, and compares the relative efficiencies of holdings of various sizes on the assumption that the land is of uniform quality.

3 The business unit in agriculture

The third case is not yet of great importance, though it may become more important in the future. Farmers are usually content with one farm. For social reasons landowners may own more than one, but working farmers do not attach much value to those external economies which may be secured by the ownership and control of

[1] In an advanced treatise on economic theory it would be possible to pursue the comparison farther, and to consider in detail such intermediate cases as the production of coke and its many by-products. This cannot be done here.

two or more separate farms. The extension of a farm is generally difficult, and often impossible, for the surrounding land is occupied by other farmers, or owned by other landlords. It is probable that, in practice, this factor frequently prevents the creation of farms of the most economical size and form, and in this respect, too, farming differs from manufacturing industry.

4. Expansion of the industry

The fourth case relates to the industry as a whole, and shows the law of diminishing returns in its strongest and most obvious form. If we assume that each farm is already producing its normal output, and is of the most appropriate size and in the most appropriate place for the production of that output, an increase in the output of the industry as a whole can only be secured in one (or a combination) of two ways. The first is by more intensive cultivation of existing farms, which we have already shown to be governed by the law of diminishing returns. The second is by bringing fresh land under cultivation. Such land will be more remote from the place at which the product is required, or less fertile than that already cultivated, or both. In all three cases the return to effort is less than that already enjoyed from lands already under cultivation.

It will therefore be seen that the law of diminishing returns operates both intensively and extensively, that is, for any given farming unit, and as between different farming units. Extensively it operates, in practice, in a much more marked manner than it does in the vast majority of manufacturing industries. The area of land in the world is fixed, but in view of the territory which remains unexploited, even unexplored, this factor would possess no practical significance if it were not accompanied by a second factor. For it may be stated, with equal truth, that the supply of factories and warehouses could not be increased without limit. The second, and at present more important, factor is that no two pieces of land are exactly alike. They differ in situation, and they differ in

physical quality. Some are more fertile than others; some require more "coaxing," others give quickly what they give at all; some are more liable to be flooded than others; some require greater initial expenditure in the clearing of stones or trees and undergrowth. Differences in site and in inherent qualities are of greater significance in farming than in manufacture, and for this reason the law of diminishing returns operates (extensively) with greater strength. It will be recalled[1] that in manufacturing industry the raw material exercises a more powerful influence over the location of the industry when a considerable proportion is destroyed in the process of conversion than in other cases. In manufacture there is a choice of sites; if the raw material were always conveyed to the market where the final produce is consumed, the law of diminishing returns would operate extensively with great strength. It can be held in check by the economy in transport that is due to putting the factory (or place of conversion) near the place of extraction and so eliminating the transport of waste. In agriculture there is no such choice of site. The land cannot be brought to the market; and the greater the distance between the farm and the market the greater the cost (other things being equal) of placing the products on the market.

5 Dynamic tendencies in agriculture

The operation of the law of diminishing returns in agriculture has been modified by invention and organization, that is, by the dynamic tendency (which we have seen to be universal and persistent) to increasing returns. The yield per acre, over a period of years, has been increased by the introduction of rotation of crops. The introduction of the turnip into this country has made a radical improvement, and, by reducing the proportion of the land lying fallow, has reduced the cost per bushel of growing corn. Experiments carried out at agricultural research stations have resulted in improvements in the methods of manuring, in the mixing of soils, and in the rotation of crops. Co-operative methods

[1] *See* Chapter II on Localization.

in dairy farming, in bacon curing, in the employment of machinery and in selling, are slowly making headway. Farmers are beginning to pay attention to the problem of costing, and to co-operate with universities in experimental work on that problem. The use of electricity, mechanical corn carriers, and other devices is slowly spreading. Though less rapid and obvious than in manufacturing industry, improvements are taking place in the general organization of agriculture, and for this reason the tendency to increasing returns is probably stronger to-day than it has been since the agricultural revolution and the disappearance of the yeomen farmers nearly a century ago.

It will be evident, from what has been said, that there is no fundamental difference between the operation of the laws of increasing and diminishing returns in agriculture and in other branches of industry and commerce. There are material differences between the two. The static tendency to diminishing returns is usually more obvious in agriculture than elsewhere; moreover, the growth of population has often been more rapid than the advance in agricultural methods, with the result that the dynamic tendency to increasing returns has been arrested and a tendency for a time to diminishing returns has become evident. But the latter tendency represents what is called, in the next book (Chap. IV), a short-period result, and is ultimately overcome, in turn, by technical progress.

CHAPTER VI

INDUSTRIAL COMBINATIONS

COMBINATIONS OF CAPITAL

Competition and efficiency

THE primary or dominating motive of a business firm is gain; the method which it employs is either to buy and resell or to grow, mine, or manufacture, and then sell the product. The gain is represented by the difference between the total revenue and the total expenditure. There are three ways in which the total gain may be enlarged: the cost may be reduced, the price may be raised, or the sales increased without proportionate alteration in the margin between the selling price and the cost of production. The incentive to secure greater gain by all three methods is strong and enduring.

Under normal conditions the average firm is subjected to competition from equally strong rivals. During the greater part of the nineteenth century, when firms were comparatively small, they were correspondingly numerous in each industry. Moreover, they were comparative strangers to each other. They worked more or less secretly, fearing that a rival might learn too much about their methods. The essential preliminaries to concerted action were lacking, and the possibility of price regulation was rarely thought of. Such attempts as were made, during a period of trade depression, to control output or regulate prices usually ended in failure. Consequently, the only method of increasing gain was that of reducing costs and, by underselling rival firms, enlarging the market, either at the latter's expense or through the influence upon demand of a lower price. The stimulus of competition was strong and led to the substitution of more efficient methods and the reduction of costs.

Competition and size of the firm

This steady process of substitution in turn resulted in the growth of the firm. Establishments became larger and firms frequently extended their control over two or more establishments. The nature of the competition gradually changed; the number of competing firms was reduced, and the absolute size and strength of the average firm were increased. Moreover, the firms became better acquainted, particularly when railway facilities were vastly increased. Their representatives met on the market, and in associations for negotiating wage agreements with their workpeople, and there discussed questions of common interest; in many cases they abandoned their secretive habits, and knowledge of technical conditions and possibilities was widely circulated in trade journals. Rivalry probably became, on the whole, more friendly in character, and the competitors were able to gauge each other's strength more accurately. Specialization of product tended to reduce still further the number of firms actually competing in the same market.

Collective action

Reduction in the number of competitive firms, combined with the fact that the competitors were personally well acquainted, and already in the habit of discussing trade problems, created the opportunity for collective action. But it did not follow that collective action would always be advantageous. If the firms were decidedly unequal in strength, competition *à outrance* would get rid of the weakest, and their elimination would further strengthen the survivors. Again, concerted action would be useless unless it brought control of the market. The efforts of the combination would be neutralized if it were subjected to keen foreign competition. It follows that a duty upon competitive imports, or a similar obstacle in the form of heavy transport charges, favours the formation of combinations in the home industry.

The combination movement in manufacturing industry and in merchanting is thus, in the main, a product of the circumstances that have prevailed during and since the

last quarter of the nineteenth century. The incentive to combine was always present; the opportunity was the result of the reduction in the number of competing firms, and the growth of transport facilities and of intercourse. The immediate desire to combine was measured by the prospective power of the combination, which was increased by immunity, within limits, from foreign competition; it was also influenced by the available alternative, and was stronger where the rivals were of approximately equal strength. The combination movement has followed three main lines, the simple agreement, such as the price association, found mainly in this country, the cartel, found mainly in Germany, and the monopolistic trust, found mainly in the United States of America. We shall now proceed to examine these types.

Simple Agreements

Price control

Simple agreements take three main forms, price regulation, division of the market, and regulation of output. The first of these is the most common form in this country, but it has not often been successful over a long period. As a method of permanent organization there is little to be said in its favour. It achieves no real economy, either in manufacture or in marketing, for it is nothing more than an agreement not to sell below a stipulated price. The price fixed in the agreement is naturally higher than that price which would have emerged under competition; consequently it tends to preserve inefficient firms and to prevent the more efficient firms from gathering the fruits of their efficiency. Nevertheless, in so far as the agreement is carefully observed it may, in some cases, result in competition expressing itself in quality rather than in price. But the agreement does not often withstand the pressure of unfavourable circumstances. When demand falls short of producing capacity the signatories evade the agreement by offering higher discounts, or by selling cheaply other articles not controlled by the agreement, or again by queer

arithmetic processes, exemplified in the "baker's dozen." After a period of secret evasion the agreement is formally discontinued or openly violated; for such an agreement cannot be enforced in court. Agreements which can be proved to operate in restraint of trade are, indeed, illegal both in this country and in the United States of America.

Allocation of markets

The second form of agreement, namely that by which the market is parcelled out among the producers, also fails to achieve economies of any significance. It may appear, at first, to reduce the cost of marketing the product, but if A can sell in B's territory at a price below that which is possible for B, it follows that A's total cost, including that of marketing and transport, is lower than B's cost, and that efficient organization usually involves the elimination of B. Territorial division of the market is characteristic of railway agreements in the United States and elsewhere; it is not often found in manufacturing industry, for the market of the product is not localized. The International Steel Rail Syndicate, however, which remained in existence almost continuously from 1883 till 1914, divided the chief markets of the world between those national groups of manufacturing firms which formed the syndicate.

Regulation of output

The third form of agreement provides for the regulation of output. Usually the orders received by the firms are pooled, and each firm is allotted its agreed quota (a certain percentage of producing capacity) from the pool. The agreement is frequently strengthened through the payment by each member of a deposit, which may be forfeited if the member violates the contract. Usually a fine is imposed for exceeding the quota and a bonus granted if less than the quota is produced. *Prima facie* this is a more effective method of controlling prices than a direct price-controlling agreement, for, as we shall see, price is a function of supply. If supplies continue to pour on to the market prices will inevitably fall; but if they are artificially restricted in relation to demand prices will be maintained

Agreements restricting output do not introduce any fresh economies of production, and cannot be justified on grounds of efficiency. Nor are they ideal from the point of view of the firms which enter into the agreement. They are voluntary agreements which cannot be legally enforced. The policy expressed in the agreement is determined by majority rule, and if they are a large body the firms are frequently suspicious of each other, and jointly fear a long tail of half-hearted members. Pools have been common in America, and usually represented a stage in the development of the trust. Where they have been tried in this country they have usually failed. It should be observed, however, that agreements are sometimes made (as in textile manufacture) for the purpose of reducing output during a period of depression, when the market becomes overstocked and the price threatens, under unregulated competition, to fall to an extent which is regarded as undesirable, without bringing any marked increase in demand. Such temporary expedients may be successful, as in cotton manufacture. But if the depression continues they usually become inoperative. Between 1892 and 1896 repeated attempts were made in the tin-plate industry to restrict the output of each mill (a convenient standard of measurement), but the depression was so intense and prolonged that the agreements were ignored, and every time the agreement was formally terminated competition became as violent as ever. Such defensive agreements should be distinguished from more permanent attempts to attack the market and maintain prices at a level higher than that which the force of competition would *normally* produce. The latter type of combination, whether it aims at control directly through price agreements or indirectly through pooling arrangements, is always faced with the danger of competition, either from abroad or, if it is protected on that side, from new firms which are attracted to the industry by the prospect of large profits due to relatively high prices.

CARTELS

Nature of the cartel

Pools of the kind already described were common in Germany before the World War, but a still closer form of organization was formed in 1861, in the German tin-plate industry, and was copied by other industries in that country. This form of organization is commonly known as a cartel, but looser associations, such as those already indicated, are also known in Germany as cartels. In order to avoid confusion we shall restrict the term to the closer type of combination described below, and frequently called a syndicate or *verband*.

A cartel of that type is essentially a selling agency acting on behalf of the constituent manufacturing firms. It is a legal entity, distinct and separate from the members, and it undertakes the marketing function which would otherwise require to be performed by the latter. The cartel purchases the products of the manufacturers and sells them on the markets of the world. The individual producers are paid prices varying with the quality of the product, but bearing an agreed relation to a standard or base price fixed for the standard quality. The cartel, in turn, charges what the market will bear, and may charge different prices in different zones. When the market cannot absorb all that the members are able to supply, the orders are rationed among the latter in the ratio of their producing capacities. The members in turn may make private or independent arrangements for redistribution among themselves; thus one firm may purchase from another the latter's quota of orders. It will be observed that the cartel does not interfere with the internal management of the individual mine-owner or manufacturer. The latter so far retains his individuality. But he unloads all marketing functions and risks upon the cartel, which usually enjoys a partial or complete monopoly. The cartel does not aim at a profit for itself. Any profit that is made is distributed among the members, who also share the losses, if any.

Nor does the system directly limit the profits of the individual firms. If the market bears a high price the latter will be charged, and will lead either to high profits for distribution or to the payment of high base prices. Moreover, every successful effort to reduce manufacturing costs will be accompanied by a corresponding increase in the profits of the individual firm. Thus, under the cartel system, the functions of making and selling are separated, and the manufacturer is enabled to concentrate attention upon the former. Further, manufacture is carried on under semi-competitive conditions, while selling becomes the monopoly of the cartel.

German steel cartel

The two best-known and most important German cartels before the war were the Westphalian Coal Syndicate and the Steel Cartel (Stahlwerksverband). The latter was formed in 1904 (and renewed, for periods of five years, in 1907 and 1912) by the merger of three similar associations which were then in existence. It had a nominal share capital of £20,000, subscribed by the twenty-eight member firms, and its declared object was to sell the products of the industry, and to regulate production. It covered the processes of producing steel and semi-manufactured products. The cartel consisted of an advisory council (elected by the members), a managing committee or executive, and a prices and classification commission. The " base price " fixed by the cartel applied to Thomas (Bessemer Basic) Steel, and the prices of other classes of product were fixed in relation to the base or standard price. All the steel and steel products made by the firms were sold at the authorized prices to the cartel, within which special committees were formed to deal with special problems. Thus, one committee was formed to deal with the internal market, and another committee to deal with foreign trade. Steel rails and railway materials were controlled by one special committee, and joists and channels by another.

It will thus be seen that the Steel Cartel was an elaborate and powerful organization. The German market was

protected by import duties, and, at the suggestion of the cartel, merchant rings (price associations) were formed in different regions for the control of prices in the German market. The prices to consumers were nominally fixed by the merchant ring, but it is evident that the cartel was consulted. The cartel was also a powerful factor in the markets of the world outside Germany. It had agents in every country, and as these were able to quote prices for a large variety of products, they enjoyed a considerable advantage over those agents of competing firms who could only quote for a small group of products. The cartel maintained an elaborate organization for collecting information from all parts of the world. It was able to exercise economic pressure upon the Belgian and Dutch State railways and, by threatening to divert the traffic, to secure rebates. It built up a forwarding and shipping agency of its own, and the largest firms in the cartel maintained their own fleet of ships. It entered into agreements with industrial combinations in other countries, and was a member of the International Steel Rail Syndicate, to which reference has already been made. In this country it was represented by merchants who were largely at its mercy, but as these merchants were useful in collecting small orders which the cartel would not handle individually, there were advantages to both sides in the arrangement. Again, the cartel was able to charge different prices in different markets. The domestic market was protected, as we have seen, by import duties, consequently the monopolistic cartel was able to charge relatively high prices in that market, which thus carried a disproportionate part of the overhead charges of the industry. In foreign competitive markets the cartel charged a price based largely upon prime costs, and, being further assisted by preferential railway rates (both in Germany and in Belgium or Holland) and shipping charges, it was frequently able to sell steel in this country at a price considerably below that charged by the British manufacturer. The Steel

Cartel was, therefore, a powerful competing unit in the British and overseas markets.

One further activity of the Steel Cartel deserves comment. The section of the steel trade producing joists and channels for the building industry experienced considerable competition through the use of concrete for building purposes. The cartel, therefore, started an advertising campaign. It advised architects upon steel-girder work, spent considerable sums upon research work, and published a journal to advocate the claims of that type of structure in which they were interested. By such methods they sought to kill the competition of substitutes.

Cartels and industrial organization

It is generally assumed that the cartel produced considerable effects upon the organization of the steel industry. It resulted, we are told, in the amalgamation of firms within the cartel. Before an allocation was made a large firm bought up smaller firms in order to increase its own quota, and when trade depression occurred, the firm kept the larger works fully employed and closed down the smaller and less efficient ones. The formation of the cartel also resulted, we are told, in vertical integration. This was particularly noticeable after the formation of the Westphalian Coal Syndicate. The quota of the individual mining firm referred to the coal which the syndicate permitted to be produced for the general market, but the production of coal used in the firm's own blast furnaces and steel works was not regulated in this way; consequently mining firms which possessed steel works were unduly favoured, and a tendency towards vertical integration was created or strengthened. Similar considerations applied in the case of iron and steel. " Mixed " works, that is, works in which iron, steel, and steel products were made, received a " quota " of steel (or of iron, from the cartel in that trade), for the general market, but the production of steel required for further manufacture was not controlled. Consequently " pure " steel works were linked up with blast furnaces on the one side and, on the

other, with rolling mills and other manufacturing plants; this was done with the object of evading the consequences of control. To what extent these general conclusions are true it is difficult to say. Vertical integration was in any case inevitable. The economies of both physical and financial integration, to which reference was made in Chapter IV, are so important that the same result has been produced by the force of competition in this country. It would be more correct, perhaps, to say that within the cartels, amalgamations and combinations, both horizontal and vertical, were hastened rather than ultimately caused by the formation of the cartels themselves.

Economies in marketing

It will be evident, from what has already been said, that the cartel system may achieve substantial economies in marketing the product. Competitive advertising is no longer necessary, and constructive advertising is possible upon a scale far beyond the reach of firms competing with each other. The marketing of groups of allied products by a single agency is also more economical than separate marketing by individual firms. The collection and distribution of statistics relating to the industry and its markets, actual and prospective, react upon efficiency. Research of the kind pursued by the "joists" committee (of the Steel Cartel) into the building industry is an advantage which is not shared by firms competing with each other. These are real economies, and should be distinguished from those advantages in selling due to monopoly. The latter increase the power of the seller in bargaining with the buyer (and will be considered later); the former represent an economy of human effort and so strengthen the tendency towards increasing returns.

Comparison with trust

For three reasons the cartel is regarded by many as a superior method of organization to the super joint-stock company known as the trust. First, it is not exposed to the danger of over-capitalization; secondly, the manufacturers retain their financial independence and remain in complete control of their establishments; thirdly, its

fate does not lie in the hands of one man or a small group of men. We shall return to consider these reasons after having described the essential characteristics of the trust. Another point calls for consideration at this stage. It is sometimes argued that the cartel system tends to stereotype an industry by retaining the less efficient firms. The latter acquire a sort of vested interest which is a real financial asset. It is true that the members may make private voluntary arrangements whereby the quota of one is transferred to another, but the former receives compensation, and the sum so received has to be deducted from the proceeds due to the arrangement in order to measure its net gain to the stronger firm. It is impossible to make any general statement regarding the validity of this contention: much depends upon the circumstances of the case. A standard price (to the members) does not, as such, tend to preserve inefficient firms: a competitive price is a standard price. Moreover if, during depression, prices are relatively low, the manufacturing costs to the inefficient firm may be so high as to make the acceptance of the quota unprofitable. In so far, however, as the cartel price is above the competitive price that would be reached during periods when demand falls below the full producing capacity of the industry, the system probably tends to soften the blow for the inefficient firm; its status or vested interest in the cartel gives it a chance of securing a sort of pension from some more efficient firm which desires to increase its own quota.

TRUSTS

Nature of the trust

The third type of industrial combination is that usually found in the United States of America (though there are examples in other countries) and known as the trust or corporation. Essentially a trust is a business unit, which aims at monopoly by owning and controlling as many establishments as possible in the trade. It may be regarded as a super joint-stock company; it controls the

manufacturing as well as the marketing side of the business. The precise legal form in which it exists varies from time to time and from place to place. In America it has been driven from pillar to post by the law, the aid of which has been invoked by the public in its fight against monopoly. Thus, for example, the original trust company gave way to the holding company. But this was merely a change in form, and did not destroy the business unit nor the essential unity of control. We are merely concerned with the economic significance of industrial combinations, and it is, therefore, sufficient for our purpose to observe that a trust is a business unit of the nature of a joint-stock company. Unlike the cartel, the trust is in complete control of the establishment, which is but a branch of the larger organization, even when it appears to be carried on, under its original name, as a separate entity The trust may close any establishment under its control, or extend it, or use it for other purposes. The managing body is but the servant of the trust.

Horizontal and vertical combination

Again, the trust is essentially an "horizontal" combination, that is, it controls the establishments in which similar processes are conducted and similar products made. But it may also control other stages of manufacture, and so represent a form of "vertical" combination. Thus, for example, the United States Steel Corporation owns a large number of coal mines, as well as blast furnaces, steel works, and factories in which steel products are made. Not only is it true that trusts may control several stages in production, but it is usual for them to do so. In this way they achieve the economies of vertical integration to which reference has already been made.[1]

Moreover, they prevent the creation of a monopolistic trust in the industries upon which they are dependent for raw materials. It is, however, important to distinguish between the process of vertical integration and that of trust formation. A trust, as already stated, is essentially

[1] *See* Chap. III.

an horizontal combination which aims at a monopoly of the supply of a particular commodity or group of commodities. The economies of vertical integration are such that the process is one which is also found in industries which remain highly competitive, and is adopted by firms which aim at making themselves efficient competing units. Thus, for example, the firms competing with the United States Steel Corporation control as many stages of production as the Corporation itself: self-preservation has necessitated vertical integration.

Trusts and monopoly

It is also important to distinguish the trust from those firms in this country which control several establishments yet do not aim at, or cannot hope for, monopoly control. The aim of the trust is to achieve a substantial monopoly and thus secure gains due to monopoly. In defence of their action, the architects of the trusts point to the economies which are effected by that form of combination. They argue that it is a representative form, that is, that it is in the main line of industrial evolution. The law of increasing returns, it is said, continues to operate through combination until monopoly is ultimately achieved.

There are, clearly, cases in which it may be said that efficient organization is inconsistent with direct competition; such industries are essentially monopolistic. It would be sheer waste of effort to have two railway companies serving precisely the same area. The London Passenger Transport Board is defended on the ground that unification of control of the London tube and bus traffic is a condition of efficient service. Two small gas or electricity supply systems serving the same area would be far more expensive to maintain than a single system. Two or more competing postal systems would entail waste of economic effort.

Can it be said of any manufacturing industry that it is essentially monopolistic, that is, that it could produce goods with less expenditure of human effort if it were controlled by a single unit than it would if its control were diffused and the separate units competed with each other?

Clearly, the answer must depend partly upon the size of the industry. If it were a small, strongly localized industry possessing a monopoly of the markets of the world, the answer might be in the affirmative. If, however, it were a very large, widely distributed industry, such as coal mining or steel production, the answer would obviously be in the negative. It would be beyond the powers of any firm to control and organize efficiently the production of coal in all parts of the world. There are limits to the operation of the law of increasing returns. It is argued, however, that in some industries the limit is not reached before a monopoly of production in one country is secured.

Monopoly and efficiency

The economies said to be achieved by *monopolistic* trusts are of two classes, those due to the size of the business and those due to monopoly. The first consist, in the main, of those economies specified in a previous chapter.[1] Stress is laid upon the economies of specialization and standardization; the saving due to the elimination of cross freights; the reduction in management costs; the economies achieved by closing down inefficient works and departments, by pooling patents and secrets of organization, and by introducing the system of comparative accounting. These economies, in so far as they exist, are due to size, not to monopoly, and they may reach their limit before the monopoly stage is reached. The economies in the sphere of marketing are those already indicated in dealing with the cartel. They are due partly to size and partly to monopoly, that due to monopoly being the elimination of competitive advertising. A further economy which cannot be placed in either of these two categories of activity is also associated with monopoly control. A monopolistic trust is able to adjust supply to demand with greater success than a group of competing firms. The latter, during periods of great activity and high prices, are apt to increase their combined producing capacity beyond the effective demands of society. The

[1] *See* Chap IV.

result is periodic over-production, low prices and unemployment. An industry competitively organized has thus to carry a heavier burden of standing charges than need be, and much expenditure on capital is wasted. A monopolistic trust is faced with the simpler problem of estimating the total demand of the market, and is less liable to error than the individual firms in a competitive industry, who estimate their individual demands. The finer adjustment of total supply to total demand is said to be an economy of considerable importance.

Comparison with cartel

In the section on the cartel three reasons were given for the preference expressed by some people for the cartel over the trust. In the first place, the cartel is not exposed to the danger of over-capitalization. When a trust is formed by the amalgamation of competing firms two classes of stocks are usually issued, debenture and ordinary. The former may be issued to an amount at least as great as the total value of the tangible assets. The promoters estimate that as the result of the amalgamation the profits will be increased, and they may issue ordinary stocks to an amount representing the capitalized value of the additional profits due to monopoly. Such stocks are, therefore, not represented by tangible assets, and are known as " water " ; the capital of the trust issuing such stocks is then said to be " watered " or " inflated." [1]

In the second place it was stated that the member firms of a cartel retained their individuality and, in the third place, that its fate did not rest in the hands of one man or a small group of men. A trust is controlled from headquarters ; the managers of factories are but subordinates

[1] Over-capitalization is common in competitive industry. It matters little, from one point of view, what the nominal capital of a company may be ; the capital value of the business as a going concern is the capitalized value of the actual and anticipated profits. Thus, if the ordinary shares of a company represent plant and material and it consistently fails to pay a dividend, the shares, when valued for sale in the market, will reflect such failure. (*See* Book III, Chap. XIII.) But watered capital hides the true position from the public and hinders the mobility of capital.

who must obey their rulers. Here, we are told, is to be found the chief weakness of trust organization in large industries such as steel manufacture. It would be folly to dogmatize on this subject. To promote a trust is obviously a far simpler matter than to control its destinies. Great business men have been found who were able not only to build up large industrial combinations, but also to manage them after their formation. When, however, their places were filled, their successors, trained in a different school and lacking, perhaps, the outstanding qualities of the pioneers, proved unequal to the task. Moreover, a large organization is apt, in spite of the ability of its controller, to become over-departmentalized, and to suffer from that kind of routine known as " red tape." Nevertheless, it should not be forgotten that our ideas of efficiency, and of what is possible in the way of control, are constantly changing. There are people who now effectively control organizations, such as railways, which, fifty years ago, would have been regarded as beyond the controlling capacity of one man. Moreover, boards of directors in this country and, in America, committees working under a president are rapidly adapting themselves to meet new requirements. New methods of devolution and co-ordination of function and authority are constantly being devised. Until far more research has been made into the subject it is impossible to express any confident judgment upon the relative efficiencies of the competitive business unit, the cartel and the trust. All that may be said, in our present state of knowledge—or ignorance—is that the greater the degree of centralization of authority the greater the seriousness of error when it is made. Under the competitive system the undesirable consequences of a competitor's error are more or less confined to his own organization ; the error may even benefit his competitors. In a trust the effects of an error at the top may reverberate through the entire organization ; a serious error may bring untold loss and suffering.

APPENDIX

This chapter has been left as it appeared in the first edition. Since the publication of that edition many changes have taken place in the organization of industry. The cartels in the German coal and steel industries, to which reference has already been made, have been materially influenced by the "rationalization" movement. In Great Britain an important trust has been formed in the chemical industries, while the organization of the coal-mining industry has been profoundly influenced both by voluntary effort and by legislation. The time has not yet arrived for a final estimate of the effects of such changes. Not only is the process of change still continuing at a rapid rate, but the newly formed and re-formed organizations have been working under highly abnormal economic conditions, by which they have been largely shaped and which have delayed the economic tests of fitness normally employed. But the distinction between the main types of organization described in the text still holds good; the illustrations there employed remain equally useful for the purpose of analysis.

CHAPTER VII

INDUSTRIAL COMBINATIONS (*contd.*)

ORGANIZATION OF LABOUR

Purpose of trade unions

A TRADE UNION may be described as a permanent association of employed workers for the purpose of maintaining and improving the economic status of its members. The origin of trade unionism can be traced to that stage in the progress of division of labour at which there were differentiated two distinct economic classes—the employer and the employed worker. To the extent that the apprentice became a journeyman, and the journeyman normally expected to become a small master, there had previously been no division between the two classes. But when, for the average journeyman, the prospect of mastership in the craft disappeared, through changes in the conditions and methods of production, involving a diminution in the number of masterships relatively to the number of journeymen's jobs, there emerged a real cleavage, and the need was felt for an organization different in type from the earlier guilds, which consisted of master craftsmen as well as of journeymen. While the need existed earlier, the opportunity for organization was lacking until the factory made its appearance. Only then did the workers meet together in relatively large numbers and develop that acquaintanceship which is an essential condition of all organization. To-day trade unionism has covered the greater part of the field of industrial effort. Not only is a trade union regarded as a desirable institution by the employed workers of a trade or industry, but it has also become an adminstrative necessity from the point of view of the employer, for it is inevitable that, where a firm employs hundreds of workpeople, the conditions of employment should be made the subject of a comprehensive arrangement.

Basis of association craft or industry

Having seen that trade unions are inevitable and necessary, the next step is to find out what is the natural basis of organization. The earliest associations were known as craft unions; that is to say, the membership of each union was restricted to those who followed a particular craft, such as fitting or moulding, joinery or plastering. A great many such unions still exist. In some of the unions formed later, the unit of organization is not the craft, but the industry or service, such as coal-mining or railway transport. The craft is not necessarily restricted to one industry. A fitter may be employed in any one of many branches of engineering, or, again, as a maintenance worker in boot and shoe manufacture, steel production, or any of the numerous other industries which utilize machinery; a joiner may be engaged in ship construction, cabinet-making or house-building. It is, therefore, inevitable that a conflict should arise between unions organized upon these two bases. This conflict may be seen in its most pronounced form in railway transport. The railway companies employ skilled workers from many different crafts in the railway shops, where locomotives and coaches are built. Many of the men belong to their respective craft unions, for the craft feeling remains exceptionally strong, and even where the craft is more or less confined to one industry it frequently happens that the workers refuse to join the industrial union, preferring to form a craft union for themselves. Thus, in the railway industry, in addition to the craft unions in the shops, there is a separate craft or occupational union for locomotive drivers and firemen, although a considerable proportion of such workers have thrown in their lot with the industrial union.

The persistence of the craft ideal is due to the feeling that there is a greater degree of community of interests between those who follow the same occupation and have a life interest in that occupation than there is between a group of people who are, for the time being, employed in the same industry. The industrial union predominates

in those industries, such as coal-mining and steel manufacture, in which the average worker finds his life occupation.

There is a third type of union which aims at serving the needs of those who are neither skilled workers, more or less tied to one craft, nor special workers tied to one industry. They may be "general" workers, or their work may be unskilled or semi-skilled. They are scattered over miscellaneous industries, such as gas production, general transport, rubber manufacture, and the unskilled branches of industries such as engineering, in which the skilled workers are members of their respective craft unions This third type of union, though in theory complementary to the first two, is apt in practice to find itself in competition with them. It will thus be seen that the domestic difficulties of trade unionism are not yet solved.

From the employer's point of view the simplest unit of organization is the industry, for in that case he is only required to negotiate with one union. As things are at present the employer may find (as in the tube industry) that all his process workers, constituting perhaps 90 per cent of the whole, are members of one trade union, while the remaining 10 per cent may be scattered over a large number[1] of craft unions, and in the absence of special arrangements it would be necessary for him to negotiate separate agreements with each of those unions. Consequently, where, as in engineering, the skilled workers are distributed among several craft unions, it has become necessary for the latter to form a joint committee for the purpose of negotiating with the employers or the employers' federation.

Employers' associations

The function of a trade union is to make a collective arrangement with the employers defining the terms of employment. For this purpose the employers form themselves into a federation or association, and the two representative bodies enter into a collective agreement, the

[1] In one case known to the author the number was 22.

terms of which cover the employment of those workers who are both employed by the federated employers and members of the trade unions concerned. In practice, however, employers either insist that all their workers should be members of one of the trade unions, or, if there is no such compulsion, they pay the non-union workers in accordance with the terms of the collective agreement. It is left to the trade unions, if they are strong enough, to enforce the terms of such an agreement upon the non-federated employers. It should be observed, however, that the agreement is not enforceable at law. It is a purely voluntary arrangement, having no legal sanction; it is not a contract, but it defines the terms of the individual contract between the individual worker and his employer, and such contract is enforceable at law. Thus, for example, if a trade union enters into an arrangement with the employers' federation for a given wage over a given period, and the workers employed in an individual factory strike for new conditions during the tenure of that agreement, but do not violate the terms of their own individual contract, they are acting within their legal rights, though they are not carrying out their moral obligation.

From what has been said, therefore, it will be seen that a trade union is strictly analogous to an association of employers formed for the purpose of controlling the prices of their products. Both are selling organizations. But an employers' federation for negotiating with trade unions is not analogous to either of these, for the federation represents a purchasing association. Consequently there is no relation between the units of organization on the side of the employers for the two separate and distinct functions. Thus, for example, the employers' federation in the steel industry would cover all those firms which employ steel workers. A selling syndicate in the rail-making trade would cover only that fraction of firms which are engaged in making steel rails. It has been said that a trade union is strictly analogous to an association of firms for the

regulation of prices. Both aim at monopoly, that is, control of the market, but they differ from such a monopolistic combination as an American trust, that is a super-joint-stock company enjoying a monopoly of its market. The trust aims at maximizing the profit on the single body of capital, and we shall find in the next book that in order to do so it may charge different prices to different classes of consumers or in different parts of the market. But a price association endeavours, through monopoly, to regulate prices for the purpose of enlarging the individual profits of the constituent firms. Similarly the trade union endeavours, through monopoly, to regulate the conditions of employment for the purpose of improving the economic status of its individual members.

Collective agreements

A collective agreement standardizes the conditions of employment, and such standardization is of twofold advantage. In the first place, it provides a strong and direct stimulus to technical progress. Where the conditions are not standardized, progressive employers (who, by improving their equipment and administration, are able to reduce costs without interfering with the conditions of employment) may find that their less enterprising rivals are able to neutralize the effects of their own inefficiency by reducing wages or increasing the hours of their own workpeople. In such circumstances initiative would be stifled and industrial progress retarded, whereas standardization secures that efficiency will be rewarded. In the second place, a collective agreement standardizes the conditions of employment for an agreed period, during which labour costs are fixed. Consequently one element of uncertainty is removed, and an employer is able to enter into contracts for future delivery with greater confidence than would otherwise be the case. A certain degree of stability is essential to private enterprise, and, under normal circumstances, that is secured through collective agreements.

Restrictive action

We described a trade union as an association formed

for the purpose of economic defence. In order to secure control over the conditions of employment of its members, it seeks a monopoly. Having secured a controlling influence, if not complete monopoly, it sets up standard conditions, in particular a standard rate of wages. Its policy with regard to the various controversial issues that are raised in the ordinary course of employment is always dictated by the necessity for preserving the standard rate, and, as a means thereto, of maintaining its own strength. For this reason a number of unions, more particularly the craft unions, establish certain customs, whose effect is frequently to restrict output. Of recent years greater attention has been devoted to their restrictive aspect than to the original necessity for their establishment, but it would be a mistake to assume, therefore, that they are the arbitrary creation of people with a double dose of original sin. Whether or not they are defensible under existing conditions, they are certainly intelligible as survivals of a past that held many dangers for members of trade unions. The effects which these customs produce on economic society will be considered in due course;[1] at this stage I merely call attention to them as illustrations of economic influences which operate upon industry to-day.

Conciliation and Arbitration

Necessity of bargaining machinery

The provision of adequate machinery for bargaining and for the settlement of differences, though no guarantee of peace, is clearly a necessary condition of peace, not only in industry but in all spheres of activity. In nearly every department of life provision is normally made both for conciliation and for arbitration. Moreover, in those cases which lie outside the sphere of law, provision is made for the guidance of public opinion. Moral influence acts as a substitute for law. An illustration of this important

[1] The trade-union customs refer mainly to the conditions of apprenticeship, the introduction of new machinery, the methods of remuneration, the regulation of output, and demarcation, that is the exact definition of the boundaries of a skilled craft.

fact is to be found in the provision made in the constitution of the League of Nations for the settlement of international disputes.

Pre-war conciliation boards

The machinery of arbitration and conciliation now at work in industry in this country represents the latest stage in an evolutionary process, and is mainly adapted to the requirements of highly-organized industries. It is almost entirely voluntary, and its functions and value can best be understood and appreciated if they are examined in their historical setting. During the nineteenth century wages, as already indicated, were determined by collective bargaining, and the joint body (representing both employers and employed workers) which discussed proposals put forward by either side was called a wages board or a conciliation board. Usually the leader of one side acted as chairman, with the leader of the other side as vice-chairman, but in some cases the meetings were presided over by an independent chairman. These boards might meet either at stated intervals or only when the occasion demanded it. It has been urged against the latter method that the board would, in these circumstances, meet only when there was already an atmosphere of contention, and that consequently the two sides would come to regard each other merely as opponents. Against regular meetings, on the other hand, it has been urged that friction might arise unnecessarily, since either side might make the meeting an opportunity for raising matters which could become contentious, but which would not have been regarded as important enough to warrant the calling of a special meeting.

Before the War the most common method was to negotiate wages settlements for a given period, such as a year; the conciliation board met before the end of the period for the purpose of continuing the settlement or amending its terms for a further period. In some industries, such as iron and steel manufacture, the boards went a step farther, and determined the basis or principle of wage determination on the assumption that the principle should hold good

indefinitely. Having settled all matters of principle in advance, disputes could only occur upon questions of interpretation or local application, and it was therefore possible to provide in the agreement itself that, if and where a dispute occurred, the matter should be automatically referred to arbitration The great majority of industries, however, were not so fortunately situated. There was no agreed principle of wage determination, and when negotiation broke down there remained but the alternative of suspension of work, or reference to arbitration.

Difficulties of arbitration

Arbitration, however, presented two difficulties. One was that of agreeing upon a suitable outside arbitrator. This was overcome by the acts of 1896 and 1906, under which the Board of Trade was empowered to appoint an umpire at the request of the parties to the dispute. The second difficulty was of a more serious character. Where there was a vital principle at stake neither party was ready to submit the case to an outside individual or tribunal, and the dispute then became a trial of strength. If it did not develop into a strike or lock-out it was because the parties were able to gauge each other's strength fairly accurately, in which case a settlement was usually negotiated, the terms of which reflected the relative strength of the disputants. If there was an element of doubt in the matter, the dispute generally ended in a stoppage of work.

It will be observed that during this period the idea of a "just wage" was but dimly conceived. Wages were usually regarded as the subject of a bargain whose terms were determined by the relative strength of the two parties. Moreover, a quarrel, when it occurred, was regarded as a "private" affair, with which the public had no concern. The threat of suspension, in the form of either a strike by the workers or a lock-out by the employers, was regarded as a legitimate and morally defensible weapon of bargaining in very much the same way as it is regarded by the seller of goods and his customers. By the end of the century,

however, a considerable change had taken place. Considerations of " justice " were urged with growing strength, and appeal was made to the tribunal of public opinion. It came to be recognized that the moral support of the community was a considerable factor in the struggle, and each of the disputants endeavoured to secure this support. Moreover, in a large and growing number of industries, strikes and lock-outs quickly affected the convenience of the public, and in extreme cases endangered the life of the community, with the result that disputes were no longer regarded as purely domestic affairs, but as events in which the public was an interested third party. The growing influence of moral factors in industrial negotiations, and the steadily increasing interest of the outside public, led to the recognition of the inadequacy of the then existing machinery of conciliation and arbitration.

Industrial Courts Act, 1919

Such was the position two years before the outbreak of war, when the historic struggles in the coal-mining and railway industries had shaken the industrial structure almost to its foundations. Then followed the War, during which not only were the moral aspects of wage settlements emphasized, but the interest of the third party stood out more clearly than ever before. The Industrial Courts Act of 1919, which defines the present relation of the State to industrial disputes, represents a natural development from the circumstances and ideas of the period ending with the return of peace in Europe. The Act has two main provisions. In the first place, it provides a machinery of arbitration. In this respect it only differs essentially from the earlier Acts (1896 and 1906) in establishing a permanent Court of Arbitration, which may also be employed by the Minister (of Labour) as an advisory body on matters relating to disputes " or any other matter which in his opinion ought " to be referred to such a body Arbitration under the Act is only a final resource to be employed when other methods have failed. There is not the slightest trace of compulsion in the arbitration clauses,

Arbitration machinery

and the consent of both parties (after report by either of them) is necessary before the Minister can take action. Moreover, the Minister, instead of referring the dispute to the Industrial Court, may call upon a single arbitrator, or an *ad hoc* tribunal, consisting of representatives, in equal numbers, of the two parties and an impartial chairman.

Courts of Inquiry

The second main provision is a novel one. The Act empowers (but does not compel) the Minister to " inquire into the causes and circumstances " of any trade dispute, actual or apprehended, and to " refer any matters appearing to him to be connected with or relevant to the dispute to a court of inquiry appointed by him for the purpose of such reference, and the court shall, either in public, or in private, at their discretion, inquire into the matters referred to them and report thereon to the Minister." The court of inquiry is the machinery devised to fill the gap created by those changes in circumstances to which reference has already been made. The Act, in this part, gives effect to the view that the public is a third party which is vitally interested and should not be ignored. It provides the parties with an opportunity of submitting their case to the test of public opinion and of thus appealing to moral law. The clauses of the Act referring to courts of inquiry are very general. A court may consist of one or of several persons. The engineering inquiry of 1922 was conducted by one person only, but the usual practice seems to be to appoint three members, namely, an independent chairman together with one employer and one representative of labour. The court may restrict its attention and confine its report to questions of fact, or it may submit opinions and recommendations for the consideration of the parties. Such recommendations, however, are not of the nature of an arbitration award. They merely present the case as it appears to an outsider or group of outsiders, and therefore as the general public might reasonably be expected to view it. Recommendations, where they are made, assist in guiding public opinion,

and therefore in deciding which side is to receive moral support.

While some committees make definite recommendations, others restrict themselves to a report on the facts of the case. Whether or not definite recommendations are desirable must be determined by the committees themselves. In some disputes the public is baffled by the difficulty of securing adequate information upon which to form an opinion, and a report on the facts is regarded as of extreme value. In others the principles at stake are so difficult to evaluate that opinion, even on the basis of undisputed facts, must be hopelessly divided. The elasticity of the system is said to be one of its chief merits. It provides a sort of industrial court of equity before which the parties may plead their case. Its establishment implies the view, now generally accepted, that moral issues are important in industrial affairs, and it may thus be considered as offering not only to the worker, but also to the employer, an opportunity of justifying his action to his fellow citizens, and as bringing an element of publicity into industrial negotiations at the stage where they cease to be a private matter. In suitable cases the court may even act as a mediator and, if successful, merely report success.

Economic Associations

Price associations

Industry, in the broadest sense, is honeycombed with associations and institutes formed for economic purposes, and it may be worth while attempting to classify them according to their essential functions. The best-known though not, perhaps, the earliest associations are those concerned with prices or conditions of work. These are most common among employed workers and, as I have already shown, are then known as trade unions. Such unions are concerned mainly with standard rates of wages, hours of work, and other conditions of employment. They are essentially price associations, aiming at monopoly and the favourable results that may be secured by monopolistic

control. In that respect they resemble associations of manufacturers or merchants designed for the purpose of controlling prices, and may be grouped with the former as monopolistic associations formed with the object of regulating selling prices. Employers' federations, on the other hand, are of the nature of purchasers' associations. Like the others, they aim at monopoly and, through monopoly, at regulating prices. Although their monopoly is that of buyers, not of sellers, they may be placed in the same category, which thus includes all associations which are primarily concerned with the conditions of purchase or sale, and seek control through monopoly.

Professional associations

The second category consists of those organizations which concentrate attention upon the work itself rather than upon the economic conditions under which it is performed. Emphasis is laid mainly upon training and standard of attainment. Thus, for example, a number of institutions exist in the engineering industry, including the Institutes of Civil, Mechanical, Mining, and Electrical Engineers. These are in no sense trade unions. Similarly, the Law Society and the General Medical Council are regarded as professional organizations, concerned with education and professional status and obligation, that is with the work itself rather than with economic conditions. Moreover, the danger to society of " quackery " in both law and medicine has necessitated closer co-operation between these societies and the State than has hitherto been necessary in other professions. That they have exercised some measure of control over the financial terms under which many of their members work is but an indication of the difficulty of separating work from the economic conditions under which it is performed. The distinction that we have drawn, though useful and important, is by no means final.

The analysis may be carried farther. The societies falling into the second category may be divided broadly into two classes, the first of which may be illustrated by reference to the Institute of Chartered Accountants or

the Society of Incorporated Accountants and Auditors. These are in direct line of descent from the guilds of the fifteenth century. The Chartered Institute does not seek control through monopoly; there is no attempt to limit entry or to stifle competition. As in the case of law and medicine, the apprentice is called upon to undergo a prescribed course of training and to pass examinations; he is only admitted to full membership when he has satisfied the prescribed tests of proficiency. When he is a fully-fledged accountant he may enter some industry as a salaried expert in his own branch of work, or join an existing firm of accountants as partner, or start a business of his own; the great majority of apprentices are "master accountants" in the making. The unit of "business" organization is still so small that employers and workers are not differentiated in the manner of engineers and shipbuilders.

In some branches of activity, however, the unit of organization is so large that even highly-trained apprentices must remain employed workers. Banking, insurance, transport, journalism, and teaching afford striking examples of this class. In banking there is an Institute of Bankers which, like the accountants' institutes, imposes certain tests of eligibility. Whosoever passes the examinations, and satisfies other minor conditions may become a member, whether he be the managing director of a large bank or one of his junior clerks. But there is not the remotest prospect that his clerks will ultimately fill the director's shoes. The average bank official, unlike the average accountant, will remain an employed worker all his life, and the same may be said of the average insurance or transport official, journalist, or school teacher. What has been the result? Bank clerks, while realizing the importance, within its own sphere, of the Institute of Bankers, have also realized that there remains a gap, which has been filled by the formation of the Bank Officers' Guild. This guild is essentially a trade union; that is,

it is a body primarily concerned with the conditions of work. The Institute of Bankers, on the other hand, is concerned with the work itself. Similarly, the Chartered Insurance Institute, the Institute of Transport, the Institute of Public Administration, the Institute of Journalists, and the Teachers' Registration Council are primarily concerned with what may be called professional problems. In all cases there were gaps to be filled by the formation of associations of the trade-union type, such as the Society of Civil Servants, the National Union of Journalists, and the National Union of Teachers. Usually, indeed, the " trade union " has appeared first, and the institute second.

Growth of professionalism

The above analysis, though brief and imperfect, points to certain broad generalizations and raises questions of importance, even in manufacturing industry. First, it may be noted that the formation of an institute represents an attempt to secure professional status for people who have not hitherto been accepted within the " charmed circle." The movement has already spread far, and the educational policy of the Institute of Certificated Grocers suggests that it may ultimately cover the whole field of economic activity. It emphasizes the importance of education and the need of " professional " standards of conduct. By stressing responsibility and obligation it gives new dignity to every form of economic effort.

Institute and union in same industry

Secondly, it may be observed that in every branch of economic activity where the unit of organization is large enough to prevent the average skilled worker from becoming an independent worker, there are two conference tables, a round table and a rectangular table. The members of the institute sit at the round table to discuss problems which affect all. Every member of the calling may become a member of the institute ; no distinction is drawn between " high " and " low," or between employer and employed. The general manager of a railway and the railway clerk are members of the same Institute of Transport. The

general manager of a bank meets his clerk on equal terms at the Institute of Bankers. The permanent secretary of a government department enjoys at the Institute of Public Administration no privilege which is not shared equally by the most junior administrative official admitted to membership. At the rectangular table they sit on opposite sides. The one in each case represents the employer; the other represents the employed workers.

The editor of a newspaper is eligible for full membership of the Institute of Journalists but, since he represents the proprietors of his journal, he may only be an associate member of the National Union. The manager of a tramway company or the district superintendent of a railway is eligible for membership of the Institute of Transport, but neither may be a full member of the union to which the clerks belong. They cannot sit on one side of the rectangular table at the same time as they and their interests are represented on the other side. But they are all members of the same industry, subjected to the play of similar economic forces and having many interests in common. The institute is a symbol of the fact that all the members of a calling have common interests. It has no counterpart in manufacturing industry, nor, in so far as the manual workers are concerned, in transport and commerce. Briefly, it may be stated that the institute movement has hitherto covered only those employed workers who are in receipt of salaries, and has not spread to wage-earners.

Whitley Councils

The inadequacy of the machinery of conciliation to meet the growing needs of industry led to the formation, during the war, of a committee of which Mr. Whitley, then Speaker of the House of Commons, was chairman. This committee recommended the establishment of works committees, to which reference will be made in the next chapter, and of National Joint Industrial Councils in highly organized industries. The proposed councils were to differ from existing conciliation boards in two respects. They would meet

more frequently and at regular intervals. Moreover, they would discuss matters of common interest, other than wages and conditions of employment, such as education and the future prospects of the industry. Unlike the Conciliation Board, the council would have an " open " agenda, upon which might be placed any subject relevant to the welfare of the industry. Many councils have since been established, but none in industries already highly organized. In all cases the councils have merely acted as wage negotiating boards. In general it may be said that the Whitley scheme became but the instrument for organizing, along lines already marked out, those industries that had not been organized before the War. It was not intended for this purpose, and must consequently be regarded as having failed of its real object. And its failure illustrates the difficulty of imposing, from without, " voluntary " constitutions upon industries in a self-organized industrial society. Private industry has not yet been " institutionalized " ; the problem remains to be solved of building up for each industry an institute, symbolized by the " round table," that is an institution designed to consider the work itself rather than the conditions of work.

CHAPTER VIII

BUSINESS CONTROL

The controlling entity

IN an earlier chapter a distinction was drawn between a factory (or other establishment), a business unit, and the legal entity which owned and controlled the business. It is now necessary to examine the economic significance of the form of ownership of any kind of enterprise, though we shall not be concerned with questions of law, as such. The most common though not the only types of business are the single-owner business, the private partnership, and the joint-stock company, in the last of which the liability of the individual shareholder is limited to the amount of his share. We need not concern ourselves with intermediate and other types, for it will be seen that all the problems examined in this chapter are raised by those already specified.

The one-man business

In the " one-man business " the owner provides all the capital and takes all the risk of the enterprise. He pledges not only the capital actually invested in the business but all his property, including his house and furniture. If he fails he may lose everything he possesses. If his capital is insufficient for his purpose he may borrow on mortgage from private investors or a bank, but the lenders do not usually accept any of the risk.

The partnership

The private partnership does not differ essentially from the one-man business, for, in the absence of a special agreement to the contrary, each of the partners is individually liable for the debts of the partnership to the full extent of his private possessions. The advantage of a partnership lies in the fact that two heads are better than one. The partners are usually interested in, and specialize upon, different aspects of the business, and they have confidence in each other. The prospect of becoming a partner is also a stimulus to a

young, ambitious employee which nothing can equal, unless it be the prospect of becoming an independent venturer. But the scope of an individual or joint venture is obviously limited by the need for capital, and when it grows beyond a certain stage it is usually converted into a joint-stock company with shares limited in the extent of their liability. The joint-stock company offers means of investment for the savings of individuals whose daily work lies elsewhere.[1] Moreover, by offering different classes of investments the company is able to appeal to investors of different temperaments. The cautious investor, whose motto is "Safety First," is attracted by the offer of debentures, which are, in effect, a loan on mortgage. The debenture-holders are guaranteed an annual payment of so much per cent on their holdings irrespective of the financial results of the undertaking. The interest on debentures is a charge upon the business. If the business fails it becomes the property of the debenture-holders, who may run it in their own interest. Those investors who incline towards security, yet are not averse from taking a slight risk, are attracted by the offer of preferred stock, which carries with it the first cut (of a specified percentage of the capital holdings) into realized profits. There are many kinds of preferred stocks. Some provide so much per cent, representing the first charge upon realized profits. If there are no profits in any one year the claim lapses. Others may be cumulative; if the realized profits are insufficient in any year to pay interest on the preferred

The joint-stock company

[1] The joint-stock system also enables investors to reduce the risk of investment by spreading their investments over a large number of companies and industries. In recent years investment trusts have sprung up which, in effect, spread the risks on behalf of individual capitalists, the latter investing their savings in the investment trust itself. Investment at second hand, through specialist agencies of this character, is already achieving important dimensions. When we add the investments of insurance companies (who hold a considerable fraction of the annual "savings" of individuals), banks, etc., and those industrial companies which invest their reserves outside their own business, it will be seen that the investments of this country are largely held by institutions, not directly by individuals

stock the deficiency is carried forward as a first charge upon the realized profits of the next year. Other kinds may be participating stocks ; if the realized profits exceed what is necessary to pay the specified interest, together with a specified rate of dividend to the ordinary shareholders, the holders of preference stocks enjoy a share of the residue. Those investors who are prepared to take greater risk with a chance of greater gain are attracted by the offer of ordinary shares. They take the residue of the realized profits after all prior charges have been met.[1] Here again there are variations in the degree of speculative risk that may be taken. Preferred ordinary stocks carry a claim to a certain percentage of the residue before the holders of ordinary stocks are entitled to any dividend. Thus they approximate closely to preference stocks. Deferred ordinary shares receive consideration only when specified dividends have been paid on ordinary shares. We need not enter into further detail regarding the various sub-classes of stocks and shares, the three main classes being debenture, preference, and ordinary shares.

Ownership and control

The control of the business is in the hands of those who accept the risks involved in its pursuit, that is it is vested in the venturers. Thus, in the case of a one-man business the owner is the controller. In the case of a private partnership control is vested in the partners jointly. In the case of a joint-stock company control is vested in the holders of ordinary shares. These are ultimately responsible for the conduct of the business. In practice they delegate their control to a board of directors, consisting of

[1] Before declaring a dividend upon the ordinary shares the company usually places a sum to reserve, which is a fund set aside to meet future contingencies. The reserve may either be used to develop the business without calling for fresh capital, or invested in other securities A firm is not compelled to place to reserve any part of its realized profits : these may be distributed in full ; moreover, a firm may draw upon reserves to enhance the dividends in any year. But it may not distribute capital as dividends. Since reserves become, in effect, part of the capital, the legal position was somewhat ambiguous, and gave rise to litigation. The general position is as stated above.

people who not only are regarded as technically efficient, but are also themselves important shareholders, and have, therefore, the same stake in the business as the remaining shareholders. Hence the main function of the shareholders is to appoint a kind of cabinet or controlling authority to which they delegate their functions. Such delegation is inevitable; for the shareholders may be very numerous, and their interest in the firm may be but a passing interest, their main work and efficiency being in other spheres. For this reason their control takes the form mainly of review and criticism and, if necessary, of revolutionary action through the removal of the board. Nevertheless, it is true to say that the ordinary shareholders control the business in the same sense as it is true to say that a democratic community governs through the appointment of a legislative authority. Before considering the *rationale* of such control or management, it is necessary to indicate briefly what control or management ultimately means.

The Meaning of Control

Contractual obligations

A business is a market-place where a number of contracts are negotiated. When a firm embarks upon an enterprise it first of all lays down the plant. In doing so it must observe the building by-laws and other enactments. It then enters into a contract or a series of contracts for raw materials, and, it may be, further contracts for the sale of the finished product. In neither case does the other party claim any right beyond that implied or made explicit in the terms of the contract itself. The third party with which the firm enters into contracts is the employed worker who supplies personal service. As the workers are employed for the greater part of the day under objective conditions which are determined to a large extent by itself, the firm incurs moral responsibilities of a materially different character from those involved in the other two types of contract. Nevertheless, in law there is no essential difference between them. The firm's contract with its

employee is governed by certain conditions or restrictions. These are laid down partly in Factory Acts, partly in collective agreements between employers' associations and the trade unions, and partly in trade-union and workshop customs and unwritten regulations. Thus, in the first place, the firm is compelled to observe certain minimum conditions relating to the fencing of machinery, the lighting and sanitation of the factory, and the number of people who may be employed in a workshop. In the second place, the collective agreements specify the rates of wages which must be paid for the different classes of work ; they prescribe the number of hours of work per day or per week, and the conditions attaching to overtime. They may even specify the methods of remuneration. In the third place, there are certain trade practices and workshop customs, such as those specifying the type of worker who shall be employed upon a given machine. It will thus be seen that the freedom of contract of the firm is regulated or restricted by certain rights of the workers, and that these rights are either legal, contractual, or customary. Finally, the employer is expected to provide what may be called reasonable conditions of work, to which reference will be made presently. Apart from these restrictions the parties are free to negotiate, and, except in so far as there may be anything to the contrary in the terms of the contract itself, the employing firm can do as it likes. Here it is master. It is free to organize the work ; it has power to make use of an opportunity, and scope to meet an emergency. It is responsible for giving and accepting contracts of purchase and sale, and it decides when and how to expand or curtail its activities. The rights of management consist in being able to do anything that the firm is not definitely prevented from doing in the four ways indicated above. The function of management is residual. The powers or rights of the controller are undefined, and by nature cannot be defined. The laws of the land may become more restrictive in character, but they are always

Obligations towards the workers

Residual freedom of action

known. Trade unions may become more powerful, extend their functions, and wrest more from the employers, but the new restrictions upon the latter's power are specified, and the employer knows what he has to reckon with. Trade customs may become more embracing, even onerous, but they must be clearly defined. Such encroachments upon the powers of management will change the character of the work of control, but it remains control over the unmapped area. However large the uncontrolled area may be, it is always carefully mapped. This is an essential part of the whole system of contract. It is upon the basis of those rights which are residual in character and are embedded in the general law of contract that the employer is able to enter into contracts, and we shall find that it is in this sense that control and financial responsibility are inseparable. What is defined is known, and can be discounted in advance. What is undefined cannot be discounted in advance.

Risk and Control

Justification of control (a) Efficiency

It has already been stated that control and financial responsibility are inseparable. This statement needs further elaboration. It is frequently assumed that the control of a business is vested in the firm because it is more capable of exercising the functions of management. It is assumed that the employed workers, because they perform a somewhat narrow range of operations, are incapable of exercising the functions of management either on the technical or on the commercial side. It is further assumed that control by a very large body of workers would result in chaos, that too many cooks would spoil the broth. Concentration of control is necessary in the interests of efficiency, and the efficient people are the employers.

This view is entirely erroneous. It is, of course, true that continuous exercise of the functions of management in all its branches necessitates the appointment of a single

controller or a very small committee of controllers. It is, moreover, true in the great majority of cases that highly trained experts can perform the functions of management more efficiently than a heterogeneous untrained mass of people, be they shareholders or workers employed by the firm in other capacities. But the right of control is a legal right which is not immediately connected with efficiency, though the efficiency of the whole economic system is bound ultimately to have a determining influence upon the nature of the law of contract. Indeed, there are wise and stupid employers, efficient and inefficient managers, successful and unsuccessful firms. There are employed workers who, however well trained they might have been in their youth, would never have become well equipped for the tasks connected with industrial control. There are others who might have been great organizers of economic effort but have never had the opportunity. The question of efficiency is not immediately relevant to the question of control.

(*b*) Assumption of risk

Again, it is frequently said that control is and must be vested in those who accept the risk of enterprise. The venturer controls because he ventures. Risk and responsibility are inseparable. There is a sense in which these statements are true, and another in which they are false. In order to examine them in detail it is necessary to indicate briefly those risks which are associated with business enterprise—for there are many kinds of risks. It has often been said that the only events that are certain are death and taxation. Even if society were static, life and industry would still be exposed to many risks. Some of these, such as earthquakes and hurricanes, are due to natural causes; others, such as accidents, are due to ignorance; the remainder, the moral hazards, such as bad debts, are the result of carelessness. But industrial society is not static. It is always developing, and is, therefore, exposed to risks created by change.

The dynamic risks of industry may be conveniently

divided into four groups. The first are those affecting industry as a whole. We are still everywhere feeling the effects of the World War, and have long been aware of the recurrence of booms and slumps which leave no industry unaffected. The latter will call for consideration at a later stage of our investigation. World-wide influences affect different trades in varying degrees, but in so far as they affect some more deeply than others they may be considered in the second group, namely, those risks which are or may be peculiar to an industry though general within that industry. An industry may be seriously injured by foreign competition, by the discovery of substitute products, such as oil and electricity for coal, or by a change of fashion ; or, as already stated, it may, like shipbuilding, be particularly susceptible to, and suffer in an exceptional degree from, the general fluctuations of industry. The mining and agricultural industries are further exposed to risks due to geological and climatic causes. The third group of risks consists of those facing the individual firm. A business firm not only shares those risks which have already been indicated but also faces other risks which are inherent in private enterprise. Some of these it reduces to a minimum by such means as the purchase or sale of futures or the control of the enterprise that supplies raw materials ; but essentially it takes the risk of enterprise, and by its own efficiency as a competitive unit endeavours to make that risk as small as possible for itself and as large as possible for its rivals. It is the great uninsurable risk of its life.

Many risks shared by workers

Practically all the risks to which reference has already been made are shared by the workers. Some, indeed, bear more heavily upon the latter or a proportion of the latter than they do upon the firm itself. General trade depressions cause an injury to the workers which is probably more serious than that suffered by the owners of capital. The second group of risks is a more serious consideration to the owners of capital, for the injury to an industry may be

permanent and the loss to the capital invested in the industry irrecoverable. Still greater is the burden, upon the owners of capital, of the third group of risks, that is those which are inherent in the competitive venture. If a firm proves to be inefficient or for some other reason suffers serious losses that are not shared by its competitors, the capital of that firm is either destroyed or seriously reduced in value. It cannot be withdrawn, for the money has been converted into plant. The owners of the capital cannot sell their financial interest in the firm without serious loss, for the value of their shares will reflect the injury that the firm has already suffered. Thus the owners of capital suffer loss because the capital itself has lost its mobility. The workers, on the other hand, do not lose their mobility to the same extent. If the loss had been general to the industry they would have had to seek some other occupation for which they would not be so well trained, but when the loss is confined to a single firm the workers may find alternative employment at their own occupation in the same industry. For this reason they are able to escape the consequences of the firm's failure far more easily than the owners of the capital invested in the firm. In that restricted sense it is true to say that labour does not fully share with capital the risk of industry, and it is on this ground that the existing system of control is defended by most of those who uphold the present system. But the defence is of doubtful validity. Its strength depends upon the individual case, and if it could be proved that there were specialized workers whose mobility was as restricted as that of capital and to whom the consequences of loss would be equally serious, such a defence would constitute a plea for the sharing of control by such specialized workers. But we are not here concerned with the justification for any particular method of control. It is our duty to try to discover why the control is actually exercised at the present time in the manner already indicated.

Risks of contract not shared by workers

The explanation is to be found in the fourth and last group of risks, namely, those which are embedded in the law of contract. A firm enters into contracts which are enforceable at law, and if it fails to fulfil those contracts it is liable to penalty. It will not and cannot enter into such contracts unless it is able to control the conditions necessary to fulfilment. So long as it is bound by a contract it is inevitable that the firm should exercise that control which makes it possible to carry out the terms of such contract. When we are in the region of inevitability questions of justification do not arise. The specific risk of contract is not shared by the workers, and for this reason a share in what is, strictly speaking, management is impossible. The firm retains that function because it does, in fact, accept the obligation of contract. It may delegate, but it cannot surrender its power. It is in law responsible to the other parties to the contract, and it must, therefore, retain in law its power to fulfil its responsibilities or discharge its obligations. Let us consider an illustrative case. A shipbuilding firm contracts to build and deliver the hull of a ship on a given date at a given price. That contract is enforceable in court of law. In entering into the contract the firm incurs many risks. It may have to pay more for the material than was expected; it may be hampered by labour troubles which are not covered by any safeguarding clauses in the contract; but more than all it incurs the risk that it will not be able to fulfil its contract. On the basis of that contract it enters into contracts for raw materials, such as ship plates, and to that extent covers itself against market losses and also non-fulfilment of contract for the delivery of the ship due to failure to obtain the necessary materials. The firm then enters into a contract with workpeople for the provision of services at certain stated rates of remuneration. The workers have entirely discounted the risk of the shipbuilding contract. They have no more legal obligation in respect of that contract than the steel manufacturer who supplies

the plates. In law they are only bound by the terms of their own employment contract with the firm. The shipbuilding firm, since it has not unloaded any of its own risk of non-fulfilment of its contract with the shipowner, clearly cannot surrender any powers of control to the men. It must retain within its own power the ability to carry out the obligation which it has incurred. If the firm employs each of the men on a weekly employment contract and the men do not discharge their own legal obligations and, therefore, create the expectation that if they continue to be employed the ship will not be finished in time, the firm retains the power not to renew the contract, thus liberating the yard and the machinery for another group of workers with whom, in an endeavour to fulfil the conditions of its own contract for the delivery of the ship, would enter into a similar weekly contract of employment. In other words, what the shipbuilding firm buys from the workers is a particular series of services extending over the period covered by the employment contract, and the workers have no greater claim for exercising control over the building of the ship as a whole than is possessed by the firm which supplies ship plates. Before the workers, as such, could jointly exercise any such control, they would need to form themselves into an association recognized as a legal entity and, therefore, capable of entering into a contract enforceable at law. The workers' association would then need to accept the legal obligations involved in the shipbuilding contract. That is of the essence of the existing system of economic organization, which is a legal system built up on the general law of contract.

Profit-sharing and co-partnership

It is frequently assumed that schemes of the nature of profit-sharing and labour co-partnership represent a modification of the system, and a step in the direction of joint control by capital and labour. Such, however, is not the case. Profit-sharing merely influences those risks which fall into the first three groups. If (in the absence of profit-sharing) a standard rate of wages is fixed and maintained

irrespective of the state of trade, the workers' risk is simplified (though not reduced) and becomes a single risk of unemployment. The actual losses during depression are concentrated upon those who are thrown out of work. During a boom the chance of gain is the chance of overtime. If, however, the standard rate is elastic and reduced during a depression, the risk of unemployment is also reduced, but there is added a risk of loss of wages even for those retained in employment. The workers' losses in bad times are spread over a wider area. The chance of gain during a boom is the chance both of higher wages and of overtime. There is no essential difference between the second case and that of profit-sharing. The formal difference is that in the former the gains and losses are estimated in advance upon the basis of past experience, while in the latter they are determined by the ascertained results. In other words, a share in the profits, if any, is of the nature of a deferred advance in wages. As the result of profit-sharing the workers share to a greater extent in the risks to which they are in any case exposed, but they do not undertake any new type of risk. Nor is the case altered if co-partnership[1] be added to profit-sharing, for in that event the worker also becomes capitalist, and the new risk, if any, is taken in the latter capacity. In practice, however, the workers' capital is invested in the form of a fixed-interest investment, and is, therefore, practically free from risk. If the workers' share were invested in ordinary shares, and represented more than half the total of such

[1] In a co-partnership scheme the worker's share of the profits is invested in the firm, and on such capital investment the worker receives interest. If, however, he shares in the management, he does so by virtue of his capital holding, not by virtue of his employment as worker. Co-partnership is a misnomer. In other enterprises a worker who is also a shareholder is not denied, merely because he happens to be employed by the firm, the control, if any, associated with the type of share that he holds. There seems to be nothing in the present law to prevent a workers' association being formed in a joint-stock enterprise, such association investing sufficient capital in the enterprise to enable it to nominate a director, as is now frequently done by investors of large sums.

shares, the workers would become the controllers of the business, and the final directors of its policy, but they would be equally responsible in law for fulfilment of contracts made on their behalf.

Industrial welfare

We have now examined the framework of the law of contract within which it is attempted to confine the operation of economic forces. The first step in the analysis of the functions of an employer is to understand what being an employer really means, and what legal obligations are incurred. But we have already referred to the fact that the employer, as controller of his enterprise, is not only hedged in by legal enactments and by trade-union agreements and workshop customs, but is also influenced by what may be termed public opinion or moral law. Moreover, the economic system allows scope for the exercise of positive virtues, and an employer may accept the full implication of the general statement that legal rights carry moral responsibilities. Thus, just as we find sellers on the market refusing to squeeze every penny that the market will bear, and consumers refusing to utilize to the full the chances of a depressed market, so, too, we find employers as purchasers of personal service refusing to be content with the minimum requirements of law, agreement, and custom. Moreover, agreements are themselves influenced by public opinion. In particular, we find at present attempts being made by employers to strengthen the ties between themselves and their workpeople by various means. The wage contract may be supplemented by voluntary schemes providing for insurance against sickness, invalidity, and death, and by other schemes providing for superannuation. Many employers proceed much farther than is required by the factory laws, and establish elaborate systems for the promotion of the welfare of the workers. Others, again, delegate responsibility to committees of workpeople. Over and above minimum requirements, there has been built up in many places a system under which a large and growing responsibility is

placed upon the shoulders of the representatives of the workers. These become part and parcel of the customary relation of the two parties to the original wage contract, but in no case does the employer surrender the function of management. The difference between delegation and surrender is fundamental. Even where workers' committees exercise considerable authority, such authority is not to be confounded with management. Moreover, it is delegated, and what has been delegated may be recalled. What is surrendered cannot be recalled. It can only be recaptured by the exercise of force. The powers and duties of such works committees may be entitled "staff duties." Management includes control of the staff. It also includes the power of deciding what contracts of purchase or sale shall be accepted, what reductions shall be effected, what extensions shall be made, what new enterprises shall be purchased—in short, what new ventures shall be undertaken.

Personal relations between employer and employed

There remains for consideration a further point, the practical importance of which can scarcely be exaggerated It is concerned with the rapid growth of joint-stock enterprise. The owner of a single-owner business (or the partners in a private partnership) usually devotes the greater part of his life to his business. The first motive is personal gain, but the owner also acquires other interests. He is the industrial "squire," and his relations with his men reflect the fact. Even when he is not a good employer, he is something more than the owner of the business. He is a man among men whom he knows, or, at least, among men who know him for what he is, whether that be good or bad. Many such owners allow themselves, as we have seen, to be swayed by motives other than that of maximizing profits. The shareholders of a public joint-stock company, however, stand in an entirely different relation to the employees. Their interest in the business is purely financial and may be of short duration. In many, if not most, cases they have never set eyes on the establishment

or the workers. Many of the "shareholders" may themselves be industrial companies, or banks or insurance societies or investment trusts or trade unions. Since their interest is purely financial, the opportunities offered to their directors are not so great as those afforded to the owners of other types of business. The directors are the servants of the shareholders and, in the nature of things, are compelled to run the business in the latter's interest. The private owner may sink his own interest in favour of the immediate interests of the workers; the directors cannot subordinate the interests of the shareholders to those of the workers.

It is not suggested that the conditions of employment are less favourable in establishments owned by joint-stock companies than in those owned and controlled by single owners or private partners. On the contrary, they are usually more favourable in the former, which are, on the whole, larger and more efficient. The difference between the two is that the directors are called upon to justify every important step they take to the shareholders, who test its value by its probable effects upon divisible profits. Thus, for example, if the directors establish a welfare department, or introduce a profit-sharing scheme, they are careful to point out that, so far from being a burden upon the shareholders, it is likely to react favourably upon their dividends. Again, when a big scheme of reorganization is introduced (which frequently happens when two or more companies are amalgamated) workers and officials who have rendered long service may be thrown on the "scrap-heap." There is no place for "sentiment" in joint-stock enterprise. There remains only the cash-nexus.[1]

[1] The scheme of reorganization may start with the appointment of a new managing director. He may bring his own lieutenants with him, and they may find places for friends and relatives in official positions, while the existing officials are dismissed. If, as is sometimes the case, the latter are highly specialized technologists who have reached middle age, they are unable to find new posts comparable with the old and their standard of living is seriously reduced; at the same time they see their own schemes, the product

This fact has reacted upon the policy of trade unions. Agreements have become more clearly defined; customs have hardened into precise regulations and restrictions; the conditions of employment are prescribed in greater detail. Nothing is left to chance. Through their local branches and works committees the trade unions carefully watch for cases where the "rights" of their members are invaded; in particular they keep a sharp lookout for cases of "victimization," and insist, as far as they can, upon promotion according to seniority, and dismissal, in bad times, according to juniority. The elasticity of the old system has disappeared. The trade unions, through their local committees, seek (as already shown) greater authority than of old. They have adapted themselves to meet the requirements of the new situation. It can, of course, be argued that this is the result of the growth in the size of the business unit rather than the change in the form of control; but most of those who have been in close contact with workers in mines and factories would agree that the "depersonalization of capital" through the multiplication of joint-stock enterprises, owned by "absentee" shareholders, is the more important cause.

of a lifetime of study, worked—may be ruined—by other people who may not possess a fraction of their qualifications The fact that the reorganization has not brought increased efficiency into the various departments may not be known for a year or two, when the mischief has been done. How often it happens that the first group of "efficiency experts" is followed by a second, whose chief task is to undo the evil wrought by the first!

BOOK III

Economic Valuation

Section I—Theory of Prices

CHAPTER I

INTRODUCTION

The place of the theory of prices in economics

THE study of economics, like that of philosophy, seems to have neither beginning nor end. Nor can it be split up, like mathematics or chemistry, into a series of chapters representing a logical development. Economic forces are so interwoven, and economic organization is made up of parts which are so completely interdependent, that it is difficult to isolate problems even for purposes of study.

To understand one problem it is necessary to know many other problems. In the second book we were concerned with some of the main features of the organization of industry and trade. But there were other important features which were necessarily ignored; moreover, little was said of the dominating motive or purpose of the business unit, which is private gain. The gain that may be achieved is determined by a number of factors; stated briefly, it is determined by the difference between the value placed by society upon the service of the unit and the cost incurred in providing that service. Other things being equal, the cost incurred is determined by the efficiency of the business unit as a method of organization. In the course of our discussion of industrial organization we considered some aspects of efficiency, broadly interpreted. Before the remaining aspects can be adequately considered it is necessary to examine some of the factors which determine the value placed by society upon the services provided by the business unit.

It is important that we should have clearly in mind what we are investigating. The theory of prices is made up of two distinct and separate parts. One part is concerned with the general level of prices. Distances may be expressed in yards or in miles; if expressed in yards, large numbers will be employed, whereas smaller numbers will be required if the distances are expressed in miles. Similarly, prices in general may be low or high. Although they are expressed in the same terms in both cases, those terms do not convey the same meaning. The unit of measurement has changed, though its name remains the same. It is as though the mile had shrunk to a yard or the yard expanded to a mile. The problem of general prices, or of the price level, is that of determining the causes of the expansion or contraction of the unit of measurement.

The other part of the theory of prices is concerned with relative or particular prices. It assumes that the general level of prices remains constant and endeavours to explain the factors determining the price, under those conditions, of any commodity or service. It ignores changes in the general price level due to factors operating over the whole field of economic effort. It ignores, moreover, those fluctuations in industry which, though normal (in the sense of recurring) and due to inherent forces, are so general in character as to necessitate separate treatment. Factors determining the general price level will be considered in the next section of this book, and industrial fluctuations of a general character will be examined in the next book.

Relative prices of commodities

The problem of the present section is to seek an explanation of particular or relative prices. Moreover, we shall confine our attention to the prices of commodities. A final theory of value will explain not only the prices of commodities, but also those of services. It is desirable, however, for purposes of exposition, to postpone the consideration of the theory, in so far as it applies to services, until the third section, when the relevant factors have been considered. Finally, we shall be concerned in this section

only with the theory of prices in domestic trade, postponing the consideration of international trade until we have examined the theory of general prices. This order of treatment has been selected solely on grounds of convenience.

Buying in the cheapest market and selling in the dearest

The theory of prices which follows is based upon two main assumptions. The first is that people buy in the cheapest market. It is not an extravagant assumption. Even if, as ultimate consumers, we are not always " keen " buyers, those who sell to us make up for our slackness. The vast majority of those who buy on the markets of the world buy not to consume, but to pass on the goods, in the same or some other form, to other people. They are eager to reduce their costs, and it is part of their business to know the market. Nevertheless, when considering the relation of the retailer to the final consumer, we should not ignore the difficulty experienced by the latter in discovering and travelling to the cheapest market, or his indifference to small local variations in prices.

The second assumption, which is also based upon common practice, is that sellers sell in the dearest market, and charge what the market will bear. The words " what the market will bear " are so important as to call for illustration at this stage and further examination as we proceed. A committee which is organizing a concert is faced with the problem of fixing the prices of admission. First it fixes a price, say, 2s., which may be expected to attract sufficient to fill a hall capable of seating 2,000 people. It estimates that of that number, 1,000 would be willing to pay 3s. or more, and that of the smaller group, say 500, would be prepared to pay 4s. or more. If the result of such differentiation[1] is that all three places are completely filled, but there is no queue outside, everybody is satisfied; the committee has correctly estimated what the market would bear. If the 2s. seats are overcrowded and there are vacant seats elsewhere, there has been an

[1] We may ignore differences in the kinds of seats.

"error of judgment," and if the error is discovered in time the arrangements are altered. If the 2s. seats are not well filled, the committee has charged more than the market would bear.[1]

Competitive and monopolistic conditions

The conditions under which people buy and sell vary considerably. Competition may be strong on both sides; there may be complete monopoly on one side and strong competition on the other; on both sides there may be a monopolistic organization. Intermediate between these extreme conditions there are numerous conditions representing different degrees of monopoly. Where there is no conscious attempt to reduce competition or create monopoly, the force of custom may achieve similar results. If we are to avoid error we must be careful to indicate whether or not we are assuming the existence of competition or monopoly. We shall begin by assuming that the force of competition is operating with sufficient strength, on both sides, to produce its natural results. When, under such conditions, sellers charge what the market will bear, and buyers buy in the cheapest market, the result is one price for the same quality of product in one place at one time.

Organization of production

Sellers offer a supply; buyers represent the demand. Behind the demand lie all the influences to which the buyers are subjected, and these will be examined in the next chapter. Behind the supply lie those influences by which the sellers are swayed. Some have already been examined; others will be noted as we proceed. It is desirable, however, at this stage, to restate briefly those influences which were considered in the second book.

At any one time the conditions prevailing in each industry vary considerably. Both establishments and business units vary in size and efficiency, but there exists

[1] If a minimum charge of, say, 10s. were made, and attracted as many people as the hall could accommodate, those music lovers who could not afford that sum would grumble. The alternative would be some other test of desire, such as the physical endurance test imposed by the queue system.

a type towards which a large proportion tend. They are typical in size, methods of organization, and profitableness. They enjoy those economies of production which have become widely known; they command the capital they require and are ready to adapt themselves to changing conditions. They reveal neither the pioneer spirit of the leaders nor the apathy or incompetence of the laggards. As time goes on they tend to grow larger in those industries in which the law of increasing returns operates; consequently the total number required to supply a given market tends to diminish. As they grow larger they require more capital, and their fixed charges increase. If, as is often the case, the business units spread outwards, either "horizontally" or "vertically," or over a greater variety of products, the problem of distinguishing between the various classes of costs becomes more difficult, and "on-costs" become a relatively more important class. Thus the difficulty of estimating the total cost of producing or marketing a specific article is increased, and in some cases proves to be insuperable.

Costs of production

Over a long period the business unit must secure sufficient revenue to cover the total expenditure which it incurs, and also to provide such a return on the capital invested as will compare not unfavourably with the return obtainable in other forms of investment. If its efforts are not attended by that degree of success they will not be copied by other units. The latter will either avoid that channel of economic effort or endeavour to improve upon the efforts of the former by introducing more efficient methods than it has been able to devise. The substitution of better methods for the old, and of more enterprising and efficient business units for those lacking the necessary qualities, constitutes an unending process whereby man's command over nature steadily increases, though it may not for ever increase relatively to the demands which are made upon it by a growing population.

While it is true that the fate of the business unit is

determined by the state of the balance sheet year after year,[1] its immediate policy is largely determined by what was called the " additional net cost " incurred in supplying the commodity or service. Such additional cost will be determined, in turn, by the specific supply about which the decision has to be made. This supply may be so small that the additional net cost or specific cost includes only prime costs, strictly defined, or it may be so large that the additional net cost will also include a proportion of the fluctuating oncosts.

The apparatus of production is fixed for short periods but is adjustable over long periods

The distinction between total cost (as shown in the annual revenue and expenditure account) and additional net cost (as shown in the cost accounts) corresponds closely to the distinction which is drawn in economics between the " long period " and the " short period." By " short period " is meant an interval during which the appliances of production (i.e. the technical equipment) of the business unit are practically fixed, and the producing capacity of the unit can only be increased, within narrow limits, by such devices as overtime and the introduction of new methods of payment or better methods of organization. Experience shows that production is elastic, and that, under pressure, it can be speeded up for short periods without any visible change in the general equipment of the factory. When we introduce considerations that are relevant only for a period during which the appliances of production may be adjusted, such period is called the " long period." It is long enough for the producing capacity to be reduced by the disappearance of less efficient establishments, or increased by the erection of new establishments or the extension or reconstruction of those already existing.

The short period is not a period fixed for all industry ; it varies from one industry to another. In some, such as blouse manufacture, it is much shorter than in others,

[1] Similarly the fate of the industry in any region is determined by the balance sheets of all the units in that region.

such as steel manufacture. Its length depends partly upon the amount of fixed capital employed and partly upon the degree of skill required in supplying the produce. For the first reason it represents a long interval in railway transport and a short interval in road transport; for the second reason it represents a long interval in building or the making of heavy chains, and a short interval in the supply of woollen jumpers. In fruit growing it is obviously much longer than in wheat production. The length of the short period also depends partly by the ease with which the fixed capital of other industries can be adapted to the making of the required product, or vice versa. Thus, while the "short period" in steel manufacture as a whole is relatively long, it is short for some classes of steel products, the supply of which can be quickly increased by the adaptation of rolling mills normally employed for other purposes.

Prices during depressions

It will be found that these considerations are of the first importance in the discussion of the theory of prices. Already it is clear that the policy of a business unit during a trade depression will be determined largely by the relative importance of fixed charges and other oncosts. Compare two competing employers, one employing, say, 100 men with little machinery, the other employing 50 men and expensive machinery. During the slump the former will be far more inclined to close the factory than the latter, whose prime costs are lower and who will, in any case, be compelled to meet his fixed charges. Generally speaking, the heavier the oncost charges the greater the reluctance to cease producing during a short-period slump in trade. The alternatives differ in the two cases which have been cited. The policy adopted is always the result of a comparison of two alternatives; although the result following a particular course of action may remain unaltered, the attitude towards such a course may change on account of changes in the alternative.

CHAPTER II

DEMAND

Desire and Utility

Utility defined as the estimated capacity to satisfy desire

It is one of the essential requirements of science that elementary notions should be clearly defined. Moreover, one of the essentials of a true definition is that it should not contain any terms which themselves require further definition. No apology is needed, therefore, for devoting considerable space to one of the most fundamental conceptions in economic science, simple though it may seem.

When we say that an orange possesses utility we mean neither more nor less than that it is desired. Two ways are indicated of stating the same fact. If I say, "I desire an orange," I express a relation between the mind and the object, and the same relationship may be expressed in the words, "An orange possesses utility to me." The two statements differ in form but are identical in meaning; they represent alternative ways of expressing the same fact. I cannot desire without desiring something; that something cannot possess utility except to the one desiring it. Both mind and object (something external to the mind) are necessary. Desire is a state of mind in relation to some object; utility is a capacity in relation to that mind.[1] It has therefore been defined as the capacity to satisfy a desire. It follows that utility is not an inherent or intrinsic quality. The utility of coal is not any physical characteristic or power which it possesses, though its characteristics are the cause of my desire for coal (rather than ice) while writing these words on a cold winter evening. We cannot speak of the utility of coal except in the

[1] Professor Pigou uses the word "desiredness" (in *The Economics of Welfare*). The term is identical with utility, and would have been employed in this book if the term utility had not already been so widely used.

Utility and usefulness

sense of its utility to people. Nor is utility the same as usefulness, unless we arbitrarily restrict the meaning given to the latter word. We cannot speak of the usefulness of coal, even to any particular individual, without stating or implying the purpose which it may serve. A commodity may possess utility even if it is not, in the ordinary sense of the term, useful. Few people would say that a " Rodeo " performance (which is said to involve cruelty to animals) is useful ; and even those who might do so would add that its use was to do this or that, never merely that it satisfied a desire. If, however, we use the term merely in the sense that it satisfies a desire, it becomes identical with the term utility—but not otherwise. Every commodity or service which is useful necessarily possesses utility, but not every commodity or service possessing utility is useful. The word useful has a utilitarian or ethical flavour which is absent from the word utility.

Utility and satisfaction

It further follows from our description that the utility of a commodity or service may and does vary between different people and, from time to time, to the same individual. Some people do not like bacon ; others like it as a breakfast dish in winter only. We need to be careful, however, that we are comparing truly comparable things. We need to distinguish between utility and the satisfaction derived from consumption. Yesterday we looked forward with eager anticipation to (say) a football match between keen rivals ; our desire to attend (that is, the utility of the game) was very strong, and we sacrificed a considerable sum (including tax) in order to secure good seats ; but the game to-day proved extremely disappointing, and we regretted the expenditure of money and time. Last week we went, say, to hear a pianoforte recital, mainly to oblige our friends, but we were delighted beyond measure, and said that we would not have missed it " for worlds." These are not frivolous or far-fetched examples, but are selected for a purpose. Utility is present ; consumption and satisfaction are to come. Utility is closely connected

with the pleasure of anticipation, which is often greater than that of realization. The strength of our desire (that is, the measure of the utility) is determined by our estimate of the future satisfaction to be derived by consumption. Thus, to return to the example of the bacon, though we enjoy it at breakfast in winter, we abhor it at four o'clock in the afternoon. Yet its utility remains, for we know that we shall probably enjoy it the next morning; and we give evidence of our desire (or its utility) by purchasing a fresh supply. Thus, without being aware of the fact, we distinguish, in the afternoon, between two utilities or desires, the utility of an immediate meal of bacon (which is zero —or negative) and the present utility (which is appreciable) of bacon for the next morning's breakfast.

Satisfactions differ qualitatively

The argument may be pressed farther. If the supply of bacon is so restricted that we are compelled to make some sacrifice of enjoyment, we compare, before breakfast the first morning, the utilities (at that moment) of bacon on different mornings. If we discount the future heavily, we cook a large proportion the first morning and regret our action the next. We make comparisons, and the results differ with different individuals. Here, indeed, lies the distinction between thriftlessness on the one side and economy and foresight on the other. When the early economists called attention to this universal practice of making comparisons between different utilities or desires, they were violently attacked. They carried their analysis too far, and arrived at a false psychology. From these customary comparisons they deduced the conclusion that pleasures and pains differed only in degree, that they were commensurable quantities that could be added or subtracted at will, and that it was for this reason that they could be, and were, compared. They failed to distinguish between a satisfaction and the desire for it. Pleasures differ in quality, and it may be accepted that they are incommensurable and cannot be compared with each other. The prospect of pleasure in the future (which may be immediate)

gives rise, however, to desire, and the strengths of such desires are not only comparable, but are actually being compared in the daily life of every individual. We may agree that the satisfaction derived from a book differs in quality from that derived from a box of sweets, nevertheless we express a preference for one satisfaction over the other. And the study of economics starts with the relative desires, or the preferences, not with the quality, nor even the strength of the actual sensations experienced during consumption. The strength of one desire cannot be measured except in relation to some other desire; but in that sense it can be, and is, measured. When we hear a street auctioneer describe in eloquent terms the qualities of an article which he offers first for half a crown, our desires are aroused, but if, when the price has fallen to sixpence we merely pass on, we show by our action that the utility of the article is even less than that of the smaller sum. The rapid fall in price even awakens suspicion! When a decorator offers a wallpaper for 2s. per piece we remain unmoved, but if he offers it for 5s. per piece we feel that there is something lacking in us, that if we had any artistic sense we would admire it; a strong desire for the paper is aroused and we buy it at 5s., thus showing that the utility is greater than that of the larger sum. There are many sources of desire.[1]

The estimation of future satisfactions

It should not be forgotten that utility, being the objective view of desire, precedes consumption and the satisfaction therefrom. It represents the present personal estimate or subjective valuation of the anticipated satisfaction, which may be spread over a long or short period, but always lies in the future. The estimate will be determined by many considerations, of which amount is the most obvious. The (present) utility of £1,000 due a year hence is greater than the utility of £100 due at the same time—the whole is greater than the part, unless the part itself

[1] This example is drawn from the experience of a manufacturer, though the sums are fictitious.

be infinitely large. Certainty is also an important consideration. The utility of a bequest is greater if the rich uncle is dead and his last will and testament has been published than it would be if he were still alive and surrounded by possible rivals, and if the bequest remained conditional. A bird in the hand is worth two in the bush.

The remoteness of the desirable event is the third factor influencing its present utility. A distant view of Eton College may be the most charming of all, but the reversion of an estate fifty years hence evokes little or no pleasure in the heart of a middle-aged bachelor. The (present) utility of a pleasurable event a year hence is greater than it would be if it were due two years hence. Other things being equal, the pleasure of anticipation grows as the day of satisfaction draws nearer. The second and third factors, though distinct and separate, are closely related. The degree of probability is a function of remoteness. The event may be certain, but life is uncertain, while tastes change. Finally, some people visualize the future more easily and clearly than others, who discount future pleasures heavily and express strong preference for earlier pleasures. The latter class suffer from lack either of imagination or of resolution. They are the extravagant by nature, whereas the former are the thrifty and provident.

Demand is the monetary expression of utility

It has been stated that utility represents a present estimate or valuation, and that every individual compares the utilities of various commodities and services with one another. The results of such comparison are found in the market. If I enter a shop and purchase a book for five shillings, I show that I have taken two decisions, or made two comparisons. In the first place, I have compared the utility of the book with that of the money, and I show that the former is the greater. Utility is here converted into demand. It should be observed that demand cannot be separated from price, for it is the result of a comparison of two utilities, one being the stated sum. If the price of the book had been ten shillings, I should probably not

have purchased it. When, therefore, we use the term demand, we always mean demand at a price. In the second place, I have compared the utilities of all other commodities for sale at five shillings (or less) with that of the book which I purchase. There are many other books in the same shop, and many commodities in other shops which possess utility; my resources, however, are limited. I may feel a desire to read a book sold at eight shillings, but the fact that I bought the first at five shows that its utility, together with the utility of three shillings, is greater than that of the dearer book. Attention is drawn to these truisms for reasons which will become evident as we proceed.

Law of Diminishing Utility

Marshall's formulation

Not only do different commodities possess different utilities (i.e. not only does an individual desire some more keenly than others) but, when the supply of one commodity is made up (as most are) of many units, such units also possess different utilities. These separate utilities invariably grow less as the number of units increases, with the result that economists have enunciated a law known as the law of diminishing utility. Marshall stated the law in the following words: "The total utility of a thing to anyone (that is the total pleasure or benefit it yields him) increases with every increase in his stock of it, but not so fast as his stock increases. If his stock of it increases at a uniform rate the benefit derived from it increases at a diminishing rate." In other words, the more a person has of anything the less keenly does he desire yet more. A thirsty person desires a second glass of water less keenly than the first, the third less keenly than the second, and so on. Two obvious apparent exceptions appear to be knowledge and money, the appetite for each being almost insatiable, growing with what it feeds on. Games, too, become more attractive after the novice becomes proficient, and instances of this kind might be multiplied. They are

not, however, exceptions. Economists tell us that the law holds only for a short interval, during which the character of the individual is not changed. The latter eats when hungry, but only to become hungry again a few hours later, yet during the meal the utility of each increment of food diminishes. Even a child finds that he cannot eat jam tarts beyond a certain limit. And if the critic argued that the second of a pair of boots possessed greater utility than the first, the economist would reply that the pair constituted the true unit for comparison.

Two criticisms

The statement of the law which has been quoted above is not, however, entirely satisfactory. First, it will be observed that Marshall fails to distinguish between utility on the one side and satisfaction, or pleasure, or benefit on the other. As he draws the distinction elsewhere, he uses utility in two distinct senses. Moreover, he compares the wrong utilities. After I have smoked a pipe of tobacco a second may possess utility to me, which is less than that possessed by the first before it was smoked. But that utility differs essentially from the utility which the second possessed before I smoked the first. Utility, as we have seen, is a present subjective valuation of future consumption, and our action is determined by the present utilities of many possible actions in the future, between which we must now make a choice. And the law, in its universal form, refers to present utilities rather than to utilities spread over a period of time. When stated in this form, it admits of no exceptions, and requires no proviso about change of character or personality. The general truth of the statement by Marshall and others is self-evident, but the statement does not provide a solid foundation for what follows. In its amended form the law of diminishing utility is more than a statement of tendencies; it becomes universally true. It may be defined as follows: the total utility of the supply of a commodity or service increases with every increase, within limits, in that supply, but it does not increase so rapidly as the supply itself. Stated

Amended statement of the law

in this form, the law is universal, that is it admits of no exceptions. The appetite is not fed.

Law of Demand

How demand responds to price changes

When an individual compares the utility of a sum of money with that of another commodity and decides that the latter is the greater, utility is translated into demand—at a price. If he enters a shop and buys a book for 10s. he reveals the fact that at the time of purchase the utility of the book is greater than that of the sum of money paid for it, though he may afterwards regret his choice. Demand, like utility, lends itself to a generalization which is given the dignity of the title "law." Those who, like Marshall, expressed the law of diminishing utility in the form already quoted further express the law of demand in the statement that a rise in price is followed by a decrease or contraction in demand, and a fall in price is followed by an increase or expansion in demand. The statement is not quite accurate. We know from experience that a rise in price is often followed by an increase in demand, and that a fall in price is often followed by a decrease in demand. The change in price may be due to a change in demand which the change in price fails to arrest—though it may partially check its progress.

Statement of the law

As in the case of the law of diminishing utility, a correct statement of the law of demand eliminates the time element. The law states that the demand for any commodity or service is greater than it would have been at a higher price and less than it would have been at a lower price. The truth of the statement is so obvious that, like the law of diminishing utility, it may be accepted as an axiom. It should be added, however, that since, in practice, price variations involve the element of time, it is frequently desirable to apply the law of demand over short intervals, that is, to use it in the ordinary or dynamic sense as well as the static. And provided we are aware of the pitfalls and guard against them, the use of the law

in this way produces useful results. The fact that it is frequently possible and desirable to employ the law in the dynamic sense is due to the constancy of physiological needs and the persistence of social habits. It becomes dangerous and misleading when applied to habits that are in process of change or to commodities the consumption of which has not become more or less standardized. Thus, for example, it would be misleading to apply the law of demand, in the dynamic sense, to the apparatus of a game (such as ping-pong) which is rapidly becoming popular, or, with equal rapidity, losing its popularity.

Demand may change independently of prices

It is important, in other words, to distinguish between variations in demand consequent upon changes in price, on the one hand, and, on the other, variations in demand due to changes of habit. In the former the measure of the utility remains constant, in the latter it is changed; in the former the demand remains unchanged so long as the price remains constant, in the latter the demand increases or decreases without any change of price. In recent years the popularity of tea as a beverage has increased largely in Western Europe, and the demand has advanced more rapidly than the supply. In spite of the consequent rise in relative price, the demand for the commodity remains considerably higher in that part of the world than it was before the spread of the new habit. The demand has increased in the strict sense of the word. Nevertheless, at any given time, the demand is less than it would have been at a lower price, and greater than it would have been at a higher price. The law of demand is almost universally true. There are, however, possible exceptions.

Elasticity of Demand

The degree to which demand is responsive to price changes

The responsiveness of demand to changes in price varies. In some cases demand is persistent between fairly wide limits of price; in others it changes considerably with a relatively small variation in price. When a relatively large variation in price produces a relatively small change

in the demand for a commodity, such demand is said to be *inelastic*, or unresponsive. When a relatively small variation in price produces a relatively large change in demand, such demand is said to be *elastic*, or sensitive. Elasticity of demand may thus be defined as the measure of the responsiveness or sensitiveness of demand to variations in price.[1]

It is a concept of considerable importance, not only in economic science, but also in business policy and public administration. No Chancellor of the Exchequer would impose a tax, for revenue purposes, upon a commodity the demand for which is highly elastic. The consequent rise in price would drive away many customers and the result would thus be disappointing to both parties. Again, the incidence (and therefore the value) of a tax imposed for protective purposes is determined by the elasticity of demand for the imported commodity. The price policy of a monopolistic organization or a trade union is determined by the elasticity of demand for the commodity or labour which it controls. In economic science it will be found that the answer to many questions is determined largely by considerations of elasticity.

Five factors which influence elasticity of demand

The elasticity of demand for a commodity is influenced by a number of considerations. The existence of complete or partial substitutes increases the sensitiveness of demand to changes in price, that is, its elasticity. A rise in the price of beef drives many consumers to mutton, which is regarded as a satisfactory alternative. The consequent increase in the demand for the latter raises its price for the time being. Hence we find that the market prices of two commodities which are regarded by customers as satisfactory substitutes tend to rise and fall in sympathy.

[1] Elasticity is said to be unity when, after a change in price, the total amount spent on the commodity is unchanged. It is less than unity if, after a rise in price, a greater total sum than before is spent, or if, after a fall, a smaller sum is spent. It is greater than unity if, after a rise in price, a smaller total sum is spent, or if, after a fall in price a greater total sum is spent in the purchase of the commodity.

Again, coffee and cocoa are regarded by many as alternatives to tea, the demand for which is therefore elastic, although the total demand for all three may be inelastic. It is for this reason that they are regarded by the Chancellor of the Exchequer as members of one family for purposes of taxation. The second factor influencing elasticity is the importance of the commodity in the general plan of expenditure. A rise of twenty per cent in the price of matches would not produce any appreciable change in the habits of smokers, nor would a similar rise in the price of bootlaces lessen our dislike of knots. But a rise of ten per cent in house rent, which is a considerable item of expenditure, compels economy, whether or not such economy is socially desirable. A similar rise in the price of overcoats which, though we buy new ones but infrequently, imposes a heavy drain when we do, also impels us to economize by wearing the old one another winter A rise in the price of machine oil will not materially influence the economy of a factory, but a similar percentage rise in wages represents a serious addition to cost which, if it cannot be transferred to the consumer, reacts upon the demand for labour. Elasticity of demand is also influenced by the extent to which the commodity is a necessity. The demand for bread is more inelastic than the demand for bacon. The case of bread is, indeed, almost unique. Poor people must have bread even at the expense of other things. A rise in the price of bread may even result in an increase in the demand for it. Having to pay more for bread (which remains relatively cheap, judged by its value as food) poor people have less to spend on other constituents of a simple meal, and are therefore compelled to eat more bread than before. Evidence in support of this statement is difficult to find, but it seems to be agreed that the consumption of bread varies inversely with the consumption of other things, that is inversely with income. The demand for the group of commodities known as the necessaries of life is inelastic, but the demand for commodities

which are one degree less essential seems to vary so much as to render any generalization difficult and unsafe. It has already been stated that we cling to what is habitual, and habit may be regarded as the fourth consideration influencing elasticity of demand. The importance of habit has long been recognized by monopolists and others, who first introduce us by advertisement and low prices to the commodity which they sell, and afterwards raise its price. We cultivate tastes and thus become the prey of others. Demand starts by being elastic and ends by being inelastic. The fifth and last factor to which attention should be drawn is the motive which lies behind demand. Many goods and services are in request mainly because they are expensive and therefore reveal the wealth of the customer. They serve as a mark of "distinction." The desire for things that are rare and expensive, merely because they are rare and expensive, is by no means confined to the wealthy. It pervades all classes If such things became cheaper they would lose their attraction, and the demand for them would fall. Thus the demand for marks of distinction, that is for things which differentiate the few from the many, is not subject to the same influences as the demand for other things.

Practical application of the concept of elasticity

The considerations which have been enumerated show that we only apply the test of elasticity to relatively small changes in price, and to changes over a short interval. A fall of eighty per cent in the price of motor-cars over a period of twenty years creates an entirely new set of economic conditions. Moreover, it is necessary to distinguish, in practice, between the elasticity of market demand and the elasticity of demand over a period of weeks or months. The real demand for a durable commodity may be highly inelastic, yet a jump in the market price in any day may cause buyers to hold off until they know the probable level at which price will be stabilized. Again, a rise in price, if it is but the beginning of an upward trend in prices, will bring more buyers to the market, and they

will buy in anticipation of a future rise and so reinforce their stocks. The influences upon the markets for goods are so numerous, and often so obscure and subtle, that the variations in demand influenced by, and in turn influencing, prices from day to day cannot be regarded as in any way indicating the true elasticity of the demand by those who use the goods, either as consumers or (in the case of materials) as manufacturers.

The total or social demand for a commodity is, of course, the aggregate of individual demands.[1] Many commodities are used for more than one purpose. Thus, for example, coal is used to raise steam in all types of factories and railways, and as a source of heat in " furnace " industries ; it is also used in households, and to make coke and gas. The demand for coal in one use may be highly elastic, in another use highly inelastic. It is usually the case that when a commodity may be employed for many purposes the total or composite demand is moderately elastic, for it is probable that in some uses it is an essential commodity, while in others it competes keenly with substitutes.

Marginal Utility and Demand

In the present chapter we have so far examined the nature of utility and demand and elasticity of demand. It is now necessary to consider another concept, to which considerable importance is attached by writers on economic theory, namely, marginal utility and marginal demand. By marginal demand is meant the demand for the last unit of supply of a commodity purchased by an individual ; the utility of that unit is called the marginal utility of the supply. The average householder is content with one piano. Before it is purchased the utility of the piano may be represented by £100; that is, the householder is prepared to pay £100 rather than go without it. The utility of a second piano may be so small as to be negligible.

The marginal or last unit purchased

[1] Individual demands would include demands by associations and, as in the case of battleships and post-offices, by the State.

The price may be £50, and the householder makes a purchase. In that case the marginal utility is represented by £100. But if we investigated the circumstances of all the purchasers we should probably find one, perhaps many, to whom the utility is almost exactly represented by the price (£50) which is charged on the market for pianos. For this reason marginal utility has been defined as the utility of that unit which the consumer is only just induced to buy. This definition is faulty. In the case of most commodities there are some people who are on the margin of doubt at the current price, some being finally moved one way, others the other way. Moreover, in the case of some commodities (such as sugar or coal), of which many units of supply enter into the normal budget of expenditure, the marginal utility to the average consumer is approximately equal to the price; that is, he was on the margin of doubt about the purchase of the last unit. But it does not follow that all consumers would be in that position. If it were so, a rise in price would be followed, in every individual case, by a fall in demand, that is, every individual demand for every commodity would be elastic. In practice, however, the average individual forms habits appropriate to his normal income. His demand for a group of commodities is comparatively constant; if prices rise relatively to his income, economies are concentrated on the remainder, and if prices fall he spreads his money over a wider field of enjoyment.

Equal marginal returns

The income of the average individual is not sufficient to enable him to satisfy all his desires. He is, therefore, compelled to make a choice, and to sacrifice the weakest or least urgent. And the range of individual choice is limited by pressing physiological needs which must be satisfied and by social conventions which must be observed. Even if his income were unlimited the need for selection would still remain, for he can only do one thing at a time, and there are only twenty-four hours in the day. He distributes his expenditure in such a way that the marginal

utilities of all the forms of consumption are equal. The statement follows from the definition of utility, but we should not forget that the utilities which are compared are the present utilities of future consumption. Hence it follows that life holds many regrets for us. To the average university student in October a June examination seems remote, and the utility of preparation for it may be comparatively small, but when June arrives he regrets having, in the autumn, " discounted the future " so heavily.

CHAPTER III

THEORY OF PRICES

MARKET PRICES

Possibility of withholding durable commodities from sale

COMMODITIES may be divided into two classes, perishable and durable. The difference between those falling into separate classes is one of degree, and the purpose of the classification will only become evident as we proceed. Cabbages do not perish so quickly as fish, nor is there any doubt that the City Wall in York will remain when the houses built in recent years lie in ruins. But these differences are less marked than the difference between a field and the potatoes that lie rotting on it. Commodities may also be classified according to another basis : the supplies of some are fixed, and cannot be increased by human effort, while the supplies of others can be increased at will The supply of land is fixed , so, too, is that of pictures by Old Masters and that of old china. Commodities which perish quickly belong to the second class.

In building up a theory of prices it is useful to begin by examining the simplest possible cases and to suggest generalizations as we proceed. Suppose, first, a seller from Nowhere appears before a group of ten people and offers a basket of strawberries for sale. Suppose, further, that the utilities of the fruit to members of the group are represented by sums varying from 1s. to 10s., the second highest utility being represented by 9s. Under such conditions the basket would obviously be sold for a sum greater than 9s. but not greater than 10s. This illustration, which is as simple as any illustration could be, calls for two comments. In the first place, the utility of the basket to the buyer is determined not only by the strength of the desire for strawberries in general, but also by the price at which the fruit can be obtained from other sources. In

this case we have implied that there was no alternative supply, with the result that the sum of 10s. measures the strength of the desire for strawberries relatively to that of the desire for other things. In the second place, since strawberries perish quickly, the alternative to selling is to throw them away—unless, of course, the seller cares to eat them himself! The nature of the alternative[1] (which is dead loss) to immediate sale without reservation influences the action of the seller. Suppose a piano is put up for sale under the same circumstances, and that the utilities to the group of ten are represented by sums varying from £10 to £100, being £90 to number nine. If the sale is unreserved the price will lie between £90 and £100. But the seller may place a reserve price of £95 or £105. In the former case the piano will be sold, probably for £95; in the latter case it will be withdrawn. If a reserve price is fixed it must be for one of two reasons. Either the piano possesses a corresponding utility to the seller in his capacity as consumer or the seller expects to obtain a higher sum by selling at a future date. The sum of £95 represents his valuation of the expectation of a higher price in the future; such expectation gives the piano a present utility represented by the reserve price. The second illustration shows the shadow which the future casts upon the present. It will also be found that it contains the germs of the theories of speculation, of capitalization and of saving.

Market price is equal to and is determined by marginal utility whether commodities are perishable or durable

Let us now return to the case of perishable goods, and assume that there are a dozen baskets of strawberries for sale, and twenty potential buyers, to whom the utility of the strawberries varies from 1s. to 20s. per basket, with intervals of 1s. Clearly, bidding will continue until eight people retire, and to the last to retire the utility would be represented by 8s. The final price would, therefore, lie

[1] A third alternative may in practice be important. A steel manufacturer may utilize a period of depression to reconstruct his own plant, using his own steel products and his engineers for that purpose. A painter out of work may prefer to paint his own house to accepting a temporary job elsewhere.

between 8s. and 9s. Multiply the number of buyers and the limits of price would draw closer together, until ultimately the price would be equal to the money measure of the smallest utility in the case of the successful bidders—that is, of the marginal utility. We may, therefore, venture the following generalization, that the price actually paid for a commodity on the market is equal to the money measure of the marginal utility of that commodity. There are cases where the price does not completely absorb the sum representing the marginal utility—bread may be an example—and for that reason a rise in price equal to the difference will not be followed by any contraction of demand: that is, the demand is perfectly inelastic between such limits of price. But cases of this kind are rare; on a large market there is almost always someone who has only just been induced to purchase the commodity, or the last fraction of it, by the price ruling at the time. Hence the generalization holds good.

It is true not only of perishable commodities, but also of durable commodities. Suppose we substitute boots for baskets of strawberries in the last example. If the reserve price is less than 8s., the result remains the same. If, however, a reserve price of 15s. 6d. is fixed, five pairs only will be sold, and the price will lie somewhere between 15s. 6d. and 16s., the latter sum representing the utility to the fifth buyer. If, as before, we multiply the number of customers and sellers, the limits of price will meet, in this case, at 15s. 6d.—in a large market there will be somebody who is only just induced to buy (or to buy a second or third pair) at 15s. 6d. The actual price is, therefore, equal to the money measure of the marginal utility.

Not only is the price equal to the money measure of the marginal utility, it is also determined by the latter. The utility in each case indicates the price at which the potential buyer will come on the market; from this follows the total demand at each price. When there is a fixed supply for sale on the market the price will be at

such a point that the total demand at that price is equal to the supply. The total demand at that price is what it is because each unit demanded possesses a utility represented by a sum at least equal to the price—in some cases it is greater, but in one or more cases it is roughly equal to that price. At a higher price a smaller quantity would be demanded; at a lower price a greater quantity would be demanded. Neither would be a final position. In other words, the price is determined by marginal or final utility because it is the unit (or units) of demand at which the utility is represented by that price which makes the total demand equal to the total supply. If a reserve price is fixed the argument remains unchanged—the seller in this case becomes also a bidder for the whole supply at the reserve price.

Possibility of deliberate adjustment of supply in response to price

It will be observed that marginal utility is a function of supply. In the illustration already submitted the utility of strawberries varies from 20s. to 1s. per basket. When one basket is exposed for sale the price is 19s. to 20s., but it falls as the number increases. In each case the price is determined by marginal utility. We have, therefore, not solved the problem of prices by simply stating that price is determined by marginal or final utility, that is, the marginal utility of the supply on the market. We have next to ask ourselves what determines the supply. It is no mere accident. In some cases it would indeed appear as though the supply which is brought forward were determined by accident, that is, by factors beyond human control. A shoal of herrings may appear off our shores and cause a glut in the fish market; a good summer may bring a wheat harvest far exceeding expectations; the strawberry crop may be so plentiful as to be hardly worth gathering. But the supplies even in such cases are limited by the number of trawlers available for fishing, the area of land under cultivation, or the acreage devoted to the cultivation of strawberries. The efforts of man may be destroyed by forces beyond his control—the herring may

fight shy of our seas and compel the trawlers to return empty—but he can only reap where he has sown.

We have already referred to the fact that the supplies of some commodities, such as land and old china, are fixed. The supplies of other commodities may be increased by human effort. The supplies of immediately consumable commodities, such as coal and bread, need to be constantly replenished, and are, therefore, quickly reduced if not replenished; but the supplies of capital goods such as houses and factories, though they may easily be increased by human effort, cannot be quickly reduced except by deliberate destruction or some cataclysm. It is desirable, at this stage, to introduce a technical term—elasticity of supply—corresponding to the term employed in relation to demand. By elasticity of supply is meant the responsiveness of supply to variations in price. If a relatively small change in price produces a relatively large change in supply, such supply is stated to be elastic, but if a relatively large change in price produces but a relatively small change in supply, such supply is said to be inelastic. The supply of land as a whole is completely inelastic. The elasticity of the supply of capital goods, like that of land, is practically zero for a fall in price, but, for a rise in price, though it is negligible for a short time, it may be appreciable over a long interval. The response is slow, but, when it comes, it may be considerable.

It is obvious that if the supply is fixed, that is perfectly inelastic, there is no more to be said about the theory of price, and all that follows in the remaining chapters of this section refers to those commodities the supplies of which, in greater or less degree, are under human control, and are responsive to variations in price.

Summary statement of theory of market prices

Before we proceed to examine the factors determining the supply of a commodity which will be offered to buyers, it may be advisable to recapitulate briefly the facts that have already been elicited. In the first place, demand is conditioned by utility; it is the result of comparing the utility

of the commodity with that of a sum of money in the possession of the potential purchaser. If the former is greater than the latter, utility is translated into effective demand. It follows that we cannot speak of demand without reference to price. The total demand for a commodity by a group is determined by the utility of each unit of the commodity to that group; it is greater at a lower price than at a higher price; a rise in price (other things being equal) is followed by a contraction of demand and a fall in price is followed by an expansion of demand. For at any given price there is usually at least one buyer who has only just been induced to buy. In the second place, the potential seller of the commodity desires to sell at a given price because at that price the money possesses greater utility than the commodity. The utility which the commodity possesses to the seller at any given time depends upon the alternative use of that commodity. If the commodity perishes quickly the alternative is usually complete loss, and the sale is, therefore, unreserved. If it is durable it possesses utility due to the chance of obtaining a price at some future date; consequently the seller places a reserve price representing the measure of the utility. In the third place, the price of the commodity will be finally fixed at that point at which the total demand is equal to the total supply. This is clearly true of a perishable commodity. Competition between buyers will in all cases send up the price to a point at which there will be no more buyers of units than there are units of supply. Moreover, competition between the sellers of perishable commodities will send the price down to a point at which all the units of supply will be sold. In the case of durable commodities the sellers are themselves competing buyers at any price below the reserve price, and if we regard them in that light the case is precisely the same as that of perishable commodities. The sellers, we shall find, are performing the function of trade speculation, which is also performed by other buyers who purchase in order to sell in the future.

In the fourth place the price which is reached under the above conditions is determined by marginal utility. Such utility determines the price at which a given amount will be demanded, or, what comes to the same thing, the amount demanded at a given price ; such demand, at that price, determines the price itself. If the marginal utility had been lower the demand at the former price would have had to be reduced in order that the whole supply should be absorbed. If the marginal utility had been higher and the utility to the present unsuccessful buyers (or any one of them) had been equal to the actual price, such price would have had to be raised in order to reduce the demand to the number of units on sale.

Cost of production has no part in determination of market prices

It follows from what has been said that a variation in price must be due to a variation either of demand or of supply. Let us be quite clear on this point. We have been dealing with market prices, and we have examined every relevant factor in the determination of such prices. The cost at which the supply was produced and brought to the notice and within reach of the buyers is not a factor immediately relevant to the issue. The seller of strawberries may regret his action in having brought any, or so many, strawberries to so dull a market, but, having brought them, the only alternative to sale is complete loss. Nor will the mere fact that they have cost him much or little influence the action of the buyer in any way. Again, during the post-war scarcity of houses a house might be sold for twice or three times its original cost, and for far more than the post-war cost of building. The buyer might grumble at having to pay so high a price and to incur further heavy charges for repair and decoration ; but the alternative was to see some other buyer secure the house, of which both were in urgent need and which, therefore, possessed a utility to them greater than the cost of building it. In all such cases the relevant factor is found not in the cost of supply, but in the alternative to sale on the one side and to purchase on the other. Price is governed by the relation

of supply—the existing supply and the supply within sight—to the demand—the existing demand and the demand within sight. Given a certain demand, a smaller supply will command a higher price than a greater supply; given a certain supply, the price will be higher when demand is greater than when it is less. An increase in demand (i.e. an increase at any given price) will cause a rise in price so long as the supply is unchanged, and a decrease in demand will cause a fall in price; an increase in supply (at any given price) will cause a fall in price so long as the demand is unchanged, and a decrease in supply will cause a rise in price. Price can only be changed by a change either in demand or supply, or in both.[1]

Market Speculation

Speculation leads to uniformity of market prices and limits fluctuations

In the chapter on Division of Labour we saw that all production is carried on in anticipation of demand and is thus essentially speculative in character. We saw, moreover, that the manufacturer endeavours to reduce the speculative risks within the narrowest possible limit by "covering contracts" for materials, by dealings in "futures," by insurance, and in many cases by producing only under contract. Market risks tend to fall more and more upon the shoulders of market specialists, that is, speculators whose function it is to buy and sell. They collect supplies from various sources and sell raw produce or materials to manufacturers or consumption goods to wholesale merchants and retail shops. Their task is to create a convenient market and to create a price. The success attending their efforts is determined by the manner in which they forecast both supply and demand, which they not only forecast but also, in many cases, direct.

The nature of the market which they create and upon which they operate is determined by the nature of the

[1] The reader should be careful to distinguish, in the above paragraph, between a real change (increase or decrease) in demand or supply, i.e. a change at any given price, and a mere contraction or expansion following upon a change in price. See Chap. II

commodity which is the subject of sale. At one time a market was the place where buyer and seller met in person to settle the terms of exchange, and the goods were on the spot and open to inspection. It resembled the local cattle and fish markets of the present time. A market no longer denotes merely a definite place ; it is not necessarily a place where the commodity is exhibited and inspected. The meeting-place of buyers and sellers (or their representatives) is now more usually called an exchange, and the market for the commodity may embrace all the exchanges of the world that deal in that commodity. In such a case the market is said to be highly organized; that is, it is one upon which the force of competition acts strongly and quickly, so that for one quality of one commodity it is impossible for two prices to continue. The market for stocks and shares is world-wide, and made up of all the stock exchanges and those who are in communication with such exchanges. A rise or fall in the London price of any well-known security is immediately communicated to all the other exchanges. Arbitrage dealers quickly take advantage of any difference in price on two markets ; thus, if the New York price rises the dealer offers a supply for sale and at the same time buys that supply on another market where the price has not yet risen. His action in buying where the supply is cheap and selling where it is dear brings about that equality of price which is the characteristic feature of an organized market.

Again, a market is at work day after day and week after week, and the action of the speculator tends not only to eliminate local variations in prices beyond those due to cost of transport, but also to reduce time variations. He buys in the cheapest part of the market and sells in the dearest ; but he also buys at the time when he thinks prices are as low as they are likely to be and sells when he thinks they have reached the highest price at which they are likely to be sold. Forecasting is the more important and difficult part of his work. He may be dealing in an

agricultural product such as cotton, the supply of which, given the acreage under cultivation, is determined by the character of the summer or, it may be, by a parasitic insect known as the boll-weevil. Or, again, the speculator may be dealing in a commodity, such as coal, the demand for which is determined by numerous factors, some of which are elusive to a high degree. The speculator, if he is a true specialist, is better informed than the rest of society on the factors which will influence future demand and supply, and the effect of his action is to reduce the limits of price variation in time. If he foresees a shortage of cotton he buys now and sells later, at the higher price, and thereby makes a gain for himself. In buying now, when supplies are relatively plentiful, he sends up the price and compels the community to economize at a time when economy is necessary. Later on, when the shortage appears, he unloads the supply upon the market and enables the community to enjoy the fruits of its earlier economy. His action raises prices when they are relatively low and reduces prices when they are relatively high, thus acting as a smoothing iron upon prices.

Dangers of speculation

It is, of course, the case that the speculator is not always a true specialist. Most people believe themselves to be blessed with a double share of " luck," and many, desiring to take advantage of it in order to get rich quickly, dabble in things they do not understand. The wheat market is said to be the Waterloo of many who, having succeeded elsewhere, believe themselves to be Napoleons of industry, and the Stock Exchange has ruined many speculators whose confidence in themselves was wholly disproportionate to their knowledge and experience. And the effects of uninformed speculation or gambling are the reverse of the effects of informed speculation. But these are abuses of a useful economic function and are not confined to the sphere of speculation. Again, attempts are frequently made to " rig " the market by disseminating misleading information and causing, as the case may be, nervous

holders to sell or eager buyers to purchase quickly, thus forcing a movement of prices in the desired direction and of which the operators take advantage. Or, again, attempts may be made to " corner " the market, that is to form a selling monopoly, preparatory to which a " bearing " operation takes place. These manipulations of the market produce a disturbing effect upon prices, but it is essentially a momentary effect : they produce ripples upon the surface of the water. They make the curve of prices appear like the teeth of a saw, but they can neither influence the trend of prices nor completely neutralize the smoothing effect of true speculation.

But the real speculators are liable to error. Though they know more than their imitators—and sufficient to make use of the latter to their own advantage—they cannot predict with certainty. Moreover, we shall find later that they are profoundly influenced by each other and tend to act in unison, and thereby frequently to produce the opposite results from those which they seek. Their action tends to accentuate those " swings " of trade which are examined in later chapters. Nevertheless their action tends to reduce to a considerable extent those fluctuations in prices which would otherwise be strongly marked between different periods of the year, or between different places at the same time. They secure a relatively even supply and even distribution of supply and a fairly continuous demand, and, in that way, a stability in industry and employment which would otherwise be lacking.

Specialization of markets facilitates speculation

It has been stated that enlightened price speculation tends to reduce the intensity of price fluctuations. Such speculation can most easily be conducted when it is highly specialized. There are some markets in which this speculative function is specialized to a high degree. Cotton brokers buy and sell cotton which they never see. Stock exchange dealers buy stocks and shares merely to sell again, in the same place, and at almost the same time ; they are not investors in the sense that they hold the stock

for the sake of the interest which they may thereby receive upon their capital. They make a buying price and afterwards (or it may be before) a selling price, and seek gain from the difference between the two ; they are only interested in the interest or dividend to the extent that any variation or prospective variation in its amount, relatively to the general or average rate, causes a change in the capital value.

When the market is specialized in this way the competitive force is very strong ; two prices for one quality of one article cannot survive. When such is the case the market, as already stated, is said to be highly organized. It is clear that a market can only be highly organized and active if the product which is dealt in satisfies certain tests. It must obviously be a durable commodity. The fish market is not highly organized in the sense already described. Momentary competition between sellers may be exceptionally strong ; but the sellers are distributors. Nor do they make future prices. To-day's supply is not part of to-morrow's supply. Again, the commodity must be fairly standardized, so that its quantity may be clearly expressed and its quality exactly defined. Only under such conditions will dealers know what they are buying and selling. Houses do not satisfy this test. A London speculator in houses would not buy " a hundred houses " ; he would only buy a hundred specified houses which had been examined in advance. Houses vary in size and quality, and their sites differ. When the commodity is fairly standardized its quality, like that of wool, may be tested by sample ; in some cases, such as cotton and wheat, it is graded, and what is then bought or sold is not any specific or earmarked supply, but a quantity which has not yet been separated from the bulk and may not, indeed, have yet been completed in the factory or transported from overseas farms. Again, there will be no active speculation in a commodity which does not lend itself to considerable price fluctuations. People do not speculate in postage stamps

which are still employed for the purposes for which they are intended ; but they speculate in stamps that are now rare—their supply is inelastic. People do not speculate in " reserved " seats in a railway train, but they speculate in seats for a theatrical performance or an international football match which is likely to be extremely popular. The markets for rare stamps and reserved seats are not, however, highly organized—the business is too small to make organization possible. But the supply of agricultural products, such as cotton and wheat, is fairly inelastic, and the products themselves are so important that large markets have been built up, and a class of highly specialized dealers or speculators carry on the business of making prices ; and so long as competition prevails their function is useful in restricting price fluctuations. Further, the wider the area over which the commodity can be conveyed the greater the strength of competition, the stronger the tendency towards uniformity in price at any one time, and the narrower the limits of fluctuation over a period.

CHAPTER IV

THEORY OF PRICES (CONTD.)

SHORT PERIOD

The cost of production theory of prices

IN the previous chapter we confined our attention to the theory of market prices, and found that the consideration of costs of production was not immediately relevant to the issue. Price was determined by the relations of demand and supply, irrespective of the conditions under which the supply appeared. We did not, however, deny that costs were ultimately relevant. It is now necessary to consider whether, in the long run, and if so, to what extent, the cost of production influences prices. In this chapter we shall consider only those products (such as cotton, cloth, or steel) which are or may be produced singly, postponing the consideration of joint products to the next chapter ; and we shall further assume that they are produced under strongly competitive conditions.

Possibility of temporary increase in output when market price is above normal cost

The price which is reached on the market we know to be determined by the relation of demand to supply. Such a price may be either above or below the total cost of production. Whether it be above or below, it is bound to influence the policy of the producers. If it is relatively high—that is, if there is a shortage of the commodity in the sense that more could be sold without bringing price below cost—producers will endeavour to increase their gain by enlarging their output. For the short period they can only do so by more intensive use of the existing appliances of production—mainly by working overtime. Such work is expensive : not only are the overtime rates of wages above the normal rate, but the efficiency of labour increases less rapidly than the hours worked, so that the

labour cost (of day work) increases more rapidly than the latter. Moreover, the wear and tear of machinery is likely to increase more rapidly than the output in excess of the normal. Finally, the prices of materials will be raised by the increased demand for them, and such prices will be charged not on the extra supply only, but on the total supply. Consequently, the "additional net cost"[1] of the extra supply placed on the market to meet the profitable demand will be considerably higher than the cost of producing the normal supply. On the other side, even that increase in supply which is possible in the short period will tend to reduce the price, that is, it will bring the price below the point at which it would be maintained if the extra supply were not forthcoming. So long, however, as the price remains above such additional net cost, producers will strive to secure the margin on as large a supply as possible, and will increase the latter as much as is possible under the circumstances. Price and additional cost may not meet during the short period for the reason that the supply is too inelastic. Even if they meet they will not cross ; for as soon as they meet the producers will cease adding to the supply. By assumption, the additional net cost is greater than the price of the additional supply, so that the alternative of not producing it is the more profitable.

Additional output is produced at higher cost and causes a fall in prices

We must not here forget the assumption of competition among producers. The reduction of price, due to the additional supply, reduces the margin or surplus on every unit sold. Consequently a monopolist would find it profitable to forgo the little extra profit obtainable on the additional supply in order to conserve that (wider) margin on all the other units supplied when the total supply is restricted and the higher price thereby maintained. We shall consider this case separately. On the assumption of competition, every producer will be concentrating attention on the extra gain which his additional supply

[1] See Book II, Chaps. III and V.

will secure, and will take it for granted that such additional supply will produce no effect upon prices.[1] So long as as he is able to do so, he adds to his supply until the last additional unit is sold at a price equal to the cost of that unit. Since all his competitors are doing likewise, the total addition to the supply is sufficient to influence price, which thus tends to fall. Hence it may be stated that under the specified conditions the price in the short period tends to equal the additional net cost, which is thus the cost incurred in producing that unit which the producer is only just induced to supply.[2] And it should be noted that not only one, but all the producers will endeavour to work up to that margin of profitableness.

Difficult to reduce outp unless price fall below prime cost

In the case which we examined above we assumed that the market price was relatively high; we found that it would create or intensify a tendency towards a price measured by the additional net cost of production. Suppose, next, that the market price is relatively low. Clearly it cannot remain below the direct cost of producing the supply. Such cost can be obviated by a refusal to add any further supply, and when the supply actually on the market has been drained off by the buyers, there will be less for them when they return to replenish their stores. The reduction in supply will cause a rise in price. Thus any fall in price below direct cost will only be temporary and

[1] If the reader bears this point in mind he will find less difficulty than would otherwise be the case in dealing with many problems of value and distribution. One of the important parts of the general assumption of competition is that the policy of the individual competitor produces no change in the environment within which he works. Thus, an additional supply of 1,000 tons of coal from a mine will have no measurable effect upon the coal market. If the individual policy produces a marked effect upon the market as a whole (whether it be the policy of a producer or consumer), the assumption of competition must be modified. The conditions then lie intermediate between competition and monopoly. Perhaps the best illustration of the impotence of the individual competitor in relation to the market is provided by the wheat farmer, who is like the individual citizen, whose vote, taken by itself, is rarely of any significance.

[2] Many economists call this the marginal cost of production.

accidental.[1] The direct cost constitutes a reserve price below which supplies will not be forthcoming during the short period. If, however, the price, though below total cost, is above the direct cost (i.e. prime costs together with some fluctuating oncosts), it is more profitable or less unprofitable, for the moment, to continue to supply than to close the establishment. Any surplus which is obtained above direct cost represents a sum which may be employed in meeting oncosts. In practice producers are influenced by two factors. On the one side, in view of the danger that they may be " spoiling the market," that is, retarding its recovery, they hesitate to go on producing for a price which approximates closely to direct cost. On the other side, being afraid that their policy may not be followed by their competitors, and that, therefore, the effect of such policy would be neutralized, they are reluctant to curtail their output so long as they can reduce their losses by maintaining it at the same level. Hence we find, during trade depressions, frequent complaints of production in excess of the requirements of the market. Hence, moreover, we find a tendency during such periods towards the formation of associations for restricting output. An individual restriction produces little or no effect upon price, but a combined restriction, by seriously curtailing supplies, may produce a marked effect on price, thus creating, on the smaller individual supply, a greater total margin between price and direct cost.

In short period prices will not fall below prime cost, but may rise above additional net cost of production

From what has been said the following general statements may be made. During the short period the direct cost of manufacture provides an absolute limit below which price falls cannot continue. If, by " accident," the market price falls below that limit the supply will be reduced. Just as, in the case of market prices, the reserve price is a

[1] It may be costly to store a commodity, and the cost of storing must be set against the direct cost of manufacture. Moreover, the commodity may deteriorate rapidly if not used. Thus a speculative shipbuilder may be compelled to sell a completed ship at a price below prime costs ; but he would not repeat his experiment unless the prospect improved.

condition of sale, so, too, in the short period, a reserve price equal to the direct cost is a condition of continuity of supply. If the fear of spoiling the market is at all strong the lower limit or reserve price will be some distance above the direct cost, but in many cases the fear is neutralized by the strength of individual competition. [The prime cost varies between different competitors. Some employ expensive machinery and incur less direct costs than others, who rely more largely upon manual work. The former are, therefore, more likely than the latter to maintain supplies during a period of depression. Further, the greater the employment of fixed capital per unit of output in the industry as a whole, the greater the tendency to produce a relatively large supply during a period of depression and low prices.] During the short period there is no upper limit of price determined by the conditions of production. It is true, as already stated, that a tendency exists for price to approximate to additional net cost or marginal cost. But such cost is not an upper limit. This limit is determined by the elasticity of demand for the commodity, which, in turn, is determined by factors which have already been indicated.[1]

Long Period

In short periods contract work makes for close connection between prices and direct costs

The short period has been defined as a period during which the technical equipment of the establishment is practically fixed. Nevertheless the supply is slightly elastic and may be partially adjusted to the requirements of the market. As the result of this moderate degree of elasticity we found that market prices and the immediate prospects of the market reacted upon supplies, and that the degree of reaction was limited, when prices were depressed, by the direct cost, which thus formed a barrier beyond which price movement in that direction could not continue. Supplies tended to diminish to the extent necessary to prevent a fall in market prices below this limit.

[1] See Chapter II.

If market prices actually fell below that level it was due to miscalculation on the part of producers, i.e. to accident rather than to deliberate policy such as we are now examining. When market prices were high the additional supplies forthcoming tended to bring them down. In some cases they were brought down to the additional net cost (which was considerably above the normal cost per unit of the normal supply), but in other cases the supply was so inelastic that it could not be increased, beyond a limit, at any cost; for the short period prices might remain considerably above the marginal cost, the upper limit being determined by the elasticity of demand for the commodity

In the manner and to the extent indicated, the cost of production, by influencing supplies, also influences prices during the short period. Here we find the explanation of prices and business policy during booms and slumps in trade.

The producers may be either working on contracts with buyers or supplying stocks for a speculative market. In so far as they enter into contracts they are able to estimate, with a considerable degree of accuracy, the direct costs involved in fulfilling the contract and, consequently, to calculate whether or not a particular contract is relatively profitable. The direct cost per unit of carrying out a small contract is lower than that of fulfilling a large contract, with the result that, during depression, the lowest terms which the producer will accept for the former are likely (in the absence of special circumstances) to be lower than those which he will accept for the latter. At the height of a trade boom, on the other hand, he may accept lower terms for large than for small contracts, for in this case he is eliminating the risk that the boom will suddenly come to an end. In so far as the producer is supplying stocks for a speculative market he is less able to estimate the direct costs of production; moreover, it is in such cases that errors are incurred in estimating the

demand and that, in consequence of an over-estimate, the prices actually reached on the market may fall below the direct cost of production.

The long-period adjustment of producing capacity is not contractual but speculative and approximate

When we consider long-period influences upon prices we eliminate the possibility of contract and its stabilizing influence. Over a long period all production is speculative. For we have defined the long period as one in which time is allowed for the appliances of production (or producing capacity) to be adjusted to the changes, or anticipated changes, in the demand for the commodity. It may be six months, or, as in steel manufacture, about eighteen months.

No buyer would give a contract for the supply of a commodity to a firm which has not yet erected the factory; nor would any buyer give a contract to a producing firm for delivery over a long period—say, twenty years—of all the supply which the latter can produce and at a price fixed at the commencement of the period. The construction of a factory is essentially a speculative enterprise, even when it is undertaken by a firm whose main business is concerned with the next stage of manufacture, and which will thus be able to guarantee a market for the products of the new factory. For the other causes of uncertainty remain. Alternative and cheaper sources of supply may present themselves, rendering the factory in question unnecessary and a burden; the firm's need of the products of that factory may alter in consequence of changes in its output of the next stage. Thus, for example, even the building of a railway engineering shop by a railway company is a speculative enterprise.

We have said that in the short period the supply is elastic within narrow limits. Its elasticity is measured from a normal supply, representing the normal capacity of the existing appliances of production. These appliances have come into existence as the result of past estimates of the probable requirements of the industry in the future—not at any future date, but over a long period of years.

Nobody erects an expensive establishment merely in order to meet an expected contingency which will quickly pass—unless it be that due to war, when the motive is changed and ordinary economic tests lose their relevance. A firm expects to use a factory for at least a generation, and a coal mine for half a century. In deciding whether or not it may dare embark upon such an enterprise it is faced with many incalculable factors, the most incalculable of all being, perhaps, changes in the value of money. But, with such evidence as it can gather, it endeavours to make a forecast of the future—the growth of general demand, the probable supplies of raw materials, the danger of competition from rivals in the immediate neighbourhood or at a distance. The trends of general costs, supplies and demands over a generation are not, however, easy to estimate in advance. The firm is influenced more profoundly by the prospect of a good start and the opportunity of becoming a strong, effective competitor in any circumstances that may arise. It becomes a ready risk-taker because it is hopeful of proving a forceful risk-maker, for others. It embarks upon the enterprise when prospects for the near future, on the side of demand, are favourable; it also knows that, when the tide turns, it will enjoy one advantage over those rivals who are already in the field when it starts. For it is able to avail itself of all the latest improvements in machinery and organization, with the result that one group of costs will be lower than the corresponding costs incurred by its rivals. It does not follow that the total cost will be lower. It may be that the law of diminishing returns is in operation over the industry as a whole. But even in such cases this factor is of considerable importance. In those cases where the law of increasing returns operates it is of supreme importance. The new firm relies upon a good start, due to favourable trade conditions and, at the moment, superior equipment, to give it both momentum and staying power. It relies upon early success to provide the opportunity of

building up a large reserve to be employed in development, if desirable, or, at the most, in maintaining itself as an efficient competing unit. It expects its seniors, in point of age, to retire first, if and when the field becomes overcrowded.

This sort of calculation of possibilities and trends is always going on. Rapidly growing demands are overtaken by rapidly growing industries, and steadily diminishing demands force the least progressive firms out of the "decaying" industries. New firms enter the field—that is, capital development takes place on a large scale—when demand is brisk, and they hold back—that is, capital development is delayed—when demand falls off. There is a rough correspondence between demand and producing capacity, a correspondence which becomes more exact the longer the periods of comparison. But at no time can it be said that the producing capacity has been deliberately adjusted to meet the momentary demand. It may be said, however, that the former is being constantly adjusted to meet the anticipated flow of demand over a period in the future.

When demand and producing capacity are in equilibrium, price approximates to the highest (or marginal) cost of production

We have emphasized the fluctuating character of trade movements in order to impress upon ourselves the realities of industrial life, and to avoid the danger of over-abstraction. Having done so, we may proceed confidently to make certain assumptions. Let us suppose, first, that the demand for a commodity remains constant (and is known to be so) over a long period, and that the supply forthcoming is sufficient to meet that demand, i.e that the normal producing capacity of the industry is, and for a time remains, equal to that demand. An examination of the industry will reveal certain outstanding features. The bulk of the firms will be very similar in character. They enjoy the same external economies; they employ almost the same methods of manufacture; their general costs will be approximately equal. We may call them class B They are representative of the industry, and the one which

combines in itself what is most typical of each department of activity may be regarded as the representative firm. In addition there will be a few firms which show greater initiative and enterprise, greater powers of organization and experiment. They employ the newest methods of production and distribution, and their costs are lower than those of the representative firm. They belong to class A. There will also be a third class (C) of firms—the stragglers. They may be lacking in enterprise or organizing power; they may suffer from lack of capital, or their establishments may be unfavourably situated relatively to the market.

If the firms of class C continue indefinitely it is an indication that the price is sufficiently high to cover the total cost incurred even by the worst of the firms in this group. But they are only likely to continue if the law of decreasing returns is in operation over the industry as a whole—that is, if the best sites have been exhausted or the best materials are completely absorbed by the firms in the other classes. In such a case (of which farming, docks organization and warehousing are clear examples, and mining frequently proves to be so) the higher costs are due to natural conditions. Price approximates to the highest cost of production, that is, to the cost for the most unfavourably situated firm. Other firms, which enjoy a differential advantage, may or may not be able to increase their supplies until in each case the last unit is produced at an additional cost equal to the price.

Dynamic tendency for costs to fall and for future prices to approach the present lowest cost

But manufacturing industry is usually worked under different conditions. The firms in classes A and B are able to increase their producing capacity without adding much, if anything, to their cost per unit of output. Thus, even if those in class C are enterprising but hampered by natural disadvantages, their places can be taken by others, equally enterprising and better situated, and they must accept the inevitable. The conditions existing at any time cannot be final. A stationary state of demand does not mean a stationary state of production.

A moving picture of the industry will reveal the gradual elimination of class C (not necessarily of the firms but of their methods of production or marketing) and a steady increase of firms in the other classes, with a downward tendency in the long-period price. Further, more and more of class B will copy the methods of class A, and those in class A will devise still better methods. The representative cost of to-day becomes the highest cost to-morrow, the lowest cost becomes the representative cost and a new and lower cost appears among the most efficient. But it should be noted that this movement is compelled by the action of competition. Price does not fall with highest cost because the latter falls. What happens is that new firms in classes A or B appear, or existing firms increase their producing capacity by extending existing plant or building additional factories. The increase in supply produces a fall in price, and it is this fall in price which gradually forces out of the market that supply which is produced at highest cost. It may be a long struggle, for if they employ much fixed capital even inefficient firms die hard.

It may thus be said that on the assumption of a constant demand cost of production governs value by regulating the supply. The longer the period under consideration the greater the influence of the total cost under the most unfavourable conditions. The short-period price may fluctuate, but it fluctuates around the highest cost, which acts as a centripetal force. But the lowest cost further acts as a centripetal force upon costs, and tends to become ultimately the highest cost. Hence it may be added that the least cost at any one time is the determining factor, under increasing returns, in the long-period price of the future. There is no fundamental confradiction in the two theories : (1) that price tends to be governed by the highest cost of production, and (2) that price is determined by least cost. Present prices circulate around present highest costs, and future prices will circulate around present lowest

costs, which will then be the highest costs. Thus, for example, if the costs of producing steel are £10 in class C establishments, £8 in class B, and £6 in class A, prices for the present will fluctuate round and tend towards £10 per ton; in the near future they will fluctuate around £8 (which will then be the highest cost), and ultimately towards £6 per ton.

So far we have assumed a known and constant demand. In practice, however, demand varies. In most cases it grows with the growth of population and the spread of habits, but even its rate of growth varies. Industry in general fluctuates, periods of activity being followed by periods of depression, and the latter, in turn, by renewed activity. During the transition from boom to slump there is usually an absolute decrease in demand, and during the transition from slump to boom an increase greater than that of population. Behind these swings there is usually an upward trend in demand. But such changes do not invalidate the theory which has been expounded. They merely accelerate or retard the changes on the side of supply. Thus during an absolute fall in demand the methods employed by class C become obsolete and are abandoned more rapidly than would otherwise be the case, while during a rapid increase in demand they prove to be profitable for a longer period than would otherwise be the case.

Changes in Demand

Extent to which increased demand results in rise in prices depends on time available for the adjustment of supply

The considerations which have already been set forth in the present book enable us to make the following general statements regarding the effects of changes in the demand for a commodity or other form of wealth.[1] The *immediate* effect of an increase in demand is a rise in price from the point which we may denote by X to some other point, $X + Y$, at which the demand will be equal to the available supply; and the height of $X + Y$ above X is determined

[1] It may not be superfluous to recall, once more, the difference between an absolute change in demand and the responsiveness of demand to changes in price. By the former is meant an increase or decrease in the demand at a given price.

by the elasticity of the new and larger total demand. It is possible that the new additional demand at X will be highly sensitive to changes in price and will be driven away by an advance, in which case the new total demand is said to be highly elastic and the rise in price will be very moderate If, however, the new additional demand is urgent and persistent, there will be a substantial rise in price. During the *short period* the price will remain above X, but it will fall below $X + Y$, for the rise in price will react upon supply. The extent to which the price will fall from $X + Y$ depends upon the elasticity of supply; it may fall to the point at which it is equal to the additional net cost of production. In the *long period* the effect of the increase in demand will vary according to the conditions governing the cost of supply. If the industry is working under the law of decreasing returns (i.e. increasing costs), the price will fluctuate around and tend towards a cost which is higher than X, though lower than $X + Y$, and even lower than the short-period price. The tendency to diminishing returns thus generates a check upon the new demand. If, however, the industry is working under the law of increasing returns (i.e. diminishing costs), the larger total demand, calling for the larger supplies, will result in a lower normal cost, and the price will, therefore, tend towards a point which is below X.

Extent to which decreased demand results in fall in prices depends on similar considerations

The immediate effect of a reduction in demand is a fall in price below the point X (say, $X - Y$), the extent of the fall being determined by the available alternative to sale, but sufficient in all cases to stimulate a demand equal to the available supply. In the case of a perishable commodity the fall will probably be very pronounced, for the only alternative to the seller is complete loss. In the case of a durable commodity speculative influences come into play, and their strength will be determined by the degree of probability that the absolute reduction of demand is temporary or permanent. If it is believed that demand (at a given price) will again be restored at a comparatively

early date, such influences will be strong and will serve to check the fall in price; but if it is believed that the reduction in demand is likely to be permanent or of long duration, such influences will not produce any marked effect and the price will fall to a lower point. During the short period prices will remain low, though not necessarily so low as $X - Y$, for this price may be below the prime cost of production. Producers are influenced by two considerations, first their fear of "spoiling the market," and secondly, their individual helplessness in the face of one another's competition. There may be a tendency to form a defensive price association, the strength of that tendency being determined by the prospect of an ultimate revival in absolute demand.[1]

The effect produced in the long period by a reduction in demand will vary according to the conditions of the industry. If the law of diminishing returns is in operation the reduction in output will be accompanied by a fall in the unit cost of production, and the price will fluctuate around and tend towards a normal cost which is lower than X. If, as many believe, the fall in demand for the coal of this country is likely to be permanent, the mining industry affords an illustration of this statement. The more expensive mines will be abandoned as well as the thinner and more costly seams in better situated mines; the normal cost of mining under the most unfavourable circumstances will be lower than would be the case if the product of all existing mines and seams were required, and the price towards which market and short-period prices tend will be correspondingly lower. The case of an industry subject to the law of increasing returns presents greater difficulty It might appear that the reduction in production following upon the permanent reduction in demand must lead to a

When increasing returns prevail decreased demand may result in higher or lower level of prices

[1] If the industry is not likely to revive, i.e. if the reduction in demand is likely to be permanent, a price association is not likely to be formed—or, if it is formed, to survive the struggle—and the motto will be *Sauve qui peut*. In any case price will not remain below specific cost

rise in cost and, therefore, a rise in the long-period price. Such would obviously be the result if (as in the case of tramways) the commodity or service were supplied by a monopolistic unit. But we are assuming competitive conditions, i.e. competition in supply between a number of competing units. It is hardly likely that these would individually reduce their outputs. There would be a severe competitive struggle as the result of which some would be eliminated, their trade being captured by the remaining (more efficient) units. In spite of the reduction in the total demand for the product, the individual demands upon the surviving units would be increased; such units would tend to grow in size and their costs per unit would tend to fall. The ultimate result would thus be a price fluctuating around and tending towards a new normal cost which would be below X, not above it. Such appears to have been the history of iron production in this country during the last forty years; it may also be the history of steel manufacture during the next twenty years, if the pessimistic utterance of competent observers are justified.

Sympathy in Prices

Composite supply

Long though it has become, this chapter would remain incomplete if no reference were made to the relationship in the prices of different goods and services. If two commodities, A and B, are complete or partial substitutes and therefore compete, like gas and electricity, for the same market, a rise in the price of A will result in an increase in the demand for B and, therefore, in a rise in its price. Other things being equal, the market prices of such commodities move in sympathy.[1] If, however, the rise in the

[1] Other things may not equal. Recently the demand for Australian wool increased and fewer sheep were killed. The consequent scarcity of Australian mutton in this country led to a rise in price. One would, therefore, expect to find a sympathetic rise in the price of English mutton: but the supply of the latter proved to be so plentiful that the *total* supply of mutton did not fall off. The result was that the margin between the prices of the two kinds of mutton, which had hitherto tended to remain constant, was considerably reduced.

price of A (for reasons which are not relevant to this argument) is permanent, it does not necessarily follow that the rise in the price of B will also be permanent. The industry may be operating under the law of increasing returns, in which case the price of B will eventually fall. Another case calls for comment. If two forms of wealth (A and B) are jointly used in the supply of a third form C, and a rise occurs in the price of A and, consequently, in the price of C, the demand for the latter will fall, with the result that the demand for and price of B will also fall.

Relationship between all long-period prices

These examples serve to show the complexity of the problem from the side of demand : other complexities from the side of supply will be examined in the next chapter. Before we proceed to such examination two further points call for comment. It has already been stated that if there are two forms of wealth which are complete or partial substitutes their *market* prices tend to move in sympathy. Such sympathy does not exist between the market prices of forms of wealth which are not substitutes, or otherwise directly connected. Thus, for example, there is no sympathy between the market prices of steel and bacon. But, so long as the methods of production remain unchanged, there is a sympathy between the long-period prices of all forms of wealth produced in the community. For they all fluctuate around and tend towards the respective costs of production which, by assumption, remain unchanged relatively to each other. When we find the price trends of different commodities parting company it is due to the fact that the methods of production are changing, and the laws of diminishing and increasing returns are operating with different degrees of intensity in the various industries.

The second point is related to the first, though its relation will not be evident at this stage of our investigation. Reference has frequently been made to the cost of producing the supply on the market, but the cost itself has not been analysed. In every case it depends upon the price which

the producer is called upon to pay for labour and materials ; that is, partly upon those prices which were themselves the subject of examination. For this reason it has been urged that the theory of value which has been expounded is based upon that fallacy known as arguing in a circle. Such is not the case. The criticism is based upon a confusion of the general price level and the relative prices of particular commodities. The theory examined in this section is that of particular prices. It is impossible, in an elementary treatise, to elaborate this criticism and the reply, and those readers who desire to pursue the matter further should consult Marshall's *Principles of Economics*.

CHAPTER V

SOME SPECIAL PROBLEMS OF PRICES

Validity of assuming the competitive production of an isolated commodity

THE theory of prices expounded in the third and fourth chapters is based upon two important assumptions, namely, that a single, more or less standardized article (or service) is produced, and that it is produced under competitive conditions. The theory was generally applicable during the greater part of the nineteenth century, and is still applicable over a considerable part of industry. But the assumptions upon which it is based are becoming less true of many branches of economic activity and the theory has to be considerably modified when applied to those branches. It is, indeed, not too much to say that the exceptions are rapidly becoming as numerous and important as the illustrations of the theory. Not only is the sphere of monopoly or quasi-monopoly becoming more extensive, but, where competition reigns, many of the competitors produce not single commodities, the specific costs of which are ascertainable, but multiple products, joint products, and other combinations. A mining company may own brick-works and coke ovens, but these may be regarded as separate economic entities. An engineer, however, may make several types of products and do a considerable amount of repair work in the same establishment. A farmer supplies a great variety of products, some of which are joint products.[1] Again, when we turn from manufacturing industry or mining to consider the marketing and distribution of the product, it is evident that the long-period considerations outlined in Chapter IV cannot be applied with the precision assumed in that chapter.

[1] Joint products, it will be recalled, are such that when one is produced the other is also produced. In some cases the proportions in which they are produced may be varied by conscious effort.

Multiple Products

No specific total cost in engineering

It is impossible, in an elementary treatment of economics, to examine, in full detail, the modifications necessary in applying the theory to modern conditions. We must content ourselves with a brief description of a few illustrative cases. The first case that we may consider is that of an engineer who produces many kinds of machines and implements, and undertakes a considerable amount of repair work. He is able to make a fairly accurate estimate of the prime or specific costs incurred in executing a given order, but, as we saw in Book II (pp. 100-107), it is extremely difficult, if not, indeed, impossible, to ascertain the total cost. What the engineer does is to " charge what the market will bear," that is, to quote a price which he thinks will be as low as, yet not lower than, is necessary to secure the order. What that price may be depends upon market conditions. The sum total of such prices must in the long run provide sufficient revenue to enable him to enjoy profits that compare not unfavourably with the profits obtainable in other industries. In other words, there is no specific total cost of production with which, in the long period, the price of the individual product may be connected, and we are forced back upon the balance sheet.

nor in retail trade

The case of the engineer resembles the typical case in retail selling. The grocer or ironmonger sells a large collection of articles. The specific cost incurred in selling any one of these cannot be ascertained. If the retail price is not standardized, the storekeeper, like every other seller, charges what the market will bear. Local variations in prices are common even when competition is fairly keen, and the final balance sheets of the competitors show no marked difference in the final rates of profit. If a dealer in fruit and vegetables consistently charges a higher price than his rival, the latter will attract more customers. But even when, on an average, there is no appreciable difference between them the prices which they charge for, say, apples may differ appreciably. For this reason a keen housewife

is often able to save a considerable sum on housekeeping by visiting a number of shops instead of restricting her custom to one.

Joint Products

Production of commodities in fixed proportions

The second case calling for comment is that of joint supplies. When cotton seed is compressed by machinery it gives off oil, which is a valued product. The pulp was at one time a waste product, but is now converted into oilcake, which is a valuable food for animals. So long as the cotton-seed oil alone was marketable the total cost of production was set against the income derived from the oil, and the theory already expounded was applicable in detail. When the use of oilcake was discovered, and the by-product commanded a price, the revenue derived from its sale constituted a pure surplus. In order to secure as large a surplus as possible the producers increased their supplies of oilcake and, therefore, of oil. The increased supplies of oil reduced its price and (so long as the costs were set against oil alone) the firms began to lose on oil where they gained on oilcake. The arithmetic results were determined by the respective elasticities of demand for oil and oilcake. The greater the elasticity of demand for oil the greater the tendency, other things being equal, to increase the supplies of oil and oilcake. But these problems of costing and financial arithmetic do not concern us now. The general result was that the total cost of production was set against the combined revenues obtained from the sale of the two products. The proportions in which the two products are supplied cannot be varied, and the specific costs separately incurred in producing either cannot be ascertained. The economist is again forced back upon the annual balance sheet.

Production of commodities in adjustable proportions

A more complicated case is that provided by the group of industries which are concerned with extracting the constituent products contained in coal. In coke-oven and by-product works the main product obtained by coal carbonization is coke, but the by-products, such as gas,

crude tar (distilled in special plants), oil, etc., are now known to be valuable and are gathered with care.[1] In gas works the main product is gas, and coke is regarded as a by-product. Here stress is laid upon quality, and to secure the desired quality some of the by-products, such as benzol, are sacrificed to some extent. In gas-producers found in steel works everything is sacrificed to furnace gas. In blast furnaces the volatile matter is collected and sufficient power may be obtained from it to supply the needs of the machinery. The proportions in which the constituent products are obtained from coal by treatment at low temperatures may be varied, within limits, and the selection of the methods of operation and the proportions to be aimed at is determined by the elasticities of the demands of the markets that are served by these constituent products. The theory described in the last chapter is obviously too simple to provide an adequate explanation of prices in such a complex group of industries. It is doubtful whether really scientific methods of price fixation have yet been devised even by those in control of such industries. They appear to be still in the experimental stage—cost accountancy in these industries is still in its infancy—and the annual balance sheet provides the only safe criterion of policy.[2]

[1] When, at one time during the recent war, the submarine campaign was successful to the extent of restricting our imports of iron ore from Spain, the demand for coke used in iron production was reduced and the price of coke fell. The result was that the supply of coke was reduced. But the reduction in the production of coke meant a corresponding fall in the supply of benzol and toluol, which were needed for the manufacture of explosives. These by-products had suddenly become as valuable as the main product, and even if the menace of the submarine had not been overcome it would have been necessary to continue producing the by-products irrespective of the effects upon the supply and price of coke.

[2] It is, of course, obvious that, in a gas works, the prices of gas and coke must be sufficient to cover the joint costs of production An increase in the demand for gas sends up the price and causes an increase in supply. Consequently the supply of coke increases and its price falls The rise in the price of gas must be sufficient to cover the fall, if any, in the revenue derived from the sale of coke together with the increase in the joint expenses of production. Hence the importance of the relative elasticities of demand for coke and gas.

MONOPOLY

Monopoly price and monopoly revenue

The third case which we may consider is that of monopoly. The words "monopoly price" may be used in two senses, the first being the price (or prices) actually charged by a monopolistic organization, the second being the price (or prices) which yields the greatest net return or monopoly revenue. The net return or monopoly revenue is frequently defined as the excess of revenue over all the expenses of production, including in such expenses a normal competitive return upon all the capital expenditure incurred in production; that is, it represents the gain due to monopoly as such. But it is more convenient—and, indeed, more accurate—to regard it as including all the surplus that is divided among those shareholders who take the risk of the business The first definition has become common through the fact that when monopolistic trusts are formed in America the ordinary shareholders in the constituent firms are usually given debenture stocks in exchange for their shares, while new ordinary shares are distributed based upon the anticipated profits due to monopoly. It makes no vital difference to the theory of prices which of the two definitions is accepted, and the wording of the following paragraphs is based upon the second definition, which is more strictly applicable to British methods of capitalization.[1]

It should not be forgotten that a monopolistic enterprise is a single financial entity. Its aim is not to secure the maximum profit per unit of product sold, but the maximum total profit on all the units sold. Thus, it is better to secure a profit of x per unit on $3y$ units sold than to secure a profit of $2x$ per unit on y units sold.[2] The total gain of the

[1] See Book II, Chap. VIII.

[2] In that respect its policy differs, for example, from that of a monopolistic trade union; the latter aims at the highest price per unit or member, not the maximum total revenue for all the members combined. The policy of the trade union resembles that of a price-regulating agreement among manufacturers The latter, consisting of independent financial units, necessarily aims at the price which provides the greatest profit or least loss per unit. It does not control the number of units produced, and in that respect differs from the type of monopolistic combination assumed above.

monopolistic enterprise is determined by the total sales and the profits on each unit of sale—two factors which are themselves closely connected. The enterprise can control the supply, but not the demand, which is a function of the price.

Inelastic demand

Other things being equal, the price which offers the highest monopoly revenue is determined by the elasticity of the demand for the commodity. If the demand is highly inelastic (that is, if it remains substantially the same at different price levels) the monopoly price (in the sense of the price which yields the highest net return) will be higher than it would be if the demand were highly elastic; for in the latter case the sales would fall off (as in the above illustration) to such an extent that the higher profit per unit would not provide full compensation for the reduction in sales. Where, therefore, the demand is inelastic, the power of the monopolist becomes a serious menace to the community, and the State or local authority steps in and either imposes legal restrictions, or itself owns and controls the enterprise. It is mainly for this reason that such enterprises as railway and local transport are either publicly owned or subjected to strict control by the State or the municipality.

Discrimination and "dumping"

The total demand for the commodity may represent a composite demand from many regions or many groups or customers. The demands from some of these regions or groups may be inelastic and from others highly elastic. Thus, for example, the American demand for steel from the Steel Corporation may be extremely inelastic (due largely to a heavy duty on imported steel) but, on account of European competition, the foreign demand for American steel may be elastic In such a case the endeavour to secure the highest monopoly revenue results in price discrimination or differentiation;[1] the Steel Corporation charges a higher price to American customers than to foreign customers, and the exported steel is said to be

[1] Compare the illustration of the concert, Book III, Chap. I.

"dumped." Again, the demand for a commodity may begin by being elastic and later become inelastic. The demand for oil used on ships may be highly elastic in respect of new ships or steamships, but once a new oil-using ship has been constructed, or a steamship has been converted, the demand for oil becomes inelastic. The demand for most commodities used in conjunction with highly specialized, expensive plant or fittings is usually highly inelastic in so far as the existing users are concerned. The endeavour, in such a case, to secure the highest monopoly revenue over a fairly long period would result in a low price at first and a higher price when the market had been secured.

Thus a gas or electricity supply company possessing a local monopoly and complete freedom of action would be inclined to charge a low price at first and, when the householders in the district had installed the necessary pipes and fittings, to raise the price considerably. It is by no means uncommon to find an organization which enjoys the monopoly of one market entering another (competitive) market, undercutting its rivals, and, having ruined them or driven them from the market, raising its price to the new customers.

Diminishing returns

Given a certain elasticity of demand, the supply which the monopolist will produce (and, therefore, the monopoly price) will depend upon the conditions of production. If the law of diminishing returns is in operation the supply will be less (and, therefore, the price will be higher) than it would be if the law of increasing returns were in operation. For, in the former case, the cost per unit is lower on a smaller supply than on a larger supply, and the margin (per unit) between cost and price is considerably larger—particularly when the demand is inelastic, that is, where a slight reduction of supply forces the price to a much higher level. The exact arithmetical result varies according to the degree of elasticity of demand and the strength with which the law of diminishing (or increasing) returns

operates. The reader will be able to supply illustrations for himself.

These will show that where the law of increasing returns operates at all strongly, and the demand for the commodity is highly elastic, the monopoly price (that is, the price which gives the highest net return upon the capital invested) will be relatively low, probably lower than the normal price under competitive conditions. It follows that in such circumstances a monopoly is a public advantage, and requires but little public control. But an uncontrolled monopoly producing under the law of diminishing returns and supplying a commodity (such as wheat), the demand for which is highly inelastic, would be a serious menace to the community.

Limitations on power of a monopoly

In practice a monopolistic organization may not charge the full monopoly price. It may not be able to estimate the degree of elasticity of demand. Again, by " squeezing " the market too hard it may draw public attention to itself and its methods, and attract possible substitutes. An absolute and complete monopoly is almost unknown ; there is always a background of potential competition, either from new firms in the same region, or from existing firms in other regions, or, again, in the form of substitutes for the commodity. Moreover, there is always the danger that the exaction of a high price may result in Government interference and in price or profit restriction. A monopolist taking a long view may prefer to let sleeping dogs lie. But he will do as much as he dare, and, in order to secure his ends, he will extend his control, if possible, over substitute products that may compete with his own product and thereby limit his power over prices.

Price differentiation under semi-monopolistic conditions

We have seen that monopoly frequently results in price differentiation. There are cases which resemble those of monopoly in some respects, and in which similar price differentiation takes place. A publishing firm possesses the exclusive right of publishing a book, and first issues an expensive edition which appeals to a particular group of

book buyers. When the possibilities of this market have been exhausted the firm issues another and cheaper edition, and in this way appeals to another group of buyers. If, after an interval, the sales cease, the " dead " stocks are sold as " remainders " at a price which is expected to effect a clearance. Again, fishmongers start the day by charging relatively high prices, but as the day passes the prices steadily fall. At the beginning of a season the prices charged for clothes are relatively high, but as the season advances they are gradually reduced. It is said that oncosts are charged against the earlier sales and that, in consequence, the shopkeeper can afford to sell later at lower prices. The more correct statement is that he charges what the market will bear, and that the market bears a higher price early in the season than at a later stage.

A customer who is not a slave to fashion may buy a serviceable winter overcoat more cheaply in April than in October ; but if a large proportion of customers actually did so the October price would fall and the April price rise.

A medical practitioner enjoys a " conventional " monopoly, and the fee which he charges is determined by his estimate of the wealth of his client. A very poor patient may be charged a nominal fee for professional service of the same character as is rendered to a wealthy patient, and for which the latter is charged a high fee. The physician charges what the market will bear (not necessarily *all* that it will bear) and, like the industrial monopolist, discriminates between different " customers." For this reason it is frequently stated that the wealthy patients pay for the poor patients. Such is not the case. If the same group of wealthy patients constituted the whole of the doctor's practice they would be compelled to pay still higher fees in order to secure for the doctor the same total income as he now enjoys. The law of increasing returns (in the first sense defined in Book II, Chap. V) operates very strongly.

The poorer patients " fill in " the day's work of the doctor, and the fees which they provide cannot be set against " specific costs " incurred in providing the service.[1] Again, if *all* the patients were wealthy their fees would not necessarily be any lower than they are at present: the " practice " might be proportionately more valuable.

We are all aware of the usual practice of charging different prices for electricity (or gas) when used for lighting and for providing heat or power. A power station must be sufficiently large to provide all the electricity needed during the early hours of a winter's evening, when all the shops, private houses, and streets are lit up. If the plant were not used for any other purpose it would be idle most of the day and night and the charge for electricity used for lighting purposes would need to be sufficient (say, 8d. per unit) to cover the total cost of running the plant. By using it during the day to provide electricity required for heating and power, certain additional charges (say, 1d. per extra unit) are incurred. On account of the competition of coal, the second market will not bear a higher charge than, say, 3d. per unit. But even this charge provides a contribution of 2d. per unit towards the fixed oncosts of the establishment and enables the charge for lighting to be reduced to, say, 6d. per unit. At the prices of 3d. and 6d. per unit the plant may be run continuously. Thus it is not true to say that consumers using electricity for lighting purposes are paying in part for that which is used for providing heat and power; for they are paying less than

[1] An industrial monopolist " dumping " goods into a foreign country may, in consequence, be able to charge lower prices at home than would be possible if dumping did not take place. This occurs when the law of increasing returns is operating very strongly In order to secure the benefit of this tendency the monopolist may produce more than the home market can absorb without such a fall in price as would render the policy unprofitable. The total revenue may (where the home demand is inelastic) be increased when home supplies are restricted (and a relatively high price thereby maintained) and the surplus is sold abroad at what printers call " offprint prices." Compare the cases of gas and electricity supply and of railways given in the following pages.

they would be called upon to pay if it were not also used for other purposes.[1]

Railway Rates

Peculiar features of railway operation

The group of industries providing transport service supplies a further illustration of the difficulty of applying the simple cost of production theory of value (outlined in the previous chapter) to modern conditions As the chief example of this group we may consider the case of railway transport. A railway enterprise differs from an ordinary industrial enterprise in two important respects. First, it provides innumerable services under conditions which vary from day to day. As already pointed out,[2] it carries different classes of goods, and each of these is daily conveyed greater or smaller distances. Again, a passenger train may carry infants or adults ; it conveys some passengers from one station to the next and others from one terminus to the other. Although the " method of production " is standardized, the " product " is not. Further, in providing one service the railway company almost inevitably offers many other services.[3] Thus, a train running from Glasgow to London provides service between intermediate stations at which it stops. Secondly, the rates have to be fixed in advance, and cannot conveniently be varied at frequent intervals. If a train leaves Birmingham for London half-empty the station master cannot hawk his wares about the street and offer them for what they will fetch—a cotton manufacturer or a draper can dispose of his surplus stocks by going on the market or advertising a " clearance sale."

[1] The above illustration has been artificially simplified. In practice the two prices would be determined by the relative sizes of the two markets and the relative elasticities of the two demands. Further, the case may be rendered even more difficult if, as is frequently the case, gas competes with electricity in each of the two uses The production and distribution of both gas and electricity necessitates heavy initial expenditure of capital, and the competition of such products when supplied by two separate companies, each possessing a monopoly in its own sphere, may produce highly " artificial " conditions for a period extending over many years. But we cannot pursue the matter further in this volume.

[2] Book II, Chap III.

[3] An excursion train running between two points is an exception

A railway is operated under conditions which are partly competitive and partly monopolistic. Between two large towns, such as Liverpool and London, it may compete with another railway or with coastal shipping; for comparatively short distances railway transport may compete with road transport, particularly, in these days, with motor transport. Nevertheless, over a large part of the area which it serves it enjoys a considerable degree of monopoly. Further, the law of increasing returns, in the first sense already indicated,[1] operates very strongly Until the line is fully employed, and the trains are of the most economical length and are fully loaded, an increase in traffic is not accompanied by a corresponding increase in the cost of providing it. Small increments of traffic may, indeed, be sometimes provided without any observed increase in cost.

Charging what the traffic will bear

A railway company subject to no restrictions charges what the traffic will bear. It must first of all secure traffic, so that it will not charge more than the traffic will bear. Secondly, it tries to attract sufficient traffic to enable the railway to be economically worked; but, subject to this second consideration, it charges as much as the traffic can be made to pay. It will not charge less than the special cost incurred in providing the particular form of transport offered or desired, but the upper limit is determined by the elasticity of demand for that transport service. Consequently the rates per mile vary for different commodities, and over different distances for the same commodity. Thus, for example, coal cannot bear so heavy a transport charge as diamonds. In practice commodities are classified according to their freight-bearing capacities; formerly they were divided into eight classes, but they are now divided into twenty-one.[2] Again, the rate per mile for

[1] See Book II, Chap. V.

[2] The Railway Act of 1921 provide for this increase. The bulk of traffic was carried at "special rates," and the old classification had long since been rendered more or less obsolete, except as a basis for the special rates.

carrying goods from A to B (which is subject to competition) may be less than for carrying goods from A to C, an intermediate station.

Rates are also said to vary according to the cost of service. Thus the rates are " loaded " by such factors as the speed at which the service has to be provided, the risk of breakage, the quantity of goods carried (a full load of one kind being relatively less expensive to load than a series of small quantities, which must be loaded in that order which makes unloading at successive stations easy), and the terminal services rendered. This statement is not strictly accurate. These specific charges form a theoretical minimum below which the actual rates cannot fall, but any additional charge (and, therefore, the total charge) is determined by what the traffic will bear, which (given freedom of action) is the universal principle of rate determination. And the rates for different classes of goods are determined by the elasticities of the respective demands. The test of the adequacy or otherwise of the relative charges is found (as in the case of the concert) in the total amount of traffic conveyed, that is, in the fact whether or not the railway is fully employed and, therefore, economically run. And the only true test of whether the charges appear to be *on the whole* too heavy is provided by the annual balance sheet.

Limited application of cost of production theory of value

Similar considerations apply, in greater or less degree, in other forms of transport, such as shipping, road transport, the supply of water and, as already shown, gas and electricity. We may, indeed, sum up this and the preceding chapters in the following statements. Sellers charge what the market will bear subject to the fact that they will not provide the commodity (or service) at less than the prime cost, that is, the specific cost incurred in providing that unit of supply. Under strongly competitive conditions competition will prevent price differentiation; only one price can be charged for similar supplies at any one time. Where competition is restricted, either by some form of

association or, as in the case of transport, by the nature of the undertaking, price differentiation is possible. Different prices are charged in different markets, or at different times in the same market, these prices being determined by the elasticities of the respective demands. Where price differentiation is possible, the cost of production theory as already outlined loses its relevance, and the annual balance sheet has to be substituted for the total cost of production per unit in the restatement of the theory. Moreover, even under competitive conditions, the theory has to be restated where several products are supplied, some, as we have seen, being in many industries produced jointly.

Section II—Money and International Trade

CHAPTER VI

THE THEORY OF MONEY

FUNCTIONS OF MONEY

1 A medium of exchange

SPECIALIZATION in the economic world necessitates exchange, which, in the earliest stage of economic development, probably took the form of barter, that is, direct exchange of needed goods between two parties. In a complex economic society barter is a physical impossibility; the only alternative to barter is the use of a medium of exchange. By this is meant the exchange of a commodity or service for something which can in turn be exchanged for another commodity or service required for consumption. We accept the medium only because it is exchangeable for what we desire for other purposes, and other people accept it from us for the same reason. A medium of exchange thus represents purchasing power; its own special function is to circulate as payment for goods which do not themselves normally circulate. If we began to grow tired of our clothes, books, furniture, and houses, we could exchange them for new things that we desired more keenly, but we do not acquire the former in order to serve as an instrument of obtaining the latter. We accept a medium of exchange, however, in return for what we produce merely because it serves as an instrument for securing the things we desire, and the moment we suspected the instrument, that is, the moment we began to fear that others might not accept it in return for those things, we should also refuse to accept it in return for our services. A medium of exchange is thus able to perform its functions only so long as it is generally acceptable—a permissible tautology. I accept the medium if you do, and you accept it if I do.

So long as I believe that you will accept it I do so ; because I accept it you do so, and my belief proves to be well founded. Such is the position to-day, but it represents a development from earlier stages of economic organization when psychological considerations played a less important part, and it is necessary to trace the main line of such development.

The choice of a medium

Society gave up the system of barter and took to a medium of exchange at a very early stage in its history. In the pastoral stage it used cattle, and at other stages or at particular places it used other media. A commodity became acceptable as a medium of exchange for two reasons that are closely related. In the first place it had an alternative use. If through some accident cattle ceased to be acceptable as a medium of exchange they could be retained by the owner as property, and killed when required for consumption. In this way serious loss would be averted. Similarly the Virginians, in comparatively recent times, used tobacco as a medium of exchange because it was a staple commodity for export. In the second place the commodity was durable. A perishable commodity, such as fish, would obviously not be employed as a medium of exchange for the simple reason that it would quickly lose its value for the alternative purpose. Thus durability and the possibility of alternative use were the conditions of general acceptability, and general acceptability was a condition of employment as a medium of exchange. Many commodities satisfied these conditions, and there followed a period of competition between them for recognition as the ideal medium. In the competitive struggle the metals proved supreme, and among the metals gold took the first place. For the most precious of the metals possesses features which were, and still are, essential in a highly developed and complex community. It is divisible ; that is to say, it can be melted and divided up into small fractions, and the parts remelted and joined to form a larger whole without loss of value. It is, for all

practical purposes, imperishable. It is also homogeneous and easily recognizable. Moreover, being relatively scarce. it contains considerable value in small bulk. If, for example, gold were fifteen times as valuable as silver, then, in order to carry about the same purchasing power, it would be necessary to have fifteen times as much weight of silver as of gold. Finally, the value of gold, when it came to be widely used, was far less variable than that of its rivals.

Gold and silver

The last two considerations call for further comment. Society turned to gold and silver—in modern times mainly to gold—for the same reason that pastoral tribes employed cattle as a medium of exchange. The precious metals satisfied a craving for adornment. Their lustre acted upon civilized people in very much the same way as beads and brightly coloured cloth still act upon more primitive people. The two metals, gold in particular, were thus the object of constant demand for non-monetary uses, and thereby acquired considerable value in exchange. The relative scarcity of gold, combined with this demand, gave it a greater value than that possessed by silver, and made it a more suitable metal from the monetary point of view. The consequent additional demand for monetary purposes further enhanced the value of gold, and thereby made it more portable in the sense already defined. Further, the monetary demand for gold became the chief part of the total demand. As this demand was fairly constant, increasing but slowly with the growth of population and the development of trade, and as the supply coming from the mines was, normally, very small relatively to the existing supply of this imperishable commodity, its value probably remained more stable than that of any other commodity.

Consequently, when the World War broke out gold occupied a commanding position. It was accepted all the world over. Its acceptability rested upon confidence. The basis of that confidence was the possibility of its alternative use in the arts. Actually, this alternative use was far less

important than the monetary use, and if gold had been demonetized in all countries, its value would have fallen to a very low point, and people would probably have wondered why they had attached so much importance to it.

2 A standard measure of value

So far we have been concerned with money as a medium of exchange. This, however, is not the only function that it performs. It also operates as a standard measure of value, and as a store of value. By standard measure of value is meant two things, first, a register of relative values at any one time, and secondly, a standard of contracts extending over a period. It is obvious that if the values of different commodities are to be indicated at all they must either be registered in terms of each other, or reduced to some common denominator or measure. In a complex society a common denominator is inevitable. It is not necessary that the common denominator should be the same commodity as that which is employed as a medium of exchange. We might, for example, express the value of different commodities in terms of bushels of wheat or tons of coal; but wheat and coal vary in quality, and their own relative values fluctuate between wide limits. In any case, if these or some other commodity were adopted for purposes of measurement, it would be necessary, since the actual payment would be made in the medium of exchange, to relate that medium itself to the commodity employed as a measure of value. Having already employed as medium of exchange a commodity of uniform quality, the value of which was relatively high, and at least as stable as that of any other commodity which could be found, it was natural—even inevitable—that this medium should also be employed as the common denominator of value.

Again, contracts over a period of time require definition in terms of some standard, and since the value of gold over a period was at least as stable as that of any other commodity, it was also inevitable that it should be employed

as the standard of continuing and deferred payments. For these reasons gold came to be, not only the medium of exchange, but also the standard measure of value.

3 A store of value

We have already stated that a medium of exchange represents general purchasing power now and in the measurable future. When people save they express a preference for future consumption (by themselves or their legatees) over present consumption. They assume that in the future they will be able to secure what they want, to which end they will require general purchasing power. It was, therefore, natural that when a monetary system had been established, people saved by storing the medium of exchange. Even when, at a later stage, investment in securities of various kinds became common, value was given to the securities as methods of saving by the ease with which they could be reconverted into the medium of exchange.

Forms of Money

Conventional money and legal tender

Money started by being a conventional medium of exchange which was generally acceptable. So far we have regarded gold as a commodity conventionally employed as a medium of exchange. For that purpose it was necessary to divide the metal into small pieces convenient in size for use in exchange. So long as the pieces were undefined they would require to be weighed, and their quality carefully examined in order to ensure that they were not in any way debased by the infusion of a cheap alloy. Exchange under such conditions would obviously be difficult, and it became the function of the Government to stamp the pieces with some image and thereby guarantee their quality and weight. When they were accepted in this form their value was calculated by their number instead of their weight, and the new medium was known as "currency by tale." Again, in discussing money as a medium of exchange, we referred to its conventional use and to the general acceptability of the medium. When, however, society came to

be governed by law, and exchange took place under a general law of contract, it became necessary for the Government to define money for the purposes of that law, that is, to establish what is known as "legal tender." Every bargain represents a contract, and every contract implies some method of completion, after which the contracting parties are free from further legal responsibility. Moreover, a contract requires exact definition. It may not be possible to establish a perfect standard, but certainty is more important than perfection. We must know exactly where we stand. Legal tender is that form of money which the debtor is empowered by law to pay, and the creditor is compelled by law to accept in payment of a debt, that is, in completion of a contract. It is always exactly defined by law. It will thus be evident that governments are bound to play an important part in defining the monetary system of their countries, and that their decision is usually final.

Standard and token money

When a piece of the metal used as a medium of exchange is stamped by the Government and generally accepted without immediate reference to its weight, it is known as a coin, and the institution which converts the metal into the coin is the Mint. In issuing coins, either the Government may undertake to convert the metal on demand from its commodity or bullion form into coins, or alternatively it may restrict the output of coins. Moreover, it may either itself bear the cost of coining or make a charge therefor. If the charge represents the exact cost of minting, it is called "brassage" or "mintage." If it is in excess of that amount such excess is called "seignorage." Again, the Government may either issue coins of "commercially pure" metal, that is, the face value of which is equal to the commodity value, or it may dilute the coin by mixing the metal with a cheaper alloy, in which case the face value will be greater than the commodity value, and the difference between the two will represent a gain or profit to the Government. When the dilution is honestly

made and the fact published, the coin is known as a "token" coin, but, when the commodity value and the face value are identical, it is known as "standard money." Governments have made use of different methods at different times and under different circumstances, and we shall describe in due course the system employed in this country.

Paper money

Although modern communities still employ metallic currencies, and although the whole currency and credit system rests, or is supposed to rest, on a metallic basis, it is not necessary that the metallic coins should actually circulate to the exclusion of all other forms of money. The wear and tear and loss of gold when it circulates may be avoided by the issue and circulation of paper certificates. These are employed in the United States of America, and are known as "bullion certificates." They are represented, pound for pound or dollar for dollar, by gold and, therefore, act merely as substitutes for a specific supply of gold. In other words, the total amount of certificates issued is not greater than the total amount of gold in reserve. It is not, however, necessary that a government should restrict its paper money to the form of bullion certificates. It may circulate paper which contains on its face merely a promise to convert the paper into gold on demand. If the paper circulates freely it performs precisely the same function, and produces precisely the same effect as if an equivalent amount of gold were in circulation, and the conditions under which it does circulate freely and continuously will call for attention in due course. Nor is the case necessarily altered if, for paper money issued by the Government, we substitute paper money issued by the banks. Further, a government may issue paper money without any promise to convert it into gold on demand, or may employ a bank as its agent for that purpose. Paper money of different kinds is now so largely employed that we shall need to examine with care the problem that it creates, but this can be done only in stages.

GRESHAM'S LAW

Bad money drives out good

Reference has been made to the fact that the confidence reposed in gold as currency was founded upon the possibility of using the metal for some other purpose. There are two other ways in which it may be used by an individual in any country. The first is to convert the gold into articles, such as watches and chains, which command a market; the other is to export it to other countries where it is in demand as currency or as a commodity or both. When people have reason to suspect the currency they examine it carefully and attach value to it only to the extent of its gold content; that is, they test the coin by its commodity value. In days gone by, before the edges of coins were milled, it was not an uncommon practice to clip or sweat the edges before parting with the coin. Moreover, some of our kings were not above debasing the coinage by introducing a certain amount of cheap alloy. The coins in circulation were, therefore, of unequal value, and it was found in practice that people clung to the coins of full weight and those of standard quality, and passed on those of a doubtful character, for the good coins were the most valuable for melting purposes and for export. The instinct which governed our forefathers is not yet dead. We are still apt to put doubtful threepenny pieces on the church collection plate, and to pass on bad coins to tram conductors. Owners of automatic weighing machines, aware of the temptation on our part to get rid of bad pennies, exhort us not to put bent ones into the slot. At the outbreak of the recent war people hoarded gold coins, but not paper and silver. The tendency for good coins to disappear and for bad coins to remain in circulation attracted the attention of an Elizabethan minister, Sir Thomas Gresham, and he enunciated the law now associated with his name, which is that bad money drives out good money. The tendency known as Gresham's law is subject to two restrictions. The first is that, if there are not

Two limitations

sufficient supplies of bad coins to meet the requirements of trade, light or bad coins may circulate indifferently with the good at their full nominal value. The second is the influence of habit. The deterioration of the coinage might be so gradual, and the habits of the people so fixed, that the former might not be recognized or, having been recognized, produce its effect until it had reached a very advanced stage. It was found, for example, in 1888 that about 46 per cent of the sovereigns circulating in this country were deficient in weight. Yet they circulated in response to trade needs at the same value as the remainder, their deterioration being recognized only by Government offices and the Bank of England, by which they were gradually withdrawn in favour of new coins. Once suspicion is aroused, however, the results that it produces may be very profound. In spite of these restrictions, the tendency observed by Gresham remains, and since people pass on the bad coins and retain the good, and since, moreover, a considerable proportion of the coins are in reserve either in the proverbial stocking or in the modern safe, it is clear that the average quality of the circulating part of the currency is inferior to the average quality of the coinage as a whole. It follows from these considerations that a Government should never allow the unrestricted issue of token coins by private individuals or companies, and that it should definitely restrict its own issue of such coins. If they were issued in large or increasing amounts, the standard coins would gradually disappear, and, as I shall now endeavour to show, their value or purchasing power would definitely and steadily be reduced.

Value of Money—Quantity Theory

Application of general theory of prices to value of money

In the second section we were concerned with the forms in which money was issued. It is now necessary to consider the value of such money, irrespective of its form. When considering the theory of prices we found that the price or value in exchange of a commodity was determined

at any time by the relation of the demand for the commodity to the supply of it; an increase in demand or a decrease in supply was followed by a rise in price, and a decrease in demand or an increase in supply was followed by a fall in price. Stated otherwise, the price was lower than it would have been if the demand had been greater or the supply less, and higher than it would have been if the demand had been less or the supply greater. But we established no quantitative relation between the change in supply or demand and the difference in the price; no such connection, in general, exists. A difference of 1 per cent in supply or demand may produce a difference of 5 per cent or 10 per cent in price. The theory of prices is applicable to the case of money. For the sake of convenience we may, for the moment, assume money to consist entirely of gold. We may further assume that gold is employed only for monetary purposes. The price of gold, like that of other commodities, varies according to the relations between demand and supply. An increase in the supply of gold, other things being equal, reduces its value. An increase in the demand for gold, other things being equal, increases its value. But here we are faced with slight differences. The first is that while we mean by the price of a commodity the amount of money for which it would exchange (for it is usually exchanged for money, and we use money as the standard measure of its value), we obviously cannot measure the value of money in this way. But we might have expressed the price of the commodity in terms of some other commodity. We might have measured the value in exchange of an umbrella in terms of wheat or coal, but the result would not have been enlightening, and if we wanted to know more about the value of the umbrella we should have to compare its exchange value with that of dozens of other commodities in turn. Not otherwise could we say what change, if any, had taken place in the relative price of the umbrella. We are enabled to do that quickly by referring all values in

The value of money is its purchasing power over commodities

exchange to a standard commodity—that is, to money. Money in turn is general purchasing power; its price cannot be expressed in terms of any one other commodity, but only in terms of an average for all commodities. That is, we mean by the value in exchange of money its purchasing power over commodities in general, and its measure is to be found in the general price level. When we say that the value or purchasing power of gold, or, more generally, the value of money, has fallen by one-half we mean that the price level has risen to twice its former height, and when we say that the value of money has doubled we mean that the price level has fallen to one-half of its former height. Consequently, when we say that the value of money is determined by the demand for money in relation to the supply of it, we mean that the price level is so determined. When the price level goes up the value of money goes down, and when the price level goes down the value of money goes up. Either form of expression may be used.

Velocity of circulation and the supply of money

The second difference lies in the fact that money, because it is employed as a medium of exchange, is used over and over again, and counts in the supply every time it is used. A coin used twice in one week counts as much in the supply as two similar coins used once in the same time, and we usually do use the same coins over and over again. The manufacturer withdraws money from the bank on Friday and on that same evening, or on Saturday morning, pays wages to the workmen. The wives of the latter spend the money in the shops on Saturday afternoon or evening, and on Monday morning the grocers and the butchers carry their bags to the bank and deposit the money once more. The next week-end the same process is repeated. It is in ways such as these that a large quantity of our money circulates. It is, of course, true that commodities that are bought in the market are sometimes returned to the market for resale, and in so far as this occurs the supply of the commodity is increased in

exactly the same way as the supply of money is increased by repeated use. But what is accidental and abnormal in the case of other commodities is, in the case of money, habitual or normal.

Thus we mean by the supply of money, not the stock of money in the country, but the stock multiplied by the average rate or rapidity or velocity of circulation. We should accustom ourselves to thinking of money as having momentum.[1] The point may be pressed a little further. Money is money only when it works. A supply of steel purchased and held by an engineer who intends to use it for his own purpose is not afterwards regarded as part of the supply on the market. But, if the engineer changes his mind and determines to resell the steel that he has bought, it is considered part of the supply. Again, the iron in the ironworks, which a few months hence will have been converted into steel, is not now regarded as part of the steel supply, for, in dealing with market prices, by supply is meant supply already available for sale or within sight, that is, the supply that is in process of being offered for sale. Similarly with money. Gold in South African mines is not money Bullion in the Bank of England is not, strictly speaking, money, that is to say, it is not effective money; nor is money left in a safe effective. So long as it lies there it produces no more effect than it would if the safe were at the bottom of the sea. It is effective only if and when it is offered in return for some commodity or service, so that the supply of money, like the supply of steel or any other commodity, is a steadily moving stream, and it is the movement through the market that produces the effect on prices. Once we grasp this fact the theory of value relating to money loses its terrors.

Again, the demand for money is represented by the goods for sale. If goods are sold twice they produce the

[1] The mathematical analogy is very exact. The momentum of a body is the product of its mass and its velocity: the supply of money, in our sense, is the product of its quantity and its velocity of circulation.

same effect on their side as money when it is used or sold twice.

Quantity theory: value of money varies inversely with its supply

We have stated that the theory of prices applies to money. That theory may first be stated in the following form: the greater the quantity of money in relation to the supply of goods, the smaller the value of that money. But the theory as applied to money differs in point of exactness from the theory of prices as applied to commodities. The value of money not only varies, but varies exactly with, or proportionately to, a variation in the relations of demand and supply. The value of money (provided the demand for it, that is, the supply of goods, remains constant) is twice as high as it would be if the supply were twice as great. If, when the supply of money is represented by x, the average of prices, or general price level, is represented by y, the theory states that, other things remaining as they are now, if the supply had been represented by $2x$ the price level would have been represented by $2y$, that is, it would have been twice as high, or in other words, the value of money would have been only half as great.

It must be so. By assumption money is only a medium of exchange, that is, it is used only in purchasing goods. Consequently, the value of the total quantity of it over a unit of time is always represented, irrespective of its amount, by the sum of the prices of all the goods sold in the time. An increase in the supply of money does not represent a greater supply of goods. The total value of the goods that change hands during the unit of time must always be equal to the total value, in terms of goods, of the money that has changed hands in the same time. What is expressed in the "theory" is an identity. If, for example, in this country every pound were called £100 it follows that, assuming everything else to remain unchanged, every price would have to be multiplied by 100.

It should not be forgotten that we have assumed every other condition or circumstance to remain exactly the same

as before. We have but compared two states, A and B, differing only in one respect. In other words, we have ignored the disturbing effects of the process of change from A to B. There is a profound difference between the effects of a changed currency and the effects of a changing currency. When, in practice, the supply of money relatively to the supply of goods is being changed the effects due to the process of change are themselves profound. These may be illustrated from the history of the last few years.

Inflation and Deflation

Meaning of the terms

For the purpose of this section, inflation may be defined as an increase or expansion of currency beyond the amount necessary to supply the needs of trade at the existing level of prices. Trade increases with population, and also with invention and improvements in organization, and if prices are not to fall the volume of currency must be correspondingly increased. But any increase beyond this volume, as we have seen, raises prices. Such an increase may occur in the volume of gold currency following upon the discovery of new gold-mines, in which case it is not regarded as inflation. Inflation is usually restricted to denote an increase in paper currency or credit beyond the accepted limits of safety, safety itself being related to the prospect of early convertibility into gold at the face value of the paper. Abnormal changes, to which the present section refers, can only take place, however, in paper currency, and, having given the technical meaning of inflation, it will be convenient to use the term to express any abnormal increase in currency, the effects of which are examined below. Similarly, deflation is used to denote an appreciable decrease or contraction of the volume of currency relatively to the requirements of trade at the existing price level.

It should be observed that a rise is possible in the prices of a group of commodities even when the volume of currency remains constant. If fashion suddenly changes, and new

commodities are eagerly sought, their prices will obviously rise during the short period; but it has already been shown[1] that the rise will not be of long duration, and that ultimately new supplies will be forthcoming and prices will tend to fall to the cost of production level. Moreover, so long as the prices remain high through abnormal pressure of demand, the prices of other commodities (which have been neglected in favour of the fashionable group) will fall. The general level of prices remains unchanged. When the general level is changed a corresponding change in the ratio of currency to goods will also be found.

Purpose and methods of inflation

The usual cause of inflation is the failure of a Government to balance its budget, or, alternatively, to borrow the savings of individuals in order to meet the deficit. Abnormal expenditure due to war cannot be immediately covered by an increase in taxation, and the Government usually borrows much of the money needed. In so far as the loan represents savings not yet invested it also represents, like taxation, a transfer of existing purchasing power from one to another. The loan determines the direction of investment or expenditure; the Government spends what someone else would in any case have spent. There is no increase in currency, nor any change in the general level of prices. But taxes and loans are rarely sufficient to meet such abnormal expenditure; even so-called "peace" expenditure sometimes exceeds the revenue derived from such sources. Governments are then compelled to resort to the last remaining alternative, which is currency inflation, often garbed in elaborate disguise, but sometimes naked and unashamed. In the latter case which, in order to illustrate principles, is the one we shall now consider, the Government issues fresh legal tender in the form of notes, either Government notes or notes issued through a central bank under Government control.

The first point to be noted is that the individuals in the community are not deprived of their own stores of currency.

[1] See Chap IV

Their private demands are thus, for the moment, unaffected, and it may be assumed that they give full employment to industries and trades. The Government brings the new currency to the market and demands the goods which it requires. The increase in total demand sends up the prices of those goods immediately affected, and the rise gradually percolates through industry. Thus the effects are a rise in the general price level, abnormal trade activity, easy profits and, in the majority of industries, a rise in money wages and salaries. Despite the *apparent* prosperity, the standard of living does not rise : there is no greater supply of goods for private consumption. It is inevitable, indeed, that, in spite of " overtime " and other devices for increasing output, the supply will be less, for the energy of many people will have been devoted to making goods for the Government, and these are composed partly of instruments of war.

The second point to be noted is that inflation breeds inflation. If the war or other cause of abnormal expenditure continues, the cost increases with the rise in prices. The second supply of munitions will cost more than the first of equal amount. Moreover, whereas the peace services of the Government (the Post Office, etc.) cost more through advances in wages, the charges cannot be increased so rapidly as the prices of commodities are raised on the commercial markets. Consequently new deficits appear in the budgets of State departments, and these have to be balanced by further inflation. Thus the *rate* of inflation tends to become more rapid.

Effects of inflation

The continuous fall in the value of the currency renders it an unsuitable store of value. People give up saving in domestic money and seek some more suitable method of providing for the future. Some purchase as much as they can of a foreign currency which is tied to gold or, for some other reason, is more stable than their own. Thus the " flight " from the mark and the Austrian crown after the war was due to the lack of faith in their own currencies on

the part of thrifty Germans and Austrians. The consequences of such transfer of savings into more stable currencies will become evident later, when we have examined the theory of foreign exchanges. Other people desiring to " save " spend their money in the purchase of durable goods, such as diamonds, billiard balls, gramophones, household linen and furniture—anything the value of which is likely to endure relatively to that of commodities in general. Business firms invest their profits immediately in new machinery and plant, new office premises, and any other form of expenditure which is likely to strengthen their economic position. The thriftless will reveal their character more clearly than ever. In their case easy profits are followed by an orgy of extravagance. Hence it follows that everybody is busily employed so long as the process of inflation continues.

The next stage is marked by three characteristics. People do not know what prices to charge. First, prices fluctuate violently from day to day, and, secondly, they vary considerably from place to place. But in most places people have become accustomed to the effects of inflation, and the probability of its continuance, and always try to charge " to-morrow's price," that is, they endeavour to anticipate the inflation. Consequently, in spite of its abundance, currency is always scarce. To-day's currency is not sufficient for to-morrow's prices, which are the prices appropriate to to-morrow's currency. It follows that when this stage is reached the Government is always able to urge, in excuse of its action, that it is only increasing its currency in response to the needs of industry and commerce. Moreover, when, at long last, the currency is stabilized—that is, the process of inflation is stopped—practically all the issued currency is actually circulating in payment of goods and services, and there is a shortage of " liquid " capital or loanable money.

The next stage in the process of inflation is characterized by the breakdown of the currency as a standard measure

of value. No one will enter into a long contract defined in terms of a currency which is rapidly depreciating. A mining enterprise issues debentures, not in currency, but in coal, stipulating, in return for so much money now, repayment, in the money of the future, of that sum which will command the same amount of coal as the borrowed money now commands. A furnished house is let for a year, not at so much per month of the paper money (which would mean a diminishing real rent), but for those monthly payments in paper money which represent a steady rent in gold or purchasing power. Finally, the currency loses practically all value, and, in spite of the fact that it is legal tender, people will not sell goods in exchange for the currency. For although a seller is bound in law to accept legal tender, he is not bound to sell, and it is within his power to enter into a contract which is essentially barter. Consequently he refuses to sell unless the buyer enters into a " voluntary" contract to pay in gold or its equivalent, and the buyer, driven by economic necessity, is forced to accept that " voluntary " contract.

Meanwhile profound changes have taken place in the distribution of wealth. Holders of debentures and other fixed-interest securities, together with all other recipients of fixed incomes, have been driven into poverty and destitution ; employees in public works and many other industries find that their wages never overtake the cost of living, and are reduced to a state of semi-starvation. In private industry fabulous fortunes (in the paper currency) are made, and in many cases the workpeople are able to enforce relatively high wages, measured in gold. Insurance becomes a gamble, and banking a farce.

Effects of deflation

Such are the general effects of inflation when the process is continued to its logical conclusion. Austria, Germany, and Russia have tasted the sweets and the bitters of such inflation, and their recent history is a warning to the rest of civilization. Nor are the effects of rapid and pronounced deflation to be welcomed. The first effect is to

increase the value of the currency, which thus becomes even too perfect as a store of value. By merely holding currency, people profit more than by investing it in speculative enterprise; its purchasing power rapidly increases. When prices are rapidly falling capital development practically ceases, and renewals and repairs are reduced to a minimum. No one, unless the need be urgent, is likely to build a house this year if, by waiting until next year, the cost of construction is likely to be considerably reduced, for its ultimate value as an investment will be determined by the future cost of building a similar house. What is true of houses is true of all durable goods and of repair work. Thus, trade generally is depressed, the demand for labour is reduced, and unemployment on a large scale created. Moreover, by the end of the process the average age (which should remain constant, if not fall) of the industrial equipment of the country is increased and capital goods are found to be in a state of disrepair. Inflation at least means rapid development of industry, and a fall in the average age of the nation's capital equipment; it also means trade activity and full employment. Deflation produces stagnation, industrial anaemia, and inflation the flush of fever. During inflation the distribution of wealth is altered in favour of speculators, and maybe the workers employed in speculative industries; during deflation it is altered in favour of the holders of debentures and other fixed-interest securities, and of the workers who remain in employment, particularly those employed by public authorities or in comparatively stable industries, such as railway transport—for, although wages are reduced, they do not fall so rapidly as the cost of living.

CHAPTER VII

BANKING AND CREDIT

Essential features of banking

IN the present chapter we shall be concerned with the essential features of banking and credit. The laws relating to banking differ in different countries, and banking practice varies according to tradition and to the stage of development already reached. We, in this country, are apt to think of banking in terms of English (or, it may be, Scottish) law and practice. I shall, however, postpone the consideration of British banking until the theory of foreign exchanges has been discussed, and attempt to give what is common to most systems of banking.

DEPOSITS AND LOANS

Primary function of banker is to provide a safe deposit

Imagine, first, an industrial community resembling our own in all essential features except that it does not boast a highly developed system of banking and credit. The banker merely provides a safe deposit for the savings or surplus cash of individuals, and money consists solely of metallic coins, such as sovereigns and shillings. The banker serves many kinds of customers or clients, but in all cases he only provides the use of his treasury. The grocer visits the bank and deposits a considerable sum every Monday morning, and once a month withdraws most of it to pay his bills. The Civil servant deposits his salary on the first of the month and withdraws smaller amounts at more frequent intervals. The manufacturer uses a motor van, once a month, to convey the large sums which he receives from his customers, and a taxi-cab, once a week, to bring back the money required to pay 2,000 workers whom he employs.

A number of the depositors spend less than they earn, and their balances at the bank steadily increase in amount, until at last they determine to invest most of them in some

industrial or other enterprise which offers a prospect of gain. If an individual invests by purchasing existing shares from someone else, the latter returns the money to the banker, whose total deposits are, therefore, not reduced. If, however, the investor risks his money in a new venture (i.e. if the investment represents capital development), and new share certificates or bonds are issued, the borrower uses the money to build a factory or otherwise develop a business. Money previously lying idle is now employed in purchasing materials and paying wages, that is, it is again passed into circulation. For a time, at any rate, the banker's store of deposited money is definitely reduced. Moreover, if the capital development is due to the growing needs of an increasing population, some of the money thus drawn into circulation tends to remain in circulation.

Thus the banker is briskly employed taking in and paying out. If many new enterprises are started within a short period the amount paid out exceeds the amount received and the stock in hand is reduced ; but if, for some reason, capital development is arrested, and the banker becomes less busy at both counters, the amount paid out diminishes more than the amount received, and the stock in hand is increased. Although the stock varies in size it never disappears.[1] There are always some people with balances in hand, that is, with unspent income. And experience teaches the banker what percentage of the turnover the minimum stock is likely to be. In a large and settled community with a steadily, though not rapidly, growing population and trade, even the variation in that stock is not likely to be very great. New enterprises are started fairly regularly, and the stream of savings flowing into such enterprises is fairly steady. The money passing into the bank thus passes out again into circulation along two channels, one constituting the demand for goods (including services) for ordinary consumption, the other constituting

[1] It was shown in the last chapter (p. 282) that it almost disappears at the end of a period of rapid inflation of currency.

the demand for goods, such as machinery, required for improving and increasing industrial equipment.

Grant of loans out of minimum sum of deposits

We are now in a position to consider the first stage in the development of the modern system. In addition to those who have more or less permanent, though fluctuating, balances at the bank, and those individuals or companies who borrow in order to build houses, erect factories, or otherwise develop the economic resources of the country, and are able to attract investors, there are people who want to borrow money for various purposes which may not appeal to the investing public. They are known to the banker and their schemes meet with his approval. The banker, therefore, lends such people a part of the minimum stock which would otherwise lie idle, and his loans facilitate trade. The idle stock is drawn into circulation, and the banker is able to make a profit on that stock by charging interest on his loans. But he must select the borrowers with care. It is not sufficient that they should give adequate security. The minimum stock of the banker represents an obligation to the depositors of money, and although the chance that they will all, at the same time, withdraw the whole of their balances is exceedingly small, the *possibility* that they will do so remains. Moreover, if their faith in the banker's integrity or capacity is weakened the chance is greatly increased. More is required than that the banker should be ultimately solvent; he must be immediately solvent, for he has entered into an obligation to pay on demand. He cannot ask for credit, that is, time to pay. He must, of course, be careful not to underestimate the minimum stock required on hand, but he must also be extremely careful not to lend the sums available for loans to people who cannot pay him quickly. Thus, for example, if a manufacturer applied to the banker for a loan of £50,000 for the purpose of erecting a factory the banker would probably refuse, and recommend his client to search for an investor who was willing to lock up his capital in return for an assured rate of interest. But if the client,

having used his own or any investor's money for the purpose, applied for a bank loan of £10,000 in order to pay for raw material and labour, the banker would grant that loan without hesitation. For he would know that, in a few weeks, the finished product would be sold and paid for, and the loan automatically cancelled. Similarly, a merchant would be granted a loan for the purchase of stocks for resale. This distinction between investment capital, which is locked up for a long period, and commercial capital, which is normally repaid and reborrowed at frequent intervals, is of the first importance in sound banking.

BANK-NOTES

Use of bank-notes; increased volume of loans possible

The second step in the development of modern banking consists of the use of paper substitutes for metallic money. The payment of large sums in coin, particularly to distant creditors, would obviously be an awkward business. An economy of effort is effected and a risk of loss avoided if the holder of a bank balance, instead of withdrawing the gold and sending it to a creditor, is able to send the latter a paper representing a claim upon the banker for payment of the money due. This order the banker provides, and it is called a bank-note. The creditor, having received it, may do one of two things. He may return it to the banker, in which case the sum indicated on the note (or notes) is transferred to the credit of his account from that of his debtor, and the bank-notes lie idle in the banker's desk. Alternatively the creditor may pass the notes, in turn, to other people to whom he owes money. Obviously, this alternative would be frequently employed. Bank-notes circulate in payment of debts, and these represent gold which would otherwise circulate in the same way. Consequently the minimum stock of gold at the bank is greater than it would otherwise be, and the amount of gold which the banker can lend to borrowers is correspondingly larger. But the banker, having educated the community in the use of bank-notes, need no longer lend the borrower the

actual gold ; the latter is now willing to accept bank-notes, and these are used in payment of raw material, wages, stocks, etc., and circulate in exactly the same way as before. Further, just as the minimum stock of gold was enlarged through the employment of bank-notes by those who held balances at the bank (that is, the payments made could be made with less actual gold than before) so, too, the minimum stock of gold (now enlarged) which the banker can lend as gold becomes the basis of loans in notes to a greater amount.

In view of the prevalence of erroneous ideas as to the nature of banking it may be useful to submit a purely hypothetical illustration of what has already been said. Suppose a banker has a thousand clients who leave their balances at the bank, and that experience teaches the banker that the total balances, when gold alone is employed, are never less than £200,000. This represents a sum which, so long as the banker does no more than provide a safe deposit, is never, in practice, withdrawn from the remoter safes in the strong-room. The banker then decides to lend money to borrowers. He retains £50,000 for contingencies, and lends the remaining £150,000. The loans are used to pay for materials and labour and, therefore, circulate. Some of the gold finds its way back to the bank at once, the rest remains in circulation ; it is found, in practice, that £50,000 returns, and £100,000 circulates, so that the banker has now a total minimum stock of £100,000. When he employs bank-notes he finds that his first group of clients—those with cash balances at the start—economize gold to such an extent that the minimum stock (if the banker were not also a lender) would be, say, £400,000. Retaining, say, £100,000 he would be able to lend, in gold, £300,000 to borrowing clients. But, by lending notes, he finds that he can lend a much larger amount. Those who receive the notes from the borrowers either return them to the bank, or pass them on to their own creditors, or again, pass on the bulk and withdraw only a small amount

of gold in order to make small payments. Against the original minimum stock of £400,000 in gold (now reduced by withdrawals for small payments) there may be a much larger sum circulating in the community in the form of bank-notes.

Volume of currency in circulation increased by grant of loans and issue of notes

Three general observations may be made at this stage. The first is that by lending (in gold) part of the minimum stock to borrowers, the banker has immediately increased the volume of currency in actual circulation. If he did not lend in that way it is obvious that the borrowers would themselves need to seek those individuals who possessed savings and were willing to lend. In so far as they were successful the balances remaining at the banks would be correspondingly less. But as these are largely of the nature of floating balances, not savings individually set aside for future investment, their mobilization by the banker has created a new use for them. In other words, as in insurance, the averaging principle holds good; a large proportion of what would otherwise be balances retained by individuals become available, through concentration at the bank, for use as commercial capital by borrowers. Moreover, the amount of currency in circulation is further increased when the banker issues notes, which are employed as a substitute for coins. The increase in the volume of currency, as we have already seen, reduces its value, that is, raises the general level of prices. Hence we find that when, in a rapidly developing country, banks spring up and paper is substituted in large measure for gold, the price level may rise without a corresponding increase in the supply of gold coins.

Increased issue of notes leads to withdrawal of cash

The second observation is closely connected with the first. The greater the amount of money available for circulation the greater the amount which actually circulates. People in general both spend and save roughly in proportion to their money incomes, and the average of the latter is determined by the supply of money. When the supply of money is increased by the use of bank-notes, the

amount which is spent on current goods and services is likewise increased, and the price level rises. For this reason it is found that when the issue of bank-notes is increased more actual coin is required than before for the payment of wages, while people have to carry more coins in their pockets for ordinary shopping purposes. Consequently an increase in the issue of bank-notes is accompanied (so long as the habits of the people remain unchanged) by an increase in the withdrawal of coins from the bank.

Maintenance of adequate reserves

The third observation has already been partly dealt with. The banker must at all times retain, for contingencies, an adequate reserve of coin, that is, legal tender, which he is compelled to pay on demand. Consequently his power to issue notes is restricted. As already stated, an increase in the issue of notes is accompanied by a drain of coins for current transactions and, therefore, by a fall in the reserves. Moreover, it raises the cost and price level in the community which the banker serves. This rise in the costs and prices attracts goods from other communities and makes it more difficult to send goods in return, consequently a debit balance appears which can only be paid in money. For this reason the traders in the community present their notes to the banker and ask for gold, which is the only form of money that the foreign creditors will accept. The gold reserve, therefore, dwindles. Finally, if the creditors of the banker (that is, those who have deposited their cash balances with him) become apprehensive on account of the increase in the note issue, and the fall in the gold reserve, they will seek to withdraw their deposits.

The banker maintains the desired reserve by regulating the charge that is made for loans. When the reserves are relatively high and the banker wishes to encourage clients to borrow more money, he reduces his charge for loans in exactly the same way as a seller of strawberries reduces their price, when the supply is plentiful, in order to encourage sales. Clients borrow money because they expect to

make a profit by using the loans. A borrower who is on the margin of doubt whether he can make sufficient profit to enable him to pay at the rate of 5 per cent per annum would decide to borrow if the rate were reduced to 4 per cent. Again, when the reserves are relatively low and the banker desires to curtail his loans, he raises the charge for them and so chokes off those who cannot afford to pay the higher rate. When the reserve is low and the banker raises his charge for accommodation, he also encourages people to deposit cash with him by offering a higher rate of interest on their deposits ; and when the reserves are high and he reduces the charge on loans, he also tempts people to withdraw their deposits by reducing the rate of interest on them.

Cheques

Use of cheques

We may now proceed to consider the third and final stage in the development of banking, namely, the use of cheques. When anyone (whether he be the depositor of surplus cash or one who has negotiated a loan) having a claim upon the banker desires to make a payment to a creditor, it is a convenience when he is able to do so by sending a bank-note obtained from that banker ; but it is a still greater convenience when he is able to send his creditor a written order (cheque) drawn by himself, for the exact amount, requesting his banker to pay the creditor the sum stated thereon. The recipient of the cheque may either present it (if it is not crossed) to the banker and receive cash in return, or pay it to the credit of his own account, if he has one. Thus a cheque acts as a medium of payment in essentially the same manner as gold or bank-notes, the main difference being that whereas the latter may pass through several hands before being returned to the banker a cheque, though it may pass through two or even three pairs of hands, is usually used for one payment only, and is sent to the banker by the creditor whose name appears on it.

Cheques and volume of currency

The last point requires a little further elaboration. We have already examined the " quantity theory " of money, which states that, other things being equal, the value of money varies inversely with the supply. By " supply " is meant not merely amount, but amount combined with rapidity of circulation. Thus £100 used twice produces the same effect upon the price level as £200 used once during the same period. The total amount of coins, in a community using coins only, does not necessarily indicate the total quantity or supply of money, for the coins may be used more frequently in one period than in another. A cheque produces precisely the same effect, when used once, as that produced by the single use of coins of the same amount. Since the great majority of cheques are only used once, the total value of all the cheques drawn and cleared during a given period, say a year, provides a fairly close estimate of the " supply " of money in the form of cheques. Thus, if we assumed that coins changed hands on an average ten times during a year, and that all cheques were presented to the bank by their recipients (that is, that a cheque was only used once), cheques to the value of £1,000 would represent the same " supply " as £100 in coins ; they would produce the same effect upon the price level as the latter.

It should be noted that the obligations of the banker to his clients do not, of themselves, produce any effect upon the price level. They represent a potential supply of money, and only become part of the effective supply if and when they are utilized by the clients. For example, if I have a credit balance of £100 at the bank it has no effect upon prices it does not become part of the effective supply of money unless and until I draw cheques against it (in payment for goods and services) or withdraw it and make payments in cash. Again if, having no cash balance and requiring money, I borrow £100 from the banker, that sum is not added to the effective supply of money until I draw cheques against it or take the loan in the form of

cash, and use the latter to make necessary payments. But people borrow from the banker because they wish to make use of the money—generally in the pursuit of trade and commerce. It follows that when the banker increases his loans to borrowers the effective supply of money—that is, the total payments by cheque and otherwise—is increased, and the general level of prices is raised. The quantity theory of money already outlined in the previous chapter should, therefore, be so read as to include in the supply of money the cheques (and notes) that are used as means of payment.

Banking Operations

Loans create deposits

From what has been stated in this chapter it is clear that the essential functions of the banker are, first, to provide a safe deposit for those who have more cash than they need at the moment and, secondly, to lend money to those who need it for short periods and are prepared both to pay interest on, and to deposit adequate security against, the loans. The amount of loans that may safely be given is determined by the amount of the banker's obligations to his creditors and the need for retaining in hand a sufficient supply of cash to maintain their confidence in his ability to meet his obligations on demand. The banker's total assets are always greater than his liabilities, for they include the debts of the borrowers to himself, and these are adequately covered by securities which, if necessary, may be sold; but his cash assets are less than his liabilities.

The connection between loans and deposits calls for further examination at this stage, for a loan may be the origin of a deposit. When a mill superintendent deposits his monthly salary at the bank he is not immediately concerned with the source from which the money was obtained; it represents to him a cash balance, and it gives him a claim of that amount upon the bank. But his employer, in order to pay him, may have had to overdraw

his own current account. He has made an arrangement with the bank whereby (having deposited collateral security) he is enabled to borrow, when necessary, and for the time that may be necessary (provided that it be not too long), up to a stated sum, and he pays interest, reckoned daily, on the actual overdraft. Thus the loan to the employer becomes a deposit to the superintendent. By increasing its loans the bank has increased its deposits. A building contractor may make an arrangement of a slightly different character with the bank. He may borrow outright (against security) a stated sum—say, £1,000—in order to enable him to complete his contract. In that case he has to pay interest on the total amount, and his account is credited with that sum. He is then a depositor, that is, he possesses a claim upon the bank for that sum. For a depositor is a person who possesses a claim upon the bank. The difference between the mill superintendent and the contractor is that whereas the former paid in advance for his claim, or right to draw, the latter arranged to pay for his claim at a later date. If the contractor sends a cheque of £100 in payment of materials, the seller's deposits are increased to that extent, and those of the contractor are reduced to £900.

It will thus be seen that bank deposits are bank liabilities or obligations, and that they increase as the loans to clients are increased. They do not, as is frequently believed, necessarily represent voluntary savings on the part of the community.[1] If the mill superintendent spent all his salary during the month his deposits would disappear, but only to reappear either as deposits in the bank accounts of other people; or as cash actually withdrawn and circulating in the community, which, in turn, would mean a reduction in the bank's stocks of cash; or (which is more probable) partly as deposits and partly as cash. An increase in loans thus results in an increase in bank obligations in respect of deposits, and probably in an absolute

[1] See pp. 301–2.

reduction in what is called the cash reserve. The ratio of reserves to liabilities is reduced. It is for this reason that the bank cannot indefinitely increase its loans.

Investment of assets

The necessity for maintaining a satisfactory ratio[1] of reserves to liabilities influences not only the amount of loans and advances which a bank will make, but also the methods which it adopts in handling its money assets, that is, what is left on deposit and current account.[2] It should not be forgotten that the bank is influenced by two forces pulling in opposite directions. The need for maintaining adequate reserves dictates caution; the desire for gain, supplemented, on occasion, by the clamour for accommodation, tempts the bank to lend too freely. Cash reserves bring no return in the form of interest.[3] The bank, therefore, reduces such reserves to the lowest level consistent with safety. But it retains a further portion of the current and deposit accounts in as "liquid" a form as possible, that is, in a form which can be readily converted into cash. Some part it invests in first-class securities which can be quickly sold for cash on the Stock Exchange.[4]

[1] What the ratio should be depends largely upon psychological factors: the bank must not arouse suspicion. If depositors think the reserves are satisfactory then they are, in fact, satisfactory, however small the ratio may be; if the depositors think they are too low then they are, in fact, too low, however large the ratio may be. Where banking is highly developed and the people have acquired the "banking habit" they need not be so high as in countries where the people have had little experience of modern banking.

[2] The difference between the two accounts is that in the case of the former the bank may demand notice of withdrawal and, therefore, pays interest on the amount deposited. Money on current account may be withdrawn without prior notice; the bank may or may not pay interest.

[3] I use the word interest in its widest possible sense. As a technical term it will call for examination below (p. 302) and in Section III, Chap. XIII.

[4] It is at least doubtful whether, during a serious crisis, investments are so "liquid" an asset as they are assumed to be. For if in such a crisis, all the banks in a country sold their investments, their prices would fall heavily. Moreover, since the banks would at the same time call in their short loans, and these are partly used to finance dealings on the Stock Exchange, other sales of investments would take place on a large scale at the same time, and would

Another part is invested in short loans, that is, loans that will be repaid in a couple of days or weeks. Some of these are used for Stock Exchange transactions, and most of the rest are employed by bill-brokers, to whom reference will presently be made. They mature so rapidly that the bank is able to replenish its cash assets quickly by merely refusing to issue fresh loans of that kind. Investments in first-class securities and short loans of this kind are normally so easily and quickly convertible into money that they are regarded as almost equivalent to cash. Practically all the remainder of the deposit and current accounts is locked up in discounts and advances (including business loans). The latter have already been described ; they are made mainly to merchants and to manufacturers who require money to finance current trade, and the money so used may be, and usually is, locked up for a longer period than money invested in securities, and in those short loans specified above.

Discounting and bills of exchange

The discounting function calls for more detailed consideration. What is discounted is a bill of exchange, the bugbear of the "general reader." A bill of exchange is defined in the Bills of Exchange Act (1882), as "an unconditional order in writing, addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand or at a fixed or determinate future time a sum certain in money to or to the order of a specified person, or to bearer." In order to make the matter clear it may be stated that, from the economic point of view, there is no essential difference between a bill of exchange and a promissory note. Smith, a merchant, sells leather to Robinson, a boot manufacturer.

further influence prices. Finally, most of the buyers (other than foreign buyers) of such securities would obtain funds to finance their purchases by withdrawing their cash balances, and if these were held in one bank, and the securities bought were sold by another bank, the reserves of the first would be further depleted. If they were held by the same bank the net effect would be to strengthen the position of that bank—it would have paid some of its obligations by handing over securities.

The latter cannot pay his debt until he receives payment, say, two months hence, from his own customers, but the former requires money immediately in order to finance his own business. The difficulty is overcome by Robinson giving Smith a promissory note due two months hence (the amount being more than would be charged in a cash transaction), and Smith finds someone who is ready to buy the promissory note (for its present or discounted value at the current rate of interest) as an investment. Thus three people are satisfied. This arrangement is only possible, however, if Robinson is known and trusted. If he is a stranger to Smith he may be known to and trusted by some firm of wide fame (John Bull & Co.), which is willing to go security for him and to state the fact on the face of the note. In order to simplify the transaction Robinson then makes an arrangement with Bull & Co., under which the firm agrees to go security up to a given amount, and Robinson is enabled to instruct his creditor (Smith) to prepare the document (now a bill of exchange) himself, and to send it to Bull & Co. for " acceptance." The latter pays the amount when the note or bill reaches maturity, and in turn receives payment from Robinson. The purpose of the bill is to enable Smith to secure funds immediately, and the bill becomes a valuable document because Bull & Co., who has " accepted " it, is known and trusted by everybody. Bull & Co. may be an " accepting house " pure and simple (there are several such firms in London) or a firm of bankers. Having drawn the bill upon Bull & Co., in respect of leather sent to Robinson, Smith discounts it and so secures funds to carry on his business. He may discount it either with a bill-broker (or discount house) or with his banker. The banker, in turn, may rediscount it with a bill-broker.

Bills of exchange are no longer used, to any great extent, in domestic trade, but are usually employed in international trade. Smith, an American merchant, sends goods to Robinson, in England and, by arrangement, draws a bill

(in pounds) upon Bull & Co., a London accepting house. Smith discounts it (for a sum in dollars) with his local banker, who sends it (along with the shipping documents) to his London agent, who in turn presents it to Bull & Co. for acceptance. When it has been signed by the accepting house, the agent may either hold it until it reaches maturity or discount it—probably with a bill-broker. We need not elaborate details further. There are many types of bills and more ways than one of financing international trade. Thus, for example, if someone in America had purchased goods from this country and, therefore, required to make payment in pounds, he might be able to buy Smith's bill and send it to his British creditor, who in turn would discount it; or, again, Smith's banker, having bought his claim upon Bull & Co. (by discounting the bill), and sent it to London, would be able to draw upon this credit and sell its own bill to the American buyer of British goods.

The bill-broker is a dealer in bills. He buys (i.e. discounts) bills drawn from all sources. Banks also like to carry a portfolio of bills, but they like to select them in such a way that they mature fairly regularly. The broker, having purchased all sorts, maturing at different dates, divides them into " parcels " such as the banks desire, and sells them to (i.e. rediscounts them with) the latter. Thus banks accept bills for their clients (competing with Bull & Co.), discount bills, and lend money to bill-brokers, who in turn discount bills with their own funds supplemented by such bank loans. Briefly, then, banks use their deposit and current accounts in buying gilt-edged securities, providing short loans, discounting bills, and making advances to clients who require money for short periods to finance business or other transactions. The remainder is held as cash, part being used as till-money, the rest being held as the ultimate banking reserve. It will be evident that there is no essential difference between an advance granted upon collateral security and a payment made in discounting a

bill. In each case the client receives an immediate claim upon cash, which is what is required. The difference lies in the nature of the security. A bill, it is true, is automatically repaid at maturity, but a banker who makes an advance to his client does so because he knows that the latter will use it in such a way that repayment will be made at due date. Further, a bank which discounts bills on a large scale is expanding " credit " (that is, increasing deposits or potential money) in essentially the same way and to the same extent as if it granted advances to the same amount.

CREDIT

Credit and credit documents

Two further points call for comment. What has been described in this chapter is commonly called the credit system. Credit is essentially a loan and, therefore, introduces two factors, amount and time. When we get " credit " from our grocer, that is, defer payment for goods received, we borrow and use some of the grocer's capital. But the word credit is frequently used in a slightly different sense. When we say that a person's " credit " is good we mean, essentially, that he possesses borrowing power; people are willing to trust him, because either he already possesses money or is in a position to obtain money from his bank or some other source. His promise to pay is valuable.

It is important to distinguish between credit and a credit document. When a client obtains an advance from his bank he obtains credit, that is, the use, for a time, of the bank's money. The bank grants the advance because it has faith in the client—credit implies faith—but no credit document appears. When, however, a client discounts a bill of exchange due two months hence, such a bill is called a credit document or instrument—it is essentially a promise to pay. A credit document, strictly speaking, is a time document, and bears interest; it has a present value which is lower than its face value. The element of time is essential. The present value of a promise of future payment

is determined by a number of considerations—the amount specified on the document; the period that will elapse before it reaches maturity; the probability that it will be paid at maturity; the rate of interest that is likely to prevail in the interval (this factor determining the profitableness of alternative uses of the money), and any obligations that the ownership of the document may create.

We have emphasized the time element in credit, and referred to the fact that a credit document or instrument is a promise to pay in the future and, therefore, implies faith in the borrower. On this view a cheque, being payable at sight, is not a credit instrument. It is true that a creditor, in accepting a cheque, is acting in the belief that the debtor has sufficient funds (or credit) at the bank to meet it. And for this reason the cheque is usually classed among credit instruments. But the time element does not enter, and in the discussion of problems relating to credit it is often of the first importance to distinguish between time or interest-bearing documents and those ("sight") documents which do not appreciate in value with the passing of time.

Credit mobilizes but does not create capital

The credit system mobilizes capital and directs it into channels in which it can be profitably used. It brings together small sums which would be likely to lie idle so long as they remained separate, and creates a large pool which becomes available for the pursuit of industry and commerce. Consequently it increases the efficiency of capital. But it does not create capital. It would appear, at first sight, that a bank, by extending credits where none was given before, and without withdrawing credits already given, is able to create capital. But such is not, strictly speaking, the case. Capital, in this sense, is money, that is, purchasing power. When credit is expanded the supply of money is increased and its value correspondingly reduced. If A and B received new credit (which is utilized) without the supply to C and D being correspondingly

reduced, the purchasing power of the latter's share falls. Nevertheless, it does not fall to an amount corresponding to the extension of credit to the former. Such extension may form but a very small proportion of the total supply of money in the community, and that proportion measures the fall in the purchasing power of the total supply and, therefore, of the share of C and D. What has happened in this case is that the bank, by extending credit to A and B, has slightly raised the general price level and forced economy upon the mass of people in the community. In other words, an expansion of credit increases the proportion of the total purchasing power which is used as capital, and reduces the proportion spent in ordinary consumption. If voluntary savings do not supply a sufficient flow of capital (purchasing power) to finance industry and trade the flow can be, and often is, increased by credit expansion or, to use the terminology of the previous chapter, inflation. It may be suggested, in reply, that if such be the case, an expansion of credit does actually create capital. So long as the process is understood it is not of vital importance whether or not we regard the enforcement of saving by expansion of credit as the creation of capital. It becomes merely a question of words. The essential thing to remember is that a bank cannot produce rabbits from an empty hat.

The rate of discount

The second and final point calling for comment is concerned with the rate of discount. Reference has already been made to the fact that an adequate cash reserve has to be retained for contingencies, and that the necessary ratio between reserves and liabilities is maintained by varying the charge for accommodation and the interest paid on deposit accounts. The governing rate is the official rate at which the central bank discounts bills. The charge for business advances follows this rate, being, say, 1 per cent above it ; the rate paid on deposits also follows the official rate. For this reason they are usually lumped with the rate of discount, and the phrase " rate of interest "

is restricted to the rate prevailing for first-class securities (such as Government stocks), that is, the rate of interest on long-term investments. When the reserves are low the rate of discount is raised, and when the reserves are high, the rate of discount is reduced.[1]

Liabilities and assets

It will now be clear that the liabilities of the bank include all the deposits, however created; and that such deposits may be created by the deposit of cash by clients, the granting of loans and advances against which cheques may be drawn or notes issued, and the discounting of bills. They may form about five-sixths of the total liabilities, the remaining one-sixth comprising the capital of the bank (including reserve fund and undivided profits) and acceptances. The assets which the bank possesses consist of cash, say, 15 per cent; securities representing short loans, say, 9 per cent, and discounts and advances, say, 50 per cent; what is due on account of acceptances (say, 7 per cent, being the same sum as the liability in respect of acceptances); investments, say, 16 per cent, and premises.[2] In estimating the position of the bank we should compare the liabilities in the form of deposits with the cash reserve and the short loans. When, other things being equal, the deposits are increased (mainly through advances or discounts) the "supply of money" is increased, and its value falls; moreover, as we have seen, the reserve shows a fall relatively to the deposits, and, probably, even an absolute fall. Consequently the rate of discount may be expected to rise. When deposits are reduced the reserve shows a relative increase and, probably, an absolute increase. But other things may not be equal. The supply of gold in the country may be increased, and the reserve may thereby be strengthened, permitting an increase in deposits without

[1] In the chapter on the English banking system it will be necessary to make a closer examination of the rate of discount and the factors influencing it in this country. Moreover, in the chapter on Interest and Profits we shall consider the relations between the rate of interest on investments and the capital value of the latter.

[2] These rough estimates are based upon actual figures.

any fall, from the original level, in the reserve ratio; or the supply of gold may be reduced through exportation, thus necessitating a reduction in deposits in order to maintain or restore the former ratio. And either of these changes in the deposits is effected by a variation in the rate of discount—a fall in the first case and a rise in the second.

This chapter has been based upon the conditions prevailing in Great Britain before the outbreak of the World War. Since 1914, many changes have occurred, to some of which reference will be made in due course. Thus, for example, from 1914-1925 the gold standard was in abeyance; in 1925 the country returned to a new type of gold standard in which paper was employed in place of gold coins, in 1931 the new gold bullion standard was suspended. These changes, however, do not affect the substance of this chapter. Under the post-war gold standard the bank notes that have taken the place of gold coins as legal tender play essentially the same part as that which was previously played by gold.

CHAPTER VIII

INTERNATIONAL TRADE

Geographic, economic and political units

GEOGRAPHERS use the term "geographic region" or "geographic unit" to describe a territory possessing certain features which give it a unity from the geographic point of view. Without inquiring into the validity of the use of the term "unit" in this connection, it will be observed that there is no such thing as a corresponding economic unit. The only sense in which the words "economic unit" can be used is that of a region which is completely self-sufficing, and which does not enter into trade relations with the rest of the world. There are, however, regions within each of which the resources of nature are so evenly spread that an industry or a group of related industries might be expected to distribute itself over that region. The Clyde Valley, East Lancashire, and a considerable part of the Rhine Basin may be regarded as examples.

Political boundaries, however, pay scant attention to considerations of this character. They cut across a territory without regard to its economic circumstances. Thus, for example, one part of the industrialized region in the Rhine Basin falls within Germany, another within France, and a third within Luxembourg. Moreover, a political state does not naturally form, from the economic point of view, a coherent whole. But when such a state has been in existence for some time it tends to develop an economic unity which is so pronounced that if, as in the case of the old Austrian Empire, it is dismembered, there follows a period of serious economic disturbance, which is intensified by the pursuit, on the part of the new and smaller states, of economic policies which are based upon narrow conceptions of nationalism. The state establishes a common system of weights and measures; it constructs an elaborate

web of communications; it builds up a common law of contract; it establishes a common legal tender and a common system of currency and banking; and in due course it uses a common language for trade and commerce. In these ways it builds up an economic system which differs from that which would have prevailed over the same region if the political boundaries had followed different lines. Within the state the mobility of labour and capital is greater than between that state and other states.

Peculiarities of international trade

In trade between two states there is no legal tender. When a Bradford manufacturer sells woollen cloth to a German merchant, the former expects that at the end of the transaction he will be in receipt of a sum of money in English pounds. The German merchant in turn possesses a sum in German marks with which to make payment. The contract may stipulate payment either in pounds or in marks, in either case it is necessary to convert marks into pounds. In the former case it becomes the task of the German merchant to exchange the currency, and in the latter the task falls to the Bradford merchant Ownership of money abroad is not the same as the ownership of money at home.[1]

For these reasons international trade has features that are not strongly marked in internal trade, and it is desirable to examine it separately. But the distinction between the two is not fundamental, and a deeper study of economic theory than is possible in this book would emphasize the unity underlying the variety of forms in which trade is carried on between different economic groups, either in the same or in different parts of the world.

[1] It is equally true that to a resident of, say, Sydney, Australia, the ownership of sovereigns in Perth is not the same thing as the ownership of sovereigns in Sydney. Trade between widely separated parts of the same political state bears some resemblance to trade between two political states; nevertheless, the mobility of labour and capital even over a large area such as Australia, or the United States of America, controlled by the same government, is usually greater than between two contiguous regions under separate governments.

In particular, it should be observed that international trade is not trade between governments, but between individuals working under different laws of contract and with different monetary systems. We can only speak of a nation's exports or imports in the sense that we may speak of the exports or imports of any other region, such as Yorkshire or Middlesex, that is, as the sum total of transactions between individuals within the region and individuals outside the region. And if a common system of weights and measures, a common law of contract, a common legal tender, and a common language were adopted in Europe, and if the hindrances to movement, which are now set up by tariffs and bounties, and by different systems of internal taxation, were abolished, trade between different states would lose most of those features which distinguish it from inter-local trade within Germany or within France.

The Doctrine of Comparative Costs

Importation of goods from abroad which could be made at home

The advantages which are derived from international trade are essentially those which are derived from trade between different localities within the same country, that is, they are the advantages which result from geographic division of labour. Two advantages are obvious. First, a nation is able to obtain goods which it could not grow or make for itself; thus the inhabitants of England would have to exist without tea and coffee. Secondly, a nation is able to obtain goods which it could not produce in abundance without enormous expenditure of effort; for example, Great Britain would not be able to provide the present supply of wines from home-grown vines except at a very high cost. But, as in the case of regions within the country, it is also profitable to import from abroad goods for the production of which this country appears to offer "adequate" facilities. This general case we shall now proceed to consider, and in order to simplify the argument, let us assume that the world is divided into two countries only—Anglia and Germania. The argument may be set

forth in three stages, and we may assume that the two countries are able to employ the best-known technical devices. We may further simplify the argument by limiting comparison to two commodities—steel and cloth.

Absolute advantages

Suppose, first, that a group of workpeople in Anglia are able to produce, with one day's labour, either 50 tons of steel or 200 yards of cloth, and that a similar group of workpeople in Germania are able to produce either 30 tons of steel or 250 yards of cloth. A ton of steel may be called "x" and 10 yards of cloth "y"; with this notation the products of the Anglian group and of the Germanian group are, respectively, $50x$ and $20y$, and $30x$ and $25y$; it follows that in two days (or in one day by two groups of workpeople) there would be produced, without international trade, $80x + 45y$. If, however, Anglia restricted herself to the production of steel, in which she possesses a clear advantage over Germania, and Germania restricted herself to the manufacture of cloth, in which she enjoys an absolute advantage over Anglia, the total production would be $100x + 50y$, with the result that such concentration would give a net gain of $20x + 5y$, to be divided in some way or other between the two countries.

Equal advantages

Secondly, suppose that the conditions in Anglia remain as before, but that in Germania the respective products are $30x$ and $20y$. In this case Anglia enjoys an absolute advantage over Germania in the manufacture of steel, but the two countries are equally suited to the manufacture of cloth. The advantage of specialization of the same character as before would now be reduced to $20x$. In this case, therefore, international trade would be an advantage from the general point of view, and it would also be an advantage to Anglia provided that in return for $50x$ Germania gave to Anglia more than $20y$. Further, it would be an advantage to Germania, provided that for the $20y$ she received more than $30x$. That is to say, it would be of mutual advantage provided that the $20y$ were exchanged for a quantity of x which was above 30 and below 50.

Comparative advantages

In the third case, suppose the

production to remain the same in Anglia, and in Germania to be represented by $30x$ and $18y$. In this case Anglia enjoys an advantage in the production of both commodities, but the advantage is more pronounced in the case of steel than in the case of cloth. Without international trade the total production would be $80x + 38y$. If Germania is allowed to produce cloth only and Anglia steel only, the total production is $100x + 36y$. Consequently specialization results in a gain of $20x$ and a loss of $2y$. And if $20x$ is greater than $2y$ the result is a net advantage to the larger community. In Anglia $50x$ is equal to $20y$; that is to say, y is equal to $2\frac{1}{2}x$. In Germania $30x$ is equal to $18y$, or y is equal to $1\frac{2}{3}x$. Even if, therefore, we take the larger value of y, there is a net gain of $15x$. Is this advantage shared by the two countries? Anglia, by concentration, surrenders the chance of making $20y$, and should consequently receive more than $20y$ for the $50x$, which it makes. Germania surrenders the chance of making $30x$ when it makes the additional $18y$, and consequently should receive more than $30x$ for its $18y$. It follows, therefore, that if the value of y is less than $2\frac{1}{2}x$ and is greater than $1\frac{2}{3}x$, the advantage is divided between the two countries. And the closer the value of y approximates to $1\frac{2}{3}x$, the greater is the advantage to Anglia. The determination of value will be considered later. At the present stage we are concerned merely in showing, first, that international trade is a general advantage under the prescribed conditions, and secondly, that this advantage may be shared by the two nations involved.

The thesis that I have attempted to prove may be stated in the following general terms. Trade between nations adds to the wealth of the community, not only when it takes the form of trade in commodities, in the production of which exporting nations enjoy an absolute advantage, but also when it takes the form of trade in commodities for the production of which the exporting nations are at an absolute disadvantage as compared with the importing

nations, provided that the disadvantage is less pronounced than in the case of other commodities. In other words, it is an advantage to the community as a whole, other things being equal, if a nation concentrates its efforts upon the production of those things in which its superiority is most marked, and allows another nation, inferior in every way, to produce those commodities in the production of which its inferiority is least marked, that is, in which it enjoys a comparative advantage. Comparative, not absolute, costs provide the criterion of advantage or profitableness. In this respect international does not differ from inter-local trade, nor even from trade between individuals. We have already, in the chapter on localization of industry, referred to the advantage enjoyed by the Clyde industrial region through concentrating its efforts mainly upon shipbuilding, even while it enjoys peculiar advantages for the manufacture of cotton. Similarly, a business man who would have been a highly efficient chartered accountant may find it personally advantageous to concentrate his efforts upon industrial finance, where his superiority over others is still more marked ; and such concentration, other things being equal, is an advantage to the nation as well as to himself Relative or comparative, not absolute, advantage determines the most advantageous distribution of economic effort among individuals, localities, and nations.

Comparative costs and competition

The theory of comparative costs appears at first to be largely inconsistent with facts, for it seems to suggest that nations are not in any sense competitive. According to the theory, nations should be complementary, each specializing on those industries in which it enjoys a relative advantage, and exporting its products in return for goods made elsewhere. Some nations, it is true, are largely complementary in this sense. We import tea from China and India, bananas from Jamaica, and gold from South Africa ; none of these products is obtainable from our soil. In return we export rails, engines, machinery, and motor-cars, none of which is made in sufficient quantity

in those countries. But, it might be urged, many nations are competitive rather than complementary—they are not content to specialize according to the optimistic principles that have been laid down above. Germany and the United States compete strongly against us as makers of steel and steel products, as builders of ships, and as producers of cloth, boots and shoes, and numerous other products. Even the Argentine Republic, in exporting wheat in payment for her imports, competes with the British arable farmer ; and the dairy products of Denmark compete with those of our dairy farmers.

The analogy of individual and inter-district competition

These statements are true, but they do not invalidate the theory. In the interests of simplicity we may again proceed by analogy. We stated that the theory of comparative costs was not peculiar to international trade, but also explained inter-local trade and even individual specialization. Following the same line of criticism, it might be urged that if the theory were applicable to individuals there would be no personal competition in a small community. The criticism may be answered as follows : First, if the community is very small there will probably be little or no competition. One grocer (who is many other things as well), one publican, one cobbler, and one smith, are enough for local needs. In a larger community two or more may be required ; the element of competition is very weak, and only gathers strength as the competitors become able, or believe they are able, to supply rather more than the community needs. Thus, in a growing community, there are alternating phases or periods of strong and of suspended competition. Secondly, the community, when it becomes widely spread, splits up into groups of consuming markets; the grocers (for example) who appear to compete are really serving different markets, each " protected " in his own market by the cost of transport. Thirdly, the grocer ceases to be a seller of vegetables, fruit, drugs, cotton, thread, and a host of other things ; his function becomes more specialized, and, in accordance with the

theory of comparative costs, he surrenders the rest of his work to others (who become greengrocers, chemists and druggists, drapers, and other things), retaining for himself the trade in groceries, in which he has mainly specialized, and for which he is best fitted. Fourthly, the theory of comparative costs assumes knowledge which is not always available from the beginning. The village smith finds that he is gifted with eloquence ; his ambition is fired, he devotes his spare time to reading and preaching, and eventually sets up a successful rival chapel and drives his competitor to another district in search of a congregation. The same factors operate in the case of inter-local trade, and it is sufficient to note one additional factor. There are several shipbuilding centres in this country. If we attempted to concentrate the whole of the industry on the banks of the Clyde it would be found that the law of diminishing returns would operate strongly. Many of the berths and slips would be inconveniently situated, and the cost of production would be disproportionately high. It would be higher, relatively, than it is in shipyards on the Tyne, Wear, and Tees ; that is, the alternative use now made of the Clyde region is more advantageous, locally, than its further use for shipbuilding. In applying the theory of comparative costs the unit of production used for comparison is not the industry as a whole, but a single establishment ; and the unit of space is not a region, but the site of the establishment.

International competition

Similar considerations apply in the case of international trade, and these may be examined in a more convenient order. The first and second points which may be noted are illustrated by the important industry of agriculture. We import about three-quarters of the wheat consumed in this country. It would be almost impossible to grow sufficient wheat to feed the present population ; consequently, just as the necessity arose for a second grocer when the village community grew larger, so, too, it is necessary to supplement home production by the importing

of wheat. But the land is capable of supplying a far greater quantity than is actually produced. It is not devoted to that purpose for the reason that the law of diminishing returns is in operation. Broadly speaking, it may be stated that within the limits of present production the comparative cost is lower, and beyond those limits it is higher in this country than abroad. In other words, with our existing knowledge and opportunity, if, instead of growing for ourselves as much as we do, we imported that supply and paid for it by exporting something in return, the net expenditure of effort involved in producing the latter for export would be greater than that now involved in producing the wheat in this country. It is, of course, true that the agricultural industry is highly speculative, owing first to the difficulty of estimating the area of land under cultivation, and secondly, to the variability of the harvest. And for this reason the degree of actual competition cannot be estimated in advance. Nevertheless, the generalization remains true, and true of all industries operating under similar conditions.

The third point relates to the consuming market, and may be illustrated by the export trade in coal. Germany possesses an important coalfield in the Ruhr district, east of the Rhine, and coal mined in that region is sent to various parts of the country. We export coal to Hamburg, but when it spreads out from that city it comes into competition with German coal. Within that competitive boundary each has a sort of monopoly due to the lower cost of transport. Germany is not a market but a collection of markets, between which the cost of supplying coal from any point varies according to their distances from that point. Similarly, this country is not a coal mine ; it contains several thousands of pits, situated in different places, some more conveniently situated for export than others. It is precisely in accordance with the theory of comparative costs that Westphalia is supplied from German mines while Hamburg is a customer of this country.

The coal industry may also be used to illustrate the fourth point. Apparent competition is not always real competition. We export anthracite coal to France, but it does not enter into direct competition with French coal, which is of different quality and is used for other purposes. Steam coal is also bought from this country for use in other countries which produce coal of other qualities. Again, the Germans have specialized in the manufacture of cheap textiles, while continuing to import the better qualities made by our manufacturers.

The next point we have to note is that the comparative costs of production may be changed through the imposition of a duty on selected imports. Thus, for example, when the Americans imposed (in 1890) a duty upon imported tin-plate, the effect was to change the relative costs of importing that commodity and other commodities which had not been subjected to a similar handicap. Consequently a large industry for the manufacture of tin-plate was established in the United States, and our own competitive industry was seriously injured for a period of years. But it does not follow that if an import duty had not been imposed the American industry would not have been ultimately established, for (and this is the sixth point) not only do the actual conditions change, but our knowledge of industrial possibilities steadily grows. Before an industry can be established in any country someone must be aware of its possibilities, and be prepared to make sacrifices, if necessary, for some time in order to achieve an ultimate gain. Hence we find that an industry which, for a time, remains the monopoly of one region or one nation, ultimately spreads to other places, through the enterprise of individuals, and the infant competes with the parent industry. This brings us to the next point, perhaps the most important of all. It is necessary to distinguish between the ultimate distribution of industries in accordance with the principle of comparative costs, on the one hand, and, on the other, the process whereby the ultimate

distribution is secured ; for the process itself is competitive. The countries that appear first in the field are not necessarily those best suited, through natural conditions, for the manufacture of a given product or the provision of a given service. Society is dynamic, not static. Raw materials become exhausted in one place, and new sources of supply are discovered in other places. Industries flourish and decay ; regions rise and fall in importance ; and these changes are produced by the force of competition, which always tends to distribute and redistribute industries in accordance with the principle already enunciated. It is, therefore, evident that already existent industries tend to become less competitive and more co-operative, but new industries arise, and with them comes a period of struggle and test. At the same time, even when nations are essentially complementary, so long as they continue to carry on similar industries there is always a border line along which there may be severe competition.

There remains one further consideration. It has been found by recent experience that tariffs may be largely ineffective as a method of restricting imports from countries with depreciating currencies. For this reason it has become a common practice to regulate imports by the quota system, which prohibits imports in excess of a given amount in a given period. The country employing the system may either restrict the total imports of a given commodity to a specified amount and allow foreign producers to compete among themselves for that trade, or it may specify the maximum amount that may be imported from each producing country. It is clear that such a system may only be employed in respect of a commodity which is also produced within the importing country: it is a method of protecting the home producer. It is also clear that the system obstructs the operation of other economic forces, and thereby, like tariffs, prevents the "law" of comparative costs from producing its full effect. Its action in this direction is more effective than that of tariffs. Recent tendencies suggest that the

quota system is likely to be used in the future to an increasing extent, partly as a substitute for a tariff and partly in addition to a tariff upon the commodity concerned.

The Relation of Imports to Exports

The balance of trade between one country and the rest of the world

It follows from what has already been said that over a long period the exports from a country will be roughly equal to the imports into that country, outstanding differences representing merely a floating balance. It is not necessary that the exports from one country to another country should be equal to the imports from that country to the first country, any more than that an individual's purchases from his grocer need be equal to services rendered to that grocer. For the purpose of comparison the rest of the world should be regarded as a unit. This elementary fact has been so often ignored, with consequent errors in the discussion of straightforward economic problems, that it may be worth while risking elaboration of the obvious by discussing it in detail.

Visible and invisible items

The exports and imports of this country represent the total of separate transactions between individuals here and abroad. They do not, except to a negligible extent, consist of the sales or purchases of our Government, that is, of the nation as a corporate body. An export consists of anything which creates a claim upon a foreign debtor, and such a claim may be created in a number of ways. Manufacturers and others send concrete, tangible goods across the seas in ships. These are recorded by public officials, and are commonly known as " visible exports." Shipowners and shippers in this country convey our goods abroad, and thus add to the value of the goods when they reach their destination. Moreover, they convey goods from one foreign country to another. Shipping services of this character create claims upon foreigners and thus constitute exports from this country. British insurance companies, banks, and financial agencies of a miscellaneous character also provide their respective services; these

services similarly constitute exports. Moreover, we receive annually large sums of money representing interest on investments in other countries. The nations of the world may be divided into two classes—borrowers and lenders. We belong to the latter class. During the nineteenth century we built up a large manufacturing trade, which enabled us not only to save a considerable proportion of the aggregate of individual incomes, but also to invest a large part of those savings in concerns situated in other countries. Such countries were able, with the aid of British capital, to develop their own agricultural and mineral resources far more rapidly than would otherwise have been possible. Thus, for example, railway development in the United States of America after the Civil War was facilitated and accelerated by the use of British capital. The same is true of railway and general industrial development in Argentina, Canada, and many other parts of the world. In respect of loans made to these countries we now receive interest, and such interest represents exports, and is symbolized by the coupons which the owners of the investments send out, either directly or through their bankers, to give effect to their claims. When, however, a new investment is made it represents an import, symbolized by the investment bond which the foreign borrower hands over to the British lender. The interest coupon represents a claim upon a foreign debtor; the investment bond, which the new foreign borrower is about to send to this country, represents a claim upon the new investor. When a foreign investment is repaid such repayment, like the payment of interest, represents an invisible export, symbolized by the bond which the British investor returns to the borrower. Again, when foreigners travel in this country, their expenses represent a British export, the actual exports being food, clothes, amusement, and a view of our cities and their treasures.

The items that we have indicated—shipping services, insurance and financial services, foreign investments and

interest on investments, together with the expenses of tourists —comprise what are called " invisible " exports or imports. They are invisible because they are not recorded or published in the annual returns of trade and navigation. An examination of the foreign trade of this country reveals a considerable excess of visible imports over visible exports, but, if we included invisible exports and imports, we should find that over a long period the total exports exceed the total imports by an amount representing foreign investments, for which we receive investment bonds.[1]

Total imports equal total exports

It has already been stated that over a long period the total imports and the total exports balance I shall presently endeavour to show the correctives that are at work to restore the balance when for any reason it has been upset. But it is clear even without knowledge of these correctives that the statement must be true. For a nation is not a philanthropic institution, nor does it live on the charity of others. The case is precisely the same in its essentials as that of an individual. The exports of an individual are the services which he provides to the community, together with claims represented by interest on investments. The moneys which he receives for these services or as interest are merely symbols of those claims. His imports are made up of the things which he consumes, together with receipts (investment bonds or an entry in a bank book) representing his fresh savings ; and the things which he consumes consist of food, clothing, shelter, together with various forms of education, recreation, amusement, and other personal services. If these are less than his total exports he is able to save ; if they are greater than his total exports he accumulates debts against him.

[1] The table for 1924 (see p 320) shows the relative importance of some of the items which have been specified in the text. The relation which these items bear to each other differs materially from that which obtained before the World War, for, in the course of the war we were obliged not only to realize a large proportion of our foreign investments, but also to borrow a considerable sum from the United States.

Obviously he cannot accumulate debt indefinitely. Eventually he must convert the floating loans into a long-term loan from someone who trusts him, and then begin afresh by increasing his exports (work), or reducing his imports (expenditure), or both. What is true of an individual is true of a town or a county, and true also of a nation. In all three cases the final payment for imports is made through exports.

International trade is not barter

For the reason that exports and imports over a long period must balance, and that exports constitute a claim upon and payment for imports, it is sometimes said that foreign trade, that is trade between nations, represents a reversion to barter. This is no more true of foreign trade than of domestic trade. In both cases a standard of value is employed, and also a medium of exchange. In both cases the standard of value is gold; but the media of exchange are not the same. In domestic trade we employ the currency issued by the Government together with (in the main) the paper substitute known as a cheque. Moreover, in domestic trade the transaction is governed by a law of contract covering the daily life of the two parties and may be finally closed by the debtor through the employment of legal tender, gold coin or the prescribed substitute. In international trade there is no legal tender. The usual medium of exchange is the bill of exchange (already described) and ultimately gold bullion; in other words, we reckon the currency by weight rather than by tale. There is no comprehensive international law of contract corresponding to the law of contract governing domestic trade. It is for this reason that currency by tale has been impossible, and the ounce of gold rather than the gold sovereign, or the twenty-mark gold piece, or the five dollar gold piece, has remained the standard of value. But the difference between the two cases, though by no means unimportant, is not fundamental, and it is a profound error to assume that international trade is carried on under such a rudimentary and awkward system as that of barter.

APPENDIX

The following statistics for the year 1924 (which is probably the least affected by special circumstances of any of the last ten years), taken from *The Board of Trade Journal*, 29th January, 1925, show the relative importance of the items entering into the international balance sheet.

IN MILLION POUNDS

A. *Visible Exports:* Merchandise, 935·5; bullion and specie, 61·8—total 997·3.

B. *Estimated Invisible Exports:* Net national shipping income (including bunker coal and oil and stores supplied to foreign ships), 130; net income from overseas investments, 185; commissions, 40; other services, 15—total invisible exports on balance, 370.

Total of A and B, 1367·3.

C. *Imports:* Merchandise, £1,279·8, bullion and specie, 49·7; diamonds, 8·4—total, £1,337 9.

Excess of total exports over imports (that is, income available for investment overseas), 29·4

New overseas issues on London market, 134, leaving a deficit of 104·6 for the year.

CHAPTER IX

FOREIGN EXCHANGES

THE subject of this chapter has been called, probably with justice, the *pons asinorum* of economic science. The difficulty experienced by beginners is due partly to the fondness of writers for interweaving the discussion of principles and the description of machinery. Here the two will be kept entirely separate, and attention will be confined at this stage solely to an examination of the former. The exchange of gold currencies

Foreign exchange simply means the exchange of one currency into another currency. The foreign exchange market is the market where such exchange is made. The rate of exchange is but the rate at which the one currency exchanges for the other. In examining the factors which govern the rates of exchange and the effects produced upon international trade by the fluctuations in such rates, it is necessary to distinguish very carefully between currencies which are based upon gold and those which are not. I shall first assume that the world is divided into two countries only, Great Britain and Germany, that in each of these countries the currency is based upon gold, and that the market for gold is entirely free, that is to say that gold is free to move from one country to the other in response to the needs of trade.

In the previous chapter it was stated that when a Bradford manufacturer exported cloth to a Berlin merchant he expected, as the result of the sale, to find a sum of money in pounds standing to the credit of his bank account. The Berlin merchant on the other hand possesses a sum of money in marks, and it therefore becomes necessary to convert the marks into pounds. If the contract specifies payment in marks, the task and risk of converting the marks in Germany into pounds in England fall upon the Bradford manufacturer; but if, as is usually the case, the

contract specifies payment in pounds in this country, the task and risk fall upon the Berlin merchant. In either case the export of cloth means that someone possessing marks will want to convert those marks into pounds; that is, there will be an offer of marks for pounds—a sale of the one and a demand for the other. The first question that arises is, What determines the rate at which British pounds exchange for German marks? The answer is that under normal conditions the British pound will exchange for that amount in marks which contains the same quantity of fine gold as is contained in the British pound. Before the war that amount was known to be 20 marks 45 pfennigs. Such rate of exchange is called the "mint par" of exchange, or "gold parity." The same fact may be stated in another way. Gold is a commodity which possesses one characteristic in common with other commodities, such as coal. When coal is produced under competitive conditions, and when a number of consuming markets compete for that commodity, it tends to distribute itself among those markets in such a way that, when due allowance has been made for tariffs and cost of transport, it will command the same price in all. If for any reason it commands a higher price in one market than in the others, the supply in the first will be increased and its price consequently reduced, while the supply in the remainder will be reduced and the price raised. When the price is the same throughout all the markets the position is one of stable equilibrium. The same is true of gold. Gold distributes itself over competing markets in such a manner that, allowing for cost of transport, it tends to have the same value in exchange in all. If for any reason it commands a higher value in exchange in one than in the others, the supply in the first will be increased and its value will fall, the supply in the remainder will be reduced and its value will rise. When gold possesses the same value in all markets, the position is one of stable equilibrium. The value in exchange of gold, as we have already seen, is its purchasing power over commodities in

Gold parity

general; it is represented by the general price level. Consequently what we have said is that, under normal conditions and allowing for cost of transport (together with tariffs and other obstacles to movement), the price level will be the same in different countries.

Fluctuations about parity according to state of trade

I have stated that, when the rate of exchange is at par, the position is one of stable equilibrium. The actual rate of exchange fluctuates within narrow limits indicated below, but when the actual rate deviates from mint par, forces are automatically brought into operation which tend to bring it back to the latter. Such a deviation occurs when the claims upon us do not exactly balance the claims that we possess on other countries; that is to say, when imports and exports are not exactly equal in value. Suppose, for example, that we have been exporting to the United States considerably more than we have been importing from that country.[1] The result will be that our claims upon dollars will far exceed the claims of Americans upon pounds; there will be a large number of people wanting to convert dollars into pounds, and relatively few people wanting to convert pounds into dollars. That is to say, the demand for pounds in exchange for dollars will be far greater than the supply of pounds available in return for dollars. Those who possess dollars and want pounds will compete vigorously against each other for the supply of pounds, and will show their eagerness to possess pounds by offering to surrender more and more dollars in exchange. The rate of exchange will, therefore, move in our favour; something in addition to $\$4.86\frac{2}{3}$ will be offered for the pound. But there is a limit beyond which the exchange cannot go. Assuming that America uses the gold standard, anybody may obtain gold at an American bank and

Fluctuations limited by possibility of gold movements

[1] For the sake of simplicity trade relationships with other countries are ignored; strictly speaking, the rest of the world should be regarded as one unit, but as there are many foreign countries, and as the relationship between each pair is covered by so many separate factors, it would add to the complexity of the discussion if three, four, or five-cornered exchanges were introduced.

export it to this country. If it costs, say, 5 cents to send a sovereign's worth of gold in a ship to this country, the exchange cannot rise to a higher level than $4.91\frac{2}{3}$. Whether it will advance quite so far will depend upon the strength of the competition for the pound, that is, upon the amount by which exports exceed imports. In the opposite case, namely that wherein our imports have been considerably in excess of our exports, the amount to be converted from pounds into dollars will be greater than the amount to be converted from dollars into pounds. The many people holding pounds and wanting dollars will compete vigorously for the dollars of the relatively few who want pounds. The former will, therefore, be forced by competition to accept less and less dollars for a pound; that is to say, the exchange will move against us. The pound will be worth less than $4.86\frac{2}{3}$. But it cannot fall below par by an amount greater than the cost of shipping gold from this country to America, and if we assume this cost to be 5 cents for a sovereign's worth of gold, the rate of exchange cannot fall below $4.81\frac{2}{3}$ to the pound, for at that point it will pay our debtors to secure gold from the bank and ship it to America. The two limits to the fluctuations in the rate of exchange of the currency of a country that employs the gold standard are called the "specie points" or "gold points."

Restoring the Balance of Trade

Forces which maintain balance of international trade

It has been stated that the rate of exchange may deviate from mint par on account of a difference between the imports and exports, and that if the difference is fairly great the exchange may move to a point at which gold is shipped from one country to the other. When, however, this situation arises, it generates forces which tend to redress the balance and to restore the exchange to parity. I shall now endeavour to show how the correcting forces work. The argument proceeds by four stages. Suppose, first, that for some reason which we need not examine, the imports into this country are so much in excess of the

(*a*) Gold movements

exports from this country that the payment of the debit balance necessitates the export of gold. The consequence of such export is a reduction in the amount of gold in this country, and a rise in its value, that is, in its purchasing power. It has already been stated that the purchasing power of gold is represented by the general price level, and that an increase in the value of gold is the same thing as a fall in the general price level. This fall in the price level is followed by two results, among others. First, the prices which are offered for imports are reduced and, secondly, the prices which are asked for exports are reduced. Consequently, this country is no longer so profitable a market for foreign manufacturers and our imports are checked, while on the other hand our manufacturers are placed in a much stronger selling position and our exports are stimulated. What was previously a debit balance will now become a credit balance, and will continue to be so until the gold is returned to this country.

(b) Movements in exchange rates

In actual practice the correctives come into play before gold is exported or imported, and under ordinary circumstances they are usually enough to obviate the need for any substantial shipment of gold. This is the second stage of the argument. Suppose the imports into this country to be somewhat greater than our exports to (i.e. claims upon) other countries, and that consequently the rate of exchange has moved against us, the dollar value of the pound being not mint par ($4.86\frac{2}{3}$) but, say, $4.83. The prices of imports expressed in pounds will be higher than before, and the prices of exports expressed in dollars will be lower than before. An American exporter sending goods for sale in English money in this country charges, say, £1 per unit, reckoning upon being able to exchange the pound for $4.86\frac{2}{3}$. But he finds that he is able to convert the pound into only $4.83, and thus actually receives less than he had anticipated. It may be that the whole of his profit will disappear in the loss on exchange. If, however, the contract is for payment in dollars, the price of the goods

being $48.6\frac{2}{3}$ per unit, the British importer now finds himself forced to pay more than a pound in order to secure that sum in dollars; consequently the cost of the goods to him has gone up, and his expected profit may disappear through the loss on exchange. An adverse exchange, therefore, tends to check imports into this country. The British exporter and his American customer, on the other hand, are passing through a different experience. If the British merchant stipulates for payment in pounds the American buyer finds that he can secure a pound for $4.83, so that the cost to him in dollars has been reduced. In addition to the ordinary profit he expected to make by selling the goods in America, he has also made a profit on exchange. If, however, the contract stipulated payment in dollars the British merchant finds that he is able to convert the $4.86\frac{2}{3}$ into more than a pound, and consequently, in addition to the profit on the transaction, he makes a profit on exchange. Thus, either the American customer is induced to increase his purchases in order to make more profit on exchange, or, if payment is made in dollars, the British merchant tempts him to buy more by offering at a lower price. The adverse exchange acts as a stimulus to exports, and this stimulus, combined with the restrictive effect on imports, converts the temporary excess of imports into a temporary excess of exports; that is, it redresses the balance of trade and rectifies the exchange.

(c) Speculation

In the next stage of the argument we observe speculative influences at work, acting as a further corrective. Our imports from America consist mainly of agricultural products, and are therefore seasonal. Large shipments of cotton and other commodities are made in the autumn when the harvest has been garnered. Our exports to America consist mainly of manufactured products, and are spread fairly evenly over the whole year. Consequently, in the early summer the balance of trade and the rate of exchange are favourable, while in the late autumn the balance of trade and the rate of exchange are adverse.

Suppose that in November the exchange is $4.84 to the pound, and it is known that in the absence of abnormal circumstances it will have moved in our favour to $4.89 by June. An American speculator possessing dollars knows that if he buys pounds in November at the rate of $4.84, he will probably be able to sell them in June for something like $4.89, and will therefore be able to make a profit of 5 cents on the transaction. If he enters the market with that object in view he will be assisting this country to redress the balance when it needs redressing, while he will be similarly assisting his own country in June. The effect of his action in buying pounds in November will be to stiffen the rate for pounds, that is to say, to reduce the value of the dollar; and the effect of his action in June when he sells pounds will be to stiffen the value of the dollar, that is, to weaken somewhat the value of the pound. Thus his action makes for stability. Speculation in exchange of this character does not differ essentially from speculation in commodities. It has already been stated[1] that the speculator buys in a plentiful market when prices are low, and sells upon a scanty market when prices are high. The effect of his action is to raise prices when they are relatively low and to reduce them when they are relatively high, thus confining price fluctuations within narrower limits. A speculator in exchange buys pounds when they are cheap and sells pounds when they are dear, and thus tends to reduce fluctuations in the value of the pound. The formal difference between the two cases is that in buying pounds the speculator in exchange sells dollars, and in selling pounds he buys dollars; when pounds are cheap dollars are dear, and when dollars are cheap pounds are dear.

(*d*) Changes in rate of discount

The profit of five cents on the transaction that we have outlined does not appear to be sufficient inducement to speculate in exchange, but it is combined with a further inducement provided by changes in the rate of discount,

[1] See Chap. III, Book III.

and thus we are led to the fourth stage in the general argument. When, in consequence of an excess of imports, the rate of exchange moves against this country, and there appears a danger of an export of gold, the bank rate of discount is raised, and with it the interest on cash deposits and charges for accommodation. Two results follow. In the first place the danger that gold will leave the country is reduced, if not entirely obviated. Suppose the rate of interest on deposits, both in America and in this country, to be 3 per cent, and that in November, when the exchange is adverse to this country, the English rate of interest is raised to 4 per cent. Money left on deposit in America at 3 per cent would be able to earn 4 per cent if it were transferred to a bank in London, so that the additional 1 per cent serves as an inducement to such transfer. Combined with the profit which may be expected on exchange it may be sufficient to effect its purpose, and in that event the money is transferred and the dollar value of the pound is stiffened. What has happened in effect is that the Americans have granted us a short loan, which is used to pay American exporters that temporary balance against us which cannot be met out of our current exports. In the early summer the position is reversed. Thus we see that there exists a large supply of liquid capital (owned mainly in London) which flows in the form of short loans from one country to another in response to trade needs, and that this fund of mobile, loanable capital prevents violent fluctuations in the exchanges under ordinary trade conditions, in very much the same way as a large supply of movable wheat maintains a fairly even distribution of prices throughout the world, and prevents, under ordinary circumstances, violent fluctuations in prices in any one country.

A change in the rate of discount, however, also produces another effect. It has already been stated that the adverse movement in the exchange in the late autumn is due to an excess of imports. The immediate need, therefore, is to check imports and to stimulate exports. A rise in the rate

of discount in this country has a deterrent effect upon the action of speculators in commodities. When the latter anticipate a rise in prices they buy stocks immediately, and hold them until the expected rise has taken place. They secure capital for that purpose largely by means of loans from bankers. A rise in the charge for bank accommodation reduces the prospective margin of profit upon speculative holdings and, consequently, acts as a check upon such speculation ; that is, it tends to reduce purchases both of imported commodities and of commodities made in this country. Consequently, imports are checked. Further, since the immediate speculative demand for commodities made at home is reduced, prices in this country tend to fall. Moreover, manufacturers, faced with a weakening home market and a rise in the rates, which they have to pay for the commercial capital that they borrow from the banks, tend to reduce their output. Thus the general price level in this country tends to fall. This fall in the price level checks still further the flow of imports from abroad. Those of our manufacturers who produce goods for the export market are pulled in two directions. The fall in the costs of raw material, combined with the adverse exchange, acts as a stimulus, but manufacturers are faced at the same time with higher bank charges due to the higher rate of discount. The former is usually much the stronger force of the two, with the result that exports are stimulated at the same time that imports are checked, and the balance of trade is to that extent corrected.

Summary statement

The foregoing paragraphs may be summarized in the following terms. The rates of exchange of two currencies, based on gold, are determined by the relative amounts of fine gold contained in the two currency units. Deviation from gold parity is due to a temporary difference between the claims upon currency resulting from the exchange of goods and services. When, as the result of an excess of imports into a country, the rate of exchange moves in an adverse direction, the movement is checked by the operation of

correctives. The export of gold increases the domestic value of the home currency, and reduces the value of other currencies. This change in the relative price levels stimulates exports, and discourages imports. Before there is any actual movement of gold the same result may be brought about by speculative influences, stimulated by the prospect of a profit on exchange, combined with a higher rate of interest upon deposits due to a rise in the rate of discount. These speculative influences take the form of short loans, and a short loan produces the same effect as an export to the lender. Such speculative influences are supported by the reaction of the rate of exchange upon international trade, an adverse exchange encouraging exports and discouraging imports. They are also supported by the effect upon the internal trade of the higher rate of discount that accompanies an adverse exchange. Such, in brief, is the theory of foreign exchanges divorced from all considerations of the machinery of trade, and also formulated on the assumption that the currencies concerned are based on gold.

Paper Exchanges

Substitution of a paper currency for gold

Most European countries have tried to run their economic machinery by means of a paper currency which is neither convertible into gold nor in any obvious way connected with gold. Since a paper-using country is usually not self-sufficing, but carries on trade with other countries, it becomes necessary for an equation to be established between the inconvertible paper currency and the gold currencies of other countries, or, what comes to the same thing, with the commodity gold which is employed as the standard of value in international trade Suppose first that a country such as Germany employs a gold standard, that the rate of exchange is represented by 20 marks to the pound[1]—that is, the two sums contain the same

[1] The actual gold parity before the war was 20 marks, 45 pfennigs, but, as this is an awkward number, I have chosen an easier one to handle for the purpose of illustrating the theory.

quantity of fine gold—and that, after allowing for the effect of hindrances to movement, such as cost of transport and tariffs, their purchasing powers in their respective countries are equal. Suppose, next, that an inconvertible paper currency is substituted for the gold currency in Germany, but that the volume of money in circulation remains exactly the same as before. Paper has merely been substituted for metal. The domestic value or purchasing power of the currency in Germany, that is the general price level, will remain as before. In that case its normal international value or rate of exchange will also remain unaltered. There is no new reason why it should be altered. The Germans are able to export at the same rate as before and at the same prices as before. The foreign markets for their goods will, therefore, not be disturbed. Moreover the claims, which by means of their exports they secure on foreign currencies, enable them to pay for their imports in the same way as before, and to the same extent. People abroad who, while Germany was on the gold standard, might have accepted payment in marks may now insist upon payment in their own currency, but the only effect of this departure is to throw the risk of exchange upon the Germans. The risk itself remains what it was.

But one profound change has taken place in the situation. The German Government has now substituted for a rigid currency, the supply of which was more or less beyond its control, a paper currency, which it can manufacture at will. If experience shows that the German Government intends at all costs not to succumb to the temptation of manipulating its currency, no serious harm will be done ; but we know from experience that few if any governments are strong enough to resist that temptation. A country that substitutes inconvertible paper for gold loses for the time being the confidence of other countries, and this lack of confidence causes temporary disturbances in the rate of exchange. These we may leave for the moment out of account

Change in purchasing power of paper currency is accompanied by corresponding change in rate of exchange

Suppose, next, that the German Government decides to double the volume of money in circulation: its domestic value or purchasing power will be reduced; the price level will ultimately be twice as high as before. The international value of that currency will not remain unaltered while the domestic value falls. Under ordinary trade conditions it will be correspondingly reduced. A pound will now exchange, not for 20 marks, but for 40 marks; that is, it will exchange for that number of marks which possesses the same purchasing power in Germany as is possessed by a pound in this country. In other words the rate of exchange between this country and Germany is determined by the relative price levels of the two countries.

Purchasing power parity and gold parity

This rate of exchange is the rate that is analogous to the old gold parity, and is called the "purchasing power parity." It resembles gold parity in one respect and differs from it in another. It resembles gold parity in that it represents the rate of exchange in a state of trade equilibrium; it is the rate that will be reached when the claims representing imports and exports are exactly equal. It is the rate such that, if the actual rate of exchange deviates from it on account of any disturbance of the trade balance, correcting influences will be brought to bear which will restore the actual rate to this parity. It differs from the gold parity in that it is not a fixed parity. So long as the gold content of the $5 piece and of the sovereign remains unchanged, parity with America will be represented by $4.86\frac{2}{3}$ to the pound. But purchasing power parity, represented by 40 marks to the pound in our illustration, will remain unchanged only so long as the domestic value of the mark remains constant. Every inflation or deflation of German currency alters its value as represented by the price level and, consequently, alters the purchasing power parity. For example, if the quantity of German currency is again doubled, the purchasing power parity will move from 40 marks to 80 marks to the pound. Thus the rate of exchange of our gold currency with the paper currency

of Germany may fluctuate for two reasons: first, on account of deviations from purchasing power parity, and secondly, on account of changes in the purchasing power parity itself, due to changes in the German price level.

Actual rates tend towards purchasing power parity

So far I have stated only the bare facts of the situation; I have not yet attempted to show by what means the rate of exchange is adjusted and why the purchasing power parity should become, as it were, the resting-place of the rate of exchange. The proof may seem difficult if not unsatisfactory. Our problem resembles that of proving that the centre of gravity of a uniform rod is at the middle point. It is one of those axiomatic statements which are the most difficult of all to prove. The simplest method is by assuming some other currency relationship, and showing that the latter cannot be stable and permanent. Suppose the actual rate of exchange to be represented by 400 marks to the pound, while what has been called purchasing power parity is represented by 300 marks to the pound; that is, 300 marks have the same purchasing power in Germany as a pound has in this country. Suppose, moreover, that steel is the subject of keen competition between the two countries (that is, its manufacture demands the same expenditure of human effort in Germany and this country, so that if both countries were on the gold standard the gold costs of production would be roughly the same) and that it is also a fairly representative commodity. The result will be that steel sent from Germany to this country costing 300 marks to produce could be sold here (neglecting the cost of transport) for 15 shillings without loss. As it costs a pound to produce in this country our manufacturers have no chance against their German competitors. Thus the export of steel from Germany will be increased. Again, cloth costing a pound in this country could only be exported and sold for 400 marks in Germany, where it can be manufactured for 300 marks. What is true of steel and cloth is also true of all other commodities which are the subject of international trade. Thus the

imports into Germany will be reduced. The excess of German exports over imports will, therefore, mean that there will be a big demand for marks and a relatively small demand for pounds, and the price of marks relatively to the pound will rise until equilibrium is finally reached at 300 to the pound. Stated briefly, this means that any deviation in the actual rate from the parity determined by the relative purchasing powers of the currencies brings into operation forces which tend to restore that parity.

Speculative influences and external depreciation

It has been stated that if German currency is inflated its international value will be reduced. If, for example, the purchasing power parity at one stage is represented by 200 marks to the pound, and the volume of money in Germany is increased by 50 per cent, the purchasing power parity will move from 200 to 300 to the pound. Essentially the movement takes place through a change in the trade relations between Germany and the rest of the world. The immediate effect of German inflation will be to raise German prices. Consequently, imports will be stimulated and exports checked, and an excess of imports over exports will result. This excess of imports will mean that there will be a big demand for foreign currencies in order to pay for the imports, while there will be a relatively small supply of foreign currencies. Consequently, more and more marks will be offered for the pound or for other foreign currencies, and the process will continue until the rate reaches 300 to the pound. But the knowledge that Germany has inflated her currency, and that, therefore, its international value will ultimately be reduced, accelerates the reduction through speculative influences. Moreover, if in Germany the process of inflation continues and is likely to continue, its effects will be discounted in advance, that is, speculative influences will cause the external value of the currency to fall even more rapidly than, and to remain below, the internal value. In other words, the German currency will suffer from external or specific depreciation over and above the general depreciation or fall in the purchasing power parity itself.

Heavy external debts

There remain two further considerations. It has been stated that any deviation in the actual rate of exchange from the purchasing power parity brings into operation forces tending to restore that parity. Under certain conditions, however, the correctives may fail. Suppose that, for some reason which does not concern us now, Germany is faced with a heavy external debt which she is pressed to pay, but cannot find means to pay with. Provided she is unable to negotiate a long-term loan, those who hold claims upon her must either wait until Germany has a sufficient surplus of exports over imports, or sell their claim to speculators for what they will fetch. The discount on those claims will be determined by the probability and the probable date of payment. If the claims are very heavy their holders will only be able to sell at a heavy discount, that is the German mark will be worth far less than the purchasing power parity. Assume it to be worth but one-half of its parity value, and that its parity value is 300 marks to the pound. Steel worth 300 marks in Germany will now sell not for £1 but for 10s. in this country. The exports of German steel will naturally be increased, but they will need to be doubled in order to secure the same command over pounds as before. In other words, the same volume of German exports would pay for only half as many imports as before. Consequently, although the external depreciation of 50 per cent stimulates exports and checks imports expressed in weight or volume, the total value of the greater quantity of exports is reduced and the total value of the smaller quantity of imports is increased. For this reason the balance of German indebtedness increases, and the exchanges, instead of improving, move still further against Germany.

Inelastic demand for imports

The second consideration is closely connected with the first. German imports consist largely of foodstuffs and raw materials. If exports are to be increased the imports of materials cannot be largely reduced. The demand in Germany for the imports is fairly inelastic,

and the strength of the correcting influence is to that extent weakened.[1] Further, the balance against Germany under the extreme circumstances now being assumed tends to increase rather than diminish; payment can only be made by exporting further promises to pay, and the value of such promises falls still farther. Moreover, the external depreciation of the mark accelerates the process of internal inflation, for the following reason. We have already seen that inflation, while it continues, provides an artificial stimulus to domestic trade. The trade activity, with its prospect of immediate gain, increases the inelasticity of imports of raw materials. But the prices of these, when expressed in marks, reflect the external depreciation of the currency and are, therefore, relatively higher than those of goods produced within Germany. In order to finance trade based upon such goods, business men require proportionately more currency, and the latter is, therefore, correspondingly increased. Thus inflation is accelerated and purchasing power parity falls with equal rapidity. Since the external depreciation is now measured (as a percentage) from a still lower parity, the external value of the mark shows a proportionate reduction. It is clear that, for this twofold reason (external depreciation and internal inflation accelerated by such depreciation), the mark ultimately becomes worthless. No country, even though it starts as a gold-using community, can avoid this end unless it is able to pay for its current imports (either by current exports or by securing long-term loans to meet the deficit, which is only possible for a limited period) and to prevent internal inflation. If it does not prevent

Equilibrium rate may be unattainable

[1] When a currency is being rapidly and continuously depreciated those who possess it frequently endeavour to exchange it for a more stable foreign currency. This was done after the World War by the Austrians and Germans and, to a lesser extent, by the French. All three purchased Swiss (gold) francs, American dollars or English pounds. The effect of the purchase of a foreign currency for this reason is precisely the same as the effect of a similar purchase in order to pay for imports. Foreign investment (for such it is) of this character should thus be included in imports for the purpose of this section.

inflation it cannot, in the long run, secure a real trade balance. If it does not secure a trade balance (including loans) it cannot, in the long run, prevent inflation. The importance of these elementary truths in connection with large payments (be they in respect of indemnities or debts incurred earlier) by one country to another requires no emphasis.

CHAPTER X

THE ENGLISH MONETARY SYSTEM[1]

THE CURRENCY

The pre-War system

BEFORE the Great War the English currency and credit system was generally regarded as the best in the world, and the principles upon which it was based were accepted as sound. What was essential in that system was rapidly being adopted by other countries, and the recommendations of the international financial conferences held after the War were largely based upon English experience. The theory of money and banking expounded in previous chapters may be regarded as, in the main, an interpretation of that experience, and those who have understood the theory will experience no difficulty in following the brief notes, given below, upon the pre-War system and the changes that have since been introduced. In the description of the pre-War system it will be convenient to use the present tense as though it were still in operation. The machinery of banking and the methods of controlling credit have not, indeed, been seriously modified; the fundamental change that the War enforced was in the currency standard, that is the legal tender.

The pound sterling

The foundation of the English monetary system is the pound sterling, which is a gold coin commonly known as a sovereign. This coin weighs 123·27447 grains; it is made of English standard gold, that is it contains eleven parts of pure or fine gold and one part of alloy—chiefly copper. Thus it contains about 113 grains of fine gold. It will be seen that an ounce Troy of standard gold contains the same quantity of fine gold as the sum of £3 17s. 10½d., and that the sum of £4 4s. 11½d. contains almost exactly

[1] The adjective "English" is deliberately used. Scottish banking is controlled by a separate Act of Parliament.

an ounce of fine gold. The sovereign is legal tender to an unlimited amount, that is, no creditor may refuse to accept payment in gold. Moreover, anybody may take gold bullion to the Mint and have it coined. In practice, however, it is taken to the Bank of England, which is required to accept it at any time and to pay for it at the rate of £3 17s. 9d. per ounce, the deduction of 1½d. representing commission and interest during the period which the owner would have to wait for the money if the gold were actually coined. It follows that the value of gold in terms of sovereigns is constant.[1] If, for any reason, the price of gold bullion were higher than £3 17s. 10½d. per ounce coins would be melted down and sold as such; if it fell below that amount it would be taken to the Mint and converted into coin. It is, therefore, immaterial whether we regard the pound sterling or an ounce of gold as the standard of value; the one is but an unvarying fraction of the other.

Token coins

In order to facilitate the payment of small amounts half-sovereigns and silver and bronze coins are issued. Silver coins are legal tender to the amount of £2 and copper to the amount of one shilling. We have already stated, in effect, that the face value of a gold coin is identical with its commodity or bullion value. Such is not the case with a silver or copper coin: its face value is far higher than its value as a commodity. If a shilling were melted down it would sell for less than sixpence. It is, therefore, evident that such "token" coins should be issued by the Government, and that the amount issued should be severely restricted to that needed by the community for small change. If they were issued in relatively large amounts in response to the desire to make a profit their abundance would react upon the value of the money as a whole, that is, upon the price level; and ultimately Gresham's Law would operate and drive out the gold.

[1] We may here ignore minor fluctuations due to exceptional circumstances.

Bank-notes

Bank of England notes are also legal tender—except at the Bank itself, where they may be exchanged at any time for gold. But the issue of such notes is restricted by the Bank Act of 1844, under the terms of which notes to the amount of £19,750,000 may be issued without gold cover, any additional issue being of the nature of bullion certificates, that is, being actually covered, pound for pound, by gold. The above amount issued against securities is known as the fiduciary issue.[1]

It will be seen that the characteristic feature of the legal tender of the country is that, under normal conditions, its amount is beyond Government control, being determined by the supply of gold coming into the country, that is mainly by natural conditions. Moreover, being so determined, its amount is highly inelastic. It cannot, like Government paper money, be doubled in a week. The monetary system of the country is, therefore, based upon a fairly rigid or constant legal tender foundation; the necessary elasticity is supplied by the credit system, which we shall now proceed to examine.

English Banking

Joint-stock banks

The banking system is that known as the centralized system, that is, it rests upon a central bank which ultimately controls the operations of the other banks in the community. During the nineteenth century a large number of banks were established in various parts of the country, and these were largely competitive. As time went on, amalgamations took place and the number of separate joint-stock banks steadily diminished.[2] The joint-stock

[1] In time of crisis the Act may be suspended and the fiduciary issue increased. If, at such a time, ordinary credit documents are mistrusted, people will demand gold or, what is accepted with equal readiness, Bank of England notes, which are then regarded by the public as equivalent to Government notes.

[2] The banking business of the country is now practically in the hands of five joint-stock banks; the amount done by competing banks is too small to produce any material effect upon banking policy.

banks carry on ordinary banking business, that is, they receive cash deposits, grant loans and advances, discount bills of exchange, and compete with accepting houses in accepting bills. But they do not issue bank notes. Before 1844 a number of small banks issued notes and, so long as they remained independent, their power was continued by the Act passed in that year. But, by the same Act, they lost that power when they amalgamated with other banks, and the amount that the Bank of England could issue (without gold cover) was increased by two-thirds of the amount surrendered through amalgamation. Practically all the power of issuing notes in England is now concentrated on the Bank of England. In addition to the English joint-stock banks there are other institutions. Discount houses receive money on deposit and deal in bills of exchange and Government Treasury Bills; London branches of foreign and colonial banks transact international business of a financial character, and thereby compete, within a limited sphere, with English banks.

The Bank of England

Behind the joint-stock banks stands the Bank of England. The latter is a private institution, but its public responsibilities are so heavy that it is not run as a profit-making business. It is true that its shareholders receive dividends, but on all questions of policy the supposed national interest is placed first and last. Moral obligation has the force of law. The Bank of England is divided into two departments, the issue and banking departments. The former is responsible for the issue of notes, which are passed out into circulation through the latter. It has already been stated that the Bank may issue notes, of a specified amount, against securities—mainly Government stock.[1] If and when the banking department requires notes in excess of the fixed fiduciary issue, it deposits

[1] Many students wonder how they got there—they were deposited by the banking department, which required the notes in the ordinary course of business, and obtained the securities in the same way.

with the issue department gold to the amount of that excess.

Its relations with the Government and the joint-stock banks

The banking department performs most of the functions of a joint-stock bank, but it does not act as an acceptor of bills. Its most important client is the Government itself, and the Government, like most other clients, sometimes requires accommodation. We often read in the newspapers that the Government has increased its overdraft on "Ways and Means Account." It has to pay wages, salaries, and other charges regularly—every week or month—but the revenue from taxation does not flow in with the same regularity: income tax instalments are due twice a year, the 1st of January and of July, although we usually pay on the latest possible date. For some time before such dates the Government may be short of funds, and may consequently overdraw its account.

Joint-stock banks are also clients of the Bank of England. They retain, in their own buildings, a certain amount of their cash reserves, namely, that which is required as "till money." The remainder they deposit at the Bank of England, so that the bulk of their reserves is not "cash in hand," but their credit balances at that Bank. Against those balances they draw cheques in the ordinary way. When a client of the Midland Bank sends a cheque to his tailor, who has an account at Lloyds Bank, the former bank becomes indebted to the latter. All such cheques are passed through what is called the "Clearing House," and the gross totals are set against each other. If, on balance, the Midland Bank owes Lloyds a certain sum of money it pays its debt by means of a cheque upon the Bank of England, the net result being that the credit balance of one at the Bank is reduced and that of the other is increased. The Bank of England is thus the banker's bank. It also has other clients, such as the bill-brokers and other financial houses, and a comparatively small number of firms and individuals who are engaged in financial business on a large scale.

London the Financial Centre

Free gold market

So far, then, the Bank of England resembles other banks in this country. In order to appreciate the peculiarity of its position it should be remembered that London is the financial centre of the world, and it has become the centre as the result of a combination of related circumstances. In the first place, it is a free market for gold. We have already referred to the fact that gold coins circulate freely in the country. But they, and gold in bullion form, may also be exported at any time. Consequently, a draft on London is as good as gold. Anyone living abroad who possesses a claim upon this country knows that, when it matures, he may obtain gold and convey that gold to his own home. In the second place, the London accepting houses (including joint-stock banks) are known all over the world. A Chinese merchant exporting tea to South America is likely to be ignorant of people and conditions in that region, but he knows John Bull & Co , London, and knows, moreover, that a bill drawn on that firm will, on presentation, command gold. Consequently, the South American importer arranges that the Chinese exporter shall draw a bill on the London firm in payment of the tea. Further, so great is the trade in London bills that the South American importer knows that when he has to pay John Bull & Co. he will experience no difficulty in purchasing a draft on London for that purpose.

Reputation of accepting houses

Importance of British foreign trade

For, in the third place, foreign trade forms a much greater proportion of the total trade of Great Britain than is the case in any other country. This direct trade with other countries creates a correspondingly large supply of and demand for bills on London. In other words, the London bill market is already so extensive that those who need bills may feel confident of being able to buy them and those who have bills to sell may feel confident of finding a buyer. Not only is the overseas trade of the ordinary kind relatively important, but Great Britain invests capital

abroad on a large scale. Such investment swells the export trade, and during the process of investment a large number of bills are drawn on London; in other words, foreign loans issued and taken up in London give the foreign borrowers claims upon English money, and against such claims they draw bills which, in the above illustration, may be bought by the South American importer and sent to John Bull & Co. in payment of his debt.

Short-term capital

Finally, London is possessed of a large supply of liquid capital, which can be employed in financing foreign trade. The Chinese exporter may draw a bill for two months and that bill may be discounted in London, which means that for that period London is financing the tea trade, or, in other words, lending money to the American importer to enable the latter to pay his Chinese creditor.[1]

The Bank Rate

The value of "money"

The Bank of England controls the "price of money" or "value of money." Before we proceed farther, we should be clear as to the meaning of the words "value of money." They are used in three senses. They are sometimes used in the sense of the purchasing power of money, which, as already stated, is the inverse of the general price level. We say, for example, that the value of money was far greater in 1914 than it is to-day, that is, that the price level is higher and the pound buys less now than was the case before the outbreak of war. Again, the words are often used in connection with the foreign exchanges. We say that the value of sterling is higher or lower when it exchanges for more or less dollars or any other representative foreign currency. Finally, the words are used to denote the price paid for the use of money by a borrower. It is in this sense that they are employed in the present chapter.

The value of money is expressed in the rate of discount.

[1] It should be observed that it is the bill discounter, not the acceptor, who lends the money. The latter is only a sort of guarantor; he meets the bill on maturity and collects the money, in turn, from the American importer. He lends his name, not his money.

The official rate of discount and protection of the gold reserve

Every Thursday[1] the Court of the Bank of England fixes the official rate of discount, which is known as the Bank Rate. The Bank Rate is the official minimum rate charged for discounting first-class (that is, bankers') bills with a currency of three months. It should be distinguished from the market rate, which is that charged by joint-stock banks. A change in the Bank Rate may or may not be accompanied by a corresponding change in the market rate, that is, it may or may not be "effective." The effectiveness of a change depends upon circumstances, to which reference will be made presently, and it will then be shown that if it is not effective the Bank of England, if it desires to do so, is able to take steps to make it so. For the present we shall assume that it is effective.

The Bank of England discounts (for its clients) bankers' bills, together with trade or finance bills provided, first, that in the latter case the bill has two British names on it (one being that of the acceptor) and, secondly, that it is drawn in British currency. The second condition follows from the fact that the Bank is the guardian of the gold reserve of the country. The Bank also lends money for short periods, and grants advances to clients at one-half of 1 per cent above the Bank Rate. Although that rate is the official minimum rate, the Bank will sometimes discount bills at a somewhat lower rate, but this practice is so unimportant that it may be ignored.

The Bank Rate fluctuates far more than the French or German rate. The reason is to be found in the fact that England alone relies wholly upon the rate of discount to protect its gold reserve. In France and Germany, where the gold standard is not fully operative, the reserve may be protected by other devices than that of raising the rate of discount. The English official rate is determined entirely by financial circumstances, and in England alone is the rate the sole weapon employed to control such circumstances.

[1] And also, on rare occasions, when rapid changes are necessary on other days of the week.

External and internal effects of a change in Bank Rate

It has already been shown that a banker raises the rate of discount when the reserves are low and reduces it when reserves are high. The gold reserves of this country may be low on account either of an external drain or of an internal expansion of credit. The external drain is due to an unfavourable exchange, which is itself due to the fact that the claims upon this country exceed those which it possesses against foreign countries.

The effects of a rise in the Bank Rate (above the rates prevailing in other countries) are as follows: Foreign banks who hold bills on London, and who would otherwise have discounted them and sold sight drafts against the balance, now hold the bills as an investment. The demand, however, for sight drafts on London by foreign debtors continues, and the rate of exchange moves in favour of this country, that is, the value of sterling in terms of other currencies is enhanced. Again, the relatively high rate of interest on deposits (which accompanies a relatively high rate of discount and, as was stated in a previous chapter, is frequently regarded as falling within the latter term) attracts fluid capital from countries in which the rate is lower. Moreover, many British owners of capital who might otherwise have lent their money abroad now find it more profitable to leave the capital in this country. These are immediate effects, and if the movement of gold from this country is not very pronounced, they may be sufficient to turn the movement back to this country. If, however, there has been a severe drain of gold due to a heavy excess of imports, the desired end may not be reached until the trade position has been adjusted. But ultimately the adverse exchange, by making imports dearer in terms of English currency, and exports cheaper in terms of the currencies of foreign buyers, will convert the excess of imports into an excess of exports. It will thus attract gold and thereby adjust itself.

This ultimate effect upon the trade position is accelerated by the effect of the rise in the Bank Rate upon the internal

price level. Credit becomes dearer to those who require it, and, therefore, the demand for it falls. Borrowers usually require money from the banks because, by using it in business, they are able to make a profit. A rise of, say, 1 per cent may convert profit into loss, particularly in the case of merchants who hold large stocks with borrowed capital. Consequently the rise in the Bank Rate means a diminished demand for goods and a fall in their prices. This aspect of the situation will be further examined in the fourth book. For the present it is sufficient that the rise in the Bank Rate results in credit contraction and a fall in prices, and thereby tends to discourage imports and to stimulate exports. It may be that the rise in the Bank Rate is deemed necessary on account of an internal expansion of credit rather than any actual movement of gold to other countries. This expansion of credit, as we have already seen, involves an increase in the demand for legal tender currency, first from the public in order to pay the higher prices and wages resulting from such expansion, and, secondly, from the joint-stock banks, whose reserves must be brought up to the rates regarded as safe. This extra demand for legal tender falls upon the Bank of England, whose reserves are correspondingly reduced ; the Bank in turn raises its rate of discount, with the result already indicated.

It will be seen that under the English system the general level of prices is automatically and rapidly adjusted to the world level. A relative rise in the English price level (that is, a relative fall in the value of gold), by reducing exports and increasing imports, produces an adverse balance of trade and an adverse exchange. The latter, if serious, causes an export of gold, reduces the reserves, and necessitates a rise in the Bank Rate ; such a rise reverses the process : it reduces the price level and brings back the gold.

Further, it secures that an appropriate share of the new supplies of gold from the mines will be sent to this

country. The new supplies strengthen the reserves and thereby cause a fall in the Bank Rate, which, in turn, stimulates the demand for credit and brings up the price level (that is, brings down the value of gold) to the extent that the value of gold, in consequence of the new supplies, has fallen in the world as a whole.

Relation between Bank Rate and market rate

So far we have assumed that the Bank Rate is "effective," in other words, that the market rate has automatically followed the Bank Rate. But such is not necessarily the case. The reserves of the joint-stock banks may be so high and the demand for business credit so low that these banks may offer credit at a rate far lower than the Bank Rate ; the latter may have been raised to meet international needs. The imports into this country, being largely composed of agricultural products, are to a great extent seasonal. Our exports, on the other hand, consist mainly of coal and manufactured products, together with shipping and financial services, and are, therefore, largely independent of the seasons. We have large payments to make in the autumn and, in spite of the speculative transactions described in the previous chapter, there is usually a net efflux of gold from September to November. During this period the Bank Rate is generally higher than at other times. But if, for any reason, internal trade declines in the autumn, the demand for bank credit (in spite of the holdings of imported agricultural products) will be correspondingly low and the market rate will not immediately respond to the rise in the Bank Rate.

Open market policy

When, in such cases, the Bank Rate is ineffective the Bank of England may take steps to make it effective. It may sell British Consols and similar stock. The purchasers withdraw their balances at the joint-stock banks in order to pay for such stocks, in which case the reserves of the banks (that is their balances at the Bank of England) will be reduced and their own rates of discount will rise. Again, the Bank of England may borrow in the open market and thus absorb the surplus funds or reserves of the joint-stock banks, and it may do so by selling bills of exchange

held partly as an investment and partly as an instrument for making its rate effective.

Rationing and control of credit

We have seen that the Bank of England, at its discretion, may make its own rate effective, that is, may force up the market rate towards its own rate. But if the Bank of England is to control credit the market rate cannot be above the Bank Rate. Early in the nineteenth century the Bank of England was prevented by law from raising its rate of discount. At that time, in consequence of the Napoleonic wars, and afterwards of speculative booms, the demand for credit proved too strong to resist; the market rate rose above the Bank Rate, so that private banks found it profitable to borrow from the Bank of England and lend the borrowed money to clients. In the end inflation was stopped by the rationing of Bank of England credit, rationing being, as always, the alternative to a rise in price sufficient to bring demand down to the available supply. The restrictions imposed upon the Bank of England in relation to its own rate were afterwards abolished and that rate was maintained above the market rate. Joint-stock banks cannot now make a profit by lending its clients money borrowed from the Bank of England; moreover, as we have seen, the latter, by making its official rate effective, is able to control the credit granted by the former.

Suspension of the Bank Act

One further point calls for comment. Reference has already been made to the fact that during a crisis the Bank Act of 1844 may be suspended to enable the Bank of England to increase the fiduciary issue of notes. When a financial crisis occurs the public is apt to mistrust ordinary credit documents and to demand legal tender currency. It is to meet the possibility of an abnormal demand of this character that the Act provides for its own suspension. It may also be found, during such a crisis, that some banks have lent too freely or lent too largely upon securities which cannot easily be realized. If a "run" occurred on such a bank, and others refused assistance, it would have

to close its doors and the feeling of panic would be intensified. It follows that, during a crisis, the Bank of England should be (as it is) ready to lend freely to any banking institution the position of which is fundamentally sound. The case does not differ in its essentials from that of an ordinary business firm which has given so much credit to its customers that it is unable to meet its own creditors at the proper date. In time the position will right itself. But if the firm had been carelessly piling up bad debts or for some other reason were financially unsound, its creditors would be wise to press for payment and thus to force it to become bankrupt. Banks that are unsound from a business point of view no longer exist in this country —though we sometimes see unsound institutions, which are loosely called banks, fail, and by their failure (or, more correctly, by their culpable methods which failure brings to light) cause slight shocks in the community.

Gold Standard and the War

Working of of the pre-war gold standard

The monetary system described in the present chapter was the one in operation before the outbreak of the World War. It represented the best-known illustration of the working of the gold standard. The legal tender currency consisted mainly of gold; gold could be imported or exported without restrictions of any kind. Control over the movement of gold was maintained through the agency of the Bank Rate. When gold became scarce through exportation, its "value" (that is, payment for its use) rose; when it became abundant through importation, the payment for its use fell. Moreover, when it became scarce the basis of credit was contracted, and when it became plentiful the basis of credit was expanded: in the former case its value, in the sense of purchasing power, rose, and in the latter it fell. It will thus be seen that a rise in the value of money, in the sense of the rate of discount, produced a rise in the value of money in the sense of purchasing power. It also produced, as we have seen, a rise in the

value of money in the sense of the rate of exchange. The rate of discount was the controlling factor in the situation.

Paper currency and inflation

The war necessitated far-reaching changes in the monetary system, and these may be shown in two stages, the first relating to domestic changes and the second to international changes. The fundamental change in the monetary system was the withdrawal of gold as legal tender and the substitution of paper money (Treasury notes) issued by the Government. For a currency, the amount of which could not be increased at will, there was substituted a currency of almost infinite elasticity : its amount could be increased or diminished by the action of the Government. The great barrier to inflation, offered by the gold standard, was destroyed.

War on a large scale necessitates vast expenditure. The Government of this country, in order to obtain the necessary funds, imposed heavy taxation and issued loans for large amounts. But these methods proved inadequate, and it was deemed necessary to fill the gap between income and expenditure by means of inflation. We need not stop to examine the precise instruments by which the end was achieved ; it is sufficient for our purpose that the amount of legal tender currency available for circulation (and actually circulating) increased rapidly. Moreover, the amount of credit given by the banks increased with every increase in legal tender currency. The reserve ratio of the banks was always satisfactory—it could be made so by the issue of fresh legal tender. Thus the total supply of money (currency and credit) increased. Naturally the value of that money fell, that is, prices rose.

The inflationary process did not come to an end when the conflict ceased but continued, at an accelerating rate, until December, 1919, when the Government took action. It was evident that the root of the trouble was the fact that the legal tender currency had lost its pre-war rigidity. So long as it could be increased with every increase in credit the reserve ratio remained satisfactory, and the

need for a rise in the discount rate was not apparent. Trade flourished under the stimulus provided by inflation,[1] the demand for credit was correspondingly great, and the expansion of currency and credit appeared (as is always the case) to be merely in response to the needs of trade In December, 1919, the Government issued, through the Treasury, the "Treasury Minute," which once more gave the legal tender currency that rigidity by which it was characterized before the war. By the terms of that Minute the Treasury note issue in any future year could not be increased beyond the actual issue of the previous year. Thus the legal issue could not be increased beyond the 1919 amount, but it might be (and was) reduced.

The effect of the Minute was to cause a rise in the Bank Rate and to check credit inflation. The demand for credit continued to grow for some months afterwards, and as the issue of legal tender could not be increased the reserves of the banks dwindled. Even a month before the Minute was published the Bank of England, anticipating the effect of that Minute, raised the official rate from 5 to 5½ per cent, and during the following spring it was raised to 7 per cent. The check to inflation was followed by trade depression and a consequent reduction in the demand for credit and, therefore, for legal tender. In each succeeding year the actual demand fell short of the legal limit, which was itself the actual demand of the previous year.[2]

The following table shows the rate at which the legal limit fell after the issue of the Treasury Minute—

Year.	1920	1921	1922	1923	1924	1925
Legal Limit	£ 320,600,000	£ 317,555,200	£ 309,988,400	£ 270,183,800	£ 248,190,900	£ 248,145,400

Export of gold and rate of exchange

We may now proceed to examine the international aspect of the currency problem. According to law, the Treasury notes were convertible into gold at the Bank of England, but convertibility was a legal fiction, not an economic fact.

[1] See Chap. VI, pages 279-282.

[2] That is, actual maximum issue in the previous year.

For it was made illegal to export or melt down the coins, and these were the only ways, apart from hoarding, in which they could be used. If, under peace conditions, the currency had been inflated to practically three times the original amount (as was the case after 1914), and the notes had been convertible into gold which, in turn, might be exported, the gold would have been driven out of the country. But the conditions prevailing during and after the war were highly abnormal. Gold could not be freely exported.

In the early years of the war our imports increased and our exports dwindled. The balance against us was partly met by the sale of foreign investments and the issue of foreign loans. But the deficiency was so serious that the rate of exchange fell heavily, and remained low until the United States entered the war as an ally. At that stage the American exchange (which was a "gold" exchange) was artificially controlled, being "pegged" at a rate slightly below gold parity or Mint par of exchange. The United States granted loans sufficient to pay for the excess of goods obtained from that country. In 1919 the exchange was "unpegged" and left to the mercy of economic forces. Ultimately it found its proper level, that is, purchasing power parity. The price level in this country had risen far more than in America, where a gold currency was still employed. Between 1919 and the summer of 1924 the exchange with America (which country, in the meantime, had collected nearly half the world's supply of gold as payment of debts incurred during and after the war) fluctuated with variations in the relative price levels, and in the summer of 1924 the pound was worth approximately 4·40 dollars. In the following months the value of the pound appreciated steadily, and finally rose to within 1½ per cent of gold parity. As the result of this rise the Government, in the spring of 1925, decided to restore, in effect, freedom to export gold through the agency of the Bank of England, and to make the Treasury note inconvertible for sums smaller

The Gold Bullion Exchange Standard, 1925-31

than that represented by 400 ounces of gold. Gold coins were not restored to circulation, but the gold value of the Treasury note was secured by limited convertibility. In 1928 a further change was made; the Treasury ceased to issue notes, its power being transferred to the Bank of England. The Bank, in turn, was empowered to issue notes against approved securities to the amount of £260,000,000, while provision for extension or contraction according to need was made in the Act. Thus the essential difference between the pre-war gold currency standard and the post-war gold bullion standard was that under the former gold coins were in circulation and the fiduciary issue of the Bank of England was comparatively small, while under the latter there were no gold coins in circulation, the gap being filled by a large increase in the fiduciary note issue of the Bank of England, most of that increase being in the form of one pound and ten-shilling notes.

The rise in the value of the pound from 4·40 dollars to 4·86⅔ dollars [the pre-war parity] between the summer of 1924 and the date of the return to the gold standard was due not to a change in purchasing power parity but to the movement of funds from the United States of America to London. It will thus be clearly seen that in the year 1925 the pound was over-valued.[1] It was therefore necessary to reduce sterling prices to such a level as to make the rate of exchange under the gold standard equal to the purchasing power parity. This, in turn, imposed the necessity for a reduction in wages and costs. Unless and until equilibrium had been restored over-valuation was bound to have a depressing effect upon British industry. It acted as a tax upon exports and a bounty upon imports. During the years that followed a further difficulty was created by the fact that the world price level fell, that is to say, the value of gold rose. This necessitated a still further reduction in British wages, costs, and prices if an intensification of the depression was to be avoided. This double difficulty

[1] See Chapter IX.

imposed so severe a strain upon British industry that it suffered from depression even in 1929, a year of great activity in most parts of the world. Then followed the world depression and a heavy and rapid fall in prices. The strain proved so great that in 1931 the gold standard was again suspended. It is not suggested that the over-valuation of sterling was the sole cause of our difficulties, though it was undoubtedly the most persistent and important factor in the history of this period. The purpose of this paragraph is merely to indicate the changes that have recently occurred in the monetary system and to point out the significance of those changes. When the gold standard was again suspended the value of sterling was determined by influences similar to those which operated before the restoration of the gold standard.

Section III—Theory of Distribution

CHAPTER XI

THE RENT OF LAND

The Problem of Distribution

Production and distribution

In the second book we were concerned with the general problem of organization, and we endeavoured to examine existing institutions and the forces by which they were created and developed. These institutions are responsible for the production of the goods and the provision of the services that are annually consumed. In the first two sections of the present book we examined the forces determining the manner in which such goods and services were exchanged for money and, therefore, for each other. It is now necessary to consider the manner in which the same goods and services are ultimately distributed among the members of the community, thus determining the standard of living. This is what is known as the problem of distribution. Before we approach the problem it is desirable to repeat that economics is a positive science, and that the economist is only concerned with what is or may be, and makes no attempt, *qua* economist, to set up a standard of judgment. Thus the problem of distribution is not to discover what incomes people ought to enjoy, but to indicate the action of those forces which determine what they actually receive and spend.

Emphasis has already been laid upon the difficulty of dividing economics into branches distinct and separate from each other. The sum total of our economic activities represents a system, and we cannot fully understand any one part of that system without examining the whole. In particular, it is difficult to separate the problem of production, which was examined in Book II, from that of

distribution, which we are now about to consider. It is clear that the possible standard of living for the community as a whole is determined by the total national production. Given a certain annual production, it is, therefore, evident that the standard of living of individual members of the community is determined by the manner in which the value of the total production is distributed among the different classes and individual members of the community. The distribution of that value determines the categories of goods and services that will be produced, so that the direction of production, as well as its amount, is an important consideration. Thus, for example, the mere multiplication of yachts, or luxurious hotels, or private motor-cars, will not of itself raise the standard of living of that part of the community which can never make use of such luxuries, but which is in need of better housing conditions. Consequently, a redistribution of money income in favour of the latter raises the standard of living of the community only in so far as it directs human effort into new channels. The average standard of living is determined by both the amount and the character of the national production, and the latter is in turn determined by distribution.

The amount of national production is itself determined by industrial efficiency. To put the matter briefly, the economic possibilities of the community are determined by natural conditions, the character of its capital equipment and the quality of its inhabitants. The quality of its inhabitants is in turn determined by influences so numerous, varied, and elusive that they defy enumeration ; but it is clear that two of the factors influencing efficiency are motive and incentive.. The incentive to work is itself largely determined by the nature and results of the process of distribution.

Problems involved in distribution

The two problems of production and distribution are thus so largely interwoven that it is impossible to effect a complete separation even for the purpose of preliminary

study. In so far as they can be separated, those problems of distribution that can be examined in isolation constitute perhaps the most difficult branch of economic study. It is impossible within the limits of three or four chapters to deal with it in a manner which is anything but unsatisfactory to both writer and reader, and all that we can hope to do is to indicate some of the outstanding facts, and to state them in such a way that, when we come to pursue the matter more closely, we shall have nothing to unlearn. The problems of distribution may be broadly stated in the form of five questions—

1. Why is A richer than B ?

2. What accounts for the ultimate difference in the standards of living of A and B ?

3. Why are some classes of workers rewarded by higher rates of remuneration than others ?

4. Why is the remuneration to capital higher in some investments than in others, and the payment for the use of land greater in some cases than in others ?

5. What determines the distribution of income between the various factors of production taken in bulk ?

Personal distribution and factor distribution

The answer to the first of these questions is, obviously in part determined by the amount of wealth inherited by each person concerned, for a man's income is made up of payment for current work together with interest on investments, if any. The second question clearly brings in the influence of taxation, for the standard of living of an individual depends, not only upon the income that he receives for current work, but also upon the benefits which he may receive from public services rendered gratuitously or in return for fees which do not cover costs. The third and fourth questions resemble each other in that they refer to the relative payments made for different uses of the same factor of production. The fifth question is self-explanatory. It will be convenient to examine the third and fourth in their simplest form before attempting to deal with the remainder, and to consider first the case of land.

RENT

Agricultural rent as a residual payment

When a farmer, desiring to embark upon a new enterprise, makes a survey of the various lands that are available for his purpose, he takes certain things for granted. He knows that the prices of the products are governed by general market conditions—that is to say, they are made for him, not by him—and that any action of his will produce practically no effect upon those market conditions. He knows, moreover, that he will have to pay such prices for the use of capital as are determined by the general conditions of demand and supply, and that the effect of his individual demand is so slight as to be negligible. Similarly, the wages which he will have to pay for the labour that he employs are determined for him, not by him. Thus, there are certain things beyond his control—the prices of the farm products and those costs that he will incur in the form of interest, wages, seeds, and manures, and so on.

In his endeavour to discover a suitable farm the farmer makes a survey of many areas, both likely and unlikely. The first site that he examines seems to him to lend itself to farming of a particular kind. He makes an estimate of the probable trend of prices, of wages, and of interest on borrowed capital during the next year or two, and as a result he reckons that the total value of the products which this particular piece of land would provide on his method of farming would not exceed the total cost incurred in growing them. It may be that the land stands high, or that it is on the northern slope of the hill and, therefore, deficient in sunshine. It may be that the ground is stony, or choked with undergrowth, or otherwise unpromising. Irrespective of the actual cause, the farmer decides that the value of the land's products would offer no surplus over the total costs incurred in producing them, and he feels, therefore, that he cannot make any offer to the landowner for the use of that land.

He then passes on to examine a second piece of land. It

may be less stony or less encumbered with weeds; it may fall gently to the south, and thus enjoy the maximum of warmth; it may be well irrigated. For one reason or another the land is much more promising than the first that he examined. The farmer decides that the best method of cultivation is rather different from that which appeared best for the first piece of land. Having made his survey, he feels that on his proposed method of cultivation the total value of the products will exceed the total cost incurred in producing them by, let us say, £100 a year; that is to say, the use of the land in the particular way proposed by the farmer provides a surplus of £100 a year over and above all the costs incurred by the farmer, including remuneration for his own work. Consequently, rather than lose the use of that land the farmer would be willing to pay anything up to £100 a year for it. The sum represents the anticipated residue left in his hands by the market conditions in respect of farm products, interest, wages, and materials. But the farmer finds that he is not the only prospector. A rival is already on the scene, and going through the same calculations. The latter agrees with the first farmer about market prospects, that is to say, in his estimates of costs and of market prices; but he does not agree with him as to the best method of cultivating the particular piece of land. He believes that by means of farming of a more varied character, a different rotation of crops, greater attention to pigs and to dairy produce, he will be able to obtain from the land a greater aggregate value than that estimated by the first, and that he will enjoy a surplus, not of £100 a year but of, say, £150 a year.

A third farmer appears, who agrees with the second as to the best method of cultivation, but is more optimistic about the future prices of farm products. His estimate of the costs incurred and also of the total quantity of the aggregate products agrees with that of the second. The difference in estimate appears in respect of the total value

of the aggregate products. The third farmer anticipates a surplus of total income over total expenditure amounting to, say, £160 a year. The first farmer is now clearly out of the running. The second and third compete for the land, and on the figures which have been indicated the competition between the two would result in the success of the third, who would offer a price for the use of the land above £150 a year, though not more than £160 a year. A fourth competitor, however, enters the arena. He agrees with the third farmer as to the prospects of wages, prices of materials, the price of capital, and the prices of farm products. He agrees, moreover, that the general method of cultivation approved by the third is the best method, but he differs from the latter on one point. He believes that the land could be worked more intensively, that is to say, that more labour could be employed upon it, more cattle fed upon it, more seed put into it; that more money could be spent on drainage; that electricity could be used instead of more antiquated methods, and mechanical means of conveyance used instead of carts and farm lads. As the result of more intensive work with the better appliances, the fourth farmer, while yet aiming at the same group of products, believes that the total value of the aggregate products would be increased by an amount greater than the increase in expenditure, and that on this additional expenditure the surplus would amount to a further £10 per annum. The fourth farmer would, therefore, be prepared, in the last resort, to offer £170 per annum for the land, and competition between him and the third would result in the price offered to the landlord for the use of that land being fixed at a point between £160 and £170 per annum.

Rent as a contractual payment

The above illustration may be pursued farther. The fourth competitor for the land enters into a contract with the landlord covering a period of, say, five years. The terms of the contract are determined by the conditions of the market. The offer of the farmer to the landlord is

residual and individual, being based upon his estimate of the surplus left over after all the costs incurred in other ways have been deducted from the income of the farm. Having made a contract for a period of five years, the contract rent, say £170 a year, now becomes a fixed charge upon the farmer. If he has been too optimistic in his forecast, that is to say, if he has over-estimated the total product or the prices of the constituents of the product, or has under-estimated the interest that he has to pay for capital, or the wages that he has to pay for labour, or the prices that he has to pay for seeds, foodstuffs, chemical manures and other materials, he will find that the actual residue is less than the agreed rent, and he has to bear the loss as best he can. If, on the other hand, his estimates have been very conservative he may find that the actual surplus is considerably in excess of the amount that he has agreed to pay to the landlord, in which case he himself enjoys the results of his good fortune. When the period of contract is at an end and a new contract has to be drawn up, the two parties again negotiate (in theory) as they had already done at first. The farmer, with experience behind him, will reduce his offer or, if he has been fortunate and if his good fortune is known to others, he will increase his offer in order to prevent a rival from securing the farm, and the new contract price will again be based (in theory) upon the estimated surplus for the next period, that estimate being influenced by past events.

Imperfect competition

But in the practical application of this theory it is necessary to bear in mind the fact that competition does not operate so simply and so strongly as has been assumed. The landlord may be selfish and eager to squeeze every penny out of the tenant, and when the contract comes to be renewed the farmer is at a serious disadvantage in that if he surrenders the farm he surrenders (as was once the case in this country)[1] a certain amount of capital which he has

[1] A dispossessed farmer now obtains compensation for improvements made by himself during his tenancy.

invested in the farm during his tenancy. On the other hand, if the landlord, as is often the case, is anxious to see his land well cultivated and kept in good order, he will not squeeze the last penny of the surplus out of the farmer. Again, competition between farmers is not always so effective as we have so far assumed. Some farmers are highly efficient and enterprising ; others lack the capacity for utilizing the land to the best advantage, or, perhaps, the capital necessary to do so, and the actual surplus which the latter are able to obtain by their own method of farming is far less than that surplus which could have been obtained from the same land by a more energetic and efficient farmer. Yet the inefficient farmer retains his tenancy, and neighbouring farmers who may care for the land hesitate to approach the landlord with an offer of a higher rent, even though they are being handicapped on their own farms by the inefficiency of their neighbour. Thus competition operates in a very halting fashion in the case of agriculture, and it is not to be assumed that the actual rent which is paid by any farmer, under any particular set of conditions, represents the surplus, and the whole of the surplus, which the land can provide. Nevertheless, it is the estimate of the probable future surplus (provided by the land) by each of a number of potential tenants that is the governing factor in the situation. The surplus which the land actually affords when it is applied in the best possible way is known as the true or economic rent. It represents a residue.

Royalties and Urban Rents

Mining royalties based on estimated surplus

We may here examine other forms of residue that appear in the economic world. Consider first the case of coal-mining. A mining company desiring to extend its operations makes a survey of new seams. It fixes upon a particular seam, and, with the assistance of a mining surveyor, makes certain calculations. As in the case of farming, the price which the firm will have to pay for capital

and the wages which it will have to pay in order to attract a sufficient supply of miners and workers in ancillary occupations are determined by general market conditions. Moreover, the price of coal on the market will be determined irrespective of the small—almost infinitesimally small—amount which the particular firm will be able to add to the market. The firm decides that a particular method of working the mine is the most suitable in the circumstances. The shaft would be sunk in a particular place, and would be of a certain depth ; the miners would work the seam in certain directions ; and so on. Upon this estimate of costs the firm estimates that it will be able to produce, with the total capital and the total labour, a certain quantity of coal per annum, and that each ton of coal will provide a surplus of so much, say, 1s. per ton. This amount, again, is a pure surplus or residue determined by market conditions, and is the basis of the offer made by the firm to the landowner in the form of royalty. But a competing firm appears on the scene, and decides that another method of procedure is more economical. The shaft should be sunk in another place, the mine should be worked in a different manner, and so on. The rival firm, while agreeing with the first as to the prospective market conditions, decides that the surplus will amount to, say, 1s. 1d. per ton. A third agrees with the second on the technical side, but disagrees with it in its forecasts of the future trend of prices and of costs, and, being more optimistic, it anticipates a surplus of, say, 1s. 2d. a ton. Thus there are three competitors for the lease of the mining land, and the landowner naturally accepts the best offer, namely, 1s. 2d. per ton. Here, again, it should be emphasized that the offer is determined by an estimated residue. The successful firm enters into a contract with the landowner stipulating for the payment of 1s. 2d. a ton on all the coal secured from the mine.[1]

[1] In addition to the royalty there may be " dead-rents " " wayleaves," and other forms of payment. The forces governing the amounts of such payments are the same as those governing royalties.

Extractive nature of mining

A coal mine, however, differs from a farm in two important respects. In the first place, the use of a farm does not injure the land. On the contrary, it should improve the land, that is to say, the land is better when used for farming than it would be if it were allowed to lie waste. Consequently, it would be better for the landowner to lease a farm at a peppercorn rent to a good farmer than to allow it to remain waste. But mining deprives the land of its mineral. It is an extractive, not an agricultural, industry. It would not pay the landowner to lease land for coal-mining at a peppercorn royalty, for in so doing he would be parting with a gift of nature that could not be restored. The second and, for the moment, more important point is that a contract for coal-mining must obviously extend over the whole life of the mine. A short contract for two, three, or five years is clearly impossible. The terms of the contract are based upon a present estimate of future annual surpluses extending over a period of half a century or more. Nobody can estimate the conditions likely to prevail over so long a period; consequently, the fixing of tonnage rents for mines (i.e mining royalties) is and must be largely of the nature of a gamble.

Length o contract makes accurate estimate of surplus impossible

The mining royalty is based upon an estimated surplus, and upon that estimate the two parties enter into a contract providing for a fixed tonnage payment[1] over a long period of years. If the mining company has been too optimistic, that is, if coal prices are lower or costs are higher than anticipated, or if the output is secured with greater difficulty and at a lower rate than was anticipated, then the actual surplus or residue provided by current market conditions will be less than the amount which the company has contracted to pay as royalty to the landowner, and the royalty, being a fixed charge, has to be found from other sources. On the other hand, if the company has been too pessimistic and the residue is greater than was anticipated,

[1] In some cases the royalty is based upon a sliding scale, being determined by the price of the mineral.

the firm will enjoy relatively high profits. In the first case the royalty is a heavy burden upon the individual firm ; in the second case it is not, in practice, a burden at all. In theory, mining royalties are determined by price, that is to say, they do not form a price-determining element in cost ; they are of the nature of a surplus or residue. But that theory is so general in its application to mining conditions as to be of but little value, for, as we have said, estimates have to be made over so long a period in advance that they cease to be estimates, and are but the gambler's throw.

Urban site values are also residual payments

Consider, again, the case of urban rent, that is, the rent of land used for building purposes. A building offers two things, shelter and convenience, and the annual value of the building will be determined by the combined value of these two services. Thus, for example, a building near the centre of a city will command a higher annual value than a similar building in a remote part, and the difference in the two values will represent the difference in site values. The higher site value, as before, represents in theory a surplus or residue, and is not a determining factor in price. A firm selling hats in a fashionable street in London may charge for a hat of a particular quality a price considerably higher than that charged by another firm in a less fashionable street. The former may say that the difference in price is due to the higher ground rent, but that is to put the cart before the horse. It is able to charge a higher price for the hat because people who are fond of shopping in a fashionable street are prepared to pay for their indulgence. The firm charges what the market will bear, and what the market will bear is quite independent of what the particular ground burden may be. On account of the keen competition between firms who know that they can charge higher prices for hats in the fashionable street, the site value in that street is correspondingly greater, that is to say, the residue which a firm can offer is correspondingly increased.

The theory becomes clearer when we consider the case of two tobacconists' shops, one on a convenient site and the other far from the madding crowd. The prices of the commodities are standardized: tobacco costs the same in one place as in the other. The central shop attracts more customers, so that there is a greater turnover of goods. Moreover, there is far less waste of labour; the assistants do not have to wait for customers. In the more remote shop the tobacco is sold at the same price, though it is probably not so fresh; the labour cost is considerably higher, the attendant spending a great part of his time waiting for customers; the turnover is less rapid, so that the costs must be spread over fewer units. There is therefore a smaller margin per unit, and a smaller surplus. The tenant of the central shop enjoys a greater residue and, for that reason, is in a position to offer more in the way of rent. Such rent is, therefore, a surplus determined by market conditions, and by the advantages of the site. But the actual contract rent was fixed in the past upon the estimated surplus over a long period of time. The shopkeeper may have over-estimated or under-estimated the surplus. In the former case his rent is a burden which he cannot throw off or pass on to his customers; in the latter he continues to enjoy a surplus which he need not share with his customers. When, however, the lease of the land terminates, the tenant is at a considerable disadvantage in bargaining with the landlord, for he has to surrender not only the land but also the building which has been erected upon it at his own cost. For that reason a new contract may be entered into, determined not only by the new estimate of future surpluses, but also to some extent by the dead loss that would be incurred by the leaseholder if he surrendered his property to the landowner.

Rent and cos of production

In all these cases the rent offered for the use of land, whether for agricultural, mining, manufacturing, or trading purposes, is determined by the residue of its product left after the deduction of necessary costs of production. It

is determined by price, that is, by general market conditions which are beyond the control of any individual farmer or other leaseholder.

This theory has been contrasted with the theory expressing the relation between wages and prices, and between interest and prices. Rent, it is said, is not a price-determining factor in cost, but wages and interest are price-determining factors. The price of a commodity in the long run must be sufficient to cover all the costs incurred in the manufacture of that commodity, but the rent of land should not be included in such cost. Rent is a residual element, not a price-determining element. Wages are not a residual element; consequently, wages and rent fall into different categories. Such, briefly, is the theory, the truth of which has been in turn affirmed and strongly denied by different writers.

Quasi-Rent

Price necessary to recruit labour and capital

We may therefore proceed to investigate the difference between the relations which rent on the one side, and wages and interest on the other, bear to price. It should be carefully noted that we are considering the relative price or prices of a particular commodity or group of related commodities. An industry or any other type of economic activity must offer a sufficient wage to attract the requisite supply of labour, that is to say, labour in this industry has a supply price. If such a price is not offered, the industry will suffer from a scarcity of workers. A similar statement may be made with regard to capital. If the products that the industry provides are not sold at a price which covers labour, capital, and other costs then, in the long run, the flow of labour and capital into this industry will be checked, the supply of products from the industry will be diminished, and prices will advance. The crucial point in connection with this extremely simple theory is that there exist outside the industry an undifferentiated mass of labour and an undifferentiated supply of capital; that is to say,

fresh labour and fresh capital appear as a steady flow, and before they have been guided along any fixed channels it is within the power of industries to divert that flow in their own direction. There is no such undifferentiated mass of land. Land is differentiated from the first, and the supply is fixed for all time. No two pieces of land are identical. Two sums of £100 are identical. When, however, the sums have been expended in the form of fixed capital, such as buildings or machinery, they have become, as it were, differentiated, and during the life of the differentiated capital the same may be said of it as has been said of land.

Interest and wages may become residual payments

Thus, to take a concrete example, suppose a steel-producing firm decides to put down a new plant costing £500,000. In order to obtain that sum it will need to offer a prospective return comparable to that which is offered in other industries. When the money has been spent, the actual return that it earns by means of the new plant is determined by market conditions. The firm has to meet running charges. The balance of revenue over such charges represents the surplus or residue out of which the firm is able to meet standing charges in respect of the new plant. This residue represents the actual surplus produced by the use of the plant. During the life of the plant the surplus is determined by market conditions, that is, by price. It is not a price-determining factor in cost. If, however, this surplus is not equivalent to the return that is normally provided in other industries, capital will fight shy of the steel industry, and with the growth in world demand, and the reduction in supply as the older factories become obsolete, the price will steadily rise until the balance again promises sufficiently well to attract further capital. This surplus, which is afforded by the employment of fixed capital during a short period, resembles the rent of land so closely that it has been called quasi-rent.

Consider the case of labour. When (say) a coal mine is about to be opened, the company is compelled, in order to attract enough capital and labour, to offer terms which

compare not unfavourably with those offered by other industries. As time goes on, the price of coal may prove disappointing, or the cost of producing the coal may prove to be higher than was anticipated. In short, market conditions do not provide the expected surplus. The company has incurred certain obligations: it must pay the stipulated royalty; it must pay interest on debentures, and so on. There is left a residue, which may be divided between the workers and the firm. The workers have lost their mobility. The mine may be in a very remote part of the country; it may be the only form of economic enterprise in the district capable of employing the workers, who would, therefore, be compelled as an alternative to migrate to other parts of the country. The migration of families is costly; the risks attendant upon leaving a firm and seeking employment elsewhere are serious, and in order to preserve their employment and the community in which they live, the miners would be prepared to accept a rate of wages lower than that which first drew them to the district, and lower than the rates which are offered by new firms desiring to attract labour to a new mine. The significant fact is that the labour employed in this isolated mine is now differentiated. It has lost its mobility. The rate of pay is determined by the conditions of the market. It represents a sort of surplus or residue, and may be termed quasi-rent. Such wages are not a price-determining factor, but are determined by price. In the long run, however, the supply of labour employed by the firm in question will diminish. The mining industry will not continue to attract a sufficient supply of labour to maintain adequate production, and in course of time the falling supply of coal will send up the price until it is sufficiently high to enable the industry to pay wages which compare not unfavourably with those prevailing in other industries.

Supply of land does not respond to price changes

Land is differentiated from the start, and remains differentiated to the end. The payment which its use

affords is, therefore, a surplus determined by market conditions. Its amount varies with the fertility and situation of the land, and the efficiency and intensity with which it is being operated, but whether it be high or low it is a surplus. This surplus is called rent. It is sometimes said that if all land were of the same quality there would be no rent, that is to say, that rent arises out of differences in quality. Such is not the case. Rent arises out of scarcity. Differences in rent are due to differences in quality, and if, as in the case of a mountain slope 3,000 ft. above the sea-level, the land were worthless, it would command no rent. If all land were of precisely the same character, that is to say, if it possessed the same fertility and the same geographic relation to the users of its products, its value would be determined in exactly the same way as the value of steel or some other homogeneous commodity, that is, by the relations of demand to supply. Every piece of land would command, in the competitive market, exactly the same price as every other piece of land of the same size, for, by assumption, they would all possess precisely the same utility to the potential buyers. The same is true of the market value of steel, but, as has been stated in previous chapters, the market price of steel will ultimately tend to approximate to the cost of producing steel. Steel is steadily produced. New supplies come forward day after day, and ultimately disappear from the market. The price of steel is determined by the amount passing through the market, subject to the long-period considerations which have already been described. Steel is a reproducible commodity. Land differs from steel in that respect. It is a gift of nature, and its supply is fixed. There is no inevitable reaction, as in the case of steel, of the present market price upon future market supplies. Thus the price of land is ultimately determined by demand alone. If a piece of land is wanted for any purpose rent will be offered for it, and the amount of rent offered will depend upon the intensity of the demand. If

the land is not wanted, then it will not command a price. If, owing to changed circumstances, such as the growth of a town or the discovery of mineral deposits, land is wanted for a new purpose, it will at once acquire a new price.

There is no fundamental difference between the factors governing the price of land and the price of old china. The same truth is sometimes expressed in the statement that rent is the price of a commodity that has no supply price. This, in turn, is equivalent to what was said above, namely that land is differentiated at the outset. In short, the emergence of rent is due to the scarcity of land; differences in rent are due to differences in the utility of land, and differences in the utility of land are due to differences in the physical characteristics of land.

CHAPTER XII

WAGES[1]

The theory of wages

IT may be stated, without qualification, that the chapters devoted to the wages problem in books on economic principles are more unsatisfactory than any others. The failure to provide an adequate explanation of the factors governing wages is partly due to the inherent difficulties of the subject; but it is also partly due to the influence of tradition. Many modern economists make the "blanket" theories of their predecessors (such as the theories of Ricardo and Mill) the starting-point of their investigation, and their treatment is mainly critical rather than constructive. They fail to split the problem into its component parts, and afterwards fail to fit the theory of wages into the general theory of distribution. In the following pages I shall endeavour to isolate those problems which can be separated in order to clear the ground, and after discussing comparable problems relating to interest and profits, I shall attempt to state, without discussing, the general problem of distribution.

RELATIVE WAGES

One of three problems

There are three distinct and separate wages problems. The first is concerned with methods of payment, which are largely determined by the nature of the work and the organization of the industry. Piece-work in engineering and cotton production, day-work in agriculture and collective sharing of proceeds in coal-mining may be quoted as illustrations of this problem. The second is concerned

[1] The word "wages" is used throughout the chapter to cover all forms of remuneration for personal effort under a continuing contract of service. Thus it includes salaries, but not the fees charged by a lawyer or accountant.

with the appropriate relationship between the wages or salaries of different classes of workers. This relationship is determined by factors which are indicated below. The difficulty of placing an occupation in its proper economic setting has often proved serious, and has caused some of the most disastrous strikes and lock-outs of the twentieth century. The third problem is that of determining the wages of the representative worker, around which other wages will be grouped; in other words, that of determining the general level of wages.

The first problem does not call for much consideration in this volume, for there is evidently a close connection between piece-rates and day-rates. A worker employed on time-work is naturally expected to do a fair day's work, and when a man is employed on piece-work the rates are fixed upon the assumption that an average worker, employed on such piece-work, will be able to enjoy weekly earnings which exceed the time earnings only by the extent to which his output exceeds an agreed or assumed daily minimum. We may, therefore, pass on to the second problem, to which this chapter is devoted.

Net advantages of different occupations

On the assumption of competition the rates of wages paid in different occupations will vary according to the characteristics of such occupations. Thus, other things being equal, work which is disagreeable, irregular or risky will be paid at a higher rate than work which is agreeable, regular or safe. For instance, a builder employed upon the exceptionally disagreeable task of pulling down and repairing the inside of a steel furnace may be paid an extra sum known as "dirty money," which is not received when he is employed on other work. An outdoor builder, whose work is frequently interrupted by bad weather, will be paid a higher rate of wages per hour than a builder employed in a factory, whose work is free from interference of that character. The extra payment per hour to the outdoor builder is of the nature of insurance against the

risk of unemployment. A steeplejack is paid a higher rate of wages than a builder employed upon ordinary constructional work.

Secondly, the rate of wages prevailing in a skilled occupation is higher, other things being equal, than that paid in an unskilled occupation. Skilled work necessitates a period of apprenticeship or some other form of training, during which the learner is in receipt of learners' rates,[1] and the extra wages finally paid represent a sort of interest and sinking fund upon capital expended during the period of training. Thirdly, the rate of wages paid in an occupation may reflect the fact that there are benefits present other than the rate itself. Thus, for example, a coal-miner may receive a certain amount of house coal free of charge; a caretaker may be given house room, light, and coal; a housemaid or a seaman may receive board and lodging; a farm labourer may either live with the farmer or with the head cowman, or he may live in a cottage free of rent, and in addition receive certain perquisites, such as milk and potatoes; a railway porter, a hairdresser's assistant or a waiter may receive a considerable sum per week in tips. All these factors may be regarded as influencing the contract rate of wages. School and university teachers enjoy several weeks' vacation in the year, and this fact, in addition to the security which is afforded by the calling, influences the rate of salary paid.

The same general truth may be stated otherwise. Every new industry will be required to pay such a rate of wages as will attract the required number of workers, but it need not pay a higher rate than that. On the assumption of competition, the rate that it will be required to pay will be determined by those characteristics of the occupation which have already been enumerated. When the workers of the community are distributed among the different occupations in such a way that there is neither a scarcity

[1] In many occupations he has to pay a premium.

nor an over-supply in any one of them, the relative rates of wages which then prevail may be regarded as giving due weight to those characteristics ; that is, the net advantages (as estimated by the community) of the different occupations may be said to be equal.

Immobility of labour

All that has been said is based upon the assumption of competition ; it has been assumed that people are able and willing to move from one occupation to another, and so to avail themselves of any advantage that may be offered by any one of a group. But in practice the assumption is far from being realized. Entry into a trade may be restricted by various factors, and these restrictions create a condition approximating more closely to monopoly than to competition. An occupation or calling may be so skilled as to require long and expensive training. Thus, for example, the cost of preparing for one of the learned or business professions is so heavy as to be prohibitive to the greater part of the community. The upward mobility of labour is restricted by the cost of training, and in spite of the widespread system of scholarships it is probably true that even to-day large numbers of youths, fitted by nature for work of that character, are prevented, by force of economic circumstance, from realizing their possibilities. Again, some occupations require capacity for taking responsibility which, if not rare, is rarely discovered. Thus organizers and controllers of businesses on a very large scale are rare enough to command relatively high rates of pay. Moreover, mobility is frequently restricted by trade-union action. Many unions seek to limit entry into a trade by means of apprenticeship regulations, and in some cases they attempt to strengthen monopoly control by restricting output. It is the general aim of craft unionism to check mobility towards the trades in which it is found, and thereby to create and maintain monopoly.

The flow of labour into a trade may also be restricted by the heavy physical strain that is imposed by the work

itself. Again, people may be attracted by the " plums " offered in a calling, although these are gained only by the few. The result of so many following their ambition may be a low average rate of pay. Thus, for example, many a young barrister has been attracted to his profession by the prospect of high reward, and has not been influenced by the fact that many fail to secure either sufficient or sufficiently remunerative briefs. Once the step has been taken it cannot easily be retraced. Similarly, in an industry, there may be an entirely mistaken anticipation of demand, with the result that there is an over-supply of trained or crystallized labour which cannot escape and, therefore, has to accept a relatively low rate of payment. As industry is always in a state of flux, growing here and decaying there, it is inevitable that the actual rates paid should periodically reflect a scarcity or over-supply. Finally, mobility is checked by the cost of transport and, not infrequently, the difficulty of finding housing accommodation. For this reason it is found that the actual distribution of wages and salaries in the community does not conform to that distribution which would be secured if the force of competition (which assumes complete mobility of labour) were fully effective.

The above factors immediately explain the relatively low rates which are paid in unskilled occupations, and particularly in those in which women are employed. Women workers, excluded from most of the professions, from coal-mining, from the greater part of transport and from other industries calling for considerable physical strength, and excluded, moreover, from those industries which are controlled by the craft unions, are forced back upon a narrow range of occupations in which they compete keenly with each other. The force of competition in this limited group of occupations is intensified by the related facts that they are in the main unskilled and are sought by elderly men, by young boys and girls, and by women who require casual rather than regular work. Similarly we find that

the ranks of dock labour are recruited from those who, for one reason or another, are compelled to leave their earlier occupations and to seek anything that may be available. In short, there are certain industries in the community which are, as it were, the dumping ground of labour, and the rates of wages paid in such industries illustrate the fact that the downward mobility of adult labour is far greater than its upward mobility. The better-paid industries are recruited from among the young ; the remaining industries are recruited from both young and old, with the result already indicated.

In spite, however, of all these hindrances to mobility, there is a tendency for relative wages and salaries to reflect the opinion of the community upon the respective net advantages of the great variety of occupations in which it is employed. Hence we may submit the broad generalization that while money wages tend to inequality, such inequality brings about an equality in the estimated net advantages of different occupations.

Monopoly Element in Wages

Power of trade unions limited by elasticity of demand for labour

A trade union aims at securing for its members the highest wages that circumstances permit. If the union is strong and is favoured by external conditions, it may raise wages and maintain them at a relatively higher level than that which would prevail under competition. To do this it must first of all be able to control entry into the occupation, either by strict apprenticeship regulations or in some other way. The restriction of supply, as in the case of commodities, raises the price. Moreover, the demand for that particular class of labour must be fairly inelastic. This is likely to be the case if the group concerned produces only a small part of the final commodity. Thus the demand for plasterers is far more inelastic than the demand for building labour as a whole. If the wages of plasterers alone were doubled the cost of a building would not be increased to any great

extent, but if the wages of all the workers directly employed in building (which is approximately one-half the total cost) were doubled, the total cost would be increased by approximately one-half. It will therefore be seen that if the demand for the commodity is inelastic, and the wages cost in respect of a particular group of workers is but a small proportion of the total cost, and there is, moreover, no available alternative to the work of that group, the demand for its services is extremely inelastic, and the power over wages of a monopolistic trade union correspondingly great.

Substitution of machinery

But, in practice, the demand for such labour does not usually remain inelastic. New methods are discovered of providing either the same service or some adequate substitute. Labour competes with machinery, or with labour of a new type, or both. An employer is always on the lookout for new and cheaper methods. If he is on the margin of doubt whether he will employ ten men at a given rate of wages or introduce a machine which will produce the same result with five men, it follows that a rise in wages confined to the one occupation (which will, therefore, not influence the cost of the machine itself) will induce the employer to adopt the latter method. The demand for this particular class of labour is highly elastic. The wage that it can enforce is determined by the cost of producing the same result without its aid, or with the direct aid of a smaller proportion of workers.

The history of the nineteenth century provides innumerable illustrations of the competition of machinery with particular forms of hand labour, the classic example being the introduction of the power loom in textile manufacture and the immediate injury which it caused to the hand-loom weavers. The twentieth century also provides an outstanding example in the introduction of presses to do work which was once the monopoly of the sheet-metal worker. So far from being able to enforce high relative

wages, the workers who are subjected to the direct competition of machinery (if the latter requires a different class of worker) find it practically impossible to prevent wages falling to a relatively low level. But this is a temporary result. In the end the supply of labour falls off, and if (as in paper-making and boot and shoe manufacture) it is still needed for special classes of the product, the wages rate gradually rises until it again attracts an adequate supply to meet the new conditions. Machinery, however, does not always—even generally—produce this undesirable result. The workers are usually sufficiently versatile to adapt themselves to the new conditions. They quickly learn to work the new machines (as in coal-mining) and those who are displaced ultimately drift to new occupations.

Substitution of another commodity

The competition of machinery may render the demand for a particular class of labour highly elastic even when the demand for the product is inelastic. But the demand for the product itself may be elastic, and the power of a monopolistic trade union thereby curtailed. Thus the elasticity of the demand for houses of stone or bricks has recently increased through the competition of concrete and other types of houses, and such competition has curtailed the power of unions of stonemasons and bricklayers: hence the present endeavour to control the conditions of labour employed upon *all* types of buildings, whether of stone, brick, concrete or steel. The demand for coal has been made more elastic by the competition of oil, and this fact has materially affected the bargaining power of the Miners' Federation. Again, the elasticity of the demand for the commodity may be increased (and, therefore, the power of the trade union to regulate wages reduced) by the competition of a similar commodity produced abroad. Thus the wage-paying capacity of the iron industry is determined by the price at which foreign iron is imported into this country. The wages that can be enforced in the cotton industry are materially influenced by the price of

cotton goods made in India and competing in that country with piece-goods sent from Lancashire. Hence the present movement to create a federation of trade unions existing in the same industry in different parts of the world.[1]

High wages and efficiency

The question of efficiency has so far been ignored. It is frequently stated that a rise in wages is followed by a corresponding increase in efficiency, with the result that the cost of production and the price of the commodity are not raised; consequently the competition of substitutes is no keener than before, and what has been already stated regarding the elasticity of demand is entirely irrelevant. So long as the rise in wages is accompanied by a corresponding increase in efficiency it may continue indefinitely. It is argued, moreover, that since the statement is true of any one industry it is true of all industries.

Experience has shown that a rise in the wages rates, whether piece-rates or day-rates, is often accompanied by an increase in efficiency The employer is able to attract a better type of worker; the workers enjoy a higher standard of living and are, therefore, physically more capable than they would have been at the lower wage rate; they are also more contented. All these effects may be admitted —and emphasized. But they are the effects of a rise in *relative* wages. If *all* wages (and salaries) were raised at the same time the employer would not be able, as before, to choose the pick of the basket. Moreover, to say that the standard of living would be higher (and the workers therefore more contented) is to beg the question, namely,

[1] Before national unions were formed in this country inter-local competition produced precisely the same result. It should not be forgotten that we are discussing the relative wages paid in different occupations, and the power of a trade union over the particular wages of its members. The consideration of the possible influence of trade unionism in general upon the general level of wages would mean entering upon a different sphere of discussion. Thus, for example, if *all* wages were raised in the same proportion, the cost of machinery would be increased, and the competition, in a particular industry, between machinery and hand labour would be influenced by that fact.

whether a universal rise in money wages results in a rise in real wages.[1]

Economic and Social Wages

Cost of living and value of product

It may appear, at first, futile to seek any principle of wage determination. What has already been stated does not appear to square with the facts. The wages that are fixed by negotiation for an industry are influenced by the circumstances of the time, and are the result of bargaining between two contending parties whose contentions are based upon conflicting principles. The workers maintain that wages should be governed by the cost of living, and that any rise in the latter should be followed by a rise in wages rates. The maintenance of the standard of living to which they are accustomed is their first and foremost object. The employers, on the other hand, say that an industry cannot pay in wages more than it receives from the sale of the product. Wages represent payment for work done, and "work" is to be measured not by the amount of the product, but by the value which is placed upon it by the community. Although they (the employers) are able to control the amount, they cannot control its value. Moreover, in the long run, the industry must provide profits which compare not unfavourably with those obtainable in other industries; if this is not done the supply of fresh capital invested in that industry will be reduced and the industry will dwindle.

Immobility of labour and capital

It will be observed that these contentions are submitted at meetings that are called upon to decide the specific rates which must be the basis of a short-period contract between two parties in a firmly established industry. The case is analogous with that of fixing prices in the short period

[1] By real wages is meant what the money wages will buy. If nominal or money wages were doubled and, in consequence, all prices were doubled, real wages would remain unchanged. The failure to distinguish between particular or relative wages and the general level of wages has been the cause of much confusion and error not only in popular discussion but also among serious writers on economics.

Both labour and capital are " crystallized." Such negotiations would not be conducted between the parties in an industry which is only in its earliest infancy. At that stage, as we have already seen, the employers would need to offer such a rate of wages as would attract a sufficient supply of labour, having regard to those factors (risk, skill, etc.), that have already been specified. Their industry would also need to offer prospects to capital which compare not unfavourably with those offered in other avenues of employment. But when the industry has grown to considerable dimensions the circumstances are completely changed. The capital has been converted into plant and machinery; the workers have been trained, and many have grown old in the service of the industry or have established homes and formed social ties in the vicinity of the establishments in which they work. Both capital and labour have been " crystallized," that is, they have lost much of their mobility. And the value which is placed upon their service is determined by society's existing demand for it in relation to the supply.

The established industries of the community vary in respect of the risks to which they are exposed. There are some, such as public industries, and certain forms of transport, in which market risks are comparatively small, and others, such as coal-mining, steel manufacture and engineering, in which they are much greater. The latter depend largely upon export, and may be exposed to foreign competition. They are, moreover, particularly susceptible to those cyclical movements of industry and trade which are examined in the next book. It is in the second group of industries that the wage-bearing capacity varies considerably from time to time, calling for wage adjustments.

Wages and employmer

When any one of these industries suffers from depression some sort of compromise must be sought, The workers seek to maintain a " social wage," that is, a wage determined by social considerations, and bearing the expected

relationship to the wages paid in other industries. The employers, on the other hand, seek an " economic wage," that is, a wage which can be maintained under existing conditions.[1] The term " economic wage " calls for further examination. It is clear that if 90 per cent of the establishments were closed down the price of the product would rise, in spite of the depression, to an abnormally high level, and to the workers retained at work a correspondingly high wage rate would be an economic wage, that is, a wage that the fortunate establishments could afford without injury to their capacity to pay dividends to shareholders. But 90 per cent of the workers would then be unemployed. Similarly, 90 per cent of the capital would pay no dividends, while the remaining 10 per cent would pay abnormally high dividends. In other words, the alternatives open to the industry are a relatively high wage rate accompanied by a certain amount of unemployment and a relatively low wage rate accompanied by less unemployment. The agreement usually represents a sort of compromise for the purpose of tiding over a temporary difficulty.

The difficulty appears in a special form in those industries where wages are determined by Trade Boards established under Acts of Parliament. Before the recent war there were a number of established industries in which, for various reasons, the workers were paid rates which were regarded as unduly low, that is, too low relatively to those paid elsewhere. Consequently, in 1909, an Act (since amended and extended) was passed providing for the establishment of Trade Boards in a selected number of such " sweated " industries, and it was expected, by some people, that the rates paid to the workers would be revolutionized. But it was found, in practice, that the industries had been developed upon the unduly low rates, that the normal return upon capital was not relatively high, and

[1] The terms " economic " and " social " wages have been borrowed from the report of the Court of Inquiry into the Coal Mining Industry 1925.

that the demand for the commodity produced was comparatively elastic. Consequently the Boards found that a rapid rise in wages to the approved level would mean a considerable amount of unemployment and suffering, and they were compelled to proceed more slowly than was expected by the more optimistic section of the public.

Fluctuations in wages

The methods adopted by organized industries for meeting the needs of a fluctuating market vary. In the cotton industry it is customary to spread the incidence of a depression by working short time, and to reduce wages, when necessary, by specific agreement. The iron and steel industries have had in operation, for over half a century, a sliding-scale system under which wages vary with the price of pig iron or ingot steel, or some other agreed product. The market price of the product is accepted as the measure of the wage-bearing capacity of the industry. A similar system prevailed at one time in the coal mining industry,[1] but was abandoned before the war in favour of another system. During the last few years the total revenue of the industry (after deducting costs other than wages and interest) has been taken as the measure, subject to an agreed minimum below which wages cannot fall. In engineering and shipbuilding wages rates are fixed by agreements for prescribed periods, and the terms of such agreements reflect the circumstances of the industry.

The wages rates fluctuate to a greater extent in those highly speculative industries which have been specified than in public service, and in more stable industries such as railway transport. But if the average rates in the two groups were compared over a long period it would be found that the risk of variation and of unemployment is covered in the former. The average rate for the more stable trades represents, as it were, a mean rate around which the rates in the more speculative trades fluctuate. When, therefore, we consider wage tendencies, that is, wages over a long

[1] These and other wages problems are examined in greater detail in *Social Economics*, by the present writer.

period, we find that they are governed by the influences examined in the first section of this chapter.

But wages fluctuations, that is, wages during the short period, are mainly governed by those influences which govern the short-period prices of commodities. We found that the policy of producers of commodities during the short period was determined by the alternatives open to them, and that prime costs represented a minimum below which short-period prices could not fall. Similarly with wages; when the only alternative to employment was unemployment without compensation and, therefore, extreme poverty and distress, the worker would accept extremely low wages rather than be dismissed. Now, however, the unemployed worker is entitled to compensation from the National Unemployment Insurance fund, and the amount of such compensation varies with his social obligations. This compensation acts upon short-period wages in much the same way as prime costs act upon the short-period prices of commodities. By providing an alternative it serves as a check upon the fall in wages during depression. If a group of workers may receive x shillings per week when unemployed through no fault of their own they will not work for less than $x + y$ shillings per week, the additional y shillings representing the necessary incentive to work. Thus the system of unemployment insurance tends to provide, indirectly, a national minimum wage, and to raise the lower limit of wage fluctuations. Subject, however, to this minimum, the wages of a particular group of workers are determined by the demand of the community for their service (that is, for the product of their labour) in relation to the size of the group.

The case may be further illustrated by reference to an industry (or part of an industry) which appears to be definitely decaying. The iron industry may be quoted as a suitable illustration. For nearly half a century the imports of pig iron have increased so rapidly that the volume of British production has actually diminished. The price

of pig iron is, therefore, governed by the price of the imported part of the total supply, and that price sets a limit to the wages that the British industry can pay. These wages, for a considerable period, were relatively low: so, too, were profits. But such conditions could not continue indefinitely. In the long run the weaker firms gave way; the plants were not renewed and the workers were not replaced. In order to attract an adequate supply to maintain the industry even on the smaller scale, the employers were ultimately compelled to pay rates which compared not unfavourably with those prevailing in other industries. Even when an industry as a whole is not decaying, parts of it may be. Thus the coal mining industry may be flourishing while some of the older mines may be experiencing considerable financial difficulty. If these mines are in remote districts and the workers possess no "place" mobility and cannot find alternative employment in the neighbourhood, the workers may accept a considerable reduction in basis rates. The alternative is more or less permanent unemployment. But fresh workers will not be attracted to those mines and, in the long run, they will either be closed down or be compelled to pay higher rates in order to attract sufficient workers to operate them on the scale ultimately found to be practicable.

Emphasis has been laid upon reductions in relative wages during the short period. If, however, circumstances favour the workers, wages may rise to a relatively high level. Thus it was found, during the early days of the war, that unskilled workers were urgently needed in certain industries and were able to command far higher rates than in less essential industries. Again, during a boom in trade due to economic factors, wages may advance on account of the relative scarcity of labour in the industries concerned. Not only does the advance in rates attract new workers from other industries, but those already employed are given the opportunity of working overtime at rates considerably in excess of those paid for the normal hours of

employment. It is, of course, true that a differential rate is necessary in order to induce the workers to accept overtime; nevertheless, the overtime rate constitutes a high rate of wages rendered possible by the greater demand for, and higher price of, the product.

Short and long run tendencies

We may conclude this section by stating that in the short period the wages paid in any industry are determined by market conditions. The trade union (if any) may set a minimum below which wages may not fall, while the unemployment insurance benefit now paid sets a minimum even where the union may not be strong. But the minimum in turn determines the proportion of workers thrown out of employment. The "social wage" becomes an "economic wage" in respect of those who are retained in employment. During periods of great trade activity in the industry, or of rapid growth which is likely to be permanent, wages may rise considerably above the normal rate, being again determined by market conditions, that is, the demand for the product, which in turn determines the total revenue of the industry. But in the long run the influences already indicated become the governing influences; in the one case the supply of labour will dwindle, and in the other it will be augmented until the wages will once more tend to represent net advantages equal to those offered by other industries. In other words, the influences governing the prices of commodities and services are the final influences governing the remuneration of the people who supply them.

CHAPTER XIII

PROFITS, INTEREST AND WAGES

Profits distinguished from wages and interes

THE term *profits* is so ambiguous that it should never be used without an adjective to give precision to its meaning. The village grocer frequently regards as his profit all the surplus income remaining after paying for the goods that he sells. Out of this profit he has to pay rent for the shop, interest on his capital, local rates, lighting charges, and other incidental expenses. Moreover, the profit includes payment for the actual work that he does, and for which he would need to pay wages if it were done by an employed worker. Merchants often use the term profits in an equally loose manner. They refer to the gross profit on the turnover as being the difference between the buying and selling prices of the goods in which they deal. Such gross profit would include the costs of storage, transport, and clerical work, as well as the charges to which reference has already been made. When, however, the annual balance sheet is drawn up, they are more careful in the use of terms, and adopt the same methods and terminology as a manufacturer. The latter includes rent, rates, lighting charges and similar expenses in the cost of production; he also includes in such cost a salary allowance for himself, together with any interest charges in respect of a loan on mortgage.

In order to obtain a clear idea of the nature of profits it is best to consider the case of a large joint-stock company whose shares are quoted on the Stock Exchange. Such a company pays a wage or salary for every form of personal effort which is made on its behalf. The chairman of directors, the managing directors and all the other directors are paid salaries for the personal services that they provide, and these salaries, together with interest on debentures,

are included in costs. The latter also include rent, wages, costs of materials, etc., together with an allowance for depreciation. The difference between the total revenue and the total cost constitutes the profits of the company, and is taxed as such. It may be distributed, without further deductions, among those who have invested their capital in the business. But, under normal conditions, an agreed amount is set aside as reserve. If the company has suffered a loss during a particular year it draws upon its reserves in order to balance its accounts, and may even use some of the reserves in order to distribute them among those who own the capital. After an agreed sum (if any) has been set to reserve the remainder is distributed in the form of a dividend upon capital. And we have already seen[1] that the claims of preference shareholders are satisfied before any dividends are declared upon ordinary shares.

Essential features of profits

From what has been said above, the following connected statements are obvious. First, profits represent payment to the risk-takers, or venturers, for taking risks. We shall return to this point presently. Secondly, profits constitute a residue. They vary with the circumstances of the business. Unlike all other payments, they are not the subject of a contract specifying their amount. No company can guarantee a given rate of profit; what is guaranteed is not profit; what is not guaranteed *is* profit.[2] Thirdly, it is impossible to draw any conclusion from the rate of dividend declared by a company in any one year; for, in a good year, a large sum may first be placed to reserve while, in a bad year, the dividend may be due to, or swollen by, withdrawals from reserve. This observed tendency to utilize reserves as a means of stabilizing dividends obscures the fluctuations which actually occur

[1] Book II, Chap. VIII.

[2] If, as in a profit-sharing scheme, risk is taken without previous investment of capital, the payment is profit; but usually this form of risk is taken through the investment of capital without guarantee of return.

in the profitableness of a particular form of enterprise. Further, the *rate* of dividend on ordinary shares is partly determined by the proportion of the total capital which appears in that form.

INTEREST

Payment for the use of capital

Profits, which usually include interest, should be carefully distinguished from the latter. Interest represents payment for the use of capital. It is paid because people cannot borrow capital without payment; the origin of interest is to be found in scarcity. If capital were as plentiful as the air that we breathe it would not command a price; but it is not so plentiful. If it could be borrowed without interest the demand for capital would be practically unlimited. The rate of interest, like the price of a commodity, is ultimately fixed at that level at which the demand is equal to the supply.

Variations in relative interest rates

But the rate of interest varies between different investments.[1] In the previous chapter we examined the causes determining the relative wages paid in different occupations; it is now necessary to examine the causes of variation in the actual rates of interest paid upon different investments. One cause is to be found in the time and trouble involved in collecting payments. Thus, for example, an investor who specializes in house property or in mortgages finds that he must either devote considerable time and attention to his investments or employ an agent to do the work for him. If he is to be attracted by such investments, the latter must be sufficiently remunerative to compensate him for his expenditure. In the second place, the rate is influenced by the length of the period for which the investor loses control of his capital. If it cannot be recalled without, say, six months' notice he will not invest it at the same rate as is obtainable on an investment which can be realized immediately. Thus, fully secured mortgage loans carry a higher rate of interest than Government

[1] The price of cloth also varies according to its quality.

stock or railway debentures, which can be sold at any time on the Stock Exchange. The bank rate of interest upon short loans (say, seven days) is lower than the rate charged upon advances over a longer period; the rates of discount upon bills of exchange vary with the periods that must elapse before the bills reach maturity. In the third place, the rate of interest is influenced by the degree of risk that attaches to the investment. The average rate of interest on debentures is lower than that on preference stocks.

Interest and risk-taking

Risk is usually determined by factors beyond the control of the investor. The risk involved in the investment of capital in a coal-mining enterprise cannot be influenced by a passive investor residing, possibly, in another continent. Nevertheless, the determining influence upon the rate of interest is the attitude of investors. If the latter *feel* that the risk is great (even though it may not be) the rate of interest will need to be relatively high in order to attract capital. It is largely for this reason that a borrowing country has to pay a higher rate of interest than a lending country. A timid British investor would prefer British railway debentures paying 4 per cent to Canadian railway debentures carrying the same rate of dividend, even though the actual risks (if any) were the same in the two cases. The investor feels more secure when he sees the railway with his own eyes, and knows the objective conditions under which the enterprise is carried on. The psychological factor thus exercises an important influence upon the rate of interest.

The above factors explain the differences in the rates of interest specified in contracts between lenders and borrowers of capital. After eliminating their influence, there remains a minimum or net rate of interest which even the most secure, fluid investment must pay. It is roughly represented, in practice, by the rate obtained on Government stock. We shall presently return to consider this minimum rate in another aspect.

PROFITS

Profits and risk-taking

The risk factor in interest differs, in some respects, from that risk factor to which reference was made in defining profits. If Smith lends Robinson a sum of money at a specified rate of interest, there is a risk that Robinson may be unable to pay that rate, or to repay the loan, and that the security may not, in practice, realize a sufficient sum to indemnify the lender. This is a risk involved in a specific contract; and the rate of interest charged by Smith will reflect that risk. But if Smith purchases shares in a joint-stock company he is not a lender of capital but a venturer or "speculative investor"; he becomes part owner of the business, and accepts all the risks entailed in carrying it on. He will only prefer such an investment to a loan (carrying with it a legal claim to a prescribed rate of interest) if the former offers a prospect of gain sufficient to compensate for the risk of part ownership of the venture. Hence we find that the rate of interest on debentures is lower than the average rate paid on preference shares and that the latter is lower than the average rate of dividend paid on ordinary shares.

But all three are related. If trade is flourishing and the owners of ordinary shares (that is, the venturers) are enjoying large profits, the more cautious debenture holders are tempted to sell their investments and to purchase ordinary shares. The price of the former thus tends to fall and that of the latter to rise. Again, during trade depressions, when little or no dividend is paid, or is likely to be paid, on ordinary shares, the more timid holders of the latter will aim at security by selling their shares and buying debentures. The price of the shares will fall and that of debentures rise. The connection between the rate paid on debentures and the prospective rate on ordinary shares is thus maintained through adjustments in the market values of the two classes of investments.

The additional remuneration to share capital represents

payment for the taking of risks; and if we wished to be strictly accurate, we should regard this excess alone as profits—for we have already defined profits as payment for the taking of risks, that is, as payment for "venturing." But the custom of including the interest element in profits is so firmly established that it would but create confusion if we attempted to introduce a new terminology. We shall, therefore, follow current practice and include, in the term profits, the interest element. Profits may then be defined, for present purposes, as the surplus enjoyed on the year's working and available for distribution among the shareholders. It is not necessarily the amount actually distributed, for, as we have already seen, a deduction may be made from the surplus and set aside as reserve, or, if need be, the surplus (if any) may be augmented by a sum drawn from the reserve, and the larger amount distributed as dividend.

Variations in relative profits

Profits vary between different firms in the same industry. The differences may be due to one of two causes. In the first place, some firms may be more efficiently managed than others. The directors may pursue a more progressive policy. They may adopt new inventions more readily, risk fresh capital more freely, organize labour more efficiently, seek fresh markets more persistently and adapt the product more quickly to the changing needs of society. In the second place, some establishments are better situated than others and for geographic reasons are able to supply the product at lower costs. In this respect new establishments usually enjoy an advantage over older ones. In coal-mining, for example, firms owning the older mines may have exhausted the richer and easily worked seams and are now compelled to work, at higher costs, those which remain. In the new mines, on the other hand, the most efficient methods are employed in working rich seams, and the costs are relatively low. If the expected advantage has not been neutralized by a proportionately higher royalty payment, the firm enjoys far greater profit (per unit of

capital expended) than those which have been working, for many years, with older methods upon seams now approaching exhaustion. Not only do individual profits vary at any one time within an industry, but the average profits for that industry vary from time to time. During a trade boom every firm may be enjoying profits (though not the same rate of profit), but during a depression in trade some may be suffering considerable loss.

Again, the average rate of profits varies between different industries. Some industries are essentially more speculative or risky than others, and only attract sufficient capital if, and so long as, they offer a chance of gain commensurate with the degree of risk. Since the measure of the risk is to be found in the average for the whole, it might be argued that the *average* rate of profit should not be higher in risky industries than in those which are more secure ; and that, in the same way, the *average* rate on ordinary shares should not be higher than the average rate on debentures. If, in each case, the former is higher, the degree of risk seems to have been over-rated. But this argument ignores the necessity for remunerating risk-takers as such The difference between the two averages (in each case) represents payment for the taking of risks. It is likely to be fairly large in the case of new industries, the possibilities of which have not been explored, nor the risks yet measured. An adequate supply of share capital can only be attracted if there is a fair prospect (not merely a slender chance) of an average dividend considerably in excess of that which may be obtained from industries and firms tested by experience.

Nevertheless, risk-taking, or " venturing," is a function which private owners of capital may be so ready to perform that the rate of payment for it may fall extremely low. Speculative booms in rubber shares or oil shares may send up their prices to such an extent that, although the dividends on the issued capital may be high, the rate which

such dividends provide upon the market value of that capital may be relatively low. There are no statistics available by means of which the payment for risk-taking may be measured. We could measure the average rate of interest on secured stocks such as debentures, and the average rate of dividend paid, in the case of existing firms, on ordinary shares. But we have no means of estimating the failures, and the losses incurred by firms that have disappeared should be included in constructing the average rate of profit for any industry or group of industries.

Tendency to equality of profits

Underlying the tendency to variation in profits there is a tendency towards equality. We have already seen that wages rates tend to cluster around a representative wage, the variations in actual rates being determined by skill, risk, and other factors which were enumerated. We have seen, moreover, that variations in the actual rates of interest obtainable from different investments occur according to risk and other factors. These factors account for the loading of the rate obtainable on a gilt-edged security of the highest order, such as Government stock. This minimum rate—net or pure interest—tends to an equality, and equality is achieved, in the case of existing investments, through adjustment of the capital value. Thus, if £100 stock bearing 5 per cent interest commands a price of £100 on the market, then, other things being equal, £100 stock bearing 4 per cent interest would only command a price of £80 on the same market. New investments would also provide a net return of 5 per cent on the actual money invested. Similarly, profits tend to an equality. On existing share capital such equality would be attained by variations in the market prices of the shares. If, of two steel firms, one makes twice as much profit (per unit of capital) as the other, and is likely to do so in the near future, it follows that, other things being equal, the price of ordinary shares in the former will be proportionately higher than that of similar shares in the latter.

Profits differ for the reasons already given, and tend to cluster round a representative rate.[1]

Relative and General Distribution

The problem of general distribution

We have discussed relative rates of wages, relative rates of interest, and relative rates of profit; in the course of the discussion we introduced the conception of a representative rate of wages (around which actual rates clustered), a minimum or net rate of interest (from which the influence of loading factors had been eliminated), and a representative rate of profits. But we have not yet examined the relationship between the last three.

A manufacturer (or an industry) will be forced, by competition, to pay a rate of wages which compares not unfavourably (having regard to skill, etc.) with the rates paid elsewhere; an adequate supply of labour would not otherwise be forthcoming. The rates are fixed for him, not by him. Similarly, he is compelled to pay a rate of interest on borrowed capital which (having regard to risk,

[1] It should not be forgotten that we refer here to the deeper tendencies. When discussing wages it was pointed out that the assumption of mobility could only be made for long periods, and that restrictions upon movement, however caused, tended to cause short-period differences (in wages) of a different character. Capital appears at first to be more mobile than labour But an investment which is unremunerative can only be realized at a loss. When Russia repudiated her debts an investment in Russian Government Stock became practically worthless. If a firm had to compromise with the holders of debentures the selling price of such debentures would not be maintained. Moreover, if a firm's profits fell, the value of its ordinary shares would fall. Holders of existing shares resemble workpeople who have already grown mature in their specialized occupations. The mobility of capital already invested is no greater than the mobility of labour. But the mobility of new capital, still in money form, is probably far greater than the mobility of new (that is, juvenile) labour. The number of openings available to a youth is extremely limited. Capital, in the form of money, may go anywhere. In practice capital, like labour, is largely influenced by immediate prospects, with the result that the value of investments (that is, the price of stocks or shares) tends to fluctuate far more than the profits of the enterprise. The fluctuations in rubber shares provide an excellent illustration of this tendency. What is peculiar to capital is that it is employed in speculations upon changes in the prices of shares, not merely in order to secure an annual dividend. Labour is not capitalized.

etc.) compares not unfavourably with the rates offered by alternative uses of the capital. Finally, a public company will only attract share capital if its prospects compare not unfavourably with those offered by other enterprises. But these statements do not help us to understand why the rate of wages of the representative workman in industry should be, say, £2 per week, the net rate of interest should be, say, 4 per cent, and the representative rate of profit should be, say, 6 per cent. The last sentence raises the central problem of distribution, which is that of estimating the forces determining the shares respectively enjoyed by labour, capital, and risk-taking. The last two may be regarded as one for this purpose. For we have already seen that owners of capital may choose between secure and speculative investments. If they are exceptionally cautious as a class, they will tend to seek secure investments; the return on these will, therefore, be relatively low and the return on speculative shares will be relatively high. If, on the other hand, the owners of capital become venturesome as a class, they will tend to favour speculative investments; the resulting abundance of capital seeking such outlets will tend to make the return relatively low, and the scarcity of capital seeking secure investments will make the return upon such investments relatively high. The rate of payment which is made for risk-taking, strictly defined, is determined by that proportion of the total supply of capital with which the owners are prepared to "venture."

Nor is it necessary to consider the case of rent in this connection; for it has already been shown that rent is payment for a differential advantage, the basis of which is permanent. Economic rent is essentially, and always, a residual payment. We are thus left with interest and wages—payment for the use of capital and payment for personal service.

The general level of wages and of interest

Let us assume that the wage of the representative (unskilled) worker at any time is £2 per week or, say, £100

per annum, allowing a fortnight's holiday (without pay) in the year; and that the net rate of interest on capital is 5 per cent. These figures are not based upon actual statistics, and are selected because they simplify the arithmetic process—they are used solely for illustrative purposes. The sum of £2,000, used as capital, would earn the same amount per annum as the representative worker. Why should this be so? The question, as it stands, is apt to be misleading. The sum of £2,000 is obviously related to the value of money, i.e. the general level of prices. If the value of money were reduced by one-half every commodity and service would be represented (other things being equal) by twice as much money as before. The money wages of the representative worker stand for a certain real wage, and this would now be indicated by £4 per week. The rate per cent paid on capital would not be altered, but the capital sum would be increased from £2,000 to £4,000; these two sums would represent the same purchasing power before and after the change in the value of money. In other words, if a machine tool cost £2,000 at first, it would cost £4,000 after the fall in the value of money. If we regard the machine tool as representative of capital, the question may be restated as follows: Why does the owner of the machine tool receive the same amount, in respect of such ownership, as the representative worker during a given period? What is essentially the same question may be expressed in a third form. Assuming it to be possible to form a single combination of all workers of all categories, would it be possible for such a combination to influence the relative shares paid to labour and capital?

I do not propose, in an elementary book, to attempt to answer this question. None of the authors, even of advanced treatises, has done justice to it, and an adequate treatment of all that it involves would necessitate a separate volume of considerable dimensions. Moreover, the question is, at present, of academic interest only. If this country were completely self-sufficing and trade were entirely

domestic in character, and if, moreover, there were any prospect of such a combination of labour as is here implied, the question would acquire practical importance. All that can be done is to submit certain considerations which are relevant to that question. These will form part of the subject matter of the next book.

BOOK IV

Employment and the Standard of Living

CHAPTER I

THE PROBLEM OF EMPLOYMENT

A problem of industry

We work when we must and play when we may. The object of work is to produce those goods and services which minister to the needs of the community. It follows that the amount of work that has to be done is determined by the size of the community and the standard of living at which it aims. As the population increases and the desired standard rises, the potential demand for the products of work (that is, the potential demand for labour) also increases. But potential demand is not actual demand. The latter is determined by the capacity and willingness to work. The effective demand of an individual for the products supplied by others is his capacity and willingness to provide what others want. The supply of labour constitutes the demand for labour. We see, therefore, that there is no lack of employment in the sense that the total desire for the products of work falls short of the available supply of workers. The former is variable; it grows with every increase in numbers and with every change in the conceptions of social standards.

Unemployment is thus due not to the fact that society is filled to repletion, but to failure on the part of the economic system to adjust itself to changing conditions. Society is dynamic, not static; and changes call for adjustments in the organization of its efforts. At any given moment, even under the most favourable conditions, an appreciable proportion of the total working population is out of work and unable to find work. There are some abnormal people who prefer the heavier task of killing time to that of

pursuing some regular occupation, but these, being abnormal, may be ignored. Again, there are others who are unemployable on account of physical or mental disabilities. They are a care to society, and may also be ignored.

Causes of Unemployment

Pre-war unemployment

The amount of unemployment varied in this country, before the war, between (roughly) 2 and 10 per cent of the total number of workers, and in an average year it was approximately 5 per cent. Thus unemployment is a normal feature of economic society. The explanation is

1 Seasonal work

not far to seek. In the first place, a large number of industries are seasonal in character The building trades provide the outstanding example, though it is now held that the seasonal changes are due less to climate than to custom. The busy months of some trades are the quiet months of others; in every month of the year there are trades passing through their quiet seasons, with the result that there is at all times unemployment due to seasonal

2 Casual labour

fluctuations. In the second place, the demand for labour is so irregular that the work is usually regarded as "casual." When a ship comes into dock it has to be unloaded and re-loaded as quickly as possible, but when the work is done there may be no fresh work at that dock for several days Moreover, much of the work is unskilled, and the dock gates are the refuge of those who have lost their employment in other industries. There is always an over-supply of labour seeking work which is itself "casual," with the result that the amount of unemployment is far greater than it need be. A considerable amount of casual work is provided at the goods sheds of large railway stations. During the Christmas season the Postmaster-General employs a vast number of casual workers, and if there were no unemployment due to other causes we should need to wait longer for our Christmas letters. Election agents are also notorious employers of casual labour, and if Parliamentary elections recur with still greater frequency than in the last

three years we may breed a class of workers who will look to such work as their main occupation in life!

3 Blind-alley occupations

In the third place, unemployment may be due to the necessity for leaving "blind-alley" occupations. Thousands of boys and girls annually enter occupations which lead nowhere, and when they grow old enough to expect an adult's wage they are dismissed, and other youths taken on in their place. The retail trades throughout the country and numerous miscellaneous trades (such as the making of pins, press-fasteners, and pressed metal ware) in the Midlands may be cited as examples. It should not be inferred that such employment is necessarily bad. It would be folly to employ an adult on work which can be adequately performed by youths. The weakness of the present system is that such youths learn nothing while so employed, and are left afterwards to drift into unskilled or casual work.

A considerable number of those unemployed at any given time thus consist of those who, having left blind-alley occupations, are in search of other work. To this number should be added those who, having left school, have not yet been able to find work. No statistics are available, but it is a well-known fact that a considerable proportion of boys and girls begin their after-school career with a period of unemployment sufficiently long to enable them to forget much of what they had been taught at school, and to lose the habits of discipline and regularity which they had acquired. These are admitted evils, and attempts are being made to combat them by the establishment of after-care committees and juvenile advisory committees. But we have only touched the fringe of the problem in this country.

4 Industrial changes

Unemployment in an average year is also due, in part, to the decline of particular industries. Such decline may be due to the growth of foreign competition. The iron-stone industry of this country lost its relative advantage in the last quarter of the nineteenth century, and it slowly dwindled until the outbreak of the World War. Again, the

decline may be due to the competition of a similar industry in a new region within this country. Some coal mines are being rapidly exhausted, while new ones are opened up. Finally, the decline may be due to the introduction of substitute products. The use of oil and electricity seems to have definitely reduced the demand for coal and hastened the decay of the industry in some parts of the country.

5 Technical changes

Unemployment in a normal year is finally due, in part, to the introduction of more efficient and economical methods of production and distribution. The introduction of machinery for manual labour, the substitution of better for worse machines, and the more effective subdivision and organization of labour result in economy of effort, and such economy usually results in the displacement of labour which has become superfluous in its old form.

Immediate and Ultimate Effects

The permanently unemployed

Such are the main causes of that type of unemployment which an instantaneous photograph of economic society would reveal in a year of normal trade activity. To a large extent the unemployed represent people in movement; and a moving picture of society would show the great majority of such people being gradually absorbed into other industries and occupations. But a considerable minority become permanently unemployed. The people who are dismissed are often the elderly people, whose age is a disqualification when they seek employment elsewhere, or the less efficient workers who are apt to drift like wreckage on the sea. Thus not only are new methods more efficient than the old; they also tend to swell the ranks of the unemployable, or at least to force down the standard of life of the unfortunate victims of the change.

The process of change

It is important to distinguish between the disturbing effects of the process of change and the ultimate effects of the new methods of organization and production. The ultimate demand for labour is not reduced. But the consequences of change, while it is taking place, are serious

for many of those immediately affected. Thus, for example, the fact that the importation of steel (formerly made in this country) necessitates the export of some other commodity in payment for that steel would bring little or no consolation to steel manufacturers and workers, whose services, in their present capacity, would no longer be required. Hence the demand for the protection (through the imposition of import duties) of industries which are subject to keen foreign competition. Such protection is due to the fear of the consequences during the process of change. Similarly those workers who might be displaced through the introduction of machinery or other more efficient methods of production would find little or no consolation in the fact that national production is thereby increased, and they themselves may find alternative employment elsewhere. A skilled sheet-metal worker is not ambitious to act as an attendant at a picture house. The fear of the immediate consequences of change provides the real explanation of the antagonism of many trade unions to new machinery, to the substitution of piece-work for day-work, and to their insistence upon the exact delimitation of the boundaries of their crafts, which no others may enter. Protection of the kind already indicated and the restrictive policies of craft unions are rooted in the same fear, and aim at the same end, which is the preservation of the *status quo*.[1]

State policy

The institution of employment exchanges and unemployment insurance represents an attempt to reduce the immediate hardship imposed by the changes to which reference has been made. The former act as a clearing

[1] During the last few years an agitation has been started in favour of the protection of British industries subjected to the competition of foreign industries in which the standard of living of the workers is lower than that enjoyed in this country. It represents a revival of the "pauper labour" argument once so commonly employed in favour of protection in the United States of America. A discussion of protection raises considerations which are not relevant in a book on economic science, and is therefore not included in this volume. But it may be submitted that this new movement is based upon a fallacy.

house for workers, and a centre to which employers may apply when there are vacancies to be filled. The receipt of benefits from the insurance fund assists the worker in maintaining himself and his family during the period of unemployment. But the process of change from one occupation to another still entails considerable hardship; and as the less efficient and the elderly people are usually those who are first sacrificed to the change, and they cannot easily find alternative employment for which they are as well suited, their standard of living frequently falls for the rest of their lives.

The Economic Balance

Emphasis has been laid upon the fact that the supply of labour ultimately represents the demand for labour, that consequently there is no fixed and unalterable amount of work to be done, and that the unemployment to which reference has been made exists only during the process of change and adaptation. This economic truth is not universally accepted. Some people tell us that the introduction of new machinery results in a permanent decrease in the total demand for labour; some believe that unemployment is due to under-consumption, while others say that it may be created by lack of capital. These three views call for consideration, and in order to simplify the argument it may be useful to examine hypothetical cases of an extreme character.

Introduction of machinery

Suppose, first, that everybody in the community suddenly and simultaneously decided to live a simple life—not the "simple life" associated with a country cottage at Chorley Wood, and containing fourteen bedrooms, but the sort of life that a village labourer is compelled by circumstances to live. The immediate result would be unemployment on a vast scale. The theatre and all other places of amusement would disappear; the "fashion" trades would be destroyed; the motor-car industry and all ancillary trades would be seriously curtailed. Perhaps

half the working population would be denied the opportunity even of earning the amount necessary to live the simple life that we have assumed. But, in the long run, the work remaining to be done would be shared out, and everybody would enjoy greater leisure than at present. They would not, however, have enjoyed that leisure if the community had always been content with such a simple life. The incentive to economic progress would have been lacking, and the methods of production would have been far more crude than those which are actually employed. The desire for new ways of living, new methods of expenditure, has acted as a spur and driven society to seek fresh methods of economizing effort, and the labour that is saved by such methods is employed in satisfying the new desires. Machinery in boot manufacture has economized effort; some of the displaced workers are retained in the industry to make more boots for a wider public, and some are drawn into engineering and ancillary trades in order to make the machinery required in boot factories. But there remain others who minister to the new needs of the community. Economy in boot manufacture and such established industries made possible the employment of labour in recreative pursuits. If it were not so we should still be where the Normans were in this country. The desire for change stimulated invention, and thus brought the law of increasing returns into operation for industry as a whole. Without the operation of that law society would have had to work hard even to enjoy the simple life to which we have referred.

Saving and spending

Suppose, secondly, that everybody suddenly and simultaneously decided to spend every penny of current income, to realize invested savings, and to indulge in an orgy of extravagance: clearly they would be unable to fulfil their intentions. If all were sellers of stocks and shares, and none were buyers, there would be no sales. An individual investor can realize his investments only if someone else has savings to invest and wishes to buy. Society as a

whole cannot convert its savings into cash, for they consist of railways, factories, dwellings, and other concrete, external objects. It thus remains to consider what would happen if everybody decided to spend all current income upon the comforts and luxuries of life. The quantity of consumption goods and services would not be increased. Any substantial increase could only be secured by fresh capital expenditure which, by assumption, is impossible. Consequently the pressure of increased demand for the fixed supply of consumption goods would send up their prices, and the sellers would reap more profits than they could dispose of. That sort of saving would be inevitable. The harder people tried to spend the greater the difficulty experienced by the fortunate sellers of the desired goods in disposing of their income. For a time, too, the owners of factories, etc., concerned with the making of capital goods would find no market for such goods, and their workers would lose their employment. But, as time went on, the sellers of consumption goods would be forced to utilize their otherwise unusable income in extending their establishments, and thereby drawing those industries (and their workers) engaged in providing capital goods once more into the field of employment. In other words, universal extravagance, to the degree hitherto assumed, is a physical impossibility. The provision of a continuous and growing supply of consumption goods inevitably means the employment of an appropriate section of the community upon the manufacture of capital goods. Society cannot avoid saving, for it is obvious that saving by a community means employing labour in the making of capital goods.

The balance between saving and spending is usually said to be maintained by variations in the rate of interest. If the supply of new capital falls short of current demands the rate of interest is raised; that is, the inducement to save is strengthened. If, on the other hand, the supply of capital runs ahead of requirements the rate of interest is reduced; that is, the inducement to save is weakened.

This theory does not carry conviction. A rise in the rate of interest from 5 to 50 per cent would doubtless induce people to sacrifice present pleasures to a greater extent than they do now; but it is extremely doubtful whether such changes as occur in practice produce any effect upon the will to save or upon the total supply of savings. The balance between saving and spending is maintained, as already indicated,[1] through expansions and contractions in the supply of bank credit and their effects upon the price level. Thus scarcity of capital in the sense of under-saving never causes unemployment; the money capital can always be provided by credit expansion, and the necessary saving thereby enforced upon the community. If by capital is meant capital equipment (factories, etc.), a shortage, if not too pronounced, would necessitate rather than prevent the employment of labour. The working of the correctives to so-called under-consumption and over-consumption (shortage of capital) will be shown in the next chapter.

Post-war unemployment

There remain two further points for consideration at this stage. Industry grows with population, and population grows at a rate which varies but slowly. Under normal conditions industry and employment adjust themselves easily to the expanding needs of the growing population. But if, for some reason, the rate of growth in the working population were changed appreciably and suddenly, industry would be thrown out of gear, and for a time there would be a considerable amount of unemployment. This consideration is now of considerable importance in this country. Before the war the growth of the working population was retarded by emigration, and British industry adjusted itself to the conditions of the time. Since the war, however, emigration has fallen considerably, and in 1925 there must have been at least half a million adult workers in this country who, in the absence of war, would have emigrated to other countries. In order to absorb such workers (in addition to those representing the normal

[1] See Book III, Chapter VII.

increase in population) it would have been necessary for British industry to expand far more rapidly than it expanded during the years immediately preceding the war.

The second point is also connected with the war. A large group of industries were found to be essential for war, and were rapidly extended, not only in the belligerent countries but also in countries which remained neutral. Iron and steel manufacture, engineering, and shipbuilding are the outstanding examples. When peace was restored the producing capacities of such industries were far in excess of the requirements of peace ; the industrial balance had been destroyed, and it was inevitable that the process of restoring that balance should be accompanied by unemployment on a considerable scale. The effects of the one-sided development of industry during the war still continue ; they were to be found in the unemployment figures for 1925 in this country, and even in those for 1932, a year of intense cyclical and world-wide depression. They were also evident in the balance sheets of the firms engaged in the over-weighted industries.

CHAPTER II

THE TRADE CYCLE

The general state of trade

In the previous chapter we considered the changes that are always going on in the world of industry and commerce. Some trades decay on account either of changes in fashion or of competition from some other source of supply ; other trades grow rapidly and new trades come into being. In most branches of industry and transport, and in many branches of commerce, new methods are devised of achieving the same result with less expenditure of human effort and usually (though not always) greater initial expenditure of capital. Employment in most trades varies with the seasons, and in some trades is so intermittent as to be called " casual." At all times, irrespective of the general state of trade, changes of these kinds are constantly going on.

But the general state of trade itself varies from time to time. Periods of boom alternate with those of slump. Prices in general rise and fall, apart altogether from changes in the relative prices of particular commodities and services due to the factors already indicated. Employment increases and diminishes. These " panting alternations of the quickened heart " of economic society are known as trade or business cycles. For about a century before the World War they occurred with such regularity that trade has been likened to ocean waves, and people refer to its ebb and flow. Moreover, this rhythmic or cyclical movement of trade is now universally accepted as a normal, if not inevitable, feature of economic society, and its regularity is regarded as affording a clue to its cause or causes.

Trade cycles and unemployment

It is important, even in an elementary volume, to refer briefly to the trade cycle, for it will be evident at once

that the amplitude of general trade fluctuations is of considerable social significance. During the course of a complete cycle the amount of unemployment may vary from about 2 per cent to nearly 10 per cent of the working population, and is estimated to be about 5 per cent in a year of so-called normal trade activity. The influence of insecurity upon the policy of trade unions has already been mentioned; at this stage it may be stated that the figures that have been quoted afford presumptive evidence of waste, both of human power and of machinery. The total amount of employment during the full period of a trade cycle is less than the maximum which is theoretically possible. But the figures allow no more than a presumption of waste, for it is conceivable that the trade cycle is necessary to stimulate invention and the elimination of waste of a different kind. It is therefore desirable, at this stage, to submit a brief descriptive account of a typical cycle.

Descriptive Analysis

Depression

In an unending movement of trade it is necessary to start at some more or less arbitrary stage, and to complete the survey by showing the manner in which the circumstances prevailing at that stage have arisen. We may conveniently start at the point where trade has passed its zenith and traders are beginning to realize that orders are diminishing and prices falling. Hitherto both manufacturers and merchants have been optimistic. The former have been plentifully supplied with orders or alternatively have produced for stock with confidence; the latter have purchased large supplies in the confident belief that they will be sold, without difficulty, at a profit. Both groups have given credit freely and have, in turn, received credit freely. Much of that credit which they have received has been granted by joint-stock banks. The rate of discount is high for, as we saw in the third book, reserves are comparatively low. Thus the fortunes

of industrial, commercial and banking firms are closely interwoven. Accepting, for the present, the fact that orders have begun to diminish and that prices have started to fall, we see that stocks become unsaleable at the expected prices and anticipated profits are converted into actual losses, and firms, pressed by banks and other creditors for payment, in turn press their own debtors for payment. On all sides creditors endeavour to realize their assets, those who hold stock selling at obtainable prices and thereby cutting their losses.

Prices fall quickly and buyers only come on the market to satisfy urgent requirements. Factories are closed down, unemployment rapidly increases, and the country finds itself in the midst of a depression. A number of firms fail to meet their obligations; others are compelled to write off large sums as bad debt, and to write down capital that had been inflated during the boom. Wages fall first in those industries which are most seriously injured and afterwards in other industries. This is the period of liquidation. Economy is the order of the day. The wastes and extravagances of the earlier period are eliminated, and those firms employing antiquated machinery and inefficient methods of organization tend to disappear. The workers selected for dismissal include those who were always on the margin of employment, on account of physical or mental disability, or of old age or, again, of a constitutional aversion for hard work. Thus the labour cost usually falls even more rapidly than wages—the average efficiency of labour is increased.

Reasons for revival

In due course trade begins to revive, for two reasons. The first is that costs have fallen as low as they are expected to fall. Floating capital is plentiful; bank reserves have risen, the Bank Rate has fallen, and the banks have reduced their charges for accommodation in the search for new avenues of employment. Manufacturers, in their eagerness to secure orders, forgo profits and even a portion of their standing charges; they reduce their

running costs to the minimum and pay attention to quality. Thus people are no longer induced to postpone demand in anticipation of a further fall in prices.

The second reason is that current demand increases. The stocks which had accumulated at different points between the factories and the consumers, and had exercised a " bearing " influence upon prices, have slowly dwindled and finally disappeared. More or less durable goods, such as clothes and boots, which have been the subject of economy among consumers injured by the depression, have worn out and must be replaced. The population slowly increases ; children grow and must have new things, and others take their place at the children's counters. This slow growth of demand is an important factor. The depression usually becomes so intense as to necessitate the use of existing stocks to meet demands, and when these dwindle the current production is increased sufficiently to meet current and slowly increasing demands. The effective demand of the community does not diminish to the same extent as the money wages of the workers are reduced. For there is always a time-lag in wage reductions, which are not so rapid or pronounced as price reductions. Moreover, those in receipt of salaries or invested incomes which do not fluctuate so violently as prices, assist in stabilizing demand during the depression. It may be said that, in general, the cyclical fluctuation of the effective demand of consumers is less pronounced than the cyclical fluctuation of trade ; and the demand for goods begins to affect trade and to produce a revival when the current demand ceases to be met from accumulated stocks.

Improvement in trade and rise in prices

Although the volume of demand slowly increases, prices do not immediately respond by rising. The producing capacity of industry is still in excess of the requirements of the community, and the force of competition remains so strong as to maintain prices at a low level. Moreover, the growth in the volume of the output of the stronger

firms enables the latter to spread their fluctuating oncosts over a larger supply and otherwise to increase their efficiency and reduce costs. Hence we find that the initial stage of the revival in trade may be characterized by a further slight fall in the price level. But a new feeling pervades the community; hope for, even expectation of, better things enters and influences business policy, which becomes more "progressive." Provision is made for the future by overhauling plant and introducing new machinery. This policy, in turn, reacts upon the constructional trades, such as engineering, to which the trade revival spreads. Unemployment is reduced, more goods are conveyed by rail and ship, and the transport trades show a greater volume of traffic. Employed workers are required in greater numbers and work with greater regularity; consequently their purchasing power is increased, and the resulting increase in the demand for consumers' goods affects even the "luxury" trades, which serve as an index of trade prosperity. Trades react upon each other; constructional trades and transport depend upon the volume of demand for consumers' goods, and "luxury" trades depend upon the volume of purchasing power in the hands of consumers.

The revival in trade now produces its effect upon prices and wages. "At that stage of the trade cycle when the increase in demand and employment is strongly reflected in prices, business men become more optimistic and proceed to make elaborate preparations for development. The demand for capital for investment shows a marked increase. New companies are floated and existing firms extend their operations. There follows a big demand for the products of the constructional trades, such as steel manufacture, engineering and shipbuilding, which now enjoy what may truly be called a boom. Broadly speaking, these trades are concerned with replacement and extension of industrial equipment, and . . . a relatively small increase in the total equipment of industry means a heavy

pressure upon the resources of the constructional trades. It is here, therefore, that we usually find the first evidences of a boom in trade; and it is at this stage that prices, particularly of raw materials, break away from their moorings."[1]

Boom

The activity in the constructional trades reacts upon the prices of materials and the wages of labour directly affected, and the results percolate through the whole of industry which, by this time, is enjoying "boom" conditions. Less efficient establishments and workers are pressed into service, and, wherever the conditions permit, overtime is the order of the day. Prices are high, profits are easily made, and wages respond to the pressure of demands from the workers. The resulting demand for capital to finance a larger volume of trade upon a higher basis of costs and prices necessitates a corresponding demand upon the banks. Cash balances, which during the depression lay idle, are withdrawn for investment; bank loans are increased; the need for legal tender for cash payments in small transactions and for the payment of higher wages to a larger body of workers is also increased. Thus the ratio of bank reserves to liabilities slowly but steadily diminishes; the Bank Rate is raised by easy stages, and becomes more "effective" than in the days of depression.

The time arrives when the producing capacity of the community is strained to its utmost and little, if any, increase in the rate of supply of goods is possible. But "the business community has now been caught up by a wave of optimism. Most people anticipate and prepare for, and thus accelerate and intensify, a further rise in prices. They become eager buyers, and place contracts which are frequently beyond their real needs, actual or

[1] *Is Unemployment Inevitable?* (Macmillan & Co.) This volume was published in 1924 by a group, of which the author was a member, and it contains a closer examination of the trade cycle than is here possible. The quotations in the present section are drawn from Part I, Chapter III, of the volume.

prospective. Meanwhile the producing capacity of the community has reached, or almost reached, its limits. Deliveries are more difficult to guarantee, and immediate delivery is regarded as of considerable monetary value. Prices rise sharply; large profits are made in industry; wages rise in sympathy; dealers are eager to buy, because they feel confident of a profitable market. A speculative boom is in full swing.

"But it generates a check upon its own progress. The boom is fostered by anticipations, and these are falsified by events. Just as the first evidences of an industrial boom are generally found in the constructional trades, so, too, are the first evidences of the end of the boom. The prosperity of this group of trades is conditioned by continued demand for industrial equipment, a considerable part of which is required by the group itself. The purpose of industrial equipment is to provide the consumption goods and services needed by the community. The prices of such goods, it has been shown, have already risen to a high level, but towards the end of the boom the costs of manufacture reveal an even more pronounced rise. The prices of raw materials advance by leaps and bounds; wage movements at this stage reveal not only the rise in the cost of living, but also, in many industries, the scarcity of labour; efficiency diminishes, partly through employment of less skilful workers and the utilization of old plant discarded during the depression, partly through the laxity of management, partly through the fatigue due to excessive overtime, and partly, in some cases, through the leisurely methods of workers who now enjoy relatively high weekly earnings, and from whom the fear of unemployment has been removed for the time being. Extensions have been made and new factories erected at a time when construction costs are high and interest charges heavy. Thus both the running costs of manufacture and the overhead charges show a marked increase over the standard prevailing during the earlier stages of

prosperity. Moreover, manufacturers and others encounter considerable difficulty in their attempt to transfer the additional costs to their customers in the form of higher prices. Two illustrations of this difficulty may be submitted. In some departments of economic activity, such as public service and transport, the prices or charges are almost inevitably more stable than the prices of concrete goods which are bought and sold daily upon the speculative market. The former are controlled by law or custom. Again, in industries which have been rapidly expanded during the earlier stages of prosperity, the additional supplies now flow into the market and check the rise in prices, which thus tend to fall behind the prices of other commodities. The manufacturers and transport agencies whose powers are thus curtailed find the margins between costs and prices dwindling. They now aim at consolidating the position they have gained rather than extending their establishments further. Their orders to the constructional trades dwindle, and the latter, in turn, cease to extend. For some time they may be fully employed upon contracts already placed, but these contracts of an earlier date, made when the cost level was lower, often prove disappointing from the financial point of view, and when they have been completed, depression sets in."

Financial reactions

Reference has already been made to the fact that the expansion of trade, after the depression, is accompanied by a growth in the demands made upon the banking system. During the depression there are relatively few outlets for new capital, so that the savings of the community accumulate in the form of bank balances, while the demand for bank loans is relatively small. The high ratio of reserves to liabilities is accompanied by a low Bank Rate and probably by far lower rates for short loans. As trade improves some of the bank balances are withdrawn, either for investment in new enterprises or for use as commercial capital by business men. Moreover, the supply of bills presented for discount increases and the

demand for accommodation in the form of overdrafts is stimulated. The ratio of reserves to liabilities steadily diminishes, and the Bank Rate steadily rises and becomes more effective in its control of the market rate. By the time the machinery of industry and trade is working at its normal pace the ratio is also normal. But we have seen that prices continue to rise even when the capacity of industry is strained to the utmost; a speculative boom is superimposed upon the production boom; at all points demand exceeds supply, and high rates of profit are made in industry and commerce.

The speculative boom is largely due to the action of merchants, who buy for resale. As they work largely upon bank loans, the demand for the latter increases rapidly. It is at this point that the reserves fall so low as to necessitate action (sometimes drastic action) on the part of the Bank of England, and the Bank Rate is raised to a relatively high level. So long as prices continue to show an appreciable rise the merchants can afford to pay a high rate of interest on the money which they borrow; there remains a sufficient margin to provide a profit on the transaction. But when, for reasons which have already been indicated, prices become more stable, and the margin between buying and selling prices grows narrower, the merchants are compelled to unload their stocks, and the additional supplies placed upon the market bring the upward price movement to an end. By this time confidence has disappeared and fear taken its place. Merchants' orders to manufacturers are reduced and, because every one wants to sell, stocks become, for the time being, unsaleable. A fall in prices is expected; business policy is influenced by that expectation, which is consequently realized. Orders that are not urgent are withheld or recalled; every buyer waits, as far as possible, for a more favourable price. Thus the markets of the world appear to be flooded with goods, and people assume overproduction to be the cause of the trouble.

Observations on Trade Cycles

In the foregoing analysis an attempt has been made to indicate the outstanding features of the successive stages of the trade cycle. We shall now endeavour to supplement bare description with a few general observations.

nternational n character

1. The trade cycle is not confined to this country, but is world-wide. Before the Great War the "swings" were common to all the countries of the modern industrial world, and took place at approximately the same time. The parallel movement of trade in industrialized countries was brought to an end in 1914, when the gold standard was abandoned by the belligerent States of Europe and by many neutral States. Between 1919 and 1924 trade moved in different directions, slumps in one country appearing at the same time as booms in others; and as these were closely associated with monetary policy, some writers, it will presently be shown, have sought the cause of the trade cycle in monetary policy.

Capital development

2. Periods of trade activity have been periods of capital development. It is found, for example, that the amount of capital annually invested in foreign countries by Great Britain varied with the state of trade. New countries, such as the Argentine Republic and Canada, borrowed large sums from this country and used the proceeds in the purchase of rolling stock and the materials required for railway development. The opening up of new countries was accompanied by a large increase in immigration. When the development boom took place in a British colony or dominion or in the United States, our emigration statistics show that the immigrants into the new country were drawn largely from this country, but when Argentina and other non-British areas were developed our emigration statistics suggest that the new immigrants were drawn mainly from other European countries. During a period of great trade activity, not only did we invest capital abroad on a large scale, but we also increased the amount

of capital invested within this country. Moreover, it appears to be the case that public authorities—the State and the municipalities—followed the fashion set by private industry, placed their orders for capital extensions upon the market, and so increased the demand upon the constructional trades for equipment. During a period of depression, when less capital was exported and private demands for industrial equipment within the country were reduced, the demands from public authorities also fell off. Thus it may be stated, as a broad generalization, that the difference between a depression and a boom was largely a difference in the demand for capital goods or industrial equipment.

Secular movements in prices

3. The amplitude of trade fluctuations in the course of the cycle, and the duration of the periods of depression and boom, seem to be closely related to secular changes in prices, that is, to price trends over a couple of decades or a generation. For over two decades ending in 1873 there was an upward trend in prices, due mainly to the American gold discoveries and an increase in the amount of gold and credit relatively to the needs of the world. From 1873 to 1896 there was a marked downward trend in prices, due to a marked increase in the world demand for gold. The German Empire adopted the gold standard; the bimetallic countries of Europe practically gave up silver and also virtually adopted the gold standard; the United States restored the quality of convertibility to the paper money issued during the Civil War. From 1897 to 1914 there was an upward trend in prices, due mainly to the increased productivity of the African gold mines and the extended use of deposit banking (the cheque system) in America and other places. These secular changes in prices influenced the course of the trade cycle. In the two cycles which were completed within the second period (1873–1896) the depressions were more intense and prolonged and the booms far less marked than in the cycles of the first period or in those of the third period.

Production increases in spite of fluctuations

4. Behind the cyclical movement of trade and prices before the war there was a growth in the average volume of production from one period to the next. The needs of society were increased through the growth of population and an increase in the variety of wants; moreover, as the result of the steady growth of invention and improvement in organization, the producing capacity of the community increased more rapidly than the population, and so enabled the community to satisfy the growing variety of wants among its members. Thus the increase in production during a period of growing trade activity was always greater than the decrease in production during the period of decline which it followed. It is, indeed, a mistake to think of trade rising and falling like waves on the ocean; it may more aptly be compared, in respect of the volume of goods produced and of employment, with a group of mountains, in which every range (and every dividing valley) is higher than the one immediately in front.

Relative movements in different trades

5. The fluctuations in prices which occur during a trade cycle are more pronounced, and occur earlier, in some industries than in others. They are more pronounced and occur earlier in raw materials than in finished products, in the wholesale market than in the retail market, in commodities than in services. The fluctuations are also usually more pronounced (though they only appear later during a rise in prices) in the case of capital goods than in that of goods ready for final consumption. Over a considerable part of the field of economic activity prices (or their equivalent) either remain unchanged or vary between very narrow limits during the course of the trade cycle; they respond only to secular changes in the general price level. Railway and tramway fares, lawyers' fees, school fees and the prices of books may be quoted as illustrations of prices that remain stable during cyclical fluctuations in trade. Products which are moved from one country to another are usually subject to extreme fluctuations in prices, not because they cross political

boundaries but because, first, they fall mainly into those two classes (foodstuffs or raw materials and capital goods) which, wherever they are produced and sold, exhibit wide fluctuations in prices, and, secondly, they are bought and sold at wholesale prices. As regards those services the prices of which are relatively stable, it will be observed that, in the first place, the prices (including fees or rates) have to be fixed in advance, and cannot be changed easily and quickly in response to changes in demand. In the second place, the demand itself is fairly regular. The demand for education and for legal advice is but remotely connected with the state of trade; even the demand for railway transport is less variable than the average demand for commodities.

Trade in general may thus be said to resemble a tree swaying in the wind, the trunk being represented by that group of economic activities (including education, internal transport and the retail trades in the necessaries of life) which is relatively firm and unbending, the branches being represented by that group (including the constructional trades, the trades dealing in raw materials and the wholesale trades in foodstuffs) which is subjected to extreme fluctuations in demand or supply, or both, and may therefore be called the speculative group. During the period of expansion and rising prices profits are made with great ease in the speculative trades, but with less ease in the more stable trades. The greater the stability the greater is the difficulty of making profits. During the period of contraction the position is reversed. Serious losses are made in the speculative trades; the losses are smaller in the more stable trades. At the time when trade is in a "normal" state—that is, when employment is at the average level, and prices permit an average rate of profits—the profits in the various classes of industries approximate closely to that average. This feature of the trade cycle has frequently been ignored. Most writers show that wages are more evenly spread, in time, than retail

prices; that retail prices fluctuate less violently than wholesale prices, and that final consumption goods vary less in price than capital goods. But they assume that profits everywhere fluctuate between wide limits, and in time of depression are often converted into losses. This statement is true of the speculative trades, but not true of stable trades. The average rate of profits in industry fluctuates considerably less than the rate in shipbuilding, coal-mining, iron and steel manufacture and other speculative trades.

Again, the degree of fluctuation in demand, employment and profits is determined largely by the durability of the goods that are produced. Coal is destroyed in consumption shortly after it has been produced; most of the wheat grown in one summer is consumed before the next harvest. But the case of shipbuilding stands in sharp contrast to those cases. A ship normally lasts a generation or more. Suppose the life of a ship to be reckoned at twenty years, so that 5 per cent of the existing amount of shipping has to be replaced every year; suppose, moreover, that at a given time the shipbuilding industry has a producing capacity equal to that required to replace the waste, and that, on account of the growth of ocean traffic, the amount of shipping has to be increased quickly by 5 per cent. The demand for new ships will be doubled. Further, suppose that when the amount of shipping has been increased by the required 5 per cent no further *increase* is necessary: it follows that the demand for new ships will be immediately reduced by one-half. Slight variations in the total amount of shipping required for ocean transport produce very large variations in the demand for ships; for this reason shipbuilding, though serving the needs of a comparatively stable industry (ocean transport), is itself highly speculative and subject to extreme variations in respect of demand, employment and prices. The statement is true of all industries supplying durable goods, the annual demand for which is but a small proportion of

the existing supply. Thus the long swing of the trade pendulum in the constructional trades is due not only to the fact that they produce capital goods, but also, in part, to the fact that they produce durable goods.

Difficulty of explaining collapse

6. Reference has already been made to the differences between industries in respect of the degree of stability in employment or demand, prices, wages and profits during the period covered by the trade cycle. Moreover, in the descriptive account of a typical cycle reference was made to the internal conditions which favoured a revival in trade after a depression and produced a slump after a boom. The revival originates in a reduction in the stocks for sale combined with a growth of demand due to the need for replacement and the fact that the average of spendable incomes (in the form of wages, interest and profits) has not diminished to the same extent as production and prices have fallen in the more speculative trades. The change from boom to slump cannot be explained with the same ease. Setting aside secondary influences and exciting causes—which vary from time to time—what is essential and therefore present in all cycles is a failure of expectation on the side of demand. This failure seems to be closely related to the statement in the last paragraph. A comparatively small increase in the world mileage due to, say, a development boom in Canada, means a comparatively large increase in the demand for rolling stock and materials from the comparatively small industries supplying such goods. The completion of the new Canadian railway results in a relatively large reduction in the demands from those industries, and ushers in a period of unemployment. Quite apart from any marked decrease of demand from abroad the fall in profits which the boom had produced in the more stable domestic industries results in a curtailment of orders for development and thereby produces similar effects. Thus the deeper causes of the turn, in each case, are internal, that is, they are to be found in the conditions created at different stages by the

trade cycle itself. That is not a full explanation of the trade cycle, but an explanation of the changes at the two extremities.

No two trade cycles alike

7. The trade cycle does not repeat itself in every detail. The circumstances of each are influenced by the course of the previous one as well as by changes in the organization of industry and finance. We have already seen that the length and severity of the depression and the intensity of the boom vary according to secular movements in the price level. The growth of trusts and of labour combinations, the introduction of new tariff policies, the development of banking and other economic factors may give a trade cycle a character all its own. The outbreak of a war, the failure of world harvests, or the discovery of new industries or processes may hasten or delay a revival or slump. Nevertheless the similarities between successive trade cycles are more striking and fundamentally more important than the differences. Moreover, the cycles occurred with extreme regularity so long as the greater part of the world employed the same standard of value—gold. For the greater part of the nineteenth century a cycle was completed in ten or eleven years. Since then its length has been reduced, each of the last two cycles before the war having been completed in about seven years. The regularity of their appearance under a gold standard has been regarded as providing a clue to their cause or causes.

Causes of the Trade Cycle

Difficulty of the problem

What is called a trade or business cycle is, perhaps, the most baffling economic phenomenon of modern times. If its cause or causes could be elucidated and placed beyond the region of doubt, many other economic problems which are still the subject of controversy would be solved. Moreover, the discovery of the causes would facilitate the discovery of neutralizing or modifying agencies to the extent that these were regarded as desirable—for it is by no means agreed that the complete elimination of cyclical

fluctuations is a desirable end. Trade fluctuations have long attracted the attention of economists and governments, but the trade cycle, as a regularly recurring phenomenon, was first examined in detail by Jevons and others in the last quarter of the nineteenth century. During the present century it has been the subject of still closer investigation by a large number of economists, and a vast amount of statistical material has been gathered, which has enabled us to approach nearer to the heart of the problem. It remains, however, the greatest of the many unsolved problems of economics.

The psychological explanation

The majority of present-day economists offer one or the other of two explanations. Some favour what is called the psychological theory of cyclical fluctuations. Professor Pigou[1] states that, dominant over all such extraneous factors as harvests, inventions, etc., " so far, at all events, as the rhythmic wave-like movements of the typical trade cycle are concerned, is the state of mind of the leaders of industry and commerce. The attitude of these persons towards the signs of the times does not remain constant, but varies from period to period between errors of optimism and errors of pessimism. In good times they become over-confident, exaggerate their prospects, and expand their investments farther than a true forecast of their profitableness would warrant. After a while, when the goods, for the production of which they have made preparations, are ready for the market, they find that the demand for them is less than they had looked for; they suffer losses, and these losses react on their state of mind, causing them now to underestimate the prospects of investment, just as previously they had over-estimated them. If the minds of business men had moved independently of one another, their several movements would, indeed, tend to cancel out, and, though the different parts of industry might vary a good deal relatively to one

[1] *Is Unemployment Inevitable?* pp. 96, 97. Professor Pigou discusses the problem more fully in *Economics of Welfare*.

another, industry in the aggregate would not vary much. As a matter of fact, however, the states of mind of different business men do not move independently: the swing from the one sort of error to the other is a common general swing—a sort of crowd movement. The reason for this is partly that states of mind are infectious, and that the people who control business live close together in cities: partly that, in the modern world, different business concerns are bound together by a network of orders and of credit relations. On account of these things, moods of optimistic error and, subsequently, moods of pessimistic error tend to move in single waves over wide areas, thus bringing about those large changes in industrial activity generally which characterize modern trade cycles. Of course, these changes in mental attitude are not autonomous and wholly disconnected from movements in the external world. A good harvest, as has already been hinted, may sow the seeds of optimistic error or stimulate them to more luxuriant growth; conversely, a bad harvest may cause the tide of men's thoughts to set towards pessimism earlier than it would otherwise have done. But, though they may be affected by outside events, excessive optimism and excessive pessimism in business have an inherent tendency to engender one another, and, therefore, a natural rhythm. The reason, of course, is that when people invest too much in industry, the fact that they have done this is only revealed to them after an interval long enough to allow the products that they have been arranging to manufacture actually to come to market, and that when, thereafter, they invest too little, this mistake also, like the previous one, is only revealed after a corresponding interval."

The monetary explanation

The other group of theorists stress the monetary influences operative in industry and commerce. Purchases, it is said, are made largely with borrowed capital, that is, bank discounts, loans and advances. When people expect a rise in prices they buy in order to sell, and their action

strengthens the upward tendency in prices which, in turn, justifies their action. But this policy is made possible by the readiness of banks to grant accommodation and the relatively low rate at which such accommodation is granted. So long as the production of the community can be increased, that is, so long as there are unemployed workers waiting to be absorbed into industry and there are factories and workshops working within the limit of their powers, the policy of the business community is all to the good; the increase in the volume of money resulting from additional bank loans is accompanied by an increase in the supply of goods and services, and the latter increase holds the rise in the price level in check. When, however, the producing capacity of the community is fully utilized, the banks continue to lend freely; manufacturers and merchants continue to expect a rise in prices and prepare for such further rise. A speculative boom is superimposed upon the production boom and prices shoot upwards. The further increase in the volume of money is no longer accompanied by a further increase in the supply of goods, and must therefore be reflected in the price level. This speculative boom could have been avoided if the banks had refused accommodation beyond the amount necessary to increase production to the limit imposed by the available industrial equipment. The banks, however, are influenced, not by the volume of production in the community, but by the state of the reserves and the nature of the securities offered by the borrowers. The reserves are still regarded as satisfactory, the securities forthcoming are adequate and the prospects of the individual borrowers are naturally as bright as at any time. Again, the intensity of the speculative boom, which is determined by the readiness with which bank loans are made, is also roughly the measure of the reaction which will ultimately set in and of the severity of the subsequent depression of trade.

Possibility of reconciling the two views

The two theories which have been given in outline—the psychological and the monetary theories—are sometimes

stated in such a manner as to appear contradictory. We may not be far from the true explanation if we attempt to reconcile them. There is no doubt that the psychological factor is important. Business men are influenced by each other: mental states are infectious. We find that the actions of the leading competitors in a trade influence the actions of the smaller firms, who fear that their powerful rivals know more than themselves, and will steal a march upon them if they do not follow their example. We find, moreover, that the estimate of the prospects of one industry spreads rapidly to the ancillary industries, and influences opinion in the latter. Finally, the publication of information in newspapers and journals helps to spread a feeling of hope or fear in a community which realizes the interdependence of the many parts of the economic system. And the alternations of fear and confidence would produce "swings" in trade irrespective of the action of the banks.

But it is undoubtedly true that such action tends to exaggerate those swings. The provision of an additional supply of money—that is, continued inflation—is sometimes said to prevent fluctuations in trade and therefore to provide a simple and permanent remedy for depression and unemployment. This crude and erroneous theory may be ignored. But the supply of requisite money is a condition of trade expansion, and, when production has reached its limit, is an essential preliminary to a speculative boom. It does not produce such a boom—which is produced by psychological influences—but it renders such a boom possible. An adequate rise in the rate of discount at an earlier stage in the movement towards unhealthy speculation would therefore tend to reduce the amplitude of the cyclical fluctuations of trade. Whether this could be done without creating other problems which might prove equally difficult is a question that is beyond the scope of this volume.

Psychological "errors"

There remains, however, one further point for comment.

Professor Pigou's reference to errors of optimism and pessimism is somewhat ambiguous. In nine-tenths of the cases—probably more—there has been no error. A merchant buys in the expectation of being able to sell at a higher price; a manufacturer increases his output in the expectation of making a profit. In both cases, until the crisis is reached, the policy is justified by events; and those who are far-seeing enough to anticipate and prepare for the crisis reap large rewards and escape losses when depression sets in. Those who are finally enmeshed in the crisis "hold the baby"; they are the ones who have committed an error of judgment. When the general demand of the community increases (and it does in fact increase) everyone working under the competitive system tries to secure as large a share of the orders as possible. As Sir William Beveridge points out, "Inevitably, therefore, all the producers together tend to overshoot the demand and to glut the market for a time. This is the result, not of wild speculation nor of miscalculation of the total demand; it must be a normal incident wherever competition has a place at all."[1] The error is a collective error, not, in most cases, an individual error.

On analysis Professor Pigou's statement means that economic society distributes its energies uneconomically over the period covered by the trade cycle. At one time it spends too much on capital development, with the result that it has to wait until the community has "grown up" to the new resources now available. At another time it spends too little of its energies on capital development, with the result that the expressed needs cannot immediately be overtaken, and there is a feverish rush to increase the supply of industrial equipment, which again appears in over-abundance. This is due to psychological factors, and is independent of the monetary factor. But it is by no means inconsistent to say that such swings of trade are intensified by the prevalent monetary policy

[1] *Unemployment.*

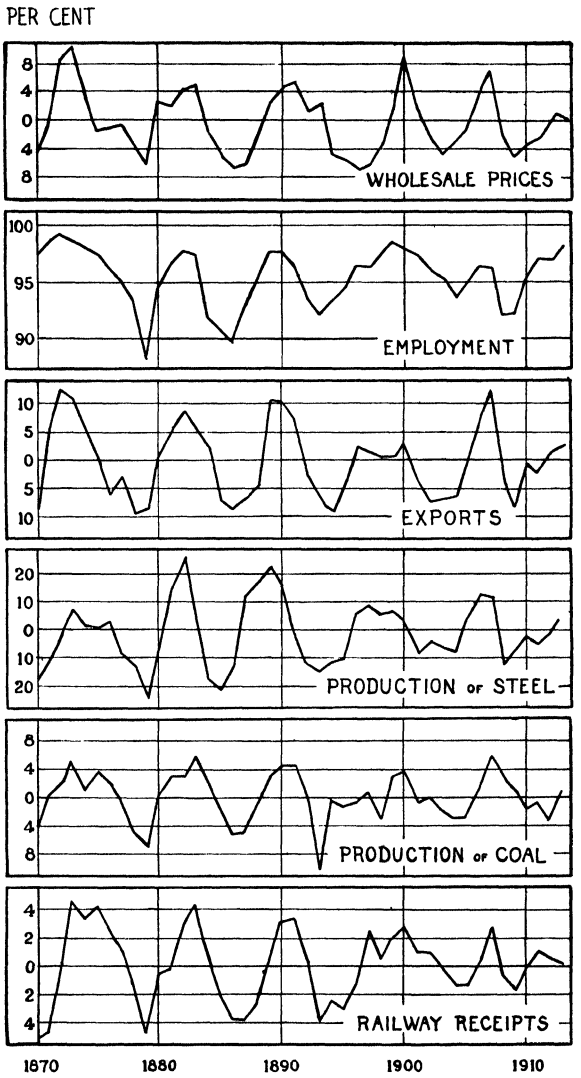
and may be modified by a bold attempt to restrict the supply of money to those limits which would not permit a purely speculative boom to be imposed upon a production boom. It is, however, difficult to determine whether, in practice, the separation of the production and speculative booms would be easy or possible in the sense implied in this theory.

Graphic Representation

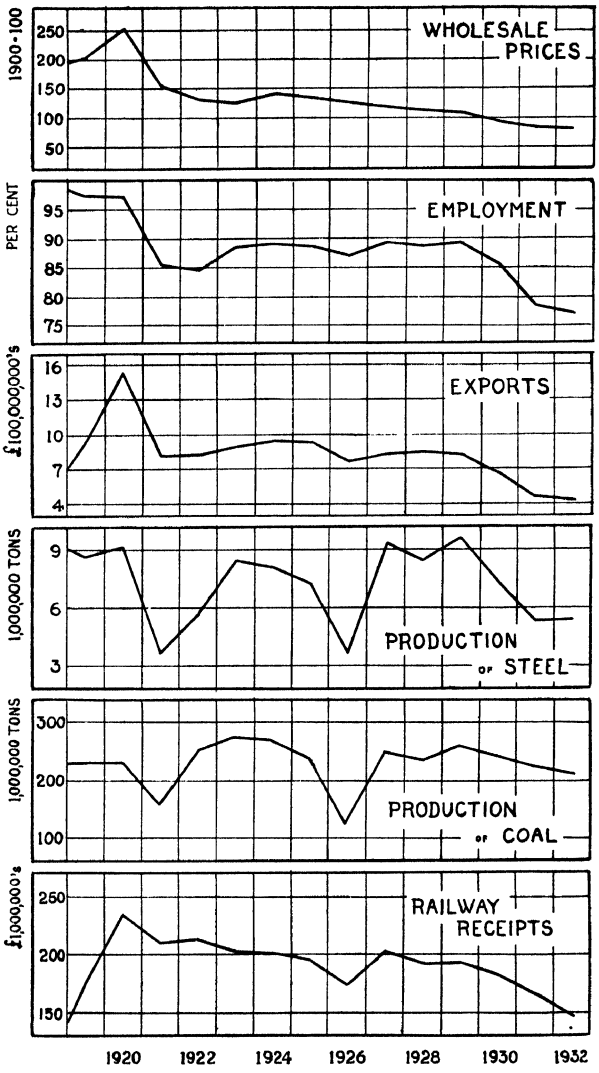
In the preceding sections of this chapter an attempt was made to describe the course of a typical trade cycle, to indicate outstanding features that appeared to be common to most, if not all, trade cycles, and to discuss some of the causes or presumed causes of such cycles. In the present section we shall be concerned with the statistical aspect of trade cycles. Two sets of charts are submitted, the first (Charts A) dealing with the period 1870–1913, and the second (Charts B) with the post-war period.[1]

As nearly all the charts in Set A are derived from official statistics rather than represent such statistics, some preliminary explanation is required. It should not be forgotten that the purpose of the charts is to bring out the cyclical movement in industry and trade, for which reason it is necessary to eliminate, as far as possible, other types of fluctuations. In order to illustrate the method by which this is attempted we may consider the first chart, namely, that relating to wholesale prices. First a moving average was calculated, the period over which the average was taken being nine years. Thus, for example, the mean figure for 1875 was the average for the years 1871–1879; for 1876 it was the average for the years 1872–1880; for 1877 it was the average for 1873–1881, and so on. In this way the line of trend was obtained around which actual fluctuations could be measured. The deviation from the line of trend was then expressed as a percentage of the

[1] The reader may be recommended at this stage to examine the charts in order that he may be familiar with their general features.



A—Charts illustrating Cyclical Fluctuations in British Trade and Industry, 1870–1913



B—Charts illustrating Post-War Trends in British Trade and Industry, 1919–1932

index number representing the mean or average for the year in question.[1]

The same method was employed in each case, except that of the chart showing employment; in other words, the figures plotted are the percentage deviations from the line of normal growth or long-period trend. In the case of employment no marked trend exists, and the actual figures of percentage employment are plotted. The first chart shows the fluctuations in the Sauerbeck index numbers of wholesale prices, the second in the employment percentages, the third in the value of our exports, the fourth and fifth in the production of steel and coal, and the sixth in the total receipts of our railway companies.

An examination of the charts shows that there was a marked regularity in the movement of trade: it is this regularity that caused the movement to be termed cyclical. During the latter half of the nineteenth century the length of the cycle remained surprisingly constant. Different investigators employ different ways of measuring the length, some measuring from peak to peak, or from trough to trough; but the results when either of these methods is used are liable to be influenced by accidental circumstances.[2] The influence of these is removed if we mark the points representing the centre of gravity of each area above or below the zero line. Employing this method we find that during the period covered by Charts A (1870–1913) the average length of the cycle of wholesale prices was 8½ years,

[1] As the reader may not be accustomed to statistics and may not fully understand what is meant by expressing a deviation as a percentage, a simple illustration may be desirable The price-level itself (such as that published by the Board of Trade) is expressed in the form of an index number starting from some base period for which the annual average is represented by 100. Thus, if the average price of a commodity during a period were, say, 10s., and for a subsequent year were, say, 16s , it follows that if the first were represented by 100, the second would be represented by 160 If the mean level (i e the nine years' average) for the latter year were 140, the deviation would be 20 in 140., i.e. roughly 14·3 per cent

[2] If either of those methods were used a change from January–December to July–June in reckoning the years might produce a serious change in the measure of the cycle.

the lengths of the individual cycles being (respectively) 9·1, 8·8, 9·3, and 6·6 years.

With the exception of the few years immediately preceding the War there does not seem to have been any tendency for the length of the cycle either to increase or to decrease. Over the period 1839–1873 the average length of the cycle of wholesale prices was 8·4 years, and over the period 1873–1907 the average length was 8·5 years.[1]

The amplitudes of the fluctuations are not so constant as the lengths of the cycles. During the period 1870–1913 the percentage deviations of prices from the normal were 10·8, 4·4, 5·4, 10·9, and 6·9 in the booms of 1873, 1882, 1891, 1900, and 1907; and 5·9, 6·6, 6·9, 4·5, and 6·6 in the depressions of 1878, 1886, 1896, 1903 and 1908. It will be observed that the booms of 1873 and 1900 were associated with wars. In some indices the amplitudes of the swings are much greater than in others. Over the period 1870–1913 the average percentage deviation of prices from normal was 4·0, of employment 2·0, of exports 5·5, of coal production 2·7, of steel production 9·7, and of the tonnage of ships launched 16·5. These figures provide statistical support for some of the general observations already submitted.

The charts show fairly clearly the fact that there is not a perfect synchronization of the different series of individual cycles or items. The peaks and troughs appear at different moments of time in different industries.

Further investigations show that the time-lags between the various individual cycles differ quite considerably from cycle to cycle, and also that the individual cycles do not always appear in the same order. It seems to be clear, however, that there is a tendency for some cycles to appear before others. A few illustrations may be given. The cycle of pig-iron production appears about a year before the cycle

[1] These calculations, as well as others given later, were made for me by Mr. J. F. Smithies, LL B., B.Sc, when acting as a research assistant. The results differ from those usually shown, but the latter are obtained by methods that appear to me far more arbitrary.

of coal production, the cycle of coal production about three months before the cycle of coal exports, and the cycle of unemployment four or five months before the cycle of wholesale prices. The last statement, however, is introduced partly to show the need for care in the interpretation of statistical data. Wholesale prices refer mainly to the prices of primary products, most of which are imported from abroad. Unemployment statistics refer to industries (such as engineering) engaged in the production of capital goods. Such industries, as already shown, are the first to be affected by a cyclical depression, and the depression in such industries is a factor largely contributing to the fall in the demand for primary products. In this case, therefore, the changes in the two indexes are not comparable. The body of statistics here presented do suggest, however, that there is a rhythm in industry which has not been sufficiently recognized, and is worthy of closer examination than it has yet received.

The second set of charts (B), which covers the post-War period, differs from the first. The period is so short that in most cases the trend cannot be satisfactorily determined. For this reason no attempt has been made to eliminate the trend; the actual figures, not the deviations from trend, are plotted. At first sight the charts do not suggest the existence of a cyclical movement of industry and trade; they suggest that other factors, either national or international, or both, have appeared since the War to destroy the trade cycle. It is undoubtedly true that the cyclical movement has been largely veiled by these special or abnormal influences. On the other hand, closer examination of the charts shows that when allowance has been made for such influences there appears to be a real cyclical movement. In the first place it should be noted that the year 1926 was rendered highly abnormal by a stoppage in the coal mining industry which extended over two-thirds of the year. This stoppage was preceded (1923-1924) by a boom due to the complete disorganization of the Westphalian

coal industry during the period when the Ruhr province was occupied by French troops. The chart of steel production is influenced by the same factors. Railway receipts reveal a downward trend which is explained by the competition of road transport. Exports show a downward trend due partly to the permanent growth of foreign competition, particularly in coal-mining and cotton manufacture. All the charts show the influence of the return to the gold standard under conditions already described.[1] The chart of wholesale prices shows the downward trend in the world price level. If allowance could be made for all these influences the charts would show the effect of cyclical influences. The post-war boom was followed, in 1921, by a severe cyclical depression. From that year industry struggled upwards until 1929, after which another cyclical depression set in. It would thus appear not only that the War and the special factors created by the War have failed to destroy the trade cycle, but also that the length of the trade cycle is approximately the same as the average length of the pre-war cycle. This conclusion is not submitted as a dogmatic statement of an established fact, but merely as a caution against the easy assumption that some of the hidden and persistent forces operating upon pre-war industry have been completely destroyed. The cyclical movement is shown far more clearly by American statistics than by those relating to Great Britain.

[1] See Book III, Chapter X.

CHAPTER III

THE STANDARD OF LIVING

Industrial Efficiency

Income of the community

We have seen[1] that land, labour and capital co-operate in the production of a steady stream of commodities and services. The size of the stream is determined by the efficiency of that co-operation, and its efficiency is in turn determined by the character of the three co-operating factors. Other things being equal, the stream is smaller where nature has been niggardly than it is where nature has been more generous. But other things are not always equal. Climatic conditions which are the despair of the farmer may produce a strong, virile race, which will exploit nature in other ways and thereby secure for itself a relatively high level of material comfort. Again, the stream of commodities and services is greater where the industrial equipment is of the best than it is where such equipment is antiquated. And willing, intelligent co-operation on the part of workers of all categories in the community produces a larger stream than may be expected from reluctant and inefficient co-operation.

If the stream of commodities and services is to continue, and to swell, it is obviously necessary to maintain each of the co-operating factors in a state of efficiency. The land must not be exhausted by wasteful methods. It must be properly treated and have rest; provision must be made for seed and fertilizing agents, for drainage and storage. Similarly, the industrial equipment must be maintained in a state of repair and efficiency; provision must be made for replacement, and, if the stream is to swell, for extensions. Thus the stream annually produced consists largely of those commodities and services which are necessary to

[1] Book IV, Chapter I

maintain and strengthen land and capital as factors in production. Without such provision the stream would run dry and the future standard of material comfort would be imperilled.

Consumption goods

The standard of material comfort which is possible to the community at any time is determined by the size of the stream of those commodities and services which are not set aside to maintain and strengthen land and capital equipment, but are in a form ready for final consumption. Without any increase in the joint efficiency of the three factors of production, this stream may be, for a time, increased by ignoring the need for repairs, replacements and extensions. But it is impossible to maintain, for a long period, a standard of material comfort raised in that artificial manner. If capital is used as income, such income will soon disappear. The possible level of comfort over a long period is thus determined by the continuing efficiency of the three factors, and such efficiency is determined by the provision made for the future in the present. Future security and progress necessitate immediate sacrifice.

Income of individuals

The possible level of material comfort of the community, we have seen, is determined by the joint efficiency of land, labour and capital. But the actual standard of comfort enjoyed by the individual members of the community is determined by the manner in which the stream of consumption goods is divided among them. We have therefore to consider the forces governing the ultimate distribution of the stream of finally-consumed goods and services among the various groups and classes in the community. It will be recalled that in the introductory passages on "Distribution"[1] a number of questions were asked, the first two being, "Why is A richer than B?" and "What accounts for the ultimate difference in the standards of living of A and B?" The questions that followed were examined in the same section, but the answers to the questions now repeated were postponed. When we

[1] Book III, Chapter XI.

compare the wealth and income of one individual with those of another, we need to consider not only work, but also questions of inheritance and character. Of two men doing similar work for the same salary, one may be far wealthier than the other on account of the fact that either he has inherited property, or he has saved a large part of his income while the other has spent all that he has earned. Inequalities of incomes from current work are a marked feature of economic society, but the inequalities of total incomes are even more marked. The inequalities that are ultimately significant as determining the actual individual standards of comfort are, however, not the inequalities of incomes, but the inequalities of consumed incomes. And it seems generally true that inequalities of expenditure or consumed incomes are less marked than inequalities of incomes. The difference between income and consumed income is accounted for by taxation and saving.

The Standard of Living

Wealth and welfare

So far, the words "standard of living" have been avoided, for it is by no means easy to attribute to them any precise meaning. They signify more than a supply of material goods and services. What would be regarded as a satisfactory standard of living by one would be rejected as unsatisfactory by another. One man's meat is another man's poison. One man would be happy with a book and a pipe when another would be longing to get away to a night club. The father of one child would spend money on beer, while the father of another would save every penny he could spare for the future education of the child. Some people are only happy when they possess things which others cannot obtain; some, again, are only happy when they sacrifice for others. No two men spend their incomes in exactly the same way. Conceptions of duty, family responsibilities and bodily needs, and the calls of the spirit, vary from one individual to another, and from time to time in the same individual.

For our present purpose we shall regard the standard of living as the standard which is rendered possible by the resources available to the individual or the community. It includes not only the necessaries and material comforts of life but also such factors as security, education, recreation and travel. A rise in the standard of living occurs when an individual is able to satisfy a need already felt, but hitherto impossible to meet. It may be better food, warmer clothing, work under more pleasant conditions, greater security of tenure in an appointment, life within easy reach of more beautiful country, greater facilities for education, more frequent opportunities for playing games or witnessing good plays. It is thus an error to assume that standards of life are determined wholly by money incomes. It is obvious that a given income brings more of the desired things within reach than a smaller income. At the same time, an industrial system which aims merely at a maximum amount of exchangeable goods may destroy, in the process, many elements that enter into the standard of living desired by a large proportion of the community. Thus, the growth of large urban areas, while it may facilitate the production of material wealth, destroys amenities of life which are valued by citizens who escape, when they can, to smaller towns or to the country.

Socialized income and consumption

Other things being equal, the possible standard of living, like the possible level of material comfort, is determined mainly by industrial efficiency. The community can only consume commodities that are made, and enjoy services that are rendered. The actual individual standard of living is largely determined by the distribution of spent income. That income is partly personal, and is spent privately. But it is also partly public income, being obtained from individuals through taxation and spent by the State or a local authority on behalf of the community; and it will presently be shown that the State does much to reduce inequalities in the standard of living.

The actual standard of living is also partly determined by the extent to which consumption is economized. If one man buys a book and, after reading it, lends it to several of his friends, the result is approximately the same as if a separate copy were printed for each of the readers. Consumption has been economized by being socialized. Enjoyment has been multiplied without effort. Socialization of consumption makes many things possible which would be beyond the reach of isolated individuals. Insurance is essentially a method of socializing consumption. By pooling risks a group of people enjoy security, against loss, which would not otherwise be possible. Public parks, libraries, concerts, plays, cinema performances and broadcasting also represent methods of economizing consumption through socialization.

Taxation of incomes

The State and local authorities reduce inequalities in the standard of living. First the State reduces inequalities in total income by means of taxation, thus producing a greater degree of equality in private spendable incomes. This end is achieved by taxing larger incomes at a higher rate than smaller incomes. Progressive taxation of a satisfactory character is not easy to achieve in practice. Taxes are levied directly and indirectly upon income. Direct taxation is levied in the form of income taxes and death duties, the latter being taxes upon accumulated income or capital left at death and inherited by successors. Indirect taxation is levied mainly by means of taxes upon commodities; it is thus essentially a method of taxing expenditure. In selecting the objects of indirect taxation the State naturally takes into consideration the elasticity of demand, and thus selects commodities for which the demand is fairly inelastic. These are largely consumed by the relatively poor, who, indeed, are most easily taxed in that indirect manner.

It is comparatively easy to impose a graduated tax of a direct character upon income, and to secure the desired progression in that way. But indirect taxes cannot be

so easily graduated. They are imposed at the rate of so much per unit of the commodity, and the individual pays in proportion, not to his income, but to his expenditure upon that commodity, that is, in many cases, roughly in proportion to the size of the family, and consequently in inverse ratio to the individual's ability to pay. For this reason the relatively poor members of the community with large families are apt to be taxed at a higher rate than the " middle classes " with families of the same size. A " fair " graduation in the income tax does not secure an equally fair graduation of taxation. The tax system should be considered as a whole, and, judged in that manner, it may be stated that no system now in operation can be regarded as achieving that ultimate distribution of taxation which is generally regarded as desirable. In this country, however, the system approaches more closely to the accepted ideal than in any other country.

Public services and grants

The revenue derived from taxation is partly used in the payment of interest on war debts and of other contractual obligations incurred by the State. It is also, in part, used to maintain an adequate system of defence against possible external aggression, and an adequate judiciary and executive. For the rest, it is mainly used to provide " social " services, such as education and insurance. Social services raise the standard of living of the relatively poor, that is, they reduce the inequalities of spent income by reducing the total income and possible expenditure of the relatively rich family and supplementing the actual expenditure of the relatively poor family. Not many years ago it was almost impossible for the average worker to provide for an income during a period of unemployment or of idleness through sickness. Such provision is now made through insurance, and the greater part of the premium is paid from the proceeds of an indirect tax upon consumers (the employers' contribution), supplemented by a grant from State funds.

It will thus be seen that the social services of the State

are rendered in two ways, first by socializing the consumption of services for which it pays, wholly or in part, and secondly by supplementing individual incomes. It would be possible for the State to render service merely by socializing consumption, that is, by imposing terms of payment which would make the provision of such service self-supporting. If, for example, the cost of compulsory unemployment or sickness insurance were borne entirely by the insured people, the State would be rendering a service which had not previously been provided by private enterprise. But when the State or local authority seeks to raise the standard of living by socializing consumption it invariably bears part or all the cost of providing the socialized service. The cost of providing open spaces in large towns, public libraries and elementary education is borne by the public authority. Part of the cost of social insurance and of higher education is borne by the State. Moreover, when the State or local authority renders assistance, it is usually by defraying the whole or part of the cost of providing a service which is communal, that is, jointly " consumed " by citizens. But, from time to time, the State has also supplemented the incomes of individual members of the community, and thereby changed their relative financial positions.

A century ago the wages of low-paid workers were supplemented from public funds. Direct and indirect subsidies are now paid to individuals who live in houses erected by public authorities, or erect houses of their own under prescribed conditions. In some countries on the continent of Europe, the wages of employed workers are supplemented by family allowances. Public assistance of this kind, however, has hitherto been regarded as abnormal and designed to meet exceptional conditions created by war or some other cataclysm. It is not defended in principle. When direct public assistance is given to specified individuals, it is usually due to the fact that the latter have ceased to be regarded as " normal," and it

is accompanied, as in the case of poor relief, by public control. Public services, other than direct public assistance, take the form either of compulsory services or of the provision of opportunities which any citizen may utilize. Elementary education and social insurance provide examples of the first type, while free concerts, public libraries, open spaces and State scholarships may be submitted as examples of the second. In both cases the standard of living of the average worker is raised, partly by the fact that the service becomes communal and its cost per head thereby reduced, and partly by the fact that part or the whole of such cost is borne by the State or local authority, which in turn draws a greater proportion of the required revenue from the relatively rich. In this way, the inequalities in the standard of living become less than the inequalities of private expenditure.

The inequality of incomes

In recent years we have made greater progress than is commonly supposed towards equality in the standard of living, so much so that the most highly paid among those who are compulsorily insured may be presumed to be better off, on the whole, than those whose incomes are slightly above the level at which compulsion ceases. The capital value of the security that is provided, or about to be provided, for the average working man and his family is now an appreciable sum. This movement towards equality is sometimes expressed as a rise in the minimum standard of living, but it is more than that ; it also produces a greater degree of equality in the average standards of living of different classes in society. Inequalities of real income or consumed income are less marked than inequalities of privately-spent income ; the latter, in turn, are less marked than the inequalities of total received income, which, however, are more marked than the inequalities of total income derived from current personal effort in the form of wages or salaries or allowances. The relatively rich are relieved of part of their income by the State, which uses the revenue so obtained in providing security

and opportunities for a higher standard of living to those who, judged by weekly earnings, are relatively poor. The problem of taxation is thus part of the problem of the distribution of income; public enjoyment of services provided from tax revenue is part of the problem of consumption.

Conclusion

If the State were a person whose services could be enlisted by the British Broadcasting Corporation, listeners might be expected to hear something to the following effect, though couched in better language—

"I represent a community of over forty million people. Even if they desired me to do so, I could not, in practice, control every detail in their lives. But they do not desire such control. I believe that I interpret their fundamental desires correctly, though I may not fulfil all their desires adequately. I allow them to do as they please, except in so far as I lay down definite restrictions and regulations which are to be found in the books on the shelves of a lawyer's library. I allow the appeal to private gain to determine the main lines of economic activity and the rewards of effort. As the result of my policy, I have seen an economic society grow up which possesses the virtue of producing goods and services for its members. It is not a perfect society, but at any rate it works. And it works because it is driven by a force which is never exhausted—the desire to live and to live as well as possible.

"It is not, as I have already admitted, a perfect society, but I endeavour to remove its imperfections, one by one. In my appeal to the desire for private gain, I assume that the community is composed, in the main, of honest and intelligent people, and my assumption has been justified. But there is a minority of people who are rogues and thieves; there are others who lack imagination, if not intelligence. I have, therefore, built up a code of laws to protect the community. Some define clearly what would otherwise

be obscure and disputable; some protect the honest from the dishonest. In the struggle for private gain I have assumed that, on the whole, the force of competition will not only stimulate the production of goods and services, and the right goods and services, but also result in their distribution in an equitable manner. But I find that the force of competition produces inequalities that I do not like, and is thus in need of control. Consequently, I try to protect the weak; and I do so in various ways. For example, I lay down minimum conditions of employment and wages; I help to tide people over periods of difficulty by unemployment insurance and by lending my credit to employers. When I find that, in spite of my direct interference with the conditions of contract, some grow wealthy while others remain poor, I tax the wealth of the former and with the proceeds raise the standard of living of the latter. Again, I find that in many spheres of activity, competition has given place to monopoly, and my fundamental assumption has to be somewhat modified. I fear the results of monopoly, so much so that in some cases I have removed temptation by myself assuming the ownership and control of the monopolistic enterprise. I am now faced with the task of controlling monopoly in industries which have hitherto been competitively organized. I have not yet decided upon a definite course of action. I attach importance to the publication of the facts relating to such cases and the consequent influence of public opinion upon the policies of monopolistic groups. I may be compelled to take further action, for although I do not fail to recognize the possibilities that are created by unified control in an industry, and I desire to see such possibilities realized in the interests of the community that I represent, I am determined to prevent the employment of monopolistic powers, both of employers and of workpeople, in a manner which will prejudice social welfare.

"In spite, however, of the laws that I have caused to

be put into force, tending to restrict the economic liberty of the members of the community, I rely upon the motive of private gain and the general force of competition for the production of what the community desires, and I look to moral influences, acting through public opinion and through wise leadership, to achieve that balance which must be maintained in a healthy economic society. None of the specific proposals for reform that have been submitted to me implies the abandonment of my reliance upon that motive. None of the proposals that imply a new governing motive in the individual has been put forward as immediately practicable. Consequently, I shall probably continue on the lines of the past, and, by specific economic measures which are consistent with the governing principle and motive, I shall endeavour to increase the productivity of the community and to secure justice for all who contribute to its welfare."

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