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**WHAT'S WRONG WITH
THE ECONOMIC SYSTEM?**

WHAT'S WRONG WITH THE ECONOMIC SYSTEM?

BY
A. W. KNIGHT

WITH DIAGRAMS

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TO
MY WIFE
TO WHOSE COURAGE AND DEVOTION
THIS BOOK IS DUE

PREFACE

THREE great evils of our time are poverty, unemployment, and war. Important problems connected with these fall to economics to solve. Surely it is to this science that men should turn for guidance. If the cranks got hold of the inquirer, however, he would find them asking extremely important questions, but—unless he too became deluded—would hear answers that could not stand scrutiny and confrontation with fact. If the orthodox economists got him, he might—if he were not wise in his choice—think they spent their time answering irrelevant questions.

Hence the purpose of this book is to probe into the working of the complex and powerful machine which we call the economic system. Answers are sought to questions which deeply concern the well-being and happiness of each of us: Why do slumps and mass-unemployment appear? Does the dreaded scourge of war have its roots in the working of the system? Why, in spite of so much effort devoted to improving productive processes, is so little achieved in abolishing poverty?

An important article on methods of research in economics, by Mr. E. F. M. Durbin, *Economic Journal*, June 1938, points to the "extraordinary divorce" in current economic literature between thinking and observation. He says: "It is the argument of this article that we fail, in so far as we fail . . . because we

make no effort to bring theory and observation together in any synthesis of our own, and . . . because we do not co-operate sufficiently with other specialists external to the field of economics.”

The work of this book has been done by a method which, as Mr. Durbin’s article serves to emphasize, is almost absent from the field of economic literature—that of directly building theory upon observation. The task was tackled as an engineer would tackle the problem of finding the reason for the faulty behaviour of a machine. Here was the economic system—a man-made machine. It behaved badly. Slumps and mass-unemployment appeared—phenomena of faulty working. Such things were facts, with many others, to be observed, facts which showed just how the machine worked. Explanation had to fit all the facts into its scheme, or it was useless to explain the machine’s behaviour.

Hence no apology is offered for the arithmetical work in succeeding chapters. It is an integral part of the method of analysis, the reference to reality. Without it, this book would have been but one more among many false explanations; with it, it is felt that it contains truth.

Economists appear to fall into two groups. Between the extreme right and the extreme left lie all sorts of intermediate individuals, some who incline to one side, some to the other. The difference between the groups is based on what each thinks is the best method of running the economic system. On the extreme right are the “individualist” economists who believe that the economic system is a self-regulating, automatic machine which is best left to adjust and control itself,

with a very minimum of communal interference. The belief is that this machine, thus left without communal guidance, will then operate to the best advantage of the community. It may be pointed out, however, that if it did so act, it would be entirely unique among man-made machines. For no other machine will successfully operate, for long, without human intelligence to adjust and control it. Lacking that, it may even injure or destroy its creators.

At the other extreme are economists who believe in a planned economic system, planned for a democracy, as the means for maximizing human welfare.

These basic differences of opinion could not exist if we really understood how the system works. Knowledge would change opinion into certainty.

A little preliminary work led me to suspect that it was somehow through the process of communal saving that slumps made their disastrous appearances. As that work developed and began to explain facts, I continually searched economic literature to find phenomena that needed explanation. At the outset, Professor Wesley Mitchell's *Business Cycles* provided me with many established and important facts, and his brilliant summary of existing trade-cycle hypotheses furnished, here and there, valuable suggestions for further investigation and development. Sir W. Beveridge's book *Unemployment* first introduced me to the striking and significant fact that unemployment always tends to hit workers such as engineers harder than the producers of commodities like bread and boots.

I owe a debt to many other writers on economics, who have undoubtedly helped and influenced me.

Although the method is different, and the writer a "specialist external to the field of economics," it seemed possible that some measure of agreement, in basic things, might be reached with modern academic writers who stress the importance of savings and investment in the approach to an explanation of slumps.

Agreement has been reached, in this way, with some important new work which Mr. J. M. Keynes introduced in his *General Theory of Employment, Interest and Money*. A certain proposition—that the saving of a community always equals its rate of investment—lies at the base of Mr. Keynes's explanation of mass-unemployment. I, too, use that same foundation, but I have used it to make further propositions, and to erect a building of explanation, quite different from Mr. Keynes's subsequent work in the *General Theory of Employment, Interest and Money*. I do not know who first thought out this basic proposition, but I came near to publishing it before Mr. Keynes.

My thanks are due to the Rev. W. T. S. and Mrs. Weir, for their encouragement and help.

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CHAPTER I

COMMUNAL ECONOMICS?

§ I

INTRODUCTION. People become used to living on the slopes of active volcanoes, even though they know that streams of lava may one day burn and engulf them. So live modern communities. The looming shadow of the next great slump, the threat of the next terrible war, continually hang over them. But one's personal day-to-day affairs seem the things that need attention; deeper communal problems, whose solution would abolish poverty and mass-unemployment and war, are ignored by the man in the street. Such problems are too often left to cranks and academic economists. But ignorance and indifference in the face of problems that demand solution are punished: the suffering of slumps, the suffering of war.

But the economic system is entirely man-made. Hence we need not helplessly cower beneath its phenomena as though they were of the same class as volcanic eruptions or tidal waves or earthquakes. But only by asking fundamental questions, answering them, testing the answers to see if they are really true—and putting into practice what has been thought out in theory—can things like mass-unemployment or slumps be eliminated.

But to ask fundamental questions in economics is a

dangerous thing. To find true answers is more dangerous still. For one's basic beliefs may be undermined. Individualist or communist, one may reach fundamental conclusions that expose as false what one has hitherto unquestionably believed. Really to understand how our present economic system works may alter all one's attitude to life. A dangerous study, economics, if undertaken in a really scientific way!

There is, in one particular, a similarity between persons as wide apart in ultimate beliefs as individualist economists and Marxists: both are sure that they know how the economic system works. But the individualist economist assures us that it operates, if only "perfect" competition exists, entirely for the maximum welfare of the whole community; the Marxist denounces the system and all its works. Both cannot be right. Both may be wrong—at least in some important respects. There may be truths, new discoveries to be made in economic science, that are quite unknown to either of these partisans.

Whoever makes discoveries in the sphere of economic knowledge must first destroy before he may build, for very much of falsity lies all about him. And he must base his own contribution on a method which has not yet been sufficiently insisted on in economic theorizing: testing. We need criterions in economic theory, standards by which we may judge whether this or that piece of reasoning has any value in adding to the sum of knowledge. We don't use true standards: we judge by plausibility, by whether this agrees or that disagrees with our own opinions or prejudices on the matter. We really need something which takes the place of the controlled experiments of physical

science. And that can only be found in the facts and phenomena of reality. Economic theory must explain all the facts, as the theory of a detective must explain all the clues.

This method is, of course, for ordinary men and women, who can find truth only by repeated search, and are not satisfied that they have actually found it till every test that reality and reasoning can bring against the work is successfully met. But certain economists disdain such a method, as Professor Robbins makes abundantly clear in his *Nature and Significance of Economic Science*. He has no need of controlled experiments or their equivalent. "This proposition," he says, "is deducible from the most elementary facts of experience of the science, and its truth is independent of further inductive test." (p. 117.) Only men with the attributes of divinity can reach truth in ways such as this!

It may be pointed out, as denial of the claims of some individualist economists, that if extremely important phenomena remain without satisfactory explanation, the whole structure of their economics becomes suspect. And such a suspicion may be justified, for the outstanding phenomenon of the present system—periodic depressions—has not been satisfactorily explained by individualist economics.

An important and fundamental question which is asked in this book is: what type of economic system is conducive to the maximizing of human well-being? Is it the *laissez-faire* system, as Professor Robbins would affirm, or some sort of communally controlled system? If that question is to be answered, one must explain the root causes of slumps, one of which, starting in

1929 and reaching its maximum depth perhaps at the end of 1932, created many millions of unemployed, and seriously affected the profits and prosperity of all communities in individualist countries. Really explain such a slump as this, and we may find a body of knowledge which shows why individualist communities cannot avoid them. Then, knowing just what is wrong with the present system, we perhaps know how to design the better one.

§ 2

COMMUNAL OR INDIVIDUALIST ECONOMICS? Every individualist economist will assert that his work is concerned with society, that economics is a social science. Hence; obviously, the concern of this social science should be with the community: how should any community use its productive resources to achieve the maximum of well-being. But when we examine the work of these writers, we frequently find that communal problems are persistently attacked from the point of view of some investor, or manufacturer, or landlord. By doing this what might be called "individualist economics" is produced. The basic viewpoint is, of course, an assumption; it leads to conclusions that what *seems* true for an individual, working for his own ends within a community, is necessarily true for that whole community.

Thus we have the law of diminishing returns, built up from the viewpoint of some landlord, investing successively increasing "doses" of money to cultivate a given area of land, the underlying assumption being that the only thing which really matters is the return

that the landlord-investor gets on his invested money. Whereas the truth is that the community cultivates land in order to feed and clothe and shelter itself, and does so by applying a technique which embodies something, at least, of the science and art of cultivation—a thing which is all-important in settling how much productive effort, with available resources, it is advisable to apply to land in order to cultivate it.

Again, it is insisted that if only wages be reduced, employment will be increased. The viewpoint is again that of some individual entrepreneur or manufacturer. The argument runs that if this person's profits are increased, because of reduced rates of wages, he will be anxious to increase productive activity, and will engage more labour to make a greater output. But the basic assumption or viewpoint is too narrow to reach truth. We have to study supply and demand in their totality in order to find it. We have to adopt a communal viewpoint and not that of some individual.

Another narrow viewpoint of individualist economists which leads to false conclusions is that the employer "gives" employment. Nothing seems more obvious—if we look at the matter from the point of view of some one employer. But if the communal viewpoint be adopted, it becomes clear that the community, as consumers with money to spend, exercising choice, "gives" employment to those who offer the goods and services that it buys. It is those with money to spend that employ, or refuse to employ, every part of the productive system. This point, however, is more fully developed later in the book.

In their desire to tell us that the modern productive

system runs best if all individuals are left free to follow their own desires, without any form of collective control or guidance, individualist economists assume that economic forces always tend to produce a condition of full employment of productive resources. To do this they have to make two unwarranted assumptions: (1) that supply creates its own demand; (2) that if persons have incomes distributed to them as costs of production, or as profits, the total of these must necessarily be spent on the output of productive activity. They ignore the fact that persons with incomes to spend exercise an important communal choice: to spend on personal consumption, or to save. This freedom of choice makes havoc of facile assumptions such as the unwarranted ones above. We can only study the effects produced by this important communal freedom, if we adopt a communal viewpoint.

§ 3

MONEY AS STARTING POINT. A little was said in the preceding section about the necessity of building a communal economics, if it be desired to understand how the present system works. It is the widespread use of money that makes any modern nation into a community, each member of which is closely dependent on the actions of others. We may imagine we are individualists, each fighting and striving for himself, but in practice, sometimes unhappily, sometimes successfully, each finds a place in a communal system. For money allows of the extreme specialization of production: each producer is trained to, or performs, one small part of the complete productive process, and

must sell to his fellows his contribution to productive activity before an income can be received. Moreover, we exercise important choices when we have incomes to spend. By refusing any longer to buy, say, ostrich feathers, we may destroy a whole industry. By collectively saving a portion of incomes, we force the communal system into important adjustments. We cannot escape the fact that by making use of the dollar or the pound sterling in our productive and spending activities, we swear our allegiance to communities such as the United States or Great Britain. Hence the extreme importance of knowing exactly the conditions under which the individuals of a community can be given, (1) freedom to spend, (2) freedom to save their incomes, (3) freedom for certain groups or persons to control the productive activity of others.

We have to remember that the modern and universal use of money "just grewed," evolving out of the break-up of the feudal system, without any community deliberately devoting its thought to the conditions under which it could, harmoniously and happily, use this strange and wonderful instrument. If that had been done, it might have been found that certain wrong ways of using this money instrument would result in the periodic occurrence of slumps, sometimes mild, sometimes deep and disastrous. It would then have been realized that a price must always be paid for freedom: it can only be granted, if the well-being of the community be the criterion, provided certain conditions are obeyed.

§ 4

WHAT IS REAL WEALTH? Various ideas are held by the different persons who comprise a community regarding the nature of the things that are called "wealth." But the question can only be answered by studying a community as a whole. If we do this we see that in any modern economic system its *real* wealth consists of the *flow* of finished consumable goods and services which is continually issuing from its productive system. It is the flow of foodstuffs and clothes and furniture and so on that constitutes the stream of real wealth that flows out of the great pipe of production.

Lacking that flow, things that are usually called "wealth" cannot possess value to anyone. A lump of gold is of value only because it can be sold for money, and that money expended to buy things desired—part of the essential flow. A factory is of value only if it occupies a place in the productive process, assisting to produce part of the indispensable flow. It loses its value if the product it is designed to produce cannot be sold. Money itself is not real wealth, only possessing a sort of derived or conditional wealth, obtaining its value or purchasing power from the fact that it can be used to obtain things the purchaser desires—part of the flow. If the communal productive system be struck away, it loses its value at once—as any Robinson Crusoe, finding a hoard of money on his island, would realize.

CHAPTER II

SPENDING CREATES INCOMES

§ 1

THE MONEY MECHANISM. Just as there is a flow of desired goods and services—bread and fruit and meat, hats and boots and clothes, houses and carpets and furniture—continually issuing from the productive system, so there is a corresponding circulation or flow of incomes. This circulation of incomes is a fundamentally important thing in modern, money-using economic systems. But connected with this circulation of incomes is what might be called a “money mechanism,” that is, a complex of arrangements in which the use of money is embodied. For certain methods of using the money instrument have evolved with its increasing use—not the only methods that could be devised, but the ones that have actually appeared.

This is realized at once if it be noticed that our money-using system is not one in which a national dividend is freely paid to every inhabitant of a country, and no service or work insisted on in return. Compulsion exists to drive wage and salary earners to perform the needed labour required by productive processes; compulsion exists to force employers to produce something which consumers will ultimately buy; compulsion exists to force shopkeepers to provide

services that the public will purchase. The penalty of non-compliance, in every case, is the non-payment of money income and the deep distress that follows this.

What, then, are the parts or components of this money mechanism? First, the actual money which is used—coins, currency notes, bank deposits. Second, a method of distributing incomes: they are distributed only to persons who contribute to the process of production. Wage and salary earners receive incomes because they contribute brain and brawn labour, owners of property or productive equipment because that is used in the productive process. Third, the free choice of spenders. Through this, control over every kind of productive activity is embodied in the mechanism. From the smallest to the largest productive concern, each is ultimately limited in its activities by what it can sell. Fourth, is the fact that incomes can only be created if goods and services are actually sold to consumers—a point developed in the next section. Fifth, and part of the free choice which is possessed by those having money to spend, is the fact that saving of incomes may be practised, according to the individual's ability and desire. A clear separation is made, in the minds of those who receive incomes, between what is spent immediately on personal desires, and what is saved by being stored away for use in the future. The great importance of this is realized if it be remembered that self-preservation is involved, that instincts and emotions are aroused which urge persons to safeguard their future or enhance their position and power.

§ 2

SPENDING CREATES INCOMES. At what point in the circulation of incomes are new and additional incomes created or existing ones destroyed? It may be thought that since production must precede consumption, incomes are first distributed when processes of production are newly undertaken. This seems to be the view adopted by individualist economists. If, for instance, an augmented supply of some commodity is produced, a new addition is made to demand in the shape of wages, salaries and other costs distributed as costs of production. And the reverse happens if productive activity be reduced.

The same point for the initiation of incomes is postulated by the advocates of Social Credit. A typical factory is imagined, producing goods and making the initial distribution of incomes, which are then available to buy the output of productive activity. It is curious that the same assumption leads to different conclusions on the part of individualist economists and Social Creditors. For Social Creditors point out that this distribution of incomes is deficient: not enough money is distributed by the typical factory, in the shape of incomes, to buy the output of its productive activity. Retailers' profits are not so distributed, for instance. If the point for the initiation of new incomes indeed existed at that point where additional goods were produced, then the Social Creditors would be right in saying that the distribution of incomes was insufficient to buy the output of productive activity, and the individualist economists at fault in not reaching the same conclusion.

But it is only when money is actually spent that incomes are initially created. If no one, for instance, will any longer buy the labour of certain wage-earners, then the incomes of these persons disappear. If no one will buy the output of certain kinds of bread, no

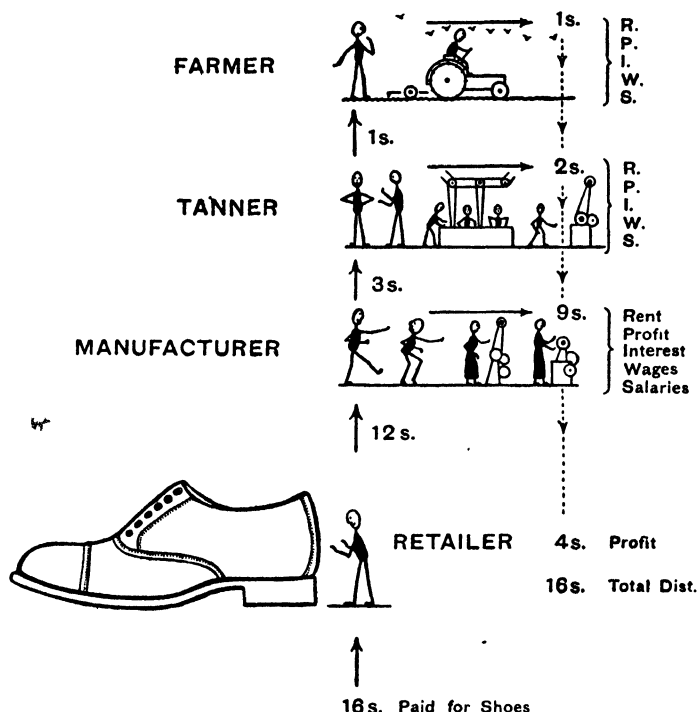


FIG. 1.

one will continue producing it, since incomes cannot be derived from its sale.

The total of retail payments, made for foodstuffs, becomes the total of personal incomes of individuals who have assisted in foodstuff production. We can trace the continual splitting up of the flow of money received for foodstuffs sold, till every penny or cent is accounted for as the income of someone among the

group of food producers. We conclude that the rate of flow of incomes to the whole group of producers of consumables is equal to the rate at which money is received by retailers for consumables sold to the public.

It may be thought that not all incomes are created through selling. The income of a school teacher, for instance, engaged in giving free education, involves no selling. But the teacher is paid through the imposition of taxation. Education is compulsorily "sold" to the community.

The rate of flow of incomes can be increased or diminished at the spending point in the circulation of incomes. If, say, the rate at which the community spends or invests to make new machines, new factories and other equipment, is drastically cut, all kinds of incomes, realized from such production, disappear. In consequence, the amounts spent by these producers to buy food and clothes and so on is reduced. Hence the rate of flow of incomes to the whole community is seriously affected. And the reverse happens if, when depression exists, the amount of money spent on productive equipment is increased. The rate of flow of incomes to the whole community is increased. But these points will be more fully dealt with later.

§ 3

TWO STREAMS OF OUTPUT. It is necessary to separate, into two main streams, the total flow of goods and services which is continually being produced as a result of productive activity. This separation is needed if it be desired to study the effects produced by saving and investment.

May we consider the productive activities of Robinson Crusoe? He grows and collects vegetables and fruits, fishes, tends and milks goats, makes and repairs clothes. Also, as he finds time and feels inclined, he is making a boat, building a new hut, repairing his axe, replacing the rotten timber supports of his old hut by new ones, hacking a path through dense forest.

Can we divide, into two classes, the whole of Robinson's productive activity? The production and collection of foodstuffs, the making of clothes—these are a using of his labour to produce consumable goods and services for his current needs. But in undertaking boat-building, Robinson was making provision for the future, *investing* his labour to build an instrument that would enable him to fish more efficiently. This is an activity about which Robinson can exercise choice, being different from his work in obtaining food, clothing, and shelter. He had little or no choice with regard to certain requirements of these: he provided them or he perished.

It is desired to classify as "investment" such things as boat-building, making a new hut, cutting a path, shaping a new handle for an axe, replacing timber supports of a hut.

Robinson's productive activity has an end in view: to produce the greatest possible output of consumables with a given amount of his labour. He desires that whatever toilsome work he undertakes shall yield the greatest possible return to him. Robinson will achieve that end by doing his work with the best instruments he can use or devise. His equipment of tools and instruments once obtained or made, he must needs maintain them in efficient working condition, or suffer

a decline in his productive ability. Hence, of Robinson's total productive activity, some portion is needed to be devoted to "investment."

A modern, money-using economic system separates, as Crusoe must, the total of the productive power which it uses into the same two parts: that devoted to making consumables, and that which provides investment goods. Its problem is fundamentally the same as his: to use its available productive resources to the greatest advantage.

Money which is invested in the current activities of engineers, builders, etc., is, in a sense, just as much "spent" as though it were expended to obtain bread. But it will be seen that our classification is serving to separate two essentially different forms of spending, one of which is *unstable*. We see this if we consider, first, Robinson's mental attitude to his work, and, second, the necessities which are imposed upon him. He can stop making a new boat, building a new hut; he cannot stop his milking of goats, gathering of fruits, making of clothes. But the mental attitude of Robinson, with regard to the future, has a great effect on his "investment" activities. Depressed and moody, he does nothing but the minimum of work necessary to keep himself alive; optimistic, cheerful, foreseeing, he may gleefully spend every spare minute with his new boat or hut or path. Such an analogy has much in common with our present economic system.

§ 4

INCOME, SAVING, AND INVESTMENT. It is desired to mean by "investment" not the buying of stocks and

shares but the spending of money on the current production of machines, buildings, docks, ships, roads, etc.—instruments of production. This term also covers spending which provides the incomes of those who, by their labour or services, add to the stocks of goods held by the community. Moreover, in “investment,” is included all money which is currently spent to provide against depreciation and obsolescence, and so maintain plants and equipment, not only in working condition, but more or less keeping pace with the advance of technical knowledge.

By adopting such a procedure, we are able to separate the whole of the income recipients, of any community, into two groups: (1) those drawing incomes from the production of consumables, the current output of real wealth of the system; and (2) those receiving incomes from the production of investment goods.

The meaning of the term “investment” has been limited so as to include only current *productive* activity. Investment takes place when productive power is devoted to the production of “investment goods.”

(Turning to “saving.” Money incomes are personal things, and seem available, up to their full amount, for the satisfaction of personal needs or desires in the shape of consumables. Saving occurs when the whole of incomes are not so spent. Saving, to those who receive incomes, means a withholding of purchasing power from the purchase of consumables.

But many things that appear to be “savings,” when viewed from an individual’s or a group’s viewpoint, no longer appear as savings when a whole community is considered. Persons saving to buy themselves an

annuity for their old age may have their withdrawals of purchasing power balanced by the expenditure of aged persons who are spending from annuities. Persons who save through insurance companies against accident and fire risks have their withdrawals of purchasing power more or less offset by the current paying out, by insurance companies, of claims, such money then again entering into the circulation of incomes.)

“Income,” “saving” and “investment” all refer to *current* productive activity. Income is received from the sale of current output to the community; saving is a withholding from spending on consumables of current incomes; investment is a spending of money on the current output of “investment goods.”

Since we are concerned in what follows with the way in which the available productive power of a community is utilized, not only when all productive resources are used—is this ever the case in peace time?—but when a portion remains unused, we need to make the above definitions refer to productive activity only. Hence the national income of, say, Great Britain becomes the yearly total of incomes received by all the individuals, or retained by companies, of that country who have assisted in any way to provide the year’s output of goods and services. So far as our definitions are concerned, it does not matter what the value of the instrumental equipment of Great Britain was at the start of any year, nor its value at the end. If, say, £500 millions has been spent, from amounts set aside to cover depreciation and obsolescence by business firms, this amount *adds* to the national income, since it generates the incomes of engineers, builders,

plumbers, etc., who are replacing worn-out or old-fashioned equipment, just as much as though they were adding to the total stock of equipment. And the money thus set aside from income to cover depreciation and obsolescence must be reckoned as part of the total of savings.

CHAPTER III

EQUILIBRIUM OF DEPRESSION

§ 1

DISEASE IN THE CIRCULATION OF INCOMES. If under-employment of productive power is not to be generated, the money set aside from the total income of a community as savings, must be offset by equivalent spending elsewhere in the economic system. If the flow of savings does not find such an outlet, the total of effective demand will shrink; rate of output will quickly be curtailed to correspond, and hence unemployment appear.

As illustration of the process, assume that a certain community had 1,000 income recipients, each of whom saved 10 per cent of his income. At first this small community is offsetting the saving which occurs by spending the same amount to create and maintain machines and factories, roads and schools, ships, etc. No unemployment exists: everyone who has sufficient desire or need to obtain an income is receiving one.

Then something happens: maybe a wave of fear, as began to sweep over the United States late in 1929. Each income recipient perhaps saves as before, 10 per cent of income, but spending on machines and other equipment now seems an extremely foolish proceeding. It stops.

We can follow what happens to this community, if

we make simplifying assumptions: that incomes are all equal and paid monthly, that accounting periods are also monthly, and that any person, should he become unemployed, becomes destitute and promptly dies. The following table shows what happens:

TABLE I

<i>Month</i>	<i>Number of income recipients</i>	<i>Percentage of general unemployment</i>	<i>Effective demand or spending per month</i>	<i>Amount saved per month</i>	<i>Investment per month</i>
1	1,000	Nil	£20,000	£2,000	£2,000
2	1,000	Nil	£18,000	£2,000	Nil
3	900	10 per cent	£16,200	£1,800	Nil
4	810	19 per cent	£14,580	£1,620	Nil

We see that effective demand is undergoing continual shrinkage, unemployment is constantly growing, the number of income recipients is continually being reduced in the effort to equate rate of output and rate of consumption. Whatever the amount of fear that existed initially, it will be nothing to the fear that would be generated as such a disastrous process goes on. Under the conditions we have laid down, this economic system would collapse.

The cumulative effect of the whole process is also brought out by this illustration. A continuous deficiency of spending exists, or, in other words, a continuous deficiency of effective demand. Incomes are continually being destroyed, rate of output being reduced, and so on till collapse. The system cannot stabilize itself, and continually makes things worse in endeavouring to do so.

We have reached a possible explanation of the way

in which the whole total of effective demand, the total demand for all the finished goods and services produced in the system, can shrink or swell. The inception and deepening of any actual slump is marked by this downward turn and continual shrinkage of total effective demand, just as the revival period which leads to a boom is characterized by a continuous growth in it. Both shrinkage and growth manifest themselves at different rates for different commodities, but the general upward and downward movement is clearly shown in statistics.

§ 2

WHAT PREVENTS COLLAPSE? No actual economic system has been known to collapse in the fashion assumed in the previous section. If, then, we are right in postulating that it is through the curtailment of investment that slumps are bred—though there may be deeper causes that lead to the fall of investment—what prevents collapse?

When persons lose their money incomes or find them seriously reduced, they do not immediately die, as assumed previously. On the contrary they struggle to live, expending past savings or money reserves, sometimes depleting Unemployment Insurance or trade union funds, or selling possessions, to enable them to do so. Business firms seldom become bankrupt immediately they face losses instead of realizing profits; they expend reserves or money carried forward from previous years, and so continue operating in anticipation of again achieving a profit-making position.

Of course when depression strikes a community, many persons may suffer a reduction and not a total disappearance of income. For if they own property, shares, and so on, these may continue to yield at least *some* income as interest or rent or dividends. But there will exist, in any depression-affected community, a group of unsuccessful persons and firms who are forced to spend at a greater rate than that at which they receive incomes.

Is it possible, then, that this kind of spending, a spending forced on the victims of the system, is the thing which prevents collapse? For here is a flow of spending which increases in amount as depression deepens and widens and the victims of the system increase in numbers. Such a flow could indeed stabilize the system, since it would serve to maintain the incomes of the group of successful persons who, despite depression of the economic system, keep their personal expenditure below their incomes.

§ 3

STABILITY DURING DEPRESSION. It is suggested that an equilibrium or balance or poise of the economic system always exists, although the system as a whole is advancing during the revival, perhaps remaining stationary at the top of the boom for a brief period, then receding during the slide into depression. A period then perhaps ensues at the bottom of depression and again the system starts reviving. A useful analogy is that with a ship which has sprung a leak. The pumps are not quite able to throw out the water fast enough, and slowly the ship settles into the sea; there is danger

of sinking. But some staunching of the leaks is made, and there comes a moment when the water does not gain on the pumps: the ship has sunk to her lowest position. A further staunching of the leaks and she begins to rise slowly out of the sea. But equilibrium exists during the whole time, in the sense that the upward pressure of the water on the ship is always exactly equal to her weight. And equilibrium in the economic system always exists in the sense that the flow of spending as it diminishes or increases always forces or allows of corresponding changes in the productive system. The system rises or falls so as to maintain equality between the flow of spending and the distribution of incomes.

To follow what happens during depressions, we need to divide the body of consumers into two groups: (1) those who receive incomes sufficient, or more than sufficient, to maintain their expenditure on consumables; (2) those whose incomes, if they receive any, are insufficient to maintain them. This latter group are forced, as victims of the economic system, to find money to spend which they cannot obtain from their own incomes. They spend their past reserves or savings or insurance funds. Business firms, making losses, draw on reserves or carry-forwards, and so do the same.

The successful income recipients are not spending the total of their incomes, for a portion of their savings is not being invested. But these income recipients, when they save, always store up something. If they invest part of these savings in the current production of investment goods, it is clear that they store up ownership of machines, factories, etc. But what do

they store when they save a portion of their incomes which is not spent on current real investment?

Although this portion of the savings of successful income recipients may not be used to create investment goods, they still accumulate or store bank deposits, or currency, or shares of companies or other property. They obtain ownership of these things through obtaining their incomes. But they do not

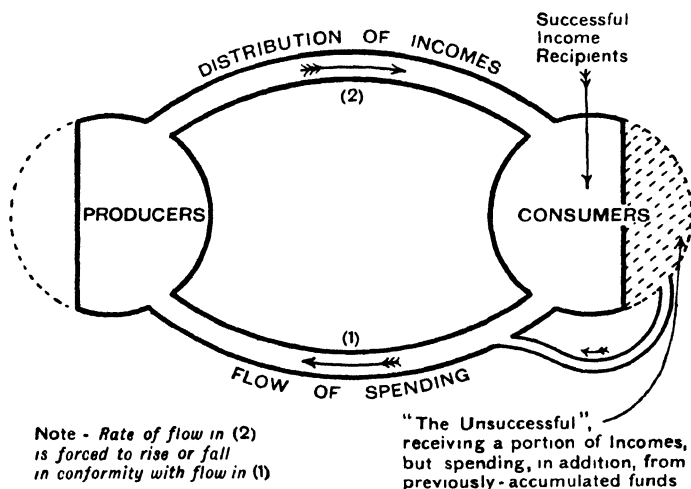


FIG. 2.

obtain this portion of their current income because of their own current spending. They obtain it because "the unsuccessful" are doing the needed spending. Hence it is seen that the rate at which successful income recipients accumulate these deposits, etc., equals the rate at which "the unsuccessful" are spending their reserves of past savings, their previously accumulated funds. Throughout the system as a whole, then, no accumulation or storing of anything occurs unless money is spent and productive power used to create or maintain actual physical goods.

It follows that the *net* rate of saving of a *whole* community and its rate of investment *must be equal*. The automatic method of operation of the economic system will not allow anything else but that strict equality. For if the positive rate of saving of the group of successful income recipients is in excess of their rate of investment, negative saving, or loss of past savings, on the part of "the unsuccessful," brings the net or real rate of saving of the whole community into equality with the rate of investment. But unemployment and non-success in obtaining incomes is generated in the process.

Fig. 2 attempts to illustrate the income-circulating system during depression, as though it were some great organism whose circulation of "blood" was composed of money in flow. The circle on the left, representing producers, has a portion cut away, showing the under-employment of productive resources. A corresponding portion, cut off the right-hand circle, illustrates the non-success in obtaining incomes.

It will be realized that the money mechanism we use in our economic system insists that the rate of flow of money in vein or pipe (2) must be adjusted to be in equality with the rate of money spent in pipe (1). Successful income recipients, as a group, always have it in their power to initiate revival; just as they may, through misguided notions of economy, force the whole system to waste a great part of its productive possibilities. For if the body of successful income recipients will consume and invest in new production at an increasing rate, the rate of flow in vein (1) will always tend to be in excess of that in vein (2). Production will be stimulated continually; unemployment will

decrease and the number of income recipients increase; the rate of flow in vein (2) will continually adjust itself to equality with that in vein (1). On the other hand, if the standard of living and the rate of investment of successful income recipients are continually reduced, the rate of flow in vein (1) will always tend to be less than that in vein (2). Rate of output will be reduced; unemployment and the numbers of "the unsuccessful" will increase, as the rate of flow in (2) is adjusted to that in (1).

CHAPTER IV

SLUMP AND BOOM

§ 1

FACTS NEEDING EXPLANATION. From perhaps the beginning of the nineteenth century—or even earlier—booms and slumps have been noticed as occurring in the economic systems of many countries. Serious attempts to explain these recurrent phases of prosperity and depression began amid the violent fluctuations of trade that followed the Napoleonic Wars. Since those early days many investigators have struggled with the problem of explanation. An admirable summary of the numerous hypotheses that seek to account for the phenomenon is given by Professor Wesley Mitchell, in his *Business Cycles*.

Let us study some of the outstanding facts that are known about these periodic slumps, before proceeding to see if the work we have done either will, or can be extended to, explain them.

We know, from bitter experience of the slump which followed the break in 1929, that practically every branch of productive activity becomes adversely affected. In systems such as the United States or Great Britain the unemployed are numbered in millions. The profits of nearly every business decline; some get into serious difficulties and suffer losses or go into bankruptcy. Consumption drops, least for

necessities, most for luxuries; the decline in demand for machines and instruments of production is relatively very great.

Our theory must explain not only why the whole economic life of a community is affected, but also why it affects so many countries. For the incessant recurrence of these cycles has been noted in the United States, Great Britain, France, Germany, Austria, pre-War Russia, Sweden, Holland, Italy, Argentina, Brazil, Canada, South Africa, India, China, Japan, etc.

Economic history shows that booms are associated with relatively large investments in instrumental goods. In 1825 the English boom was preceded by large investments in mining material, etc., destined for Mexican mines and other enterprises in South American countries which had recently been freed from Spain. Large investments in railway building, both in Britain and in the United States, occurred in 1833-6, followed by the boom of 1836-7, a financial crisis in England and widespread failure of private note-issuing banks. In boom after boom preceding the War, the same stimulation of investment is evident. The War "boom" itself was connected with an enormous "investment" in instrumental goods—in this case the instruments of destruction and death. The short-lived British boom of 1920 was accompanied by large investments in instrumental goods needed to replace those destroyed, allowed to depreciate, or to become obsolescent during the War. The great crash of 1929 in the United States was preceded by large investments in constructional works. Intense activity existed in all the constructional trades: new factories,

huge skyscrapers, palatial blocks of offices, houses were being erected at astonishing speed.

To follow up this point about investment we need to study the way in which employment is increased or decreased among producers of investment goods. It was previously shown how the whole occupied population could be divided into two groups: (1) persons drawing incomes from the sale of consumables; (2) persons drawing incomes from the sale of investment goods. In the second group the persons connected with the production of instrumental goods—ships, electrical machinery, boilers, buildings, roads, etc.—form by far the larger portion of the whole. It is desired to use the British unemployment statistics to see how unemployment affects the above groups. Any apparently significant facts that exist must be seized on, and, if our analytical work is correct, it should yield explanations of these.

It has, however, to be recognized that the statistics of unemployment that exist are no more than “samples” of what actually occurs. And this applies to both trade-union figures and Unemployment Insurance figures. Though these samples are not accurate enough for certain purposes, they serve to show, it will be seen, certain very important phenomena which must be explained by any theory of mass unemployment that deserves acceptance.

If the monthly percentages of unemployment for “all unions”—which is a sample of general unemployment throughout the country—for any group of, say, fifteen years or so, be plotted on squared paper, we get some such result as shown on Fig. 3. A series of waves of unemployment are revealed, shown by the

dotted line, with “ripples” of unemployment superimposed on these. Each wave forms one complete cycle of boom and slump. If, instead of plotting monthly percentages, the yearly averages are plotted, we get results as shown on Fig. 4. Here two series of waves are plotted, one of which, AB, represents “all

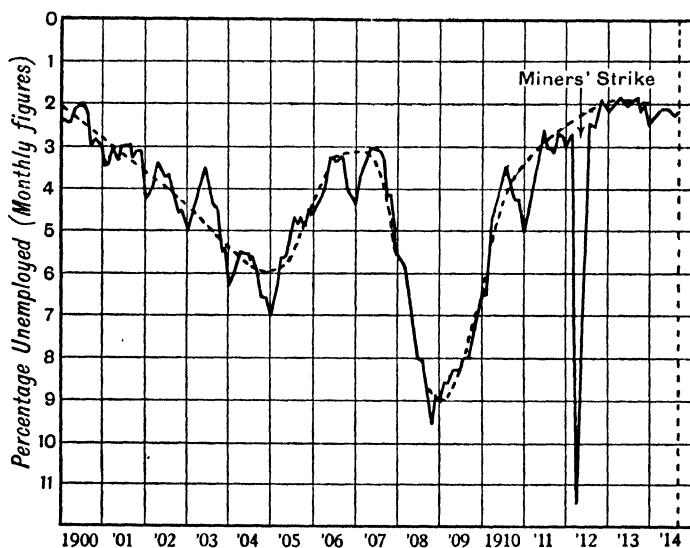


FIG. 3.

unions,” and the other series, given by B, refers to unemployment existing among “engineering, ship-building and metal” unions. This important group of unions comprise ship and barge builders and repairers, engineering, ironfounding, boiler-making, and miscellaneous metal trades. As such it is a fairly good sample of unemployment among the whole group of producers of investment goods.

A striking fact is apparent if we study Fig. 4: the percentage of unemployment, among producers of investment goods, is always greater than that which

exists among all producers, except at the peaks of the waves. Why? Here is a fact that needs explanation. Moreover, if the explanation is to be satisfactory, it should show how widely the two percentages will differ.

We have, then, if the theory we build up of the

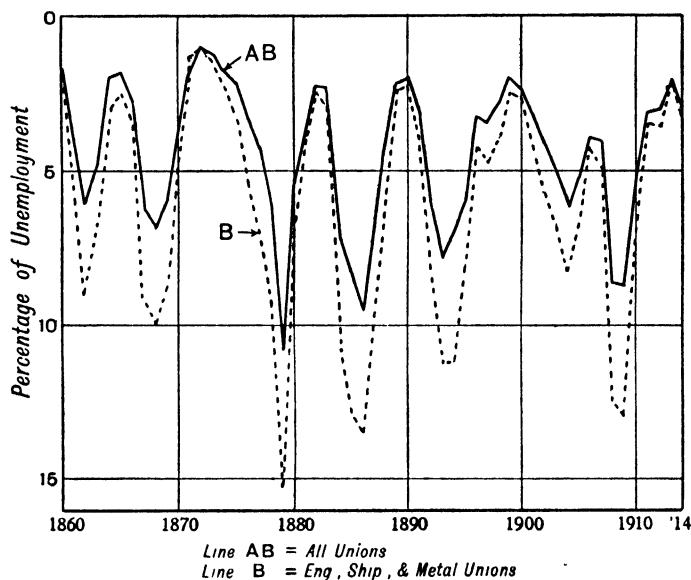


FIG. 4.

slump-boom cycle is to be satisfactory, to explain the following things:

(1) Why the percentage of unemployment among producers of investment goods is, except at boom times, higher than among all producers.

(2) The relationship that exists between the percentage of unemployment among producers of investment goods, and that of all producers.

(3) The part played by investment in the whole process.

(4) What are the underlying fundamentals that produce the same effects in so many countries?

(5) Why the economic systems of most countries are incessantly undergoing change: "prosperity crumbling into depression"; a slow revival taking place to the next boom, and again the slide into depression.

Other facts that require explanation will emerge as our inquiry proceeds.

§ 2

OUTLINE. If we now sketch an outline-explanation of the phenomenon of slump and boom, that outline can be tested and, if found to fit the facts, the work continued and details filled in.

In our minds, in our habits, in the way we use money, there is a definite separation between saving and real investment. We always think and act as if the saving of money were provision for the future—and so it may be if the savings are somewhere invested and take shape in the current production of physical goods. But some individuals will still practise saving, though new real investment may be zero.

If, then, the proportion of the community's total income which is devoted to real investment substantially declines, the proportion saved by successful income-recipients may not alter. In fact, such persons may be strengthened in their convictions that they must save. For the wave of unemployment that strikes the system, when the rate of investment falls below the rate of saving of income-recipients, will produce fear of the future. Moreover, the standard of life for

different individuals becomes established; persons become habituated to living in certain ways, spending a certain amount from their incomes on consumables, saving a certain amount. It seems possible that the proportion of total income saved, by successful income-recipients, may remain nearly constant.

(When we speak of "income-recipients," we shall have to include business firms. For, like individuals, they receive incomes, they save, they invest, and they hoard.)

Of course, as depression widens and deepens, the number of successful income-recipients diminishes and the community's income falls, but the diminished body of such income-recipients may still continue to save perhaps the same percentage of their total income as before. Saving still goes blindly on, though real investment suffers continuous decline.

Real investment seems a most unstable form of spending. Though it may appear wise to individuals that they should save, it may not seem at all wise, at certain periods, that real investment should be undertaken. There occur periods when numbers of those who must, in the present economic system, take the initiative in investment seem full of fear. Such a time followed the crash of the boom in 1920 in Great Britain; such a period has followed, for the whole world, the crash in the United States in 1929. At such times the whole of effective demand shrinks; it seems, to business concerns, that money invested in new plant and equipment, even in keeping existing equipment abreast of technical progress, will become money lost.

Our preliminary explanation of boom and slump,

then, is this: The rate of saving of successful income-recipients may remain a nearly constant percentage of their total income, however much that may fall. The number of successful income-recipients will be reduced, and, in consequence, the community's income will fall, but still the proportion of total income which is saved may remain nearly the same. But the percentage of the community's income which is invested may suffer reduction. Hence hoarding of incomes will exist. In consequence, there must be a certain number of people and firms suffering economic distress, forced to spend from their previously-accumulated funds to supplement the deficient spending of successful income-recipients.

At the top of the boom both employment and the community's income will be high; hoarding will be at a low rate or non-existent. When the boom breaks (for reasons considered later) investment declines and the rate of hoarding becomes appreciable. The whole system sinks into depression. Years may elapse before investment revives (again for reasons hereafter considered) and the economic system climbs to the next boom.

§ 3

SAVING AS A CONSTANT. The hypothesis which will be tried, to see if it agrees with the statistics, is that an appreciably *constant* proportion of the community's total income is always saved by successful income recipients. But it is necessary to be clear as to what is meant by this. During depression, the total income of a community is not entirely received by successful income-recipients; a small part is received by "the

unsuccessful." But the whole of the positive saving is practised by successful income-recipients. Hence the proportion saved from *their* total income by successful income-recipients may increase somewhat during depressions, even though the proportion saved by these persons is a constant proportion of the total income received by the whole community.

It may, at first sight, appear as not even plausible that this proportion should be a constant. But it must be remembered that saving is a two-sided affair: the individual's and the community's. So long as the self-adjusting economic system exists, it must bring under control so very important a matter as the community's total positive rate of saving. Hence it will not allow the group of successful income-recipients to save just what they choose at any level of incomes. For if they attempt, as a group, to save too much, unemployment of productive power will strike the whole system. The number of successful income-recipients will be reduced, and the amount of the income of certain individuals of those who remain successful will be reduced, so that each is unable to save as high a proportion of his particular income as before. This happens because these individuals find that a part of their property in shares or land no longer yields income, or the income which they receive from profit sources is reduced.

So long as under-employment of productive resources exists, then, the rate of saving of successful income-recipients is not an independent variable. If the group of successful income-recipients attempt to save too much, unemployment will strike the system, and the diminished group will find itself forced into

line with the functioning of the remainder of the economic system. On the other hand, if the group of successful income-recipients attempt to save too little, employment will increase, and the augmented group, with certain individuals becoming still more successful, find itself able to save the constant proportion of total income.

So far the argument has been quite general, not referring to any particular country. It may be that the figure for the constant is not the same in systems such as the United States and Great Britain, though it does appear possible that a constant exists in each case.

In the next section, the hypothesis that a constant percentage of national income is saved by the successful income-recipients of Great Britain is tested by the British statistics. It is there confirmed. It appears that 19 per cent of the British national income is constantly saved by those persons and firms who successfully receive incomes.

CHAPTER V

TESTING AND CONFIRMATION

§ 1

WHAT IS CONSTANTLY SAVED BY INCOME-RECIPIENTS? We must see if what may appear as a plausible theory of boom and slump fits the facts. The first thing to find is the probable figure for the percentage of the national income which is constantly saved by successful income-recipients. Estimates of national income and investment, for Great Britain, are given by Mr. Colin Clark, in his valuable book, *National Income and Outlay*.

Definitions of national income, investment, and saving are of course of great importance if theory is to be closely connected to fact. But, unfortunately, definitions of these terms vary with different writers, and even with the same writer at different times. American definitions differ from British. Mr. Colin Clark has a somewhat different definition of national income in his first book, *The National Income, 1924-31*, from that given in his second, *National Income and Outlay*. Reasons are given, of course, why the change has been made.

We are concerned with the productive activity of the community, the products of which are obtained through the payments of money incomes. Hence the yearly national income must mean to us the aggregate

selling prices of all those goods and services which are produced within a year, no matter whether productive activity has been used for repairing or replacing machinery, etc., for accumulation of stocks or equipment, or to satisfy the demands of personal consumption. Hence we must include in national income the amounts set aside to cover depreciation and subsequently spent to cover renewals of obsolescent, worn-out, burnt-out, or corroded equipment. We have to avoid the notion of investment as being solely "accumulation," and only occurring if there is a net addition to stocks of goods or to the nation's equipment of factories and machinery. Employment among shipbuilders, engineers, metal workers, contractors . . . and its consequent effects upon the employment of all other workers is quite independent of whether accumulation takes place or not. Thus, suppose there were a great earthquake in Britain late in 1937: many houses, factories, schools, etc., were destroyed. Then in 1938 there would be great activity to replace these things. But the effects produced on the structure of productive activity in 1938 might be just the same in either of the two cases: (1) all the new houses and factories and schools were added to the existing stock, no earthquake having occurred; or (2) investment activity was devoted to replacing the earthquake's destruction.

For our purpose, money set aside to cover depreciation by a firm must be reckoned as part-income of this firm, since it is part of the prices of the yearly outflow of goods sold by the firm. When money is spent by this firm to replace obsolescent or depreciated machinery, it becomes the incomes of engineers, etc.

If, then, we are to account for all the money-income producing results of productive activity, we have to reckon as "savings" the amounts set aside to cover depreciation, as "investment" money spent from these savings. Hence we are concerned with what is called "gross" income and "gross" investment in Mr. Colin Clark's book.

Another difficulty exists. To find the "gross national income" Mr. Clark adds, to the total of personal and non-personal incomes, rates and indirect taxes. He argues that these indirect taxes increase the prices of goods on which they are imposed, and thus increase the price level. Hence if comparisons are to be made, one year against another, when alterations are occurring both to the price level and to indirect taxation, the total amount of indirect taxation must be incorporated. "Real national income is calculated by dividing the money national income by an appropriate price index, and this price index is bound to incorporate the effects of changes in national and local indirect taxation." (*National Income and Outlay*, p. 12.) But to add this amount solely to "gross income" and make no proportionate addition to the income received by producers of investment goods is to produce a distorted picture of the relative importance, as regards numbers employed and incomes earned, of the two groups: producers of consumables, and producers of investment goods. Therefore, in Table 2, rates and indirect taxes are deducted from "gross national income" so as to leave the gross income which is actually produced by income-recipients.

In *National Income and Outlay*, investment in stocks of

goods in process or ready for sale is given as a *minus* quantity in the years 1929 to 1935, inclusive. This, again, is done because of thinking of investment as "accumulation." But we need, for our purposes, to relate gross investment to productive activity. Obviously productive activity can either exist or be zero; it cannot be a minus quantity. Hence, if stocks of goods have been reduced during any year, we must *not* deduct the reduction in stocks from gross investment, if we wish to relate this to the productive activity which has actually been exerted during that year.

The same remarks apply to overseas investment. Again the idea of accumulation enters. Great Britain may send goods overseas as an investment, in which case British productive activity has been devoted to making these goods, which form part of the total of investment during the year. But productive activity to do this cannot become less than zero, although an adverse balance of trade may exist, as during the years 1931-4.

Table 2 is particularly interesting because of giving figures relating to a "decline" period—1929-32—and a "revival" period—1932-5. The way in which gross income and employment decline, in correspondence with the decline in investment, the way in which the revival of investment is accompanied by growth of income and increase of employment is just what our diagnosis would predict.

If the percentage of investment and the percentage of general unemployment be plotted, the curve indicates that the rate of investment, when general unemployment is zero, will be about 19 per cent of home-produced gross income. This is the same result as

obtained in the writer's previous book, *Abolish Slumps*, using statistics of national income from Mr. Colin Clark's *National Income, 1924-31*. It is also the per-

TABLE 2
INCOME, INVESTMENT AND UNEMPLOYMENT
(IN £ MILLIONS)

	1924	1929	1930	1931	1932	1933	1934	1935
Gross National Income, i.e., including maintenance and depreciation. (P. 88, Colin Clark.)	4376	4765	4698	4264	4210	4334	4624	4926
Deduct:								
Rates and Indirect Taxes. (P. 83.) ...	486	515	501	506	541	546	560	586
Income from Overseas	280	315	275	200	175	190	205	215
Home-produced Gross Income (excluding rates, indirect taxes and income from overseas)	3610	3935	3922	3558	3494	3598	3859	4125
Fixed Investment, Gross. (P. 185.) ...	576	623	607	560	526	556	619	662
Investment in Stocks ...	20	—	—	—	—	—	—	—
Overseas Investment ...	72	103	28	—	—	—	—	37
Total of Produced Investment	668	726	635	560	526	556	619	699
Produced Investment as percentage of home-produced gross income	18.5	18.5	16.2	15.7	15.0	15.5	16.1	17.0
Percentage of General Unemployment ...	10.3	10.9	16.0	21.7	22.0	20.2	16.5	14.0

centage of the national income which is constantly saved by the group of successful income-recipients.

§ 2

WHY A GREATER PERCENTAGE OF UNEMPLOYMENT AMONG MAKERS OF INVESTMENT GOODS? It must be

emphasized that if we give an acceptable answer to this question, the work so far done will receive strong support. This point is crucial; on it, and its further investigation, really rests the whole case of this book.

If, then, 19 per cent of the national income were invested, would there also be 19 per cent of income-recipients drawing incomes from production of investment goods? We see that effective demand for investment goods is 19 per cent of the total. Therefore if rates of wages, salaries, profits, rents and interest tend to be much the same whether incomes are received from the production of investment goods or from consumables, the numbers of income-recipients will tend to be allocated in the same manner as that in which the national income is spent. To spend 19 per cent of the national income on investment goods, and 81 per cent on consumable goods and services, is to create incomes in the same proportion. Out of every 100 income-recipients, 19 will be receiving incomes from the production of investment goods, and 81 receiving them from the production of consumables.

Suppose that the general percentage of unemployment were 20 per cent. There would, we may assume, exist 80 income-recipients and 20 incomeless persons, out of every 100 persons who initially existed as income-recipients when productive resources were fully employed. For it is the greatest mistake to imagine that the distress caused during periods of severe unemployment is confined to wage-earners. Skilled technicians—chemists, engineers, metallurgists, managers, accountants, electricians—are unemployed. The non-use of instrumental goods means that persons who draw incomes from ownership of these are “unem-

ployed"—to the extent of the unused property. Consequently it is not merely incomes of wage-earners that are affected by unemployment; other incomes are involved.

When, therefore, we talk of 20 per cent of unemployment among the insured workers of, say, Great Britain, it must be recognized that this is only a "sample," as it were, of total lack of income-yielding occupations among the whole body of producers.

When shrinkage of the total of effective demand occurs—as it does when the hoarding of incomes increases—a part of the productive system, either immediately or soon, drops out of use. Rate of spending on commodities drops; rate of output must drop to correspond. Reduction of output-rate can be effected quickly in some cases, more slowly in others. It is easier in the case of manufactured goods than for agricultural produce. Trees in bearing, ripening crops, land ploughed and sown, animals being got ready for market—these processes cannot be reduced immediately.

But we may take it as a working assumption, provided we do not consider short periods of time, that output-rate is reduced at the same speed as effective demand. That process of reduction is forced on producers; ruin comes to those who cannot or will not quickly fall into line.

Having dealt with our assumptions, let us continue the process of answering our question. If unemployment is due to the rate of investment falling below the rate of saving of successful income-recipients, effective demand will fall in a very definite manner, falling at a different rate for investment goods than for consum-

ables. And such a fact will show itself in the statistics of unemployment. Reference can be made to these for confirmation or denial of our reasoning.

Can we find the manner in which effective demand is reduced? Suppose that with 19 per cent of the national income saved and invested by income-recipients there were no unemployment. Now imagine that the rate of investment fell. Incomes would be destroyed, effective demand shrink, the national income fall. When a point of stability is reached, we might find that the successful income-recipients who remained still saved 19 per cent of total income, although that had shrunk. We might find, too, that the rate of investment was only, say, 16 per cent of the shrunken total income. In other words, effective demand for investment goods is now only 16 per cent of the shrunken total.

Now let us look at the numbers of income-recipients who still remain. Effective demand for investment goods will now be 16, and for consumables 84 per cent of the total that still remains. In consequence the numbers of income-recipients belonging to the two groups of producers will have changed in the same way. There will be, out of every 100 persons who still remain as income-recipients, 16 who receive incomes from the production of investment goods and 84 who receive them from the production of consumables.

But, with 20 per cent. of general unemployment, there will remain, for every 100 persons who existed initially as income-recipients, now only 80. In what numbers do the two main groups of producers exist? At first there were 19 persons drawing incomes from the production of investment goods; this number

decreases to $0.16 \times 80 = 12.8$ persons. In consequence, the percentage of "the unsuccessful," formerly drawing incomes from the production of investment goods, is: $(19 - 12.8) \div 19 = 32.6$ per cent. This is a considerably higher percentage than the 20 per cent of general unemployment.

And this arithmetic serves to show why that percentage must always be higher. If the percentage of investment declines while the percentage of saving of successful income-recipients remains constant, the demand for investment goods will suffer a *double* decline. It declines, first, because the *total* of effective demand falls; it declines, second, because the *percentage* of that demand, given to producers of investment goods, also falls.

So far, our reasoning and assumptions seem confirmed: they have yielded the beginning of an explanation of why, during depressions, the percentage of unemployment among producers of investment goods is greater than the general percentage of unemployment. But this explanation is not complete.

§ 3

RELATION BETWEEN UNEMPLOYMENT PERCENTAGES. We can ascertain a good deal more about the connection between unemployment and the hoarding of incomes if we continue the previous example. (It may be rather tedious for some readers to follow this. But it is extremely important to do so, for this work gives the proof that our reasoning is sound.)

We took, merely as an arithmetical illustration, that with 3 per cent of income hoarded there might be

20 per cent of general unemployment. Can we see what else must follow if these particular figures are correct?

Whatever the total rate at which income-recipients are hoarding, that must also be the total rate at which "the unsuccessful" are spending from their previously accumulated funds. When the stability of depression exists we see that:

Number of Successful income- recipients.	×	Rate of Hoarding	=	Number of the unsuccessful	×	Rate of spending from previously- accumulated funds.
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If there is 20 per cent of general unemployment, then for every 100 potential income-recipients, 80 will receive incomes and 20 will be unsuccessful. If we express the rate of hoarding and rate of spending from previously accumulated funds as percentages of the average income of each income-recipient, we can work out the results in the above equation, thus:

$$80 \times 3 = 20 \times 12$$

We see that to balance a rate of hoarding of 3 per cent of the total of incomes obtained by 80 persons, 20 persons must spend an average amount represented by 12 per cent of the average income.

If we assume that this figure of 12 per cent remains constant, no matter what the percentage of general unemployment might be, we can work out that percentage, if hoarding is, for instance, 1 per cent of total income. Doing this, we find there exists 7.7 per cent of general unemployment.

If, now, we calculate (as done in the previous section) the percentage of unemployment which must

exist among producers of investment goods, we find that it is 12.5 per cent—again a considerably higher percentage than the general percentage of unemployment.

And a very curious thing emerges at this point. If we compare, in the two cases worked out, the ratio between the percentages of unemployment among producers of investment goods and general unemployment, we find that it is exactly 1.63 each time! ($32.6 \div 20$ and $12.5 \div 7.7$.) That constancy seems most significant.

If we continue this work, by assuming other rates of hoarding, always we finish at the significant figure of 1.63. We must conclude that this figure is always the same so long as 19 per cent of total income is constantly saved, and 12 per cent of the average income represents the amount that "the unsuccessful" are forced to spend from previously accumulated funds.

If, however, that percentage of 12 is altered, the ratio also alters. It becomes, for example, 1.53 if the percentage is reduced to 10. But, again, the curious thing is evident: the ratio between the percentages of unemployment still remains 1.53 no matter how great or small general unemployment may be.

We have reached a very interesting result. We do not know what the actual figure for this constant may be, but if we are travelling along the track of truth, that constant will exist among actual statistics of unemployment. We can make a prediction: if our assumptions and the reasoning based on them are true, there will exist a *constant* ratio between the percentage of unemployment of the investment goods producers, and that of the whole of the producers.

§ 4

WHAT THE STATISTICS OF UNEMPLOYMENT REVEAL. If we refer to the statistics of unemployment for Great Britain (figures for one cycle are given on Table 3) the result seems, at first sight, disappointing. The calculated ratio between the unemployment percentages does anything but remain constant. But if we scrutinize the ratio, a very interesting thing is observed: the ratio is a maximum when unemployment is high,

TABLE 3

Year	Unemployment Percentage		Ratio:
	<i>Eng., Shipbuilding and Metal Unions</i> (1)	<i>All Unions</i> (2)	(1) ÷ (2)
1882	2·3	2·35	·98
1883	2·7	2·6	1·04
1884	10·8	7·15	1·51
1885	12·9	8·55	1·51
1886	13·5	9·55	1·41
1887	10·4	7·15	1·46
1888	6·0	4·15	1·45
1889	2·3	2·05	1·12
1890	2·2	2·10	1·05

a minimum when unemployment is low. And this is true for any cycle. At the peaks of booms—1865, 1872, 1882, 1890, 1899, 1906, 1915–18, 1920—the ratio is always low. In years of deepest depression—1862, 1868, 1879, 1886, 1894, 1904, 1922, 1926, 1932—the ratio is always high. The period covered by the figures examined—1860 to 1936—is 76 years. And always the ratio varies from a maximum at peaks of booms to a minimum at deepest depressions. This is

shown graphically by Fig. 5, which gives only results for bottoms of depressions or tops of booms. A theory which seeks to explain the phenomenon of the trade cycle, if it is to be acceptable, must show why the ratio varies in this very interesting manner.

Is it possible, then, that the theory already developed

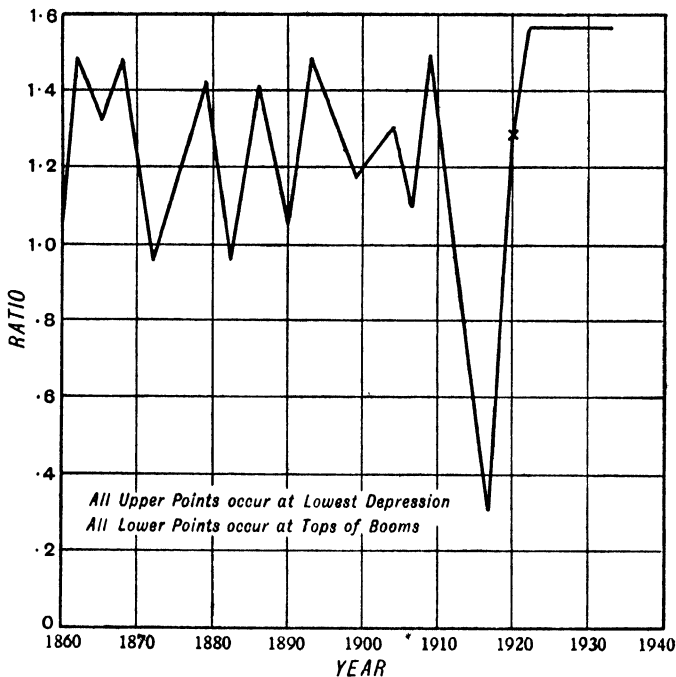


FIG. 5.

is correct so far as it goes, but it does not go far enough? Is it, as tacitly assumed, true that *all* unemployment is generated because the rate of saving of successful income-recipients is greater than the prevailing rate of investment? It is not, for there will be unemployment, among makers of consumables, due to temporary maladjustments. There will tend to be an amount of

unemployment, among these producers, which is not directly connected with the prevailing rate of investment, but is the chance and random happening of the moment—the “ripples” that we noticed in the previous chapter.

If this is so, then the constant ratio may indeed exist in the actual statistics, but its presence will be more or less masked by the random amount of unemployment existing among producers of consumable goods and services. This idea seems exciting, suggesting, as it does, that we may have been proceeding on correct lines. For if such a random amount of unemployment exists—an amount as likely to show itself during depressions as during booms—it will produce a greater effect on the observed ratio when total unemployment is low than when it is high. In that case the ratio will vary in the same way as it actually does in practice.

But how can we separate or filter out these random fluctuations of unemployment and leave revealed the unemployment which is due to the rate of saving of successful income-recipients being greater than the current rate of investment?

That seemed a difficult, if not impossible, task. But finally the device of plotting the two groups of percentages, as shown by Fig. 6, was hit on. The plotted percentages all appeared to fall between two parallel lines, one of which, AB, passed through the origin O, and the other, CD, was displaced to the right hand of the first line. The constant ratio stood revealed, and appeared to have a value of 1.56. The random fluctuations of unemployment are shown by the fact that the plotted points lie entirely on the right-hand

side of AB and not on either side of some such line, as they would if merely errors in the statistics were producing deviations from the line. Random amounts

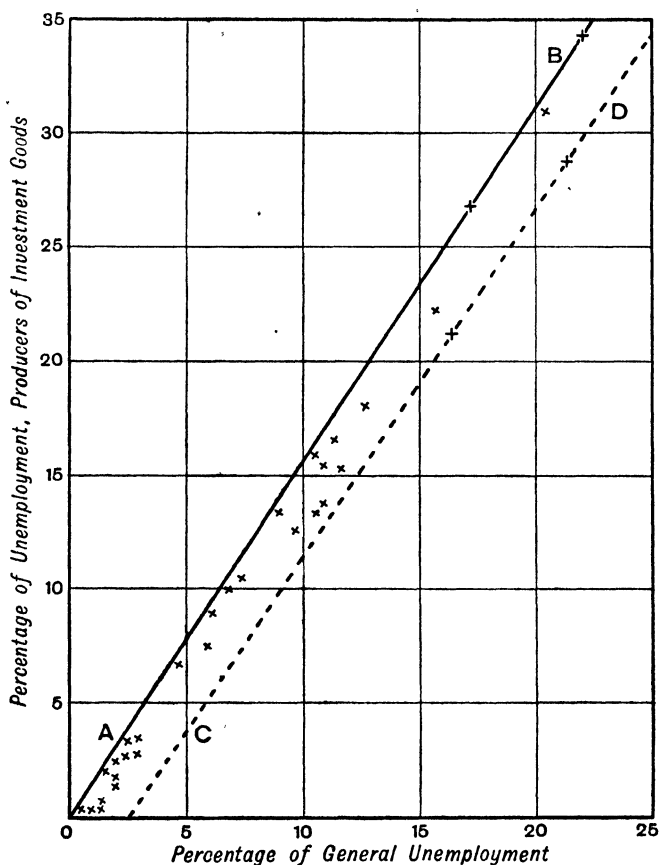


FIG. 6.

of unemployment exist, which affect the producers of consumables, without any corresponding effect appearing among producers of investment goods. (It should be noted that the whole of the yearly averages of unemployment from 1860 to 1936 are not shown on

Fig. 6; the scale is too small to insert all, and only typical points are inserted.)

Our preliminary supposition as to the cause of the ratio varying during the course of a cycle appears to be confirmed. Random amounts of unemployment, which apparently can exist at any time, have a much greater effect in altering the value of the ratio when the total amount of unemployment is low. As total unemployment grows, the observed ratio will tend to increase to the value of 1.56; when total unemployment is low, the observed ratio will tend to fall much below that figure. It may then even be zero, with no unemployment existing among producers of investment goods and a random amount among producers of consumables.

On Fig. 5, all the depth of depression and boom-peak figures from 1860 to 1936 were plotted. Fig. 6 reveals that, although so serious a dislocation of the national life as that caused by the War may have produced alterations in the random fluctuations of unemployment, it has not altered the value of the constant ratio.

Both trade-union and Unemployment Insurance figures were utilized on Figs. 5 and 6. To obtain the unemployment-percentage figures for producers of investment goods, special calculations were made for the years 1923 onwards, Unemployment Insurance figures being utilized from the following seven groups of producers: general engineering, metal industries (not separately specified), construction and repair of motor vehicles, building, public works contracting, steel melting, etc., shipbuilding and ship-repairing.

§ 5

PROOF? So far, our work appears to have received remarkable confirmation. We have already explained all the facts about booms and slumps that we noticed in Chapter IV, and others in addition.

We know why all nations which use specialized methods of production, using money as the needed means of exchange, can be affected. All of them practise the processes of saving and investment; in any of them a flow of money incomes may not be spent. In all such countries, therefore, the total of effective demand can drop, incomes be destroyed, and a body of unsuccessful persons and firms be needed to stabilize the system.

We see why the changes from depression to prosperity, or *vice versa*, can be slow, or why the economic system may remain sunk in the depths of depression for years, as Great Britain was in 1931-2 with about 22 per cent of general unemployment. The equilibrium of depression exists.

We have noted why the "ripples," the random and accidental fluctuations of unemployment, have no effect in altering the "waves" of unemployment. The prevailing rate of hoarding is the dominant thing which stamps its deep impress on economic life; the ripples are merely transient things, producing little effect.

We see that turning-points, both at boom-peak and at depression-trough, may occur first among investment goods producers. That is because any alteration in the rate of investment at once alters the volume of effective demand for consumable goods and services.

We have found why the percentage of unemploy-

ment among producers of investment goods is higher, during depressions, than among the whole of the producers, why the unemployment percentages of the two main groups of producers differ from each other in a very definite way.

We have seen the emergence of that constant ratio of 1.56, which emerges ever more clearly as depression deepens. Many explanations of economic depression exist; no one of them, so far as the writer knows, has isolated this important fact from the British unemployment statistics and explained it. But it is only as facts like this, and the one noticed in the preceding paragraph, can be satisfactorily explained that theory becomes worth examination and really valuable.

§ 6

WHAT IS SPENT FROM PREVIOUSLY ACCUMULATED FUNDS? It is now possible to calculate the amount of spending, per unsuccessful person, from previously accumulated funds. Use may be made of the constant ratio of 1.56 for this purpose. We can, using arithmetical trial and error, find that the average unsuccessful person, spends, from previously accumulated funds, 10.5 per cent of the income of the average income-recipient.

This may seem a low figure. But it will be realized that, when persons become so unsuccessful in obtaining incomes that they are forced to spend from funds they accumulated in the past, the group still owns property that yields some income: interest-bearing securities, shares that yield profits, land or houses that yield rent. Moreover, among "the unsuccessful,"

standards of living will be reduced to the utmost. What this group spend, from previously accumulated funds, is the difference between their total spending and the amount of income they still receive.

As illustrations in using this figure of 10·5 per cent, it can be calculated that general unemployment will be $28\frac{1}{2}$ per cent if the rate of investment declines to 15 per cent of the shrunken total income, and no less than 46 per cent if that rate drops to 10 per cent.

It is interesting to estimate, for a country suffering depression, what the actual total rate of spending from previously-accumulated funds will be. This is attempted for the case of Great Britain in 1924, 1927 and 1928. The results are shown by the last four items of Table 2.

§ 7

A CURIOUS AND INTERESTING THING! Neglecting random fluctuations of unemployment, a very curious and interesting thing emerges if we study the manner in which employment or unemployment is generated. If the rate of investment increases, employment is increased among producers of investment goods; consequently employment will increase among producers of consumables. For each additional person who thus receives an income from investment goods, how many additional persons will receive them from the production of consumables? And the answer is this: always 2·4 persons! Always a *total* of 3·4 persons again receive incomes for each person who gains an income among producers of investment goods.

To verify these numbers, previous work could be

used. Say that in Great Britain general unemployment is 20 per cent; income-recipients number 80, and "the unsuccessful" 20 persons out of every 100 who need incomes. Of the income-recipients we find that 16·4 per cent draw incomes from the production of investment goods, that is, $\cdot 164 \times 80 = 13\cdot 1$ persons. Hence $80 - 13\cdot 1 = 66\cdot 9$ persons draw incomes from the production of consumables.

Suppose now that the rate of investment increases and becomes 19 per cent of total income, so that no hoarding exists. Out of every 100 income-recipients, 19 will be receiving incomes from the production of investment goods, and 81 from production of consumables. Therefore $81 - 66\cdot 9 = 14\cdot 1$ persons have been added to the producers of consumables, and $19 - 13\cdot 1 = 5\cdot 9$ to the producers of investment goods. Consequently, for every person added to the producers of investment goods, $14\cdot 1 \div 5\cdot 9 = 2\cdot 4$ persons have been added to the producers of consumables.

If these calculations are repeated, using different starting points, that figure of 2·4 persons remains always the same. It remains the same whether the system is reviving or dropping further into depression.

We may seem to have reached an unbelievable conclusion. But such an effect does actually occur in practice, as statistics, available in the *Ministry of Labour Report*, 1933, Cmd. 4543, show. For it happened that there was a pronounced drop in unemployment during 1933, and the Report gives the actual increases of numbers employed in the investment goods industries:

We read that the actual numbers absorbed, from December 1932 to December 1933, were as follows:

General Engineering	...	...	...	55,200
Building	...	...	...	45,100
Electrical Engineering	...	...	...	7,200
Constructional Engineering	...	...	...	3,400
Metal Trades	...	...	...	36,000
Iron and Steel	...	...	...	31,000
Public Works Contracting	...	...	...	(—10,000)
Construction and Repair of Motor Vehicles				16,400
Railway Carriage, Wagons, etc.	...	...	...	7,200
Shipbuilding and Ship Repairing	...	...	...	20,600
Marine Engineering	...	...	...	7,800
Total				219,900 net

The total number of employees (whether employed or not), including wage-earning, insured and not insured persons, would be about 18·6 millions in 1933. Since the unemployment percentage fell from 21·7 to 17·5 in this year, a total number of employees equal to $18,600,000 \times (21\cdot7 - 17\cdot5) \div 100 = 785,000$ would be absorbed. Hence $785,000 \div 219,900$ equals the number of persons absorbed into production for each person absorbed by the producers of investment goods. This equals 3·6, as compared with 3·4 previously obtained.

Many small errors exist in the above calculation, perhaps the greatest of which is the fact that uninsured salaried persons were absorbed as producers of investment goods, but are not allowed for in the figure of 219,900 persons.

§ 8

THE CRITIC. *Critic*: Yes; I've read your stuff. Sorry—but there's little with which I agree; much—excuse plain speaking—that's wrong.

Defender: That's a blow! I hoped that reading of

my work would have shaken your conviction that complete understanding of the economic system was attained long ago. But your condemnation is much too sweeping; give me detailed objections.

Critic: An objection you'll find difficult to answer is this: You say a certain number of unsuccessful persons and firms are created, during depression, so that the "stability of depression" shall be maintained. But, since the War, great amounts of unemployment have existed for long periods. I can't imagine individuals spending, say for ten years, funds they accumulated in the past. They'd become destitute. Hence the sort of spending that you speak of, not derived from current incomes, can't exist!

Defender: I can easily answer that! I didn't say the victims of the system always consisted of the same people. The people composing this group are in constant change. Sir W. Beveridge, in *Unemployment*, shows this. Samples of the unemployed in different trade unions were analysed to show how unemployment hit the individual. Men were in and out of employment in spells. Commenting on the figures relating to 1894-1902, Sir William says: "The percentage of those claiming benefit at some time or other is, in a good year, ten times and in a bad year, five times . . . the mean unemployed percentage throughout the year."

During a bad year, then, 10 per cent of unemployment is shared among 50 per cent of wage earners. Each man among the 50 per cent is unemployed about ten weeks in each year.

Evidence leading to similar conclusions was given to the Royal Commission on Unemployment in 1932.

Average general unemployment was about 15 per cent during the period studied. The evidence showed that the average worker suffering unemployment was unemployed for about a quarter of each year.

True; a certain small percentage of persons becomes destitute; firms go bankrupt. Their spending from funds they accumulated in the past ceases. But the major fact of constant circulation of success and non-success makes possible a continuous flow of spending from previously accumulated funds.

Critic: Another point: You go gaily ahead, with statistical verifications, as if Great Britain were a self-contained country. She isn't! Unlike your Island, she exchanges a large bulk of manufactured goods for foodstuffs and so on. You cannot separate, from the statistics, income-recipients into two groups and say: "This group makes investment goods, that group consumable goods and services." Great Britain may exchange, with foreign countries, say engines and machines for wheat and wool. The people you have classified as making investment goods are, in effect, making consumable goods.

Defender: Your point covers one of those minor errors in the statistical part of the work that I have had to ignore. As you say, Great Britain is not self-contained. Often she develops an export surplus as part of her total of investment. In a year of boom, as 1913, the value of the export surplus is greater than that of her exports of instrumental goods. Hence a small number of persons are engaged in producing consumables which are exported really as investment goods. But when depression appears, the export surplus is reduced or disappears. Exports of instru-

mental goods then, to some slight extent, pay for imports of consumable goods. But, in any case, the errors involved are not great enough to disturb the broad accuracy of the calculations given.

Critic: This hoarding of incomes which you claim is the main cause of the creation of incomeless people—is there any direct evidence of its existence?

Defender: Yes. Business firms save by putting money aside to meet depreciation, to increase reserves or the amounts they carry forward. These firms are also real investors. If we study company reports of *successful* firms, during depression, we find that they are accumulating much more money for depreciation, carry forward, and reserves than the group are spending on renewals and extensions to their plants. They do not *spend* this money on the current production of investment goods; they accumulate it as bank deposits, or buy existing gilt-edged securities.

The Government, municipalities, and private individuals who still successfully receive incomes, are all saving through sinking funds, insurance premiums, savings deposits. We know that directly from published figures.

We know, too, from published figures, that the investment of money in the current activity of builders of machinery and equipment suffers great decline. Firms, the Government, municipalities, private individuals cease much of their activity as initiators of new schemes of investment—roads, bridges, ships, new factories and machinery. All these projects are, for the time being (and no one knows how long that time will last) under a ban.

Oh, yes! The evidence is there right enough, though

the exact figures may, from this angle of attack, be difficult to obtain.

Critic: Um!—you seem to have an answer for all my detailed objections. But, as a whole, your work is unsatisfactory! You give me the idea, in the system of economics you're building, of not dealing with creatures of blood and flesh. Your "flow" theory of incomes and savings and hoardings is a sort of soulless mechanism—

Defender: Jove! You've got something of my big idea after all! I began to despair of you, for——

Critic: Just a minute, my boy; I've not finished what I wished to say. You give us the engine. You say nothing of the steam which drives it. You show *how* this mechanism of yours can work to produce the various phenomena of depressions. But what of human motives, desires, psychology—these things find no place in your explanation.

Defender: You've only read one half of my work. Give me a chance! I think that explanations in economics should penetrate right through to the foundations of economic activity in biological and psychological things. My explanation of slump and boom is not complete, as you suggest; I'm going on to develop it.

Critic: When you've done it, I'll find plenty of objections!

Defender: Knowing you, I've no doubt you will!

CHAPTER VI

IMPORTANCE OF PRODUCTIVE TECHNIQUE

§ 1

THE GREAT DYNAMIC FACTOR. A profoundly important thing is responsible for the difference between "advanced" nations such as Great Britain or the United States and "backward" nations like India or China. As shown in history, this thing is capable of radically altering the mode of life of whole communities, of greatly affecting their social institutions and their politics, of replacing one sort of ruling class by another, of producing a "crop" of enormously rich people, of leading nations into war, of stimulating growths of population in areas that cannot adequately feed them, of bringing under subjection the red and the brown and the black man to his white brother, of changing nations from communities of agriculturists and a few craftsmen into intensely industrialized peoples, of building scattered groups, widespread geographically, into nations. . . .

That important thing is productive method or technique. Intelligence, skill, knowledge—all are embodied in productive technique. The history of mankind is crystallized in the current productive technique, for that is the culminating point of the vast amount of productive knowledge and skill that

has been accumulating since ages too dim for history. If one could but tell all the story that lies behind the making of a mere suit of clothes, all history would lie open to inspection. Who was the woman whose patient fingers first spun into long coarse thread the wool off a sheep's back, and then laboriously plaited a crude cloth, to the wondering delight of her tribe? Observe modern processes of spinning and weaving, done with the aid of complex, rapidly moving machinery; witness the vast quantities of cloth produced; imagine the many thousands of dead persons who each added a spadeful of thought to the mountain of knowledge that is symbolized before you—then you'll get some idea of the importance of productive technique. And remember that spinning and weaving, in a modern productive system, embody but a small part of its total productive technique.

So progressive, so revolutionary, so dynamic a thing as productive technique would, one might expect, receive much attention in economic literature. Surely so important a factor could only be neglected at the cost of making the science of economics itself unreal and unprogressive! For it is of immense importance to communities to know under what conditions the productive technique of the whole specialized productive system can advance, swiftly and stably and harmoniously. To improve actual productive methods is the job of the scientist and the technologist, but to point out the ways or methods or conditions by which each advance in productive technique can be embodied in raising the standard of material welfare, or reducing the amount of drudgery and increasing the pleasurable leisure of a whole community, is surely

the job of the economist! But again comes the terribly untrue, because half-true, answer of the individualist economist: "the self-adjusting system."

That productive technique does advance we know. It can be seen as doing it—if we are not niggardly with a few decades! But that is not the issue. Does productive technique advance continuously, at the maximum rate of which a progressive physical science and technology are capable?—or is it tragically impeded and thwarted, due to faulty knowledge of the methods by which advances of productive efficiency can really be incorporated into the community's productive system? Does the productive efficiency of a whole system advance only in jerks which correspond with each recurrence of revival from depression? Can unemployment be created by increasing productive efficiency? If so, is it but a temporary thing? Can a stage be reached, as is imagined by many writers in the United States and in Britain, where a permanent amount of "technological" unemployment appears?

§ 2

MEN, MACHINES, AND MURDER. Answers to these questions seem as inconclusive to-day as throughout the nineteenth century. Pessimists and cranks still assert that increased productive efficiency can but reduce the number of workers, whereas the optimists reply that productive resources, if not needed to meet augmented demand due to cheapening of the product, are diverted to supply fresh needs. Let us listen to a few of the witnesses.

Miss Phyllis Bentley's fine novel, *Inheritance*, furnishes

interesting evidence of the early nineteenth century. In 1812, "cropping frames" to crop cloth are installed in a water-driven mill in the Ire Valley, Yorkshire. The following dialogue takes place between Mr. Oldroyd, owner of the mill and a typical specimen of the *entrepreneur* of those days, and his son:

"Do you think it will be long before the men settle down to the frames?"

"No," replied Mr. Oldroyd confidently, "I don't. Why the silly lads can't see now that if we turn out cloth cheaper we shall sell more, and so there'll be more work for them, passes my understanding. . . . Frames have come to stay. In a few years a man who doesn't use frames'll stand no chance in the cloth trade . . . the West Riding'll be humming with frames and the trade'll be ten times what it is to-day."

"I suppose there'll be a time between now and then when some of the hand-croppers will be out of work," mused Will.

"That can't be helped," said his father shortly. "They'll be better off in the long run."

Then, later in the book, comes the terrible evidence of the pessimists:

"Tha great fool," commented Mellor's wife bitterly, lifting a pinched and tear-stricken face. "Afore tha starts throwing good silver away, tha should bring more home wi' thee at week-end. It's a man's job to provide for his wife and childer, isn't it?"

"How can I wi' these accursed frames coming in?" shouted Mellor. . . . "There'll be no hand-cropping left i' th' Ire Valley soon." The tears started to his eyes as he added: "And then t'lot on us'll clem to death. . . ."

Mellor is a Luddite; with others he plots to destroy the frames before installation. But the frames are

installed secretly at dead of night and guarded by soldiers. The murder of Mr. Oldroyd by four Luddites follows as grim reprisal. . . . Before a great crowd at York, the Luddites meet death by hanging. . . .

Lord Byron, poet and gentleman, addressed the House of Lords in 1812 on the second reading of the Frame-work Bill (which penalized by death the destruction of a knitting-machine). He summed up a great part of the Industrial Revolution that had already happened and indicted the Government. The following quotations are taken from *A Modern History of England*, by G. R. Stirling Taylor.

“Byron . . . reminded his brother peers that England could not be governed entirely to suit the convenience of the masters of the new machines; however agreeable they might find it to possess an instrument which, he said, ‘superseded the necessity of employing a number of workmen who were left in consequence to starve! . . . The rejected workmen, in the blindness of their ignorance, instead of rejoicing at these improvements in arts so beneficial to mankind, conceived themselves to be sacrificed to improvements in mechanism . . . they imagined that the maintenance and well-doing of the industrious poor were objects of greater consequence than the enrichment of a few individuals by any improvements in the implements of trade. . . .’

“Byron asked them to consider more carefully who were these rioters who were savagely breaking the new machinery: ‘You call these men a mob, desperate, dangerous and ignorant. . . . Are we aware of our obligations to a mob? It is the mob that labour in your fields and serve in your houses, that man your navy and recruit your army, that have enabled you to defy all the world; and can also defy you when neglect and calamity have driven them to despair . . .’

"Byron was horrified that death should be the penalty . . . for the breaking of a machine or the destruction of the piece of lace it wove. The poet refused to believe that a jury would convict: 'Suppose it (the Bill) passed; suppose one of these men, as I have seen them—meagre with famine, sullen with despair, careless of a life which your lordships are perhaps about to value at something less than the price of a stocking-frame—suppose this man . . . and there are ten thousand such from whom you may select your victims, dragged into court, to be tried for this new offence . . . still there are two things wanting to convict and condemn him. . . . Twelve Butchers for a jury and a Jeffreys for a Judge!'"

Let us turn now to the latter part of the nineteenth century. Here is an optimist so optimistic that he overstates his case, claiming that the industry which installs labour-saving machinery and displaces workers, *must* also be the very industry that re-absorbs it!

"The first introduction of machinery may indeed displace and diminish for a while the employment of labour, may perchance take labour out of the hands of persons otherwise not able to take another employment . . .; but if it has taken labour from ten persons, it has provided labour for a thousand. How does it work? A yard of calico made by hand costs two shillings, made by machinery it may cost fourpence. At two shillings . . . few buy it; at fourpence . . . multitudes are glad of it. Cheapness promotes consumption. . . . As the demand increases, so production increases, and to such an extent that . . . the total number required for the millions of yards now used greatly exceeds the number engaged when the whole work was performed without . . . machinery."

Professor Leone Levi, in *Work and Play*; quoted by

Mr. J. A. Hobson in *The Evolution of Modern Capitalism*, p. 319.

As offset to the above, here is the evidence of the pessimists: Mr. Carroll D. Wright, Commissioner of Labour at Washington (*Report on Industrial Depression*, Washington, 1886) says:

“So far as the factories and the operatives of the countries concerned (England and the United States, France, Belgium, Germany) are to be taken into consideration there does exist a positive and emphatic over-production, and this . . . could not exist without the introduction of power machinery at a rate greater than the consuming power of the nations involved. . . .”

The English “Commission on the Depression of Trade and Industry” made similar statements as to an excess of producing power as distinct from a mere miscalculation in the application of capital and labour.

Coming now to the present day, the optimists could be represented by extracts from a booklet published in 1933 by the Engineering and Allied Employers’ National Federation: *Unemployment: Its Realities and Problems*:

“It should be emphasized that mechanization can only be carried out in reply to reasonably anticipated demand, and that from experience its effect in creating unemployment, if any, is local and temporary, and, in fact, is counter-balanced almost immediately by a growth of employment resulting from the cheapening of production and the enlargement of markets.”—Par. 189.

“. . . all the evidence goes to show that machinery creates employment, thereby actually creating a demand for goods.”—Par. 187.

And here is a pessimist of to-day, as counterblast to the above extracts:

“In Germany and other countries, the leading industries have been rationalized beyond recognition and the results have been a spectacular increase in unemployment, even before the world crisis had begun.”

The Economic Foundations of Fascism, by Paul Einzig, p. 43.

As our extracts have served to show, we are dealing with no mere transient phase in economic evolution. What were matters of life and death in 1812 are still matters of life and death. What was a problem awaiting thought and research in 1750, in 1812, is still an unsolved problem to-day.

No facile generalization will serve to answer the questions asked in this section, as the extracts demonstrate. If we are to attempt answers, we need to probe deeply. Some of the most important fundamentals of the present economic system are involved—as our analysis will attempt to demonstrate.

§ 3

DO FALLS IN PRICES FOLLOW INCREASE IN PRODUCTIVE EFFICIENCY? It is sometimes argued that falls in prices *must* immediately or soon follow an increase in productive efficiency. It is asserted that the benefit of increased productive efficiency must be passed on to the whole community, whose purchasing-power is increased because the price-level falls while money-incomes remain stationary. If this be so, then auto-

matic regulation of the whole system is achieved. The introduction of labour-saving machinery, no matter how fast, would cause no net displacement of workers, for every increase in productive efficiency would automatically increase everyone's purchasing-power and consequently, rate of consumption.

The supposition that such falls in the price-level must occur is based on the "separatist" method of analysis. We have seen this argument exemplified in the extract from Professor Levi, given in the preceding section. It is assumed that *one* firm or *one* industry improves productive technique; one also assumes, though this assumption remains tacit, that other firms or industries remain stationary as regards technique. If, then, only one industry improves productive methods and turns out the same volume of output at the same prices, its profits are higher. Some firm is tempted to increase output, or new competitors enter this particular industry and an increased rate of output seeks its market. Hence prices must fall and the benefits of increased productive efficiency be passed on to everyone.

But this argument is false if *all* industries improve productive methods. And, in actual practice, they do, although they may not do so at exactly the same rate. The whole course of the Industrial Revolution furnishes evidence of the simultaneous advance of productive efficiency over the whole field of production: cotton, wool, iron, coal, transport—all advanced.

If *all existing* industries are thus advancing, they may all discharge redundant labour and reduce costs. Profits, it seems, may rise simultaneously over the whole field of production. Prices can be maintained,

if effective demand is maintained for the *older* goods, and unemployment need not increase if the needed accessions to demand take place for *newer* luxury goods (demanded by those receiving increased profit-incomes).

We see that the total of effective demand can rise as productive efficiency advances. Prices need not fall because there is nothing in the process to ensure that they shall; they may even be rising—as is shown in most cycles during the revival phase.

~~Corroborative~~ evidence is afforded by United States statistics for the years 1922–9. Productive efficiency was increasing during that time at an average rate of $3\frac{1}{2}$ per cent a year. The price-level remained practically stationary. The total of profits much increased, as is shown both by the statistics relating to profits of companies and the income tax figures which show a great increase in higher incomes. The total amount of the national income taken by wages remained nearly stationary.

This is exemplified by the fact that 16,000 manufacturing concerns, which reported to the United States Bureau of Labour Statistics, paid out in 1926 a total of wage payments represented by 100. That total fluctuated downwards but was again 100 in 1929. But interest and dividend payments, represented by 100 in 1926, rose continually to 173 in 1929!

That the benefits of the increase in productive capacity were going to higher categories of income is plain from the income tax reports. In 1921, the number of persons receiving incomes above \$25,000 was 40,000; in 1929 it was over 102,000! In 1921 the number receiving incomes of over 1,000,000 dollars

was 21; in 1929 it was 513! The total of these over-a-million incomes increased during the period from 49 to about 1,200 millions—a 2,450 per cent increase!

The available statistics differ somewhat as to the exact figures, but they all agree that, during the five years of the revival phase in the United States, no process was in operation which ensured that the *whole* community gained the benefit of the continual increase in productive efficiency. They show the *percentage* of the national income taken by wages and salaries as continually decreasing, while the percentage claimed by profits, rent and interest continually rose. It was broadly true to say that all the increase in national income went to the three latter categories of income-recipients. It is true that disaster has followed this “New Era” period of prosperity, but the causes of that cannot be found in the facile analysis to which attention was drawn at the beginning of this section.

§ 4

PRODUCTIVE EFFICIENCY. How can the rate of advance of productive technique be shown? How is productive efficiency measured? If we took as an example a certain motor-car factory in say 1933, obtained its rate of output and the number of persons drawing incomes therefrom, and compared these with the same figures for the factory in 1934, we might find important differences. The rate of output of cars might be the same in both cases, but the number of employees in 1934 might be less. Although the rate of output has remained unchanged, incomes are being disbursed to a less number of people.

The increase in output per income-recipient shows the advance in productive efficiency. In 1933 the output might be 1,000 cars completely made, and 1,000 income-recipients receive incomes under profit, rent, interest, salary and wages categories; $1000 \div 1000 = 1$, would represent productive efficiency in 1933. In 1934 the same output might be obtained, but since improvements in organization have been made, there are now only 975 income-recipients; productive efficiency, compared with 1933, equals $1000 \div 975 = 1.025$; it has been increased by $2\frac{1}{2}$ per cent.

In 1935, however, the factory might strike a "bad patch"; it only produces, owing to reduced demand for its output, 750 cars. It has discharged a number of its wage and salary earners and now distributes incomes to 750 persons. Again its productive efficiency is $750 \div 750 = 1.0$. In this year the factory has been forced to run with less efficiency than it had in 1934. It experienced a 25 per cent reduction for its product but could not, despite the discharging of *nearly* 25 per cent of its former income-recipients, retain its productive efficiency unimpaired. For factories, as income-producing organizations, function like machines: they only give of their best efficiency when running at or near full-load.

In the case of the factory, this happens because it cannot reduce its "overheads" by 25 per cent when its output is reduced by the same percentage. Its charges for rent, interest on mortgages or debentures, charges for power and lighting, insurance, depreciation, etc.; may be reduced as a whole, but not as much as 25 per cent. Some members of its staff who are considered indispensable will be retained. The

number of those persons in control of the firm may be kept the same.

§ 5

EFFECT OF INVESTMENT ON PRODUCTIVE EFFICIENCY.

It is necessary for our purpose to consider what effect different sorts of investment have on productive efficiency. The total rate of investment can usually be split into four components, some of which affect productive efficiency, while others do not. First, however, we need to distinguish clearly between productive "efficiency" and productive "capacity." A firm, for instance, might retain all existing machines in use and add to their number; it has increased productive "capacity." If, however, this firm scrapped part of its obsolete machines and replaced them by modern equipment, it might be enabled to discharge some of its workers and if rate of output remains unaltered, productive capacity is unchanged, but productive efficiency increases.

The first component of the rate of investment, Government and Municipal investment, partly leads to increases in productive efficiency, partly does not. Money spent on the investment goods of war, on battleships, tanks and guns, has no immediate effect on productive efficiency. But money spent on the instrumental equipment of telephone and postal services, electrical, gas and transport undertakings may immediately increase productive efficiency. A given output of services, for instance, which must be sold to the community, can be provided by a less number of workmen and officials.

The second component, export surplus and stocks,

can be increased or decreased without affecting productive efficiency—except in so far as increase in output is bound up with efficiency. A country, such as Great Britain, may send large quantities of goods overseas as a foreign investment; no increase in the productive efficiency of the British system is thereby created, since British instrumental equipment is not improved in consequence of the investment.

Depreciation and obsolescence spendings, the third component, lead to an increase in productive efficiency, since amounts expended under this heading do more than merely maintain instrumental equipment in its original state of efficiency. A firm of shipowners, for instance, which has, under its depreciation arrangements, allowed for an average life of twenty years for its steamers, does not merely replace an old ship by its replica, when it scraps one of its old ships. The new liner may embody twenty years of progress in the science and art of shipbuilding. The same sort of thing is true of any manufacturing concern. The old Boulton and Watt engine that drove a factory in early days, has been successively replaced by a more efficient engine, then by a high-speed engine driving a dynamo which supplied current to many motors; perhaps to-day the new factory draws supplies of cheap energy from a central station. The machines in the factory—they, too, have been revolutionized: they are handier, faster, safer to handle; they embody very many improvements in design and efficiency. We could say that the whole of the replacements in instrumental equipment of the productive system result in improvements in productive efficiency.

The fourth component is new investment, a thing

which, in actual practice, is inseparably locked to the previous component. Often when a firm scraps obsolete machinery and replaces it by modern equipment it both increases productive efficiency and capacity. But, apart from this, there do seem clear cases of increased productive capacity: an entirely new factory to manufacture artificial silk, may seem such a case. But, we must remember, this factory may find no accession of demand for artificial silk awaiting its start in productive life. Nevertheless, it may gain a market for its output, doing so by ousting some competitor—some firm, perhaps, whose equipment has been allowed to become dangerously old-fashioned. The new firm forces scrapping of machinery, perhaps through bankruptcy, upon the older firm. The ultimate result may be not to increase productive *capacity* but to increase productive efficiency. The scrapping of machinery which one firm refused to do voluntarily has been forced on it by the action of a competitor.

If, however, the total of effective demand for artificial silk were growing, the new firm might gain its market without taking trade from an older firm. An addition to productive capacity and efficiency may result.

§ 6

EFFICIENCY OF PRODUCTIVE SYSTEM. Something has already been said about productive efficiency; can we further develop the matter? If any productive concern or unit is considered, we find that, generally speaking, it runs with its highest productive efficiency when working at or near the point of maximum rate of output. If a factory is running at the full capacity

for which it was designed, all the charges it has to meet for rent, insurance, interest on money borrowed, maintenance, etc., are less per unit of output than they are when the factory is but half-employed. If demand for the factory's products drops to one-half of its maximum output, it may meet the situation by discharging one-half of its wage earners, perhaps nearly one-half of its salary earners. But it may be unable or unwilling to "discharge" those income-recipients to whom it pays incomes as interest on its debentures or bank loans, those high-salaried officials such as general managers and superintendents, managing-directors. The building it occupies will need nearly as much expenditure for its maintenance during times of adversity as during prosperity—though it may not receive it!—nevertheless this expenditure on the building may not be reduced to one-half. Productive efficiency falls if the number of income-recipients cannot be decreased at exactly the same rate as rate of output.

If a whole industry is considered and not a single productive unit, it seems possible, in some circumstances, to reduce output and yet retain productive efficiency. If, for instance, a drastic and continued drop for footwear was experienced, and if certain of the factories which normally supply such commodities were, in consequence, to become bankrupt, the remaining factories might be able to run at full capacity. Rate of output and number of income-recipients may both have been reduced in the same proportion, leaving productive efficiency the same. Trusts, during times of long-continued depression, can close or even dismantle some of the establishments

they own or control, thus tending to retain the productive efficiency of the remaining productive units. Such industries as that of coal (if the whole industry is controlled as one unit) may actually increase productive efficiency during a depression, since mines where the coal is dearly won can be closed, the best mines only being worked.

But, it must be remembered, if we are studying the equilibrium of an economic system, we need to consider the productive efficiency of a *whole* system, a far different thing from studying the productive efficiency of a part. To consider a portion and not the whole, may lead to the creation of quite erroneous ideas. During the course of decline into slump conditions, as occurred in Great Britain during the period 1929-33, parts of the system might actually increase their productive efficiency, and yet the productive efficiency of the whole system be declining—a point to be more fully developed later.

CHAPTER VII

RECURRENT BREAKDOWN

§ 1

THE PROFIT MOTIVE. Of relevance to our inquiry, as a primary fact of great importance, is the *motive* of those in control of the productive process. It might be thought that the entire motive-power, of producers as a whole, is to create a money income. But we need to recognize that, in the present economic system, certain people are in control of a large portion of the complete productive organization; we have to ask what *their* motives may be, for on this may depend the whole way in which the economic system operates.

The majority of productive concerns are thought of, by their owners or controllers, as conducted for the sake of profit. "Profits are the mainspring of the economic system." If attractive profits beckon, new businesses are born; if profits disappear or become losses, old businesses die. Controllers imagine, and shareholders agree, that the more profits a company gains the more successful it is.

The word "profits" is here used in its ordinary accountancy or business sense, and not in any one of the many different senses in which it has been used by some economists. In this ordinary sense it is a residue or surplus remaining—if the business is successful—after what the owner or controllers think

of as "costs" have been paid. This concept, though clearly understood in practice, leads sometimes to peculiar results. Thus, suppose there were two firms, each producing and selling per year the same kind and volume of goods. In one firm the money expended on the plant and stock had been provided by the owner; in the other case it was provided by an issue of debentures. Now "profits" in the mind of the owner-controller of the first business are the difference between the year's receipts for goods sold and total costs, consisting of wages, salaries, rent, raw materials, insurance, lighting and power charges, depreciation, etc. But the costs in the second business include all the costs in the first business, *plus* the interest that must be paid on debentures. Consequently the first firm may make a profit when the second makes none!

The fact it is wished to emphasize is that the controllers will act differently in these two cases. The owner of the first business is not concerned with the rate of interest on borrowed money; the controllers of the second business are, and will seize any chance to convert their debentures to a lower interest rate. Controllers act according to the concept of "cost" which they hold in their minds.

We have already seen that the real purpose any firm serves is to produce a flow of commodities and distribute a flow of incomes. All classes of income distributed—profits, rents, interest, wages, salaries—form, if spent, part of effective demand. But those in control of production who gain profits as their form of remuneration, work on the assumption that every kind of income but profits is a cost—interest, rent, wages, salaries are all costs which must be reduced

to the minimum compatible with efficiency. There seems something fatally obstructive to the well-being of consumers in this notion; there appears to be something inimical even to the ultimate well-being of profits, for how can profits be maintained continually at a maximum, if the effective demand of all consumers, except those receiving incomes as profits, is to be prevented from increasing? But how can profits be gained if costs are not reduced to a minimum? A fatal contradiction!—how will it work out in practice?

We should have to ask just the same sort of question as posed in this section, if those whose remuneration is wages were in control of production and considered all other forms of incomes which were distributed in the economic system as “costs.” Certain results would follow, different, of course, from those which happen in the present economic system, but they might be just as inevitable.

§ 2

THE PROBLEM. It needs little demonstration to show that controllers are in a strong bargaining position with regard to many of those to whom they distribute incomes. They may advance or retard promotion, and rates of salaries, of officials and technicians; they may discharge this workman and engage that. When a pool of “the unsuccessful” exists, the “normal” condition of the economic system, more people desire employment than there are jobs available—a thing conducive to the keeping down of wages and salaries. In the early days of the Industrial Revolution in Great Britain, the strength

of the employers' position over their "hands" was only too cruelly demonstrated. Wage-earners were kept down to the lowest levels of wretchedness and despair. A more enlightened public opinion, more humane employers, the bargaining-power of trade unions have done much to mitigate the conditions of those dark days. But history repeats itself in the factories of Egypt, China and India, where native labour is being exploited.

We should note that it is not necessarily ownership of machinery or equipment that puts controllers in this strong position. But ownership sometimes carries control with it. The old-fashioned *entrepreneur* owned and controlled his business. Often he was owner, controller, manager, technician, and—on occasion!—workman. To-day, with the vast changes wrought by advances in productive technique, these functions are largely separated and exercised by specialists. In the joint-stock company, managers and technicians are salaried persons, and directors are much too important persons ever to don the workman's overalls. But, most important of all, ownership and control are separated. The ownership of the shares of a large joint-stock company may be spread over many thousands of people who exercise practically no control over the business, know nothing of the company except the prospects of future profits—merely hold-the-shares-to-day, sell-the-d.-things-to-morrow kind of people. Control is vested in the hands of a small group of persons who may own enough shares to prevent any rival group from wresting control away from them, but who often do not "own" the business.

The value of control is so well understood, as

against mere ownership without control, that great care is taken to keep control when new companies are started. When the public is asked to subscribe for shares, the business is already provided with its directorate, often suitably equipped with vendors' shares. Study the prospectus of a new company asking for capital and note how carefully control is retained. To-day's paper, for instance, displays the prospectus of a small company, offering preference and ordinary shares to the public. We gather that for the previous four years the business has been conducted as a private company. The company now wishes to extend its operations. It values the stock and equipment of the private firm, £22,000, and adds £8,000 for "goodwill." The vendors offer to the public 40,000 preference and 40,000 ordinary 5s. shares at 5s. 6d. each. Before the offer is made to the public, three directors are appointed and the vendors, who contain the directors, allot themselves 80,000 ordinary shares as part-satisfaction of the purchase price. Thus, complete control of the new company is retained by the directors and their associates. . . .

Productive technique is a thing which those whose remuneration is "profits" will try to advance as quickly as possible. They must do it to keep abreast of competitors, to get ahead of them, to keep down "costs" to the minimum.

Here, then, we have our problem: we have a productive system which not only produces goods and services but which distributes money incomes. Those in control of production try, as a general rule, to keep down the money incomes they distribute under the heading of "costs." But, as part of the process

of doing this, they advance productive efficiency; that is, they increase the productive capacity of each human being to whom they distribute incomes, including themselves.

If the controllers, considered as a whole in the community, succeed so far in their endeavours as to keep the money incomes distributed—as wages, salaries, rent and interest—constant, they themselves, receiving incomes as profits, must, as productive efficiency increases, get richer and richer. They must receive constantly increasing incomes; they must, in consequence, consume or accumulate a constantly increasing proportion of the total of output. Can such a system continue to function, without breakdown? That is our problem.

§ 3

“A VALLEY. . . .” As a skirmish with the problem we are attacking, let us try to reconstruct something of the past:

Scene 1. Time: 1780

A lovely little valley on the Island.¹ The bright blue of a stream shows occasionally among the trees. Dotted about are a few cottages, houses and farms. One of the houses is somehow different from the others: It is large and appears half a house, half a mill. Nothing is darkly “satanic” about the place; walls and even roof are thickly covered with green-leaved creeper, dusted thickly with white blossoms.

¹ A closed economic system, without commercial or cultural relations with other countries.

Within the mill part of the premises there are a few handlooms—crude, clumsy affairs of wood and iron. The young master, a practical weaver himself, is bustling about among his twenty workmen—journeymen and apprentices—scolding, teaching, supervising, praising. All work is done by hand—or rather by hand and foot and brain. The master is convinced—and who dares deny him?—that the making of good cloth, if not *the* most important thing in the world, is at least one of the more important. He takes pride in his house, pride in his mill, pride in his workmen—most of all, pride in his cloth. Much of that cloth he sells in the nearby market town. He buys wool and has contracts with some of the farmers. Many of the cottagers, in addition to spinning all the yarn he requires, weave cloth for him.

When work in the mill is slack, for trade in cloth is something of a seasonal one, some of the weavers work on the master's land, even go home and work on their own strips of ground.

The output of this little productive unit is partly produced for sale, partly for consumption by its producers. To measure the “net” income derived from the output of agricultural produce and of cloth, we shall have to reckon it in money. It is say £1,500 per year—£500 to the master and an average of £50 each to the twenty employees. . . .

Scene 2. Time: 1810

The valley is changed. A smoky little town can be seen further downstream. Here are the ruins of an old creeper-covered mill, while some distance away is

a comparatively new structure, complete with a new brick chimney. There a dam has been built across the stream and the mill pond shows a few yellow water-lilies. The mill wheel is slowly turning, the full buckets emptying into the stream below. The "new fangled" steam engine and its enormous boiler have just been installed, for the old master—he was always "keen" on new machinery!—declares he will not have the mill stopped for weeks on end when the water is low. The engine will be a stand-by, ready to drive the mill when needed. . . .

The mill now has a personnel numbering 100 and the old master has a partner in his own son. Four times as much cloth, per income-recipient, is now produced as compared with hand methods. The real income of the firm is now, with five times as many persons drawing incomes from its activities, twenty times what it was in those far-off days of 1780. But prices have dropped; it had been necessary to do this to capture the market. Those fellows with their looms in cottages—how they hung on! The net income of the firm's personnel is now £20,000. Rates of wages have risen somewhat and a few salaried officials—a manager, clerks, etc.,—have been found necessary. Wages and salaries take £7,000 a year, leaving £13,000 to be shared between the two partners.

The partners' income would have been greater except for the fact that a landlord, a man who owned the ideal spot at which to erect a mill, had been exorbitant in his claims!

"Preposterous!" fumed the old master. "I only want to buy agricultural land."

"Pardon me, you don't! You want to buy the

power of a river. You want to put your mill at the very place where you'll get most power. If you won't pay that rent . . . there are others that will!”

So the master had paid—after all, there was plenty of money to be made. . . .

We see that a great increase has taken place in the income of the owners of the mill; it has increased twenty-six times. This has occurred, fundamentally, through the increase in productive technique, but also because one man was shrewd enough, hard-headed enough, to seize quickly the opportunities that offered. That man paid to his workers, he proudly affirmed, “what they were worth.” He paid to his ground landlord what he had been forced to pay.

These results were achieved when the Industrial Revolution had barely begun on the Island. The master could remember when he worked at a loom in his own cottage; now he lived in a big house, surrounded by almost a park; he employed servants, gardeners, a coachman and groom. But his income had increased faster than the increasing rate at which he and his wife spent on themselves; he had accumulated more and more property: the “foundry” from which he bought most of his machinery, rows of houses in the town, land, the big house in which he lived. . . . Of course the boy was more expensive in his tastes than he, the old master, could ever be—keeping those expensive hunters, squandering everywhere. One got tired of spending on oneself! Satiation set in.

What has been happening in this illustration? An opportunity, through the using of a continually improving technique, has occurred for lifting the whole standard of physical welfare (if we may imagine that

what has been happening in this one mill is typical of what has been happening all over the Island). How is that opportunity to be used in the consumptive needs of life? That is an inescapable question that must be answered. The old master is in a powerful position to force the answer into the shape that he desires. It is on this answer that the arrangement of productive activity becomes built. Yachts, servants, big houses, luxuries, expensive education, hunting—these are “produced” because that is the way in which the effective demand of the old master’s family expresses itself.

Labourers, employed at the old master’s mill, may still receive incomes that do not suffice to meet the barest physical needs, nevertheless the old master’s family are in a position to demand the most amazing luxuries. These are results that follow inevitably when a certain method of control is followed.

It is obvious that a continually improving productive technique must, if employment be maintained, find its outlets somewhere. It must lift real incomes. The question is, is it to be *all* incomes, or a small and exclusive circle? Our present system is so constituted as to answer the question in the latter way. Grotesquely large incomes will, therefore, be gained by those controllers who control establishments supplying something that is in effective demand, which are large enough to enable them to reap large profits, and which are making use of a continually advancing productive efficiency.

§ 4

RECURRENT BREAKDOWN. It might be imagined, from the illustration just followed, that in the early days of the Industrial Revolution in Great Britain a number of rich men would be produced, obtaining profits from the vast improvements in productive technique that followed so relatively quickly on the introduction of power-driven machinery, and that such men would continually get richer. But is there not something inherently unstable in such a profit-actuated method of control? Will not something soon produce breakdown? The system is operating to produce a nucleus of very rich men. If the improvement in productive technique is continuous, it is obvious that such pivotal men must get richer and richer and richer. But these men must soon be forced to increase their rate of spending on consumable goods and services, otherwise the system will break down. If such men ever get satiated, some sort of breakdown will occur. The equilibrium of the whole system is involved, the rate of investment is involved, conditions of employment are involved, the controllers themselves are involved. For no individuals in our present system can alter the fact that, except for fluctuations in stocks, balance between production and consumption must be maintained.

As human beings with bodies to clothe and shelter, with stomachs to feed and minds to interest we are concerned that the flow of goods and services shall be sufficient to enable each of us to live as fully and satisfyingly as possible. Hence we are deeply concerned with the conditions under which, with our

present methods of distributing money-incomes and spending them, we can satisfy our desires. For the system will operate implacably, irresistibly along certain paths, and only along those. And we, as individuals, have to acquiesce in that. We cannot escape the consequences of the arrangements that are embodied in the money-using economic system any more than an architect who has designed his own house can escape the consequences of the arrangements he has made.

If we tried to crystallize or condense the very essence of our money-using economic arrangements, it might be written down as the inescapable equality that is always being forced between *production* and *consumption*. Production is, because of the free choice that can be exercised by those having money to spend, under the necessity of continually adapting itself to the wishes of such persons. Producers must produce something that they can sell, otherwise they cannot obtain incomes. That is one of the rigid arrangements of the present system which cannot be broken without destroying the system.

We need also to take account of all the productive activity that comes under the heading of "investment." Investment is intimately connected with the consumption of goods and services. We may be able further to trace the connection between them, if we can write down the really fundamental equality that connects on the one hand all production and on the other all spending.

What we are really concerned with is the mathematical equality that must exist between the total of *supply* and the total of effective *demand*. Equality is

constantly being forced between these. But we must not confine ourselves, as economics has so often hitherto done, to considering supply and demand only in its individual aspects; we need to study it in its communal aspects. There is a great difference between considering only the supply of and demand for, say, boots, and the total supply and the total effective demand for goods and services. The dropping of prices for footwear might at once lead to a greater demand on the part of the public. That follows because (1) the prices of all other goods and services remain unaltered, (2) the total volume of effective demand remains practically unchanged. But such conclusions, reached by considering small portions of the complete volume of supply and demand, are not valid when the total is considered.

Moreover, we have to penetrate beneath the total of effective demand to the fundamental or first causes which produce alterations in its total volume, and we shall find those first causes in psychological or biological things—the roots of economics.

Considering, then, the *whole* community, we find that this equality exists:

$$\text{Supply} = \text{Effective Demand}$$

If this is expanded into terms of rates of flow of money, we get this:

Rate of flow of prices of all goods and services sold.	=	Rate of spending on consumables by income- recipients.	+	Rate of spending on investment goods.	+	Rate of spending from previously- accumulated funds by "the unsuccessful."
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The above equation follows from the work already done on spending and the flow of incomes. This

equation is fundamental. Difficulty consists not so much in seeing its truth, as in following the ways in which its truth is always maintained in the *laissez-faire* system.

Can we revert to a question which was asked earlier in this section, and use the equation to answer it? Is there something which is inherently unstable in the economic life of the community due to the profit-control of income distribution? Let us, at present, take for granted the fact that revival of the self-contained system is occurring. And, for the sake of simplicity, let us suppose that the number of population is stationary, so that no part of the rate of investment is needed to provide new equipment, instruments, etc., so as to allow for its growth.

If revival of the system is occurring, the rate of investment is being increased. And since none of the addition to investment is needed to provide for growth in population, it follows that an advance in the productive efficiency of the group of successful income-recipients (successful in the sense that their incomes are sufficient to remove them from the necessity of spending their previously accumulated funds) is being realized in practice.

Could we follow one of the steps in the process? See what conditions must be obeyed if revival is to occur and to continue? It is somewhat difficult to do this because, during revival, so many interrelated factors alter simultaneously. But the conditions that must be obeyed if revival is to occur can be found if it be imagined that two equilibriums are involved, which are followed separately. For (1) the needed balance between total rate of spending and total rate

of receiving income must be maintained even if productive efficiency does not increase; (2) a balance must still be obtained between the totals of supply and effective demand if productive efficiency does increase. We can use the foregoing equation to illustrate the process. Let us assume that hours of labour remain unaltered, and that price-levels remain unchanged. The figures given in (1), below, show the total income and total spending of the self-contained system when 20 per cent of unemployment exists, with 20 millions of successful income-recipients, the income of each being £200 per year.

$$\begin{array}{lcl}
 (1) \quad 4,000 = 3,240 + 656 + 104 & \left\{ \begin{array}{l} 20 \text{ per cent of unemployment.} \\ 20 \text{ millions of successful income-} \\ \text{recipients.} \\ 5 \text{ millions of "the unsuccessful."} \end{array} \right. \\
 \\
 (2) \quad 4,500 = 3,652 + 796 + 52 & \left\{ \begin{array}{l} 10 \text{ per cent of unemployment.} \\ 22\frac{1}{2} \text{ millions of successful income-} \\ \text{recipients.} \\ 2\frac{1}{2} \text{ millions of "the unsuccessful."} \end{array} \right. \\
 \text{(In millions of £.)} & &
 \end{array}$$

In the second case, (2), the number of successful income-recipients has increased from 20 to $22\frac{1}{2}$ millions, and the figures show the first equilibrium attained. The rate of investment having been increased to £796 million per year, the whole system has revived, reducing unemployment to 10 per cent.

The value of all goods and services bought per successful income-recipient, in the first case, is $£4,000 \div 20 = £200$; in the second case it is $£4,500 \div 22\frac{1}{2} = £200$. That is, the same volume of goods in each case. (The term "*per* successful income-recipient" is being used because not all commodities are bought by such persons; part are bought by "the

unsuccessful.” The percentage of successful income-recipients is assumed to be the same as the percentage of employment; the percentage of “the unsuccessful” as being the same as the percentage of unemployment.)

But if *potential* productive efficiency, per successful income-recipient, had increased by say 5 per cent during the year that might have passed between the above positions of the system, then the value of goods and services bought per successful income-recipient must also increase by the same percentage. Otherwise the potential advance in productive efficiency cannot be embodied in productive practice.

We now need to trace the connection that must exist between the rate of investment and the consumption of goods and services. We will assume that productive efficiency is advancing over the whole field of production: it occurs among producers of consumables and among producers of investment goods. Some part of the total of investment will be devoted to improving the productive efficiency of existing industries supplying consumables, and part will similarly improve investment goods' industries. But if an accession of effective demand is going to occur, it does not follow that every sort of article and service is going to enjoy an effective demand augmented in the same proportion. Effective demand for some things may not increase at all, but newer sorts of goods—luxuries, innovations, novelties—be demanded in their place. Hence some part of the volume of investment will probably be devoted to making the instrumental equipment to supply such needs. It will be seen that much of the volume of investment is a spending undertaken on the assumption which exists throughout the

system that the volume of buying of consumables (whether old needs or newer desires), per successful income-recipient, is going to increase. That assumption may never be formulated by any individual; it is, as it were, the assumption which the economic system makes for itself! It is made automatically whenever the rate of investment is increased in a self-contained system.

What we have already said, in studying the working out of our equation, is that a 5 per cent increase in the national income can only occur, with unchanged price-levels, if a 5 per cent increase in the volume of goods and services bought, per successful income-recipient, has produced it. Neglecting, as being too small to produce much difference, the third term on the right-hand side of the equation, this means that the sum of the two remaining terms must increase by 5 per cent. Could the second term, representing investment, take the whole of the increase? Not for long! For some of the purposes of this spending on investment would then not be realized; improved productive equipment in older factories and equipment made to produce novelty sorts of consumables would find no increase of effective demand awaiting the potential increase of output. Such investments would be failures. Increase in unemployment would follow.

Supposing that the buying of consumables increased by 4 per cent instead of the full 5 per cent, it would follow that the buying of investment goods must increase by about 9 per cent to create the requisite total of income. This is hardly possible, because such a large stimulation of investment would quickly be demonstrated as folly. For still further increases in

the potential productive efficiency of producers of consumables would soon result. Breakdown would ensue since the purpose of newly created instrumental equipment would not be realized.

It seems possible that the only way in which we can make the equation balance, without altering the number of successful income-recipients, is for a 5 per cent increase in national income to be produced by 5 per cent increases in the buying of both consumables and investment goods. This supposition is confirmed if we look at the matter in another way. If the rate of saving of income-recipients remains a constant percentage of the community's income, the amount spent *from* incomes, on consumables, is always, at least in the British system, 81 per cent of total income. Hence any increase in total income (with unchanged price-levels) must come from an equivalent increase in the buying of consumables. If the buying of consumables is not sufficient, the potential advance in productive efficiency will not be realized in the economic system. Unemployment will be created, further investment be deterred—the system must seek its equilibrium with a less number of successful income-recipients. If, however, the buying of consumables is in excess of the 5 per cent, further increases in investment are stimulated; the system will revive still further.

It perhaps seems possible that a body of successful income-recipients might continually increase their productive efficiency and steadily create more unemployment. This is the nightmare vision of *Those Afraid of Machines!* For it is imagined that the standard of living of those who remain successful is never raised, but a continual improvement of produc-

tive method occurs—hence constantly increasing technological unemployment.

But study of the equation shows that the system will not work in this way. Investment has continually to demonstrate itself as worth while to those who spend money on it. It becomes foolish to do it if not enough spending on consumables appears. If the percentage rate of investment increases, a rising standard of living must follow or further increase in investment will not occur, since past investments have not been successful. The system has to wait until a sufficient rise in standards of living does appear, before the percentage rate of investment can further increase or even be maintained.

We reach a very important conclusion: productive efficiency, per successful income-recipient, can only advance, with constant hours of labour, if the same percentage increase in standards of living, per successful income-recipient, accompanies it. Only those portions of potential advances in productive efficiency become realized in practice which find outlets in this rising standard of living. Hence productive efficiency does not advance freely: it only advances as quickly as successful income-recipients, by increasing their spending to satisfy personal desires, will allow it. Moreover, if standards of living of successful income-recipients are reduced for any reason, productive efficiency may itself be reduced because of the necessity to equate production and consumption.

But is it possible, during revival of a system, for profit-recipients to absorb the whole addition to rate of output per successful income-recipient? It is—but only for a short number of years. If controllers, during

revival of the system, keep all incomes but profits substantially the same, and hours of labour are unchanged, the only outlet that exists for an increase in productive efficiency is through these successful profit-recipients. Should a number of such persons reach a point where satiation sets in, a point at which they spend on consumables as much as they feel any wish to spend, breakdown ensues.

Such a point might not be reached in any country till some successful persons were extremely rich. But reached it will be in any country if productive efficiency advances while all categories of income except profits are called "costs" and prevented from advancing at the same rate.

When this breakdown point is reached, rich persons will try, instead of spending on consumables a portion of their incomes which the economic system *insists* must be spent to maintain the existing volume of employment, to invest the money, or even allow it to accumulate as hoards. To increase the rate of hoarding is fatal; breakdown follows instantly. To invest is just as fatal, though perhaps delayed somewhat. For immediately new factories and machines become ready to produce, the necessary augmentation of consumption does not await them and breakdown follows since further investment is demonstrated as folly.

Breakdown has ensued because the fundamental equality cannot be maintained with prevailing conditions of employment of productive resources. All classes of income-recipients are now attacked—including profits! The inescapable equality may have to be sought when profound economic distress exists in the community.

§ 5

THE WAY THE SYSTEM WORKS. Hence the system will *not* continually operate to make a small group richer and richer. We may imagine that, at first, when power-driven machinery was really initiated by the emergence of the practicable prime-mover, the steam engine of James Watt, the consequent widespread improvements in productive technique swiftly created a stratum of very rich men. They would get richer, the proportion of the national income taken by profits continually rising, until a point was reached at which decided satiation set in for that group of successful people. Their incomes reached a point at which they increased more quickly than the rate of spending by the group on consumables. ~~Breakdown followed; the rate of investment dropped; incomes dropped; the system was depressed.~~ Again it revived. If all categories of income except profits were kept down, it would break down again at pretty much the same position as before. There would be no long-period advance in productive efficiency: what was gained during revival would be lost during recession.

But if *all* classes of income-recipient somehow realized increased real incomes, then the productive efficiency and standard of living of the whole community would advance over long periods—at the same slow rate as the universal standard of living was rising. From this it follows that the distribution of the national income will tend to fluctuate about certain constant proportions—profits rise to a certain proportion and cannot go much beyond it before breakdown occurs. A fluctuation there will be, but the dominant

proportions in which income is shared will always remain.

If our reasoning is true this fact should be confirmed by statistics. The figures conclusively confirm us. Both for the United States and for Great Britain the figures tell the same story. See Table 4.

The proportion of the national income which is taken by "wages" fluctuates about the figure of 40 per cent; wages and salaries together fluctuate about 60 per cent; profits plus rent and interest always tend to take 40 per cent.

The figures for the United States for the years 1921-9 illustrate the fluctuation: the proportion of the national income taken by wages and salaries fell continually till breakdown ensued in 1929.

TABLE 4

<i>Year</i>	<i>Country</i>	<i>Percentage of National Income: Wages</i>	<i>Percentage of National Income: Wages and Salaries</i>	<i>Authority</i>
1867	G. Britain	40	—	Dudley Baxter.
1880	" "	41·3	—	Dr. Bowley.
1913	" "	35·7	—	Dr. Bowley
1924	" "	39·2	—	Dr. Bowley and Sir J. Stamp.
1911	" "	42·5	54·4	} Mr. Colin Clark in <i>The National Income,</i> 1924-31.
1924	" "	41·5	63·3	
1926	" "	39·2	63·0	
1927	" "	40·8	63·6	
1928	" "	40·8	64·2	
1929	" "	39·9	62·4	
1930	" "	38·0	60·5	
1931	" "	41·3	65·5	
1899 to	United States	} Remained at about 41	58	For percentage of wages, the <i>Manu- facturers' Census</i> .
1919	"			
1920	"	} 44·8	63	For wages and sala- ries, Dr. King of the National Bureau of Economic Research. Quoted by Professor Wesley Mitchell in <i>Business Cycles</i> .
1921	"		63	
1922	"	} to { dropped year by year.	60	
1923	"		57	
1924	"		55	
1925	"		54	
1926	"		54	
1927	"		—	
1928	"		—	
1929	"	36·6	—	

CHAPTER VIII

CYCLE OF SLUMP AND BOOM

§ 1

THE ¹TIDE TURNS. Is there any process which produces automatic revival? Is a point reached in the downward course of depression when the system will cease its descent and automatic revival ensue? It seems impossible to find any inevitable and automatic kind of revival, just as it is impossible to find anything to prevent systems from going down to depths of economic distress that have never yet been known.

As before pointed out, an intimate connection exists between a community's rate of investment and the productive efficiency of the whole system. When the rate of investment is reduced, say at the break of a boom, the rate of advance of productive efficiency is checked, many things contributing their quota to this: the rate of replacement of obsolescent machines is lowered; the rate of scrapping of old plants and their replacement by new is reduced; existing plants begin to run below the maximum output-rate for which they were designed, thus reducing their productive efficiency; communal wastes relatively increase; restrictions on output appear. . . .

In a major slump, when the rise in standards of living of income-recipients has been first checked and

then reduced, production of consumables must somehow, no matter what terrible economic distress is entailed, be forced to keep in step with the way in which the standard of living alters. But a point may be reached, in the downward course, at which the standard of living of successful income-recipients is not reduced further, the rate of investment having been dropped so that it suffices to maintain the standard of living of income-recipients unimpaired. The system will now be in a quiescent stage, "bumping on the bottom," as the British system was for the years 1931 and 1932.

Will an increase of investment now revive the system? Opportunities for this may exist if important new inventions await exploitation—as they did, for instance, in Great Britain during the earlier phases of the Industrial Revolution. Large investments may start the process of revival: the rate of investment being increased, the whole system revives. It is possible that this revival will continue until a long-continued process of construction, such as important railway networks and the necessary rolling stock, is completed.

But when this is done, an improvement in productive efficiency is made and a rise in standards of living must follow—money saved in transport costs must be spent either in more travel or in buying more goods and services. There must be a rise in standards of living, somewhere, somehow—or prevailing conditions of employment cannot be maintained.

Reverting to the case which seems more like modern conditions, where no outstanding technical inventions await exploitation, we see that whatever increase takes place in the rate of investment at the bottom of a

slump will *immediately* or soon produce an increase in productive efficiency. Standard machines, motors, cranes and other equipment are, to some extent, kept in stock by their manufacturers. Directly money is spent to buy these, current investment may be increased since workers may then be engaged to renew stocks. Moreover, no lengthy period of construction is required to produce many forms of investment goods. Consequently improvements in productive efficiency are realized immediately or very soon after the rate of investment is increased. But the whole system will not revive because of increased investment, unless the indispensable rise in standards of living accompanies it. Workers may be discharged because of the installation of improved machinery, but controllers may not spend at a greater rate on consumables because of this—they may pay off debts, replenish reserves, etc.

The benefits of improvements in productive efficiency tend to pass first to profit categories of income. It seems that it is from this class of income-recipient that the rise in standards of living must come before the tide turns. A rise of such incomes, accompanied by an increasing rate of consumption by these income-recipients, will lead to a further increase in the rate of investment, since by these means the possibility of obtaining still more profits appears. The stage is now set for revival.

It may be thought that the appearance of increased profits is *first* cause of revival. That is not so. Profits are themselves dependent on effective demand: goods and services must be sold before profits are made. And such things are only sold when needs or desires

are to be satisfied. Hence first causes lie in biological or psychological things.

Revival is no automatic thing. Fear, chance, courage and confidence are incalculable factors. Who can say, in a major slump, when fear will die and the system reach the quiescent stage? Who can say how long it will then be before that optimism appears which leads profit-recipients to increase their standards of living? Turn of the tide waits on such things.

§ 2

GAMBLING. If the tide turns at the bottom of a slump, profits increase. And prospects of future profits begin to appear bright perhaps for two reasons: (1) effective demand shows a constantly increasing tendency, which is the trend from bottom of slump to break of boom; and (2) the price-level may be rising—a probable but not certain thing. (A well-known case in which the price-level did not rise during the revival phase of a cycle occurred in the United States between 1924 and the break of boom in the autumn of 1929.) But it is not necessary that the price-level should rise for production to become very profitable. It is quite enough that productive units can begin to run more efficiently—as the case cited of the United States shows.

If, however, the price-level does rise, still greater rates of profits may be obtained. For rates of wages and salaries, payments for interest and rent may be more or less fixed in terms of money, and so, through the rising price-level, “profits” will gain at the expense of other classes of income-recipients.

An increase in the profitableness of a joint-stock firm is reflected in the rising prices of its ordinary shares. The history of many revivals, of many turns in the tide of productive activity, shows this upward turn in share values. Consequently, as revival proceeds, it becomes a profitable proceeding to buy shares at one figure and sell at a higher. A rising tide of gambling excitement may accompany the rise in standards of living (or consumption) and rate of investment, which are the fundamental factors causing the appearance of the secondary phenomenon we are now considering. To "buy the baby," nurse him for a brief spell, and sell again at a higher figure is pleasant; to repeat this activity is exciting; to conceive the idea of making a fortune by the process is breath-catching. . . .

Another and more fundamental thing which often accompanies the revival phase is the increase in volume and value of another kind of stocks—finished and part-finished goods, raw materials, etc. These increases in stocks are a form of investment and, as such, may play their part in reviving the whole system. But again the movement may become gambling, for if the price-level of these commodities is rising, it becomes very profitable for a merchant, say, to buy stocks, hold them for a time, and sell again when the price-level has risen. Not only are ordinary profits received, but "windfall" profits due to the rise in the price-level. Under such circumstances, stocks tend to increase in volume beyond the real requirements of the productive system—even if that system were running with full employment of productive resources. When the boom breaks, this over-

growth of stocks cannot be sold without disastrous losses.

Most cycles show this movement: the crash of 1920 in Britain and about the same time in the United States caught merchants and producers with very large stocks, but the break which occurred in the United States in 1929 showed little of it—probably because, since the price-level did not rise during the revival phase, gambling in stocks of materials was not profitable.

§ 3

BREAK OF BOOM. During the revival phase, the following things happen: (1) a constant increase in the standard of living of income-recipients whose source of income is in “profits”; (2) a continuing rise in the rate of investment, with, as consequences, a rise in employment, the drawing back into the ranks of successful income-recipients of “the unsuccessful”; (3) the whole national income increases as a swelling flood of goods and services are produced and find their outlets in consumption; (4) the quantity of money in active circulation constantly increases, since the rate of flow of incomes increases, and greater volumes of goods are transferred from point to point in the productive process.

During this phase the economic system generates momentum—a momentum dependent on the amount of confidence or recklessness developed. One has only to think of the conditions in the United States during the “New Era” period prior to the break in 1929 to realize this. Conditions which follow the break of

boom are, among other factors, affected by this momentum.

Leaving for later consideration the type of break due to banking action, can we study the more fundamental type of break? Again we must cut out all foreign trade and investment, and consider a self-contained system like our imaginary Island. How is the boom broken in such a system? A point is reached at which the rate of buying of consumables does not increase as fast as the rate of production must do, if the employment of productive resources is to increase or remain stationary. A persistent lag in effective demand develops: the more successful of profit-income-recipients have reached satiation point. This may be the real point of breaking of the boom, not when spectacular stock-exchange crashes, or equally spectacular price-falls of raw materials and stocks, may occur later.

A piling-up of stocks of unsold goods, deliberately held off the market for fear of price-falls, may now occur—a kind of “forced” investment—which hides for a time what is really happening. This was the case in the United States in 1929, when stocks accumulated and were held off the market prior to the stock-exchange crash.

We saw, when studying the fundamental equation, that if a 5 per cent increase in the productive capacity of successful income-recipients occurred there had to be—if breakdown in employment were not to occur—both a 5 per cent increase in the volume of consumables bought and a similar increase in the volume of investment. At the point where satiation of higher-income-recipients sets in, consumption will not increase

in this way. Any attempt to divert money incomes, which should be spent on consumption, to new investment will meet with disaster. New instruments of production are created; no augmentation of effective demand awaits the products they are designed to help produce. New investments are failures, or force failure on others. To spend money on further investment seems an extremely foolish proceeding to those who take the initiative in new investment. What can be done with those portions of income which will not be spent on more luxuries, since there is no desire for more, and which must not be spent on investment for fear of losing the money? Hoarding! Business firms, too, cease a portion of their spending on new investment, and attempt to hoard money as reserves, or undivided profits, or amounts they carry forward. An appreciable drop in the rate of investment appears; a wave of unemployment ensues; a whole series of repercussions may follow.

And now there may enter a sinister figure that plays a major role in all great depressions: *FEAR!* Such fear may vary in different cases from mild distrust to a panic-stricken dread of the future. The case of the United States illustrates this. The New York correspondent of an English newspaper, writing in June, 1932, says:

“It is almost impossible for a European to realize the depth of the psychological panic which in recent months has gripped a majority of the Americans. The people of this country had been nourishing themselves for years on doctrines about ‘a new plateau of prosperity.’ It had been generally assumed that the rising stock market would go on for ever and make everyone

rich . . . when the bottom fell out of that . . . it seemed to many people like the end of the world.”

The process by which fear becomes destructive of the productive system is by successful income-recipients cutting down their demands for consumables. This is suicidal folly in a system where productive efficiency is continually trying to advance. . . .

It is, then, the failure of a controlled-by-profits system at once to pass on to every kind of income-recipient the increased purchasing-power, which increased productive efficiency can render available, that results in periodic breakdown. In the last analysis the system suffers its recurring breakdowns because of lack of consumers—an amazing paradox in systems where millions of people are living at or near bare subsistence level. No system can continue, indefinitely, to pour continually increasing riches into the laps of a few. The millionaire can only wear one pair of trousers at a time; he has only one stomach—some of them don’t appear even to have that!

§ 4

INFLATION. Peace-time booms, judging by British experience, break before productive resources are fully occupied, but a great danger awaits *laissez-faire* communities if productive resources should become practically fully occupied, and the rate of investment is then further increased. That danger is inflation—a lively horror of which is still held in Germany. Only the start of inflation will be followed here, not the complex of effects produced by a long-continued inflation. Moreover, it will be assumed that access to needed

raw materials is available, and that the labour-power of the community can be applied to any productive purpose. In this case there will be practically no unemployment during inflation; whereas if productive powers are withheld, as in the case of Germany during the Ruhr occupation, unemployment can exist. To follow the process of inflation, let us consider the Island community when their economic system is at the top of a boom.

On the Island it is desired to build a bridge. When this new act of investment is decided on, the rate of saving of income-recipients is exactly equal to the rate of investment; productive resources are already fully occupied, and no pool of "the unsuccessful" exists. But we will assume that, for bridge-building purposes, both the necessary personnel and instrumental equipment can be imported. The whole work of bridge-building is done by one firm and on the Island: coal and iron-ore are extracted, steel is made and rolled into sections, fabricated in workshops and erected on the site.

Since the bridge-building firm will not be paid for the bridge till its completion, they have need of a flow of money to meet expenses during its building. They receive loans from the Island's bank for this purpose.

(To shorten analysis, to penetrate quickly to fundamentals, we will assume that no stocks of consumable goods exist, and that the rate of output of consumables cannot be increased.)

The week before work started on the bridge, the whole stream of commodities produced by complete employment of all productive resources was being

bought. Incomes and money spent from incomes were in perfect balance. But directly a new stream of incomes begins to be spent by the bridge builders, these conditions change. Those who desire to purchase consumables—and those who so desire now include the bridge builders—*try* to buy more of these things than existing rate of output can satisfy. Before the end of the first week of bridge-making, a week's output of consumable goods is sold—and a portion of consumers' demand remains unsatisfied. The weekly income of all those who draw incomes from the production of consumables still remains the same.

But notice an important thing that has happened: the community—excluding the imported bridge builders—has been compelled to purchase less; it has been forced to save more money. The rate of saving of income-recipients has been forced into equality with the augmented rate of investment. Forced saving is imposed.

Such conditions may continue, perhaps for a few weeks. But, every week, retailers find themselves sold out before the demands of consumers are satisfied. What seller can resist raising prices under such conditions? Although the volume of consumables sold each week remains unaltered, the stream of prices received for commodities sold rises, because of the rise in the price-level. And that will continue to rise so long as income-recipients *try* to spend at a greater rate than the rate of output can satisfy. Hence prices may continue to rise during the whole period of bridge-building.

Let us suppose that money rates of wages, salaries, interest and rent are all fixed, for a time at least, by

existing contracts. But incomes represented by "profits" are not so fixed. Hence, as bridge-building continues, incomes received from profit sources become abnormally high. This follows because profit incomes receive, in addition to the previous amount received before work started on the bridge, the *whole* of the money incomes spent by the bridge-building personnel. These "windfall" profits are being gathered because all other classes of income-recipients, except profit-recipients, receive no advance in money incomes, despite the rise in the price-level. Forced saving is imposed on the community; the benefit of that, in the shape of money, passes into the pockets of those receiving profits. Intense strains are set up in the economic system: strike feeling develops; charges of profiteering are rife; discontents are bred. . . .

But the rate of saving of income-recipients, voluntary and forced, is equal to the augmented rate of investment.

§ 5

BUYING THE BRIDGE. Imagine that the bridge is completed. A Bridge Loan is floated; those who possess bank deposits, either accumulated during the bridge-building period or earlier, subscribe to it. Bank deposits of individuals are reduced in order to swell those of the bridge-building firm. This firm then repays bank loans, plus interest, and retains its profits. The bank is now, perhaps, back in the same position—with the exception of the interest gained and expenses incurred—as before it granted its loans to the bridge.builders. But the community is not. It has suffered inflation, the strains and stresses of which

may still exist. . . . Moreover, it has still to pay for its bridge!

For, in this case, where wages, salaries, rent and interest were fixed and profits became abnormal, the community may have to pay nearly *twice* for its bridge. The fund of forced savings has accumulated in the hands of those who receive profits. It is really, however, the remainder of the community who were deprived of consumables; they were forced to provide the major part of the commodities bought and personally consumed by those who built the bridge. Consequently the community must pay twice for its bridge: (1) during its construction by the continual weakening of the purchasing-power of money incomes; and (2) through rates or taxes or bridge-tolls during the working life of the bridge. . . .

By this analysis, two very important assumptions, which are taken for granted in the *laissez-faire* economic system, are challenged. These assumptions are: (1) that anybody has the right at any time to decide on an act of real investment. An individual, a private firm, a Government, a local authority—all these think they have a right, so long as they possess money resources, to give the necessary orders to say, the bridge-building firm to start work, irrespective of what is already happening in the economic system. (2) That a person who possesses bank deposits, or a bank and its borrowers who can create the necessary supplies of money, has the right of issue of purchasing-power at *any* time to those who need it in order to produce investment goods.

But, in the illustration we have followed, the whole stream of consumables was already being sold to

income-recipients before bridge-building started. Consequently the principle on which the monetary system is based was violated, that principle being that only the "producers" of commodities are entitled to them. The bridge-building personnel are given purchasing-power by those who do not possess just rights to claim any, since the current flow of consumables is already being claimed by its producers. If a principle of the system is not to be flouted, if justice is to be observed, the maximum rate of investment must not exceed the rate of *voluntary* saving by income-recipients. . . .

An important generalization emerges: it is impossible for the rate of investment to exceed the rate of saving of income-recipients. If the rate of *voluntary* saving is less than the rate of investment, *forced* saving will be imposed to augment it. The rate of saving and the rate of investment of a *whole* community must be equal. We cannot alter this truth, though many different distresses and strains may happen to the economic system when different methods of attempted violation are followed.

We have already analysed attempted violations during the equilibrium of depression, when successful income-recipients save at a greater rate than the rate of investment; we saw how the rate of saving of the *whole* community was reduced to equal the rate of investment. Also we have seen the rate of investment increased above the rate of voluntary saving of income-recipients, and followed how the imposition of forced saving increases the total rate of saving of the whole community into equality with the rate of investment.

It seems, then, that the rate of investment deter-

mines the rate of saving of the *whole* community—always. This is as true during the equilibrium of depression as it is when the voluntary rate of saving from incomes is less than the rate of investment.

§ 6

THE CYCLE. No attempt has been made to follow and explain the actual happenings of any one complete cycle. An attempt has been made to reach the real fundamentals, the real first causes producing the secondary effects which appear as surface phenomena in all cycles. The dynamic factor of productive technique, the profit-method of control of income distribution and its effect on the growth of effective demand, the desires and distresses, the fears and confidences of men—all these are first causes. And they are first causes because they are either themselves psychological or biological things or closely related to these.

We have, in previous sections of this chapter, considered cycles which occurred in a self-contained community with stationary population and not undertaking any foreign investment. Such foreign investment is considered later. During the revival phase of a cycle it is possible, if an appreciable increase in population has occurred in the years that have elapsed between the cycle being considered and its predecessor, for a relatively large increase to occur in the rate of investment with but a small increase in the productive efficiency of income-recipients. Much of the new investment is devoted to making new equipment needed to provide for growth of population.

The long-period advance in productive efficiency of a whole system will, our work suggests, be slow. Why? Because it is retarded during the decline phase of a cycle; it is even retarded during revival, for it can then only advance as fast as the rising standard of living of perhaps one small section of the community allows it.

Our study has led us to expect that productive efficiency will, however slow its advance over long periods of time, move in a series of jerks which correspond with each cycle. Unfortunately, statistics do not yet furnish us, for long series of consecutive years, with the necessary figures to confirm this. But the scraps of available information confirm our work. It was calculated (by using Census figures, statistics for retail price-level and national income) that for the whole productive system of Great Britain, between 1867 and 1880, the advance in productive efficiency was 2.4 per cent per head per annum; from 1880 to 1913 it was 1.3 per cent per annum; from 1913 to 1924 it was 1.2 per cent per annum. Hence over the whole period from 1867 to 1924 it increased at an average rate, per head, of about $1\frac{1}{2}$ per cent per year.

This is almost unbelievably slow. But it is typical of the whole world, as can be shown by using the figures given in the *Macmillan Report*, pp. 57-63. Using these we find that productive efficiency, for the world, advanced less than 1 per cent per head per year between 1913 and 1928.

The evidence given in *Course and Phases of the World Economic Depression*, League of Nations, shows productive efficiency, during years of revival, advancing rapidly as compared with its long-period trend: United

States, 3·5 per cent per head per year between 1922 and 1927; Sweden, 3·9 per cent per year between 1920 and 1929; Germany, 5 per cent per year between 1925 and 1929.

From these figures referring to the revival phase we get an indication of the rate at which productive efficiency might advance continuously—if allowed to do so! Even the actual rates of advance observed during revival would produce astonishing uplifts in human welfare—if they but continued. But what rate of advance in human welfare would occur if deliberate increase in this were made just as fast as a freely advancing productive efficiency allowed, no one knows. Our work suggests that advance could be very quick.

During the revival phase, a rising standard of consumption among profit-recipients may produce little if any real increase in human welfare. Much of the increase in incomes passes to recipients who already have more than enough to spend. Useless ostentation, futile luxuries—these become outlets for the dynamic productive technique of the system. True, such consumption of luxuries does create employment. And even that is far better than the criminal waste and inhumanity of letting men and women starve because they cannot find the employment which enables them to earn incomes.

If social services are provided in a community by taxing higher incomes at a greater rate than smaller ones, the effect is to raise the general standard of living and hence allow the productive efficiency of the whole system to advance. Profit incomes can be carried to greater heights before satiation appears.

It seems that in a modern community a dynamic productive technique is always seeking its outlets. Everything that is done to increase consumption or shorten hours of labour is helpful to it. Economic life is a battle in which this striving productive technique, fighting to advance human welfare, is defeated by a disastrous method of distribution of incomes. And not disastrous merely from the viewpoint of wage-earners, but of all classes.

A dynamic productive technique must find outlets if it can, whether they be good or evil. So we see the devilish developments of mass murder: chemical science providing fiendish ingenuities in poison gases; engineering and metallurgy giving us guns and shells that blast us into fragments of bone and flesh, or shock our nervous systems into wreckage; ship-building and marine engineering giving us sinister ships, fighting factories of death. . . .

§ 7

CRASH OF INTERNATIONAL INVESTMENT. When the system of international trade and lending suffers partial breakdown, that occurs for the same fundamental reasons as apply to the self-contained system. Imagine that the top of boom is approached in a great creditor country. The rate of investment has been increasing, employment has been rising, the standard of living of successful income-recipients and productive efficiency of the system have both been increasing. . . . There comes the fateful moment when satiation sets in, or the banking system intervenes. A drop occurs in the rate of investment and repercussions

follow. Perhaps a wave of fear strikes the system, with consequences not only on internal investment but also on international investment. A pronounced rise in unemployment follows in all the countries concerned.

Moreover, the overseas payments made by the debtor now cease to be entirely spent on a combination of consumables and investment goods; part becomes hoarded by its recipients in the creditor countries, hence more repercussions of unemployment follow. A drop in international investment does not affect only one country: it affects the world, as history amply shows. A striking illustration is afforded by British statistics of unemployment. After the United States' crash in 1929, international investment drastically declined, British included. Britain's unemployment figures showed a tragic correspondence, moving swiftly upwards from about 10 per cent to over 20 per cent during the following year.

But, though the slump comes, overseas payments on outstanding debts will still be demanded by the creditors, and in their own kind of money. But the debtors are in difficulties, since their own flow of incomes is partially destroyed by the drop in their internal rate of investment. The new railway, expected to earn handsome profits, suffers from a diminution of its traffic. Even if the railway is in a position to pay its overseas debts, how is the exchange of one kind of national money into another to be arranged? Previously that exchange involved the movement of real goods and services, either internally when money was re-invested, or to foreign countries when the money was spent on consumables or re-invested in other countries. But now the system breaks down because

real goods and services are not moving. Gold may move till the debtors are driven off the gold standard. But the foreign-exchange difficulty will still persist.

The debtor countries now feel an urgent need to develop an export surplus. Only thus, they realize, can overseas debts be paid and their ability to borrow in the future be assured; only thus can they revive their own depressed productive system. But the urge to develop an export surplus in the creditor countries is just as keen, for only thus can their productive systems start to re-create incomes. Hence all the world becomes desirous of increasing exports; all the world becomes desirous of restricting imports! The result is economic warfare, since many nations, with idle people and plants, are seeking desperately for that effective demand which alone creates income. In this warfare nations wield the weapons that lie nearest: tariffs, exchange-restrictions, quotas, subsidies. . . . Economic nationalism goes mad, as it went mad after the world's economic tide turned in the fateful autumn of 1929.

CHAPTER IX

CAN BANKS CONTROL THE SYSTEM?

§ 1

FALSE ASSUMPTIONS? So far attention has been exclusively given on the one hand to the profit-controlled productive system that provides goods and services, that uses a particular sort of money-mechanism by which it calculates costs and prices and pays money-incomes and specializes its parts to any desired degree; and, on the other hand, to income-recipients and the extent to which they spend their incomes. It may be thought that we began at the wrong end with our inquiry; we should have started with the "creation" of money and with banking, with the quantity of money available or the rate of interest at which it can be loaned. For in the wrong manipulation of the money instrument, it may be imagined, lie the causes of the economic distresses of our times. "Booms and slumps are simply the expression of the results of an oscillation of the terms of credit about their equilibrium position," says Mr. J. M. Keynes in the *Treatise on Money*, p. 184, Vol. I. The Macmillan Committee in their Report of 1931 have no slightest doubt that by appropriate banking action, exercised with the necessary "knowledge, judgment, and authority," the price-level can be raised to any required degree, held

at the desired level, and that the cycle of slump and boom itself can be eliminated! "There is nothing, we believe, intrinsically out of reach in any of these objectives," asserts par. 284 of the Report. And, for Britain, the Bank of England is confidently asked to apply the appropriate banking technique to achieve these stupendous tasks!

If the question asked by this chapter is to be answered, we must first find what the banking system can do, before going on to consider what it either cannot do or only do very inefficiently. By doing this the unsoundness of basic assumptions which are widely accepted by many present-day monetary theorists will be exposed.

§ 2

BANKS BREAK BOOM. Can the banking system break a boom? At certain times, such as the tops of booms may possibly provide, the demand by the community for currency notes or coins becomes so great that the reserves in the Central Bank are seriously depleted. If the period is a boom-time, the Central Bank may feel that if the demand for "cash" on the part of the Member Banks continues to grow as it shows signs of doing, there will come a time which is dangerous to the whole banking system. (For, of course, there may be legal restrictions on the amount of "cash" that can be issued: it may be tied to gold reserves, or the fiduciary issue may be restricted by legal enactment. Or inflation may be feared if the amount of "cash" is increased.) How, then, in such cases, can the Central Bank stop the demand for "cash" from increasing

beyond danger-point? Stopped it must be, or breakdown of the banking system will occur.

Let us start from the bottom of a slump. Revival has begun and the rate of investment is increasing. More money is needed for the payment of incomes; more money is needed to transfer goods from producer to producer during the processes of manufacture; more money is needed to transfer industrial shares from sellers to buyers if a rise in speculative activity accompanies the revival. In the main circulation the needed volume of money is (apart from the rise in standards of living) injected into circulation by whoever takes the initiative in investment.

“But where does the money come from?” someone may ask. No revival can take place unless the person who orders a new factory to be built, new machines to be made, owns, or can borrow from someone who owns, or can assist to create, bank deposits. Command of the instrument, money, gives command over the flow of consumables. Ownership of bank deposits may be held by business firms who possess previously accumulated funds as reserves or undivided profits, or are saving money from their current profits. Money can be provided by people who hold it as “time-deposits,” and who are anxious to make real investments which promise an assured and profitable return. Wherever the money comes from, it reduces, when it increases the rate of investment, the percentage of hoarding: some part of the current rate of saving finds an outlet in new investment. So long as the rate of saving of successful income-recipients is greater than the rate of investment, there is always a flow of money available to increase the rate of investment.

The difficulty that exists is to see how the available flow of savings, or its equivalent, can come into possession of those who take the initiative in real investment.

Banks may take some part in the process—though as long as a certain volume of idle bank deposits are in existence, it does not seem that their immediate participation is necessary, except to do the work of transferring deposits from one account to another, and meet slightly increased demands for “cash.” But, as trade and industry revive, so too does the demand for loans from credit-worthy borrowers—a demand which the banks can readily meet by selling securities, keeping their total of deposits the same.

By itself buying securities, the Central Bank perhaps assists in the process, since the “cash” nucleus of the Member Banks is thereby increased. By this means the whole amount of the Member Bank deposits can be increased, and the money available to meet the increased demand for loans can then be provided partly by selling securities by the Member Banks and partly by building augmented deposits on the increased “cash.”

So the revival phase may go on: more money being continually drawn into the stream which pays incomes, a continuous growth in the demand for “cash” on the part of the public, the price-level perhaps rising and producing its own effect on the increased demand for “cash”—until that increased demand becomes dangerous to the entire banking system. Up goes the danger signal: a drastic rise in Bank Rate, perhaps accompanied by the selling of securities by the Central Bank.

If this action is to be effective in sabotaging the economic system, it must produce its effects through affecting the rate of investment, and hence the rate of flow of incomes to the community. Investment is peculiarly subject to *fear*. It demands confidence, courage; if fear takes the place of these in men's minds, the rate of investment is certain to decline. Some illustrations of how the thing might work out in practice are given below:

You, as managing director of an iron and steel works, are faced by a momentous decision: is it wise to embark on that extension to the plant—a new blast furnace, another blowing engine, a Siemens open-hearth furnace, a small rolling-mill and accessories? Business conditions are booming, of course; the demand for iron and steel has showed an upward tendency for quite a long time . . . but the boom may break at any moment!

Opening the newspaper on the morning of the directors' meeting, you read: "Drastic Rise in Bank Rate." "Panic on Stock Exchange." You remember booms breaking before: the bad times that followed the break in '07, the crash of 1920.

"To extend our plant at this time, gentlemen, would be an act of utter folly," you tell the board of directors.

So the rate of investment in instrumental goods declines through *fear*.

Can we pick out another thread in the complex web of motives that build up the rate of investment? You are a merchant and hold large stocks of raw materials. Prices have been rising for some considerable time; business has been extremely profitable. For

you have bought materials at certain prices, held them for a time, and sold again on a risen price-level—a process extremely pleasant and profitable. Hence you have been tempted to increase your holding of stocks to much above the average. But always there has been a lurking fear: booms have broken before; sudden falls in prices were then ruinous to those who held large stocks.

When these booms broke, great losses were not incurred because of the rise in rates of interest on money borrowed from a bank, in order to hold stocks. That, of course, was an added cost, but was simply nothing in comparison with the losses due to precipitous falls in prices. What did a 2 per cent addition to rates of interest matter as compared with a fall in prices of say 25 per cent?

Opening his morning newspaper, our merchant is startled to read of the sudden rise in Bank Rate, the restriction of credit. . . .

Pressing his bell, he roars at his astonished clerk a command to cancel the recent and undelivered orders.

Thus again, the rate of investment, this time in stocks, declines through *fear*.

In the kind of break followed in this section, the economic system never reaches the condition of satiation of higher income-recipients which was previously followed; the boom is broken before that position is reached. Directly the rate of investment declines, the numbers of income-recipients are reduced and the price-level may fall precipitously. The stress on the banking system is relieved, but the banks may have initiated a movement over which they possess no

further control. For fear may affect not only the rate of investment but also the standard of living of income-recipients, and then a long and dreadful slump will ensue. During that slump the banking system may be powerless either to arrest decline or to produce revival.

§ 3

CAN BANKING ACTION STIMULATE FLOW OF INCOMES?

We have just seen banking control influence the application of the brake at times of boom. What can the banks do at times of depression? Can their action arrest decline? Can it produce revival? Views are widely prevalent that appropriate banking action can both arrest decline and produce revival, either by directly acting on the quantity of money or by affecting the rate of interest and thus, it is thought, the rate of investment. How much of truth is there in these views?

When the boom has broken and the economic system has entered the slump period, the whole banking system usually wins to a very easy position as regards demand for "cash." If that demand was a maximum at the boom, then, retaining the same volume of cash, demand for it will decline as employment of productive resources decreases. Advances begin to shrink in volume as unemployment grows, since less money is needed in the main circulation. (That shrinkage is clearly seen in the statistics.) But if the banks allowed the volume of their interest-earning assets to shrink as decline proceeded, their ability to earn profits and expenses would be seriously affected. What can they do, in their endeavour to

maintain their income-earning capacity? They can, as one method, buy more securities.

Such a movement becomes accentuated if the volume of cash is increased, by deliberate Central Bank action, in an effort to arrest further decline or produce revival. The total volume of deposits can then be increased and the consequent buying of securities becomes very large. This has been the case in Britain during the slump starting in 1929. Between February 1932 and November 1934, bank deposits of all kinds showed an increase of £250 millions, whereas advances dropped by £150 millions. The consequent increase in the holding of securities by the banks has been relatively great. Is this the factor that produced a slow revival of the British system, exemplified by the drop in the general unemployment percentage from 23 per cent in January 1933 to about 12 per cent in January 1937?

If this factor is responsible, it can only have produced its effects by somehow stimulating the rate of flow of incomes in the main circulation; or, looked at from the opposite viewpoint, the rate of flow of spending on finished goods and services. Is the public induced to spend more money on consumables or investment goods because the banks have bought securities? If a man owned £1,000 of War Loan and desired to realize this and spend the money on obtaining part of the flow of goods and services, he could sell his securities at any time; he need not wait for the banks to become buyers. Hence the real factors that influence the individual's spending lie outside banking control.

The banks, by their buying of securities, merely

change the kind of property owned by the community. Instead of Mr. Jones owning £1,000 of gilt-edged securities, the banks have induced him, perhaps owing to an increase in the selling price of securities, to own £1,000 of bank deposits. But, by doing this, the banks have not affected Mr. Jones's notions of how he shall spend his income, nor, necessarily, of how he shall deal with the new kind of property he has acquired.

Certainly the banks can thus increase the amount of money that *could* be used in the main circulation, but it is bank depositors themselves who decide what they shall do with their deposits. The factors that control Mr. Jones's spending on consumables are the size of his income, his own and family's desires and needs—things untouched by banking action. Mr. Jones's spending on real investment is dependent on forces and fears already studied—things outside banking control. We conclude that the banking system cannot, to any appreciable extent, stimulate the rate of spending on consumables and investment goods merely by giving bank deposits in exchange for securities.

§ 4

CAN RATE OF INTEREST CONTROL THE SYSTEM? Some monetary theorists are intensely preoccupied with the rate-of-interest idea as a control of the whole economic system; it is believed by these economists that there is a "natural" rate at which the rate of saving of a community and its rate of investment will equate. The *assumption* underlying this belief is very simple: if the rate of interest rises, the rate of saving will be increased and that of investment

reduced; if the rate of interest falls the converse is true. Consequently there must be some "natural" rate of interest that equates saving and investment.

This view is simple—far too simple! It fails, in the first place, to differentiate between the rate of saving of successful income-recipients and that of a *whole* community. We have seen that the rate of saving of a whole community and its rate of investment must be equal. ~~The economic system will not tolerate anything but that equality.~~ Secondly, both the rate of saving of successful income-recipients and the rate of investment are settled by forces far more powerful and potent than a mere rate of interest—forces still operative if that rate were abolished.

But it is helpful to our inquiry if we follow the argument of these monetary theorists. Having made their first assumption, they turn to the banking system and make another. "Ah, yes," they exclaim, "the banking system can control the rate of interest! Hence it can—if only these confoundedly orthodox, soaked-in-tradition bankers can be made to understand—control the whole economic system! Those beautiful and delicate instruments—open-market operations and Bank Rate—operated by a wise and prescient Central Bank. . . ."

But what is "the rate of interest?" To read the writings of some of these theorists gives little if any help in answering the question. There are, of course, many rates of interest; these writers do not define which they mean, or if they mean all rates.

We have followed the dilemma of the banking system during the slump. Faced with shrinkage in the volume of advances, perhaps provided with more

“cash” by the action of the Central Bank, the Member Banks can buy more securities, lend more as day-to-day loans, buy more Treasury or trade bills. This procedure leads to reductions in all the short-term rates of interest: day-to-day loans, discount rates on bills, the rate charged on advances. As witness to this the British figures for the period beginning 1932 are quite conclusive.

But what of the long-term interest rate? (This might be defined as the rate charged on money to be expended in real investment, in cases where practically no risk exists of losing interest or principal.) By their buying of securities, the banks enter the gilt-edged-securities market as large buyers. The rate of interest obtained from money expended to buy these securities is practically the long-term interest rate which prevails at the moment of buying. The banks have to stimulate selling by holders of securities if they are to buy what they need. Consequently their action produces increases in the price of securities on the Exchange, and the long-term interest rate falls.

If the price-level of consumables and investment goods is falling, the volume of money needed in the main circulation falls to correspond. In such a case bank advances would suffer from a double decline: (1) that due to the shrinkage of productive activity, and (2) that due to the fall in the price-level. Hence the banks' buying of securities has to be increased the more the price-level falls.

During the decline period a fall in the price-level can be accompanied by a fall in the long-term rate of interest. Both things are secondary effects produced by the fall in effective demand for finished goods and

services. That the two things are independent of each other is shown by British experience during 1932, 1933 and 1934. Price-levels, both retail and wholesale, showed practically no movement during these years. But long-term interest rates persistently fell. Between February 1932 and November 1934, bank deposits increased by £250 millions, while advances dropped by £150 millions. The banks had therefore to find additional employment for money, by buying securities, etc., to the extent of no less than £400 millions—the process that produced those falls in every kind of interest rate that actually occurred.

Hence we see that the banks are, in their activities, not so much controlling interest rates as themselves subservient to changes in them. But we need not go closely into this unless we find that practicable reductions in the long-term rate of interest will produce increases in investment.

Will a low, long-term rate of interest induce people to embark on new investment—new extensions, new machines, new factories, new equipment in replacement of old? Let us study a community when the slump phase is “on.” Some person is induced, because the rate of interest has fallen to a low level, to borrow on long-term and to build a new factory. We may assume that this man is fully conversant with the business on which he has engaged, consequently the factory is more efficient as a productive unit than competitors. If the factory succeeds in finding a market for its output, it will tend to increase the productive efficiency of the whole productive system, and, if the total of effective demand does not increase, force out of business some less efficient firm. The net

result, as regards numbers of successful income-recipients, might be, for the moment, the same.

But if the standard of living of successful income-recipients does not rise to correspond with this augmented productive efficiency, the inevitable result will be to force a new increment of unemployment on the whole system, in the necessity to equate production with consumption. Further new investment is at once deterred.

We assumed that this new firm found its market by ousting less-efficient competitors. This is not at all a certain thing, since old-established firms are not readily displaced. Hence anticipated profits, for a projected new firm, seem most uncertain things at certain periods of depression. For money which is lent and expended on new investment seems likely to be money lost—a contingency more than sufficient to deter not only lenders but borrowers. Mere reductions in rates of interest have, obviously, no importance in such a situation.

It is not merely revival of investment that can produce revival of the whole system, for that does not, by itself, guarantee the success of investments. What is needed is revival of investment, accompanied by a rise in the standard of living of successful income-recipients. The two things must combine and persist in combination if revival is to appear and continue.

But a low, long-term rate of interest may produce some effects on a depressed system. Municipalities may embark on certain deferred schemes, induced to do so when they think that interest rates have reached their lowest.

Building is another form of investment which may

be stimulated by low rates of interest. The price paid, in instalments, for a house by a person borrowing from a building society is composed partly of sinking-fund payments and partly of interest on the outstanding amount of money owed. Consequently, if the rate of interest falls, the instalment payments can be smaller. The effect is a cheapening of the price at which houses can be bought and a consequent increase in demand. (House-building played an important part in the revival of the British system which began in 1933.)

It would be untrue to say that reductions in the long-term rate of interest produce no effects that can lead to revival of a depressed economic system. But it would be true to say that such reductions, manipulated deliberately as a control of the system, would have very little effect. Such a control would have none of the certainty and immediacy that any efficient control should possess. Sometimes years might elapse before it produced results; sometimes it would quite fail to act.

And while the system waits, sunk in depression, it is *wasting* its productive powers. It is failing to create incomes that could be created. At 1933 price-levels, and with 20 per cent of general unemployment, the British system was failing to generate about £1,000 millions in incomes during that year! Wages £400 millions, salaries £200 millions, profits and rent and interest £400 millions—none of these were realized!

§ 5

MONETARY THEORISTS. If one but grants what is said in the first sentences of books or articles by some monetary theorists, one is forced to agree with the most

amazingly false of conclusions. "The right (monetary) policy, whatever it may be," says Mr. E. F. M. Durbin in *What Everybody Wants to Know about Money*, p. 314, "will maintain full employment." There is the assumption straight away: that there is a monetary policy which *will* maintain full employment. Accept such an assumption without questioning its truth, and one inevitably gives attention to banking action as being more important than anything else in the economic system. "This theory [the 'much abused and much misunderstood Quantity Theory of Money'] states that people will, in the long run, exchange whatever money they have, however much it may be, for whatever commodities they can get, however few . . ." asserts Mr. Durbin, p. 316, as though he stated something undeniably true! Accept this as an axiom and all sorts of false conclusions inevitably follow. We are forced to believe that those who possess stocks of unspent money are certain, in the long run, to be forced to the last extremities of want—giving that money at last for "whatever commodities they can get, however few." Absurd, of course! Again, banks need only create money by buying securities, and sellers are certain to spend the "money they have." To ask why they should is never considered.

But we have found that spending has to wait, in whatever form it takes, on basic forces over which banks exercise no control. That conclusion is confirmed by British experience since 1932, which shows that the system will not revive at the bidding of bankers. For if creating more money were as efficacious as is sometimes imagined, Britain ought to have become amazingly prosperous. Instead of which we

find a very slow revival since the beginning of 1933 till about the middle of 1937, when, still with a huge volume of unemployment, the system again began to decline.

The Quantity theorists seem to assume that the quantity of money is a dominant control, so powerful that changes in its volume always force corresponding changes on the subservient productive system. But is not just the reverse the truth? Does not the productive system, creating incomes if output be sold, and the consuming system, re-creating incomes as money is spent on needs and desires, itself determine the quantity of money that is needed in active circulation? At times of severe depression, as 1933 in Great Britain, far more money exists as bank deposits than is needed in the main circulation. A large volume of deposits, created by the banks' buying of securities, is simply "idle" money. If it is spent by depositors on real investment while the productive system is still declining or "bumping on the bottom," it will probably be lost—a contingency that makes depositors cling to their deposits, maybe for years.

And, when we speak of a control, it must be a control that acts *when* it is applied, not "in the long run"—a phrase used too often by monetary theorists, a thing which is not permissible. The brakes or the controls of a motor-car must act immediately; they are useless if only acting "in the long run." By that time the car is over the cliff, has dashed to destruction against a monster lorry, has killed a pedestrian. The cycle of slump and boom is a short-run phenomenon; control must be both sufficient and immediate if it is to be of use.

If the views and analyses of these monetary theorists were correct, they should receive confirmation from statistics. They do not! Unemployment and bank statistics can only be explained if we look to far more fundamental and powerful causes than mere banking action. The year 1930 furnishes a striking illustration. In that year unemployment in Great Britain increased alarmingly. Why? Because of the rise in Bank Rate? No! For Bank Rate fell from 7 per cent in the autumn of 1929 to 3 per cent at the end of 1930! We *can* explain such facts if we assume that the banking system of Britain was itself subservient to the fundamental causes determining the flow of incomes and the flow of spending; they cannot be explained on the assumption that the Rate acts as a dictator imposing its will on the whole system.

Bank advances dropped continuously during this year. Why? Because Member Banks were increasing their interest rates? No! Because the banks had no option but to acquiesce in the reduced demand from credit-worthy borrowers. And those borrowers were themselves dependent on the flow of spending by income-recipients in the world system.

The statistics of the wholesale price-level, rates of interest, banking, and unemployment indicate that banking control of prices and employment during slump times cannot be effective. The banking system, like any other industry which supplies a commodity, has to make the best of the situation in which it finds itself. After all, the banking system only consists of factories in which are manufactured the instrument of money. It lends that instrument to anyone able to

return it, on condition of payment for its services. At time of depression it has a selling problem just as say the boot and shoe industry has a selling problem. No matter how much money the banks may create by buying securities, they are almost powerless to ensure that the money will enter active circulation as a flow of incomes and spending. Bank chairmen, in annual speeches, reiterate this fact; do these monetary theorists ever believe them? "We cannot go out into the highways and hedges and compel reluctant borrowers to come in and demand loans." "I am glad to say that our loans continue to show a slight rising tendency. . . . This increased desire to borrow is much welcomed by banks, but the proportion of our loans to our deposits is still very much below the normal and desired percentage . . ." says Mr. Beaumont Pease, Chairman of Lloyds Bank, in his speech, January 31st, 1936.

"It is sometimes alleged . . . that the banks are not sufficiently ready to advance money for the encouragement of trade and industry. It is enough . . . to remind you that advances constitute the most remunerative part of a bank's business. . . . The whole weight of our practice is in favour of granting an advance; and if the total outstanding is low, it is not because we are unwilling to lend, but because traders have relatively little need to borrow."—Mr. R. McKenna, Midland Bank, January 24th, 1935.

"It has been disappointing, but not to my mind altogether unexpected, to find that during a long period of cheap rates the abundant supplies of money have not found their way into trade, but have perforce been driven into investment for want of better

employment.”—Mr. Beaumont Pease, Lloyds, January 25th, 1935.

“However much bankers would prefer to use a greater proportion in advances to trade, it is out of their power to do so unless there is an increased demand on the part of industry for further accommodation, and it is altogether illogical to grumble at banks for not lending more when the reason is the lack of desire or incentive on the part of industry to borrow more.”—Mr. Beaumont Pease, Lloyds, January 25th, 1935.

§ 6

EVOLUTION OF PLANNED MONEY. It is illuminating to trace the evolution of ideas as to banking control of the system. First come the bald bad quantity theorists, who vainly imagine that it is possible to eliminate the distresses and despairs of slump and boom, prevent abysmal drops in employment, stabilize the price-level—all by mere control of the quantity of money!

Second, we get an advance on the crudity of this—the idea of control over the volume of real investment, which is, of course, a portion of the current flow of spending. It is imagined that this control can be exercised by mere manipulation of the rate of interest!

Third, comes the idea that public works should be directly started or stopped through public action: the turning-on or switching-off of the productive activity of hundreds of thousands of persons as though one manipulated an electric switch. But this is an advance on the previous ideas, because it is a move towards

direct control of the flow of spending, although often it is not recognized by the authors of these schemes that, really, they are advocating the inception of national planning. Some sort of national plan must be drawn up in order that *needed* public works shall be undertaken. Moreover, important public works cannot be started or stopped solely at the bidding of economists or civil servants who watch, say, unemployment figures. All sorts of technical, material, and moral considerations enter, on which such persons are not, acting alone, qualified to judge.

But such facts are recognized by advocates of public works like Mr. J. M. Keynes, and Mr. R. F. Harrod. Mr. Keynes, in a series of articles to *The Times*, January 12th to 15th, 1937, "How to Avoid a Slump," says: "Now is the time to appoint a board of public investment to prepare sound schemes against the time that they are needed. If we wait until the crisis is upon us we shall, of course, be too late." Mr. Harrod, in his book, *The Trade Cycle*, says, p. 196: "What is required is that a Public Works Planning Commission should be set up here and now."

Sweden has, it is claimed, climbed quickly out of depression by constructing extensive public works, financed by leaving the Budget unbalanced and borrowing to meet the deficit. With revival well advanced, she stopped further public works, and paid back the money borrowed, through taxation. But this may prove merely a method of filling up the valleys of slump by cutting off the peaks of booms—perhaps not much long-run improvement.

But when further public works are stopped, somewhere during the course of the revival phase, it may

be possible, by not making taxation too drastic, and restricting it to death duties and the rapidly increasing incomes, to ensure that the rising trend of the standard of living of successful income-recipients is not altered because of it. In such a case, the revival phase might go on until the boom broke at the same time as it would have done if no paying back of the debt were occurring: the valleys would be partially filled, but not by cutting off the peaks.

But if we are to go in for national planning of this sort, one of the first things that ought to be brought under public control is the banks themselves. In that case the problem of providing the necessary money for public works becomes an entirely different one. For new money can now come into existence as *credits* and not as debts. At present, of course, every increase of the banking system's outstanding volume of loans and holding of securities increases its deposits. The new money comes into existence as debts: the deposits, which are debts owed by the banks to the community; and the assets owned by the banks, which are debts of some section of the community to the banks. But if a National Banking Corporation had to create more money for the community, it could create all necessary or desirable additions to the total volume of money by directly crediting the Public Works Authority with deposits—against which no deposited security is necessary. For the real security which guarantees the value of these deposits, as in the case of all money, is the flow of goods and services which a community pledges itself to produce in exchange for the deposits—a thing it is always able to do, no matter how much money is issued in this way, so long as under-employment exists.

It is when all available productive power is occupied, or nearly so, that the issue of new money in this way would become dangerous, since inflation would result.

But it must not be thought that the community might, by these means, get something for nothing. The real labour of producing public works is done, as ever, by organizers, engineers, builders, navvies, clerks, and so on. But this sort of creation of money is enabling these workers to earn incomes by producing something, rather than rot in idleness and waste productive power. It enables the whole community to become owners of the public works, not, as in the process of debt creation, to vest ownership in a section of the community who subscribe to public-works loans. A section of the community now come, it is true, into ownership of the new bank deposits, but on these the community may decide that interest shall be paid or not, as it chooses.

But why could we not, by these means, prevent a slump from ever developing? At the first sign of growing unemployment—say, when the general unemployment percentage began to exceed 4 per cent—new money might at once be put into circulation by the Public Works Authority. Suppose that productive activity on public works were increased until general employment remained stationary, the whole system being somewhere near the top of a boom. The rate of private investment would be high, apart from the activities of the Public Works Authority, and this would result in a certain rate of increase of the productive efficiency of the whole system. If the satiation point had been reached, so that the body of successful income-recipients refused to advance their consump-

tion, they would find themselves hoarding all the new bank deposits created through the National Banking Corporation. Existing inequalities of ownership would be intensified; profit incomes would continually increase; the bulk of the population would still be kept down at subsistence level. And the Public Works Authority and National Banking Corporation would have a difficult, if not impossible, task. For, continually, inflation would face them on the one side, and depression on the other, since immense ups and downs of spending might be practised by rich income-recipients, who found themselves coming into great hoards of bank deposits. Hence a different sort of economic system would be produced by this sort of planning, but one that might no more operate for the general welfare than the present system does.

CHAPTER X

SUMMARY AND REMEDY

§ 1

THE SUMMARY. It may be helpful briefly to summarize our diagnosis of economic disease. For this purpose we will imagine the economic system in as simple a form as possible, without eliminating anything that matters so far as fundamentals are concerned. The system, then, will have no trading relations with other countries, population will be stationary, but in other respects it will be like our own.

Now imagine this system running with full employment, all wage and salary earners in jobs, employers with their plants and establishments fully occupied. If the system is neither tending to go off into inflation, nor decline into depression, the amount of money that the whole group of income-recipients—individuals, business firms, institutions—freely save must be offset by equivalent investment. If this balancing of saving with investment, under these ideal conditions of full employment, is not accurately done, trouble will ensue, which can be cumulative in its effects.

But let us imagine that investment does exactly balance the amount that income-recipients choose to save when full employment exists. It follows that the rate at which the money is spent on investment will be relatively high, provided the amount which the

community chooses to save from its income is substantial. It is clear that real investment, the spending of money on scrapping and replacing obsolete equipment, on building and equipping new factories, making docks and building ships, cutting new roads and so on, is the means whereby *new* thought—technical, scientific, organizational—becomes embodied in the instruments of production, and may bear its fruit through the use of a new and better productive process. Investment, under these conditions, improves the productive efficiency of the whole body of workers, who have to adapt their labours to new methods. Each worker, labouring the same number of hours a day, can produce a greater volume of boots or bread or clothes or furniture. . . . Even if we but consider spending on replacing depreciated equipment, this is seldom replaced by exactly similar tools and machines and factories. The new instruments sometimes embody years of progress in scientific and technical thought; so that this spending, which is often supposed to be done merely to maintain the life of unaltered instruments of production, leads to the introduction of new techniques and a greater output per hour of labour.

If, then, full employment is to continue, some group—or perhaps the whole community—must become wealthier, in the sense that it receives an income of greater purchasing power. Moreover, the group or community must continually consume goods and services at a greater rate, otherwise the continually improving productive power of the community would receive a check. Consequently, whoever these people may be, they must increase their standards of living, or full employment cannot possibly be maintained. In

other words, consumption and production must be, and remain, in balance. As production rises, consumption must increase correspondingly. Whatever the rate at which, with full employment, the productive system turns out consumables, must also be the rate at which they are consumed. Slight variations in stocks there may be, but this makes no essential difference to the broad truth of the generalization, for where is the employer who will continue to pile up goods that cannot be sold, or there is no chance of ever selling?

Is it, then, the whole community, or but a section of it, that can improve standards of living under the conditions we are imagining? Before this question can be answered, another important fact that exists in our economic system must be incorporated in our reasoning. That fact is the profit control of income distribution. Persons who receive profits as incomes, or others who manage the productive process for them, are in control: they employ wage and salary earners—the great bulk of income-recipients in our system—they rent land and borrow money to use productively; they sell the output and distribute the proceeds, partly as costs, partly as profits. If we think, not of one firm, but of the whole productive system, we see that what are called “costs” of production are all ultimately resolvable into incomes: wage, salary, rent, and interest incomes. It is a canon of good management that costs must be reduced to a minimum, for otherwise the individual firm may not be successful, in the sense that it fails to make profits; it certainly will not maximize profits unless it cuts costs to the very minimum compatible with maintaining its productive

efficiency. The urge to cut, or at least prevent costs rising, has two results in practice, one desirable and the other the reverse: it is desirable that all forms of waste should be eliminated, that productive technique should be the best that can be thought out; it is *not* desirable that the purchasing power of incomes should be prevented from rising when productive power increases. How is the total market, the total demand for goods and services to expand, as it must during full employment with productive efficiency advancing, if a rigid control over the bulk of incomes prevents it doing so?

But it may be thought that recipients of profit incomes can themselves provide all the needed expansion of effective demand. If employers and managers so far succeed in their endeavours as to keep all incomes, except profits, constant in purchasing power, then profit incomes must receive the whole benefit which results from the improvement of productive power during full employment. No other outlet exists for the additional output of commodities. But this group are numerically very small. In Great Britain wage and salary incomes would be distributed, if full employment existed, to about 90 per cent of the occupied population. Of the remaining 10 per cent, over 5 per cent are independent workers, like hawkers and small shopkeepers, whose incomes are called "profits" but who do not employ the services of others. The remaining 5 per cent are, in the great majority of cases, incomes based on the profits obtainable by companies or businesses that employ mental and manual labour. It is largely through this 5 per cent of the population, that the productive system, with full employment maintained and real rates of incomes,

other than profits, prevented from rising, must find outlets for the rising tide of consumption.

Hence, it seems, the bulk of these incomes will run swiftly upwards under the conditions we are imagining. Income-tax statistics of higher incomes confirm this. The course of revivals in the past, both in Great Britain and in the United States, shows rapid growths in higher incomes during those years which immediately precede the boom.

But what will happen if, within this little group of higher-income recipients, a number of persons, advancing luxurious consumption as their incomes rise, reach a position where they do not advance consumption further? There must be a limit, surely, to the way in which very wealthy and luxurious families can be persuaded to advance their standards of living! Here is a family that for the last few years has received a rapidly increasing income, which, just as rapidly, has been expended on an ever more luxurious and expensive way of living. Can that family be persuaded, indefinitely, to go on increasing consumption at the same rate as its income is growing? It must—if full employment is to continue. Some incomes might run to fantastic heights before this satiation point appears, but appear it will. When such families get satiated, when they reach a position where they no longer feel the slightest desire to increase consumption, then a breakdown in employment follows.

According to this view, then, what might be called the “structure” of incomes will show a few very large incomes—based usually on the profits obtained by those who own a predominant interest in very large and successful companies—at one end of the social

scale and, at the other, the bulk of income-recipients receiving low salaries and low incomes, some of the lowest wage earners living at or below subsistence level. That view is confirmed by the facts, such an income structure being observable in every modern individualist country.

When maximum inequality of incomes exists, when there is the greatest possible difference between the highest incomes and those received by the lowest wage-workers, that point may also show the highest possible proportion of the community's income which can be saved by an individualist economic system. For the proportion of total income saved by the community can only continue rising so long as the amount invested is rising; immediately investment is reduced, total saving declines—via lowered and lost incomes and unemployment—to conform with it. In the case of the booms which occurred in Great Britain, say, between 1860 and 1914, when nearly full employment existed in each case, it seems impossible that there could have been any rising or falling trend in the percentage of income saved by the community. A rising trend would have produced ever deeper and deeper slumps; a falling trend, slighter slumps. We should be prepared to find, then, what the statistics of Great Britain reveal, that a very important fact exists: the percentage of the individualist community's income that is saved at the instant when the system has risen to full employment is a *constant*. This is, for Great Britain, 19 per cent of the national income.

Reverting to the breakdown in consumption that we were following, the fact that consumption no longer advances turns some part of current investment into

folly. For a part of investment activity would, of necessity, be devoted to making the equipment needed to meet the growing taste for luxurious living; when such equipment is made, and no market is found to await the output it is designed to produce, then a part of projected investment is deterred. Appreciable unemployment will strike the system if the rate of investment be reduced by what may seem but a small amount. The community becomes separated into two groups: the "successful" and the "unsuccessful." And the "successful" group, practising all the positive saving that is done, afraid of what may happen in the threatened slump, may actually attempt to save a greater proportion of their total income. But the self-adjusting economic system must keep such action under strict control. It cares nothing for the wishes or motives of individuals, but must continually balance two things, no matter what amount of under-employment may exist: (1) total saving and investment, (2) the consumption and production of consumables. It is clear that if the "successful" group continually consumed less than they produced, and there existed no "unsuccessful" group, they would generate more and more unemployment. Their action would lead to continual reduction of their number till collapse of the system or extinction of the society. It is just as clear that these disastrous consequences would follow, lacking an "unsuccessful" group, if the saving of the "successful" group continually exceeded investment. But these serious contradictions between what "successful" individuals desire to do, and what is possible to the economic system, are resolved at the cost of the victims of the system. Whatever the amount of money

which the "successful" save in excess of investment must be provided by the "unsuccessful," spending their reserves or past savings. And whatever amount of consumables the "successful" group produce, and do not themselves consume, must be bought and consumed by the "unsuccessful." Automatically, then, sufficient under-employment of the productive system, sufficient unemployment is generated to satisfy these conditions. Companies making losses instead of profits, individuals losing or suffering serious reduction of incomes, must be created in sufficient numbers to stabilize the system and avert collapse. Deep economic distress can thus be generated: witness the United States, at the bottom of depression in 1932-3, producing but one-half of what could have been produced if plants and personnel had run to full capacity.

Rich income-recipients may not always reach satiation point before the boom breaks. Something may happen, such as banking action, a stock-exchange crash, or other cause for alarm; fear of the future may then result in the rate of investment being dropped, standards of living curtailed, and slump generated. Nor must the system revive to full employment: consumption may cease rising or investment decline before then, and "prosperity" give way to depression.

The individualist economic system can never continuously employ its full productive resources. It can, only too easily, generate very dreadful and prolonged depressions. To say that these get worse and worse, that such systems are bound to go on to an inevitable collapse, does not appear as a conclusion from our

analysis; but to say that future depressions can be deeper than anything previously known seems only too clear.

The disease whose course we have been tracing is inherent in the system. It cannot be cured by the mere manipulation of the volume of money or the rate of interest. It does not seem possible that there can be any "short cuts to prosperity." For, before the disease can be cured, the master control of the present system, the profit motive, has to be dealt with. And that needs a surgical operation.

§ 2

THE REMEDY. Now for the remedy! Perhaps that involves economic planning—a difficult task, demanding a great deal of intelligence and prescience on the part of the community's executive. If a democracy is going to institute this, there must be a body of democrats, well educated, alert, willing to participate in government, possessing a sense of the common good, actuated by ideals of service, ready with criticism of incompetence, but eager to appreciate work well done.

But can we put into practice our two principles—control of the volume of investment, and communal control of income distribution—asking what is the minimum alteration to the present system to do this. Let us imagine, first, that an investment board had the job of adjusting the volume of investment: it had the work of initiating, making financial arrangements, and supervising schemes of public investment, timing its activities to be a maximum in slumps and a

minimum in booms. At first it might find many projects that did not interfere with private enterprise—schools, libraries, colleges, flood protection, coast erosion, clinics, hospitals, public research, water conservation—but inevitably it would be tempted to embark on public works, where output had to be sold: hydro-electric schemes as the Severn Barrage, water- and gas-grids. . . . The logical end to this is the planning of all investment, the elimination of private enterprise.

It is possible to show that other short cuts to prosperity—Social Credit, the McGregor scheme, to mention only two—all fail because of the same neglect: they do not tackle profits. No short cuts to prosperity exist, for to tackle profits is to attack the great exploitative force of the present system, a thing that cannot be done without radically changing the system. To institute our two fundamentals—communal control of investment and income distribution—involves economic planning with its working out of a radically different type of economic system.

Tentatively, at least, it is necessary to survey the whole field of this, before we can find even the first steps. Let us, then, keeping as first principles these two fundamentals, go over the ground. But it must be realized that properly to do the work we are attempting in this conclusion needs the sustained thinking of a body of men and women, thoroughly conversant, each in his or her own sphere, with all that life has had to teach. The work should bring to a focus all that has yet been discovered of the life that we live in common, all experience be embodied in it. Moreover, the difficulty of doing this work is shown by the

fact that not only must the *parts* be planned, but the *whole* must be planned. Each part must fit into its proper place, as do the parts of a jig-saw puzzle before the picture can be completed.

Is a revolution needed? Are the entrenched forces of privilege, position, and power so strong, so firmly fixed in their belief that any radical change must be for the worse, that a revolution is required to dethrone them? A revolution in thought is indeed needed, not necessarily that revolution which implies murder and destruction, nor that which is implied in the wholesale confiscation of property. A democracy cannot deliberately move towards a fundamentally different economic system unless a majority of citizens really understand, and consequently are strongly in favour of a fundamental change. They must know the cause of the evils from which it is desired to escape: the causes of recurrent slumps, with their accompanying misery and fear; great inequalities of income, with their glaring contrasts between millionaire and wage-worker; of the exploitation of one class by another; of the fact that the communal productive machine cannot at present realize its great potentialities. They must realize, too, the advantages and benefits that are to be gained by the right sort of radical change, and be willing to do their part towards bringing it about.

But a democracy must have ideals, for how can planning be done without purpose, without an end in view? The underlying ideal might be the maximum amount of material well-being—health and happiness for the greatest number—but it has to be understood that what this really means, in practice, is something that can only be worked out and shaped by the

democracy itself. Citizens must be kept informed, in as clear and simple a manner as possible, of what is going on in planning. They, in turn, must criticize and appreciate the work of the economic executive. Health and nutrition, clothing and shelter, education and culture and leisure, the search for and attainment of beauty as well as purpose in buildings and villages and cities, the pursuit of an ever-improving quality in foods and clothes, the desire to achieve simplicity and justice in social, legal, and productive relationships, the attainment of the very maximum of freedom for the community as a whole, the maximizing of joy and interest, not only in recreation, but in work itself—these, and many more things, are all interests and ideals underlying the economic planning of a democracy.

It is necessary, in planning, not only to retain but to increase initiative and enterprise, for on these depend the all-important advance in productive method. Increase of leisure, of joyous work instead of drudgery, of culture, of many forms of well-being, are all dependent on this continuous improvement of the community's productive technique. Hence research and experiment, the thinking-out of better and better means of production, have to be stimulated and encouraged by every method within the democracy's power.

The democracy has to develop the idea of the "common good," the idea of the welfare of all, as opposed to that of groups or sections. In Great Britain, we seldom, if ever, have any notion of the common good in peace time; we develop it in time of war, when propaganda fans hate of the enemy, and the national purpose to defeat him, to fever heat. As

said by Dr. Delisle Burns, it is only when "peace is an opportunity for devotion to a common good as well recognized as the common good pursued in war, that peace will be secure." To a democracy, this notion of the common good would be a truly religious idea, in the sense of the obligation or duty of the individual to his fellows and of the community to its citizens. Of any sort of religion in this sense, we in this country are quite lacking. Imbued from birth, as our fathers and grandfathers before us, in the conception that each should, first and last, seek his own interests, we fight for ourselves and let the community go hang! And when the community has to help its citizens it does so grudgingly and unwillingly, sometimes heaping every stigma of shame on those who are forced to seek its help.

It is through the processes of education that the notion of the common good can be cultivated and brought to fruition. Education has been said to have two purposes: (1) to make a person fit for the world as it is, and (2) to make him able to change it. The second purpose is the more important. But an education for changing the world would be very different from any that we have inherited. Merely to preserve the knowledge and skill acquired in the past is far from being enough; education must be concerned in developing imagination and skill to go further, in giving to the new generation ability to face new problems in new ways. Not just workers for their employers or masters, but new men and new women fitted to form a new community, should be produced by education. Education, meaning by that, not only schools for children, but all those institutions in which

adults are brought to an appreciation of the life of the community, is then a vital problem of communal policy. It lies in the forefront of the activities of a planning democracy, for it is only through education that a real democracy can be formed. Education has to give us intelligent men and women, real citizens of the brave new world; for, in the true democracy, it is the democrats that shape the ideals and formulate the policy.

Hence education should be freely given, as a social service, from top to bottom, be compulsory to a higher age than at present, and its highest forms only given to those who in application and talent show they could be of service to the community by receiving it. Hence any really democratic party that gets into power, even if it has not the backing behind it to undertake other fundamental reforms, should strengthen the system by which democrats or citizens are made. Much smaller classes in elementary schools, better teachers better paid, adequate feeding of necessitous children, modern buildings and ample apparatus—all these are small means to a great end.

§ 3

THE PLANNING COMMISSION. In any planned community there has to be an economic executive, a body of persons in whom is vested the centralized control of economic activity, a Planning Commission. If this were not properly controlled in a democracy, if it developed its own particular sort of egotism, it might become the ruthless dictator of the community. Parliament in its power, the community consuming

what it had been arbitrarily decided to produce for it and working under conditions that were hated, the Planning Commission might impose a detestable tyranny.

A democracy requires leaders, whom it must obey, but it needs to work out some method of controlling or leading its leaders. This will, however, be considered further in the next section. Appointed by Parliament, the Planning Commission might consist—at least at first—of Board of Trade officials, economists, technicians, managers, trade-union officials conversant with working-class life.

Before tracing the relationships between the democracy, Parliament, and the Planning Commission, let us inquire into the fundamental principles that must guide the practical activities of the Commission. Let us say it is decided to continue the use of money, since it is realized that it can be a fine instrument to a community that knows how to use it. For it can be used as an essential part of the mechanism of planning, be the means of measuring and rewarding each person's contribution to the complex productive process, be the measuring-stick by which costs are found and wastes in productive method indicated, be used to detect corruption and bribery, be utilized to facilitate the whole business of planning. And, if the maximizing of liberty is to be a root principle of the new society, the use of money would be helpful. Moreover, it could be used as a valuable indicator of how to plan production. The course of a free demand exercised by consumers is a clear indication of what they desire to spend their incomes upon, besides conferring freedom on them. The use of money, in this

way, is a valuable means of eliminating waste, only those goods and services which are actually desired, within the limitations imposed by each individual's purchasing power, being produced. Hence the advantages of retaining the use of money appear to be so great that a planning community, using a complex productive process with each producer specializing in his work, must retain it.

Another question then presents itself: is private saving to be retained? Again the maximizing of liberty enters as a guiding principle. But it might be thought advantageous to a planning community that it should force its members to spend every cent or penny of income on personal needs or desires, all the saving that was done being a planned accumulation of surplus. Even from the point of view of planning, however, there seems no reason why the liberty to spend one's income when one chooses should be refused, for the Planning Commission can easily allow, in its planning of real investment, for the amount put aside as private savings.

Retaining, then, the use of money, freedom of demand for those persons who have incomes to spend, freedom to save or spend, the community is able to apply what now become the two fundamental principles of economic planning: (1) the central control and regulation of incomes; (2) direction and regulation of investment. The first principle is indispensable because a communal productive system insists that consumers should constantly be engaged in buying the output of the productive power it is desired to use. Appetites, without the means to buy dinners; and ample means to buy dinners, but no appetite, are

detrimental to continuous productive activity. The second principle must be put into practice because certain amounts of money are set aside as savings, which must be offset by equivalent investment, adjustment of investment serving to make sure that when incomes are paid away to income-recipients they are again fully spent on the output of productive activity. To put into practice these two principles really means that the Planning Commission will be planning consumption.

Let us say that the Planning Commission, as its first step, began to control investment in public works and building. If a depression existed, it might try to revive the system towards full employment, and would have no difficulty in finding all the money it needed—at least at first—if the banking system were under its control. Indeed, to work out a scheme for bringing all financial institutions—banks, insurance companies, building societies and so on—under communal control, seems to be a first step. This does not necessarily mean that shareholders should be expropriated; they might be put in the position of debenture holders, exercising no control and receiving a fixed rate of interest on their shares. To get all the money it needed for its initial operations, during a depression, would then be very easy for the Planning Commission. For it could get the banks under its control to sell a portion of their holding of old securities, and offset this by granting itself deposits for public works and building activity, in return for which it created securities representing ownership of public works, etc.

If the productive system were revived to full employment, how is it to be kept in that position? Productive

efficiency keeps on increasing; somebody must get the benefit. The persons who desperately need to consume more, who would gladly use a greater purchasing power, are the bulk of the population living on low incomes. Here is the vast potential market which it is the business of the Planning Commission to feed with purchasing power. Hence the Planning Commission must now tackle the difficult problem of income distribution. That can be solved by giving increases of purchasing power only to those who will use the bulk of it for increasing standards of living.

The Planning Commission has then to think out and apply a scheme for taking control out of the hands of the present controllers of private firms. Ownership and control must be separated, as they are in the case of present-day debenture holders. Existing shareholders and owners might be put in that position, receiving a small but guaranteed rate of interest on their holdings. Existing large fortunes would slowly disappear through death duties, and future conditions make it impossible to continue the process of building up enormous fortunes.

Has there to be a stable price-level, or should prices be continually reduced as productive efficiency increases? In the first case incomes would continually increase; in the second they would remain stationary. Let us say it is decided to maintain a stable price-level, and hence the prices of all sorts of commodities are to be fixed by decree. Since incomes depend on prices, the Planning Commission is forced to go into costs, and to fix and continually adjust the incomes that will be paid to different grades of mental and manual labour, taking schedules and suggestions for its

guidance from all the specialized industries under its control. The auditing department of the Banking Corporation would have to check costs, not in each firm, but in certain representative firms. In all industries which have to sell their output to consumers, costs would include incomes, communal accumulation or savings, and taxation to cover costs of social services.

How much decentralization is desirable? The community will not advance in material well-being at anything like the maximum rate unless there is a certain amount of this. Some improvements in productive method can only be thought out and applied by persons in close touch with their particular part of the productive process. Moreover, firms and persons who are pioneers in inventing improved methods of production should reap some advantages that accrue to them alone. Again, any worker who shirks should be penalized; the one who strives should be rewarded—things that can be done efficiently only by someone closely in touch with local conditions. The Planning Commission will have enough to do in thinking out and applying the broad guiding controls of the communal machine; a whole mass of detail must devolve on local shoulders, and some scheme be thought out, impartial in its working, which rewards local enterprise and initiative.

Can we consider the case of the typical industrial firm? The present successful firm, realizing profits, whose plant and equipment are reasonably modern, whose employees are being paid reasonably good incomes and treated fairly, might be granted a licence to produce. Its managing director and chief departmental managers might be confirmed in their

appointments—after their qualifications have been investigated. But the directorate would be replaced by the Planning Commission and its subsidiaries, who would decide all those questions of high policy with which directorates are presumably usually concerned.

How can an incentive to improve productive efficiency be applied to the personnel of this firm, and, at the same time, central control maintained over the amounts paid as incomes? The Planning Commission might, each year, settle what must be the normal rates of incomes payable to different grades of labour and occupations, from labourers to managing directors, and also the normal hours of work. But local managing directors, departmental chiefs, and foremen should have some power to increase incomes of meritorious employees, and reduce them for shirkers. Salaries of the firm's head, departmental managers, technicians and others who are responsible for productive efficiency and for quality of product, might be fixed on a sliding scale: fixed salaries, plus or minus a percentage based on volume of sold output. And in cases where decided improvements in productive efficiency are thought out and applied, special bonuses might be paid to those responsible. Thus the whole personnel of a firm might always be interested in successfully selling the output, in maintaining and improving its quality, and in increasing productive efficiency.

How is each firm to be built into the collective scheme of control? By organizing each industry into a Trust—a subsidiary of the Planning Commission. Iron and steel smelting, rolling mills and forges, general engineering, metal industries, shipbuilding

and repairing—all manufacturing iron and steel products—might be formed into one Trust. And this Trust would, to manage its collective activities, form a committee, a subsidiary of the Planning Commission, formed of members of the managements that comprise it. This subsidiary would have the duty of collecting and scrutinizing all schemes for extensions and replacements of equipment. They would have the work of estimating depreciation and obsolescence allowances, and suggesting to the Planning Commission the amounts to be reckoned in costs for collective saving to cover expenditure on plants and equipment. In collaboration with the Planning Commission, they would spend an agreed amount on replacing, rebuilding, and extending plants and equipment. (In this method of communal saving, the whole community becomes “owner” of its means of production. The managing director or other heads of firms are not owners of plants or factories, but salaried officials of the community.)

How could retailing and wholesaling be controlled? Licences might be granted by the local authority, acting for the Planning Commission, to shops, on the basis of population, in the district they serve. A percentage might be added to different sorts of wholesale or manufacturer’s prices so as to make up the fixed prices charged to consumers. In the case of multiple shops or large stores, this percentage would serve to cover wages and salaries and other costs. In the case of one-man shops, it would cover income of the shopkeeper and his costs. But the granting of the monopoly of retailing, which is what this system amounts to, should be subject to criticism by consumers. It should

be open to the public to complain if the service rendered is not satisfactory.

The special difficulties about organizing agricultural production in Great Britain are the small size of the productive unit, the backward state of agriculture, and the irregularity of the yield. But it is possible to think out methods of overcoming these difficulties if there is the will to do it. Much work needs putting into thinking out better agricultural processes, much money into research. Discoveries in biology hold out promises of revolutionary changes in farming methods. And a great deal of money needs spending on replacing ancient buildings by modern structures that are fitted for their jobs, on drainage, on reclaiming land, on paving yards and roads, on increasing soil fertility. Given but the beginnings of such far-reaching changes, it should be possible to work out costs and prices on the basis of incomes little different from those payable in other occupations which embody equivalent amounts of responsibility and skill.

Where local conditions lend themselves to it, "collectives" might be formed of agricultural workers and managers, which might sell the available output on the market, at prices worked out on the basis of probable costs. The money thus received would be available to pay costs, taxation, communal accumulation, and money incomes of the personnel. It would be to the advantage of any particular collective to sell the greatest possible amount. But control over probable production would reside with the Planning Commission's subsidiary, the Agricultural Trust, with county committees, who by giving licences to form collectives or one-family farms, by co-ordinating

schemes of production, would try to make sure that the probable output would find its market.

Property in land, buildings, implements, and livestock might be held entirely by the State, or some compromise scheme of ownership might be adopted. Land and buildings and larger implements, such as tractors and threshing machines, might be owned by the State, present owners being bought out by an issue of low-interest bonds, and further equipment paid for through communal accumulation. The remainder of property in livestock and small implements might be owned by farm workers and managers themselves, who each receive payments to cover interest, insurance, and depreciation on their particular ownership.

So far as our very brief survey of economic planning is concerned, no special problems differentiate transport from industry. In agriculture and transport, as in all other productive activities, the regulation of investment in buildings and vehicles and equipment has to be worked out by the subsidiaries so as to conform with the central regulation of total investment by the Planning Commission. And incomes are under communal control, since no one is allowed to exploit the labours of others to make profits.

If an industry—say, the footwear industry—improves its productive methods, and the consumption of boots and shoes does not correspondingly increase as the community gains greater purchasing power, fewer workers—if they work the same number of hours—are needed. The community would find itself under the necessity of maintaining these displaced workers, and re-training them for occupations where demand was expanding. Full incomes might be paid

(why should the community grudge the help it gives its members?) provided the trainee worked as hard at his training as he would need to do in an income-yielding occupation. In some cases no re-training might be necessary; perhaps a short period of unemployment, however, is unavoidable. Such temporarily unemployed persons might be asked to work at physical training, and at cultural and other education, to qualify for full incomes. But if the Planning Commission is doing its job, unemployment will be cut down to very small amounts—1 or 2 per cent of general unemployment might be considered large.

The Planning Commission has to make a distinction between those goods and services which are going to be provided free to the community, and those which are only to be obtained if bought by individual consumers. Public Health, Education, Research, Old-age Pensions, Unemployment Training and Maintenance, Disability and Sickness, Public Works are all examples of the former; while such things as foodstuffs, clothes and furniture are examples of the latter. How is the Planning Commission to make sure that enough money will be paid into the Banking Corporation to provide the incomes of those who produce communal goods and services? In this more equalitarian society, the best way appears to be to abolish taxation that falls direct on individuals or on specific goods and impose it entirely on production. A cost to cover this taxation could be added into the prices of all goods and services which are sold, as already suggested.

How could the Planning Commission plan investment? It has to make this equal, in yearly rate, to the planned savings which productive units have

imposed and collected through the prices placed on commodities, plus whatever amount of free saving has occurred among income-recipients. The Trusts, etc., will send in their schedules as to what amounts they consider should be spent on replacements, obsolescence, and extensions. The Planning Commission has to go into these, check tendencies to over-expansion, stimulate new investment where it is desirable but not already suggested. Having settled the amount to be spent in the succeeding year on equipment designed to produce goods and services that have to be sold, the Planning Commission can turn its attention to equipment needed to provide things freely given to the community. The taxation it has imposed on commodities sold must be sufficient not only to pay for the needed investment in equipment for producing free goods and services, but also for their production. If unemployment shows signs of increasing beyond the normal minimum, the Planning Commission will know that either the rate of investment is too low, or the productive efficiency of the community is advancing faster than the communal advance in standards of living. To increase the rate of investment slightly, or pay a special bonus to the personnel of those firms which are known to be improving, very quickly, their productive methods, is the adjustment needed.

Can we now consider Research as a planned activity? This might be undertaken by each Trust—as research directly connected with productive activity. Results should be pooled; important results published. But what of other research—science, sociology, public health, quality and grading of

foodstuffs, and so on? Anyone who is prepared to devote his activities to it, if the work appears on investigation as worth doing, ought to be strongly encouraged. Would-be researchers might have to satisfy certain tests, but after doing so they should be paid for doing their research, whether valuable results are achieved or not. And important discoveries should be well rewarded. Inventors of quite new products and processes might be given every chance to be managers or important technicians in the new firms that may undertake manufacture.

The Planning Commission might create some public department responsible for standardization and grading, for testing the claims of existing producers of certain manufactured articles, foods and medicines. The productive system of the community should produce the best available articles, not waste its productive power on making such things as patent medicines that are worthless or even harmful, or goods that are loudly claimed to be something they are not. Standardization and the seeking of quality would immensely cut down the multiplicity of articles manufactured to do the same job, with great saving in production costs.

Any worker might be free to leave his job, but if he left for frivolous or inadequate reasons, may forfeit Unemployment Maintenance Money. Such bodies as trade unions, and associations of technical and professional workers might undertake the task of looking after the sectional interests of their members, investigating cases of alleged malingering or incompetence, wrongful dismissal, working conditions. Anyone, from manager to lowest wage earner, might be free to improve his position. Rates of wages and

salaries should be published on each firm's notice board, and each rate be open to criticism as too high or too low.

It should be possible, in a democracy, to criticize managers or departmental heads. Many people cannot remain human and kindly once they get power over their fellows: egotism swells and feeds on itself, and they become petty kings, tyrannizing all beneath them. Such persons are not only hateful to subordinates, they are detrimental to productive efficiency. Their underlying motive is always to demonstrate their power, virtue, cleverness, or knowledge, and the best interests of the productive concern that employs them becomes a very secondary matter. A planning community will have to deal with such individuals as being a menace to its own well-being. If workers and subordinates with just grounds for complaint could take action through their unions or associations complaining to the appropriate Trust, such persons might be removed from the posts they fill so incompetently.

A main instrument of control which the Planning Commission could use would be its subsidiary, the Banking Corporation. All money receipts for goods and services sold would be payable into its branches, all incomes paid through it, all auditing done by it, costs and prices checked, imposed accumulations or savings collected, private savings received. Additions to the volume of money in the system might be issued first as the increases of income which accrue to income-recipients because productive efficiency is increasing, the Planning Commission crediting itself with deposits in order to pay these increases. The Banking Corporation serves as the financial instrument which, by check-

ing accounts and paying out incomes, is the means of seeing that approved schemes and plans are carried out. Surpluses accumulated throughout the system, from the taxation imposed in selling prices, might be credited to the Planning Commission's account and allotted by them to be spent on equipment. The Commission thus acts as trustee for the Nation's ownership of buildings and equipment.

What of foreign trade and investment? Great Britain, with her unbalanced productive system, needing to import large quantities of foodstuffs and raw materials, will have to face special difficulties here, but these will be lessened if other countries have created, or are beginning to institute, similarly planned systems. The colonial system, what policy Great Britain is going to adopt towards the self-governing dominions, the existence or not of an efficient and respected League of Nations—all these are factors of the first importance in forming the policy which the Planning Commission has to adopt in its international affairs.

But, in any case, the Commission would need to control all imports and exports—and foreign investment, if there is any—perhaps through a subsidiary engaged in issuing licences to those organizations whose activities conform with the planned activities of the community. Bulk buying and selling might be undertaken, too, by this subsidiary, and trade delegations maintained in foreign countries.

§ 4

THE DEMOCRACY. A democracy must have leaders, whom it must obey so long as they lead, but it would differ from a dictatorship in that it would be able to criticize its leaders and quickly remove them if incompetent, or corrupt, or not imbued with sufficient desire to interpret the community's ideals and carry them into practice. Members of the Planning Commission are answerable to the democracy for what they do, and can be discharged by Parliamentary action. The Commission would need to have some of its decisions embodied in legislation, and imposed by force, if that be necessary. But it might keep its laws as few and as simple as possible, not as many and as complex as could be devised. And discussion and passing of all new laws would be done openly in Parliament.

In this planning community, something different from the Party System has to be thought out and instituted. For, once the sort of economic planning we are thinking out has been embarked on, there can be no going back—at least not in things that involve important underlying principles. Fundamental changes in the type of economic system can never be successful if, when the electoral pendulum swings, the Opposition Party, returned to power, proceeds to revert to the unplanned system. Our present Parliamentary arrangements seem designed to prevent any really radical alteration in the economic system from ever being adopted. Hence any democracy that resolves to institute economic planning has to be prepared fundamentally to alter the Constitution.

A smaller number of members, returned to a reformed House of Commons, might still be elected, and would have the task of appointing and removing members of the Planning Commission, of criticizing or approving its work, of discussing and pressing on the Commission new ideas and ideals. This House of Commons must be in close contact with current opinion and feeling throughout the country; its proceedings might be broadcast. Its members might be asked to pass a test before they may offer their services as Members of Parliament, and required to specialize on some subject. They should prove their fitness to undertake a very important function in a democracy. For the House of Commons should be the great chamber of discussion where ideals are upheld and policies suggested. It should be the sounding board that echoes the wishes and aspirations of a nation. Thus it may be possible for a real democracy effectively to control, through its political system, all the main parts of its economic system, the officials of its economic government being the Planning Commission.

After this brief and sketchy outline of what is involved in even the minimum amount of change required to incorporate our two guiding principles into the community's economic system, we are in a position to see the first steps. They are: (1) the amending of the political system and the Constitution so as to make them suitable instruments to express the democracy's will; (2) the strengthening of all educational factors so that better and better citizens may be created; (3) the formation of a Planning Commission, whose first duties are to work out a scheme for imposing public control over the banking system,

then to make a beginning with planned public works and thus gain experience before planning the remainder of the system.

All the details of economic planning that we have laid down have grouped themselves round two fundamental principles. First, an impartial, informed and intelligent body, acting for the best interests of the whole community, must allocate incomes, continually increasing them or reducing hours of work as the community's productive technique improves. It needs much information in order to do this, and has to collect suggestions and advice from all its subsidiaries and from the House of Commons. It will make sure that no vast differences exist between the highest and lowest incomes, that increases of income are spread over the whole community, and that it never gives increases of income to classes of recipient who will not use them to increase consumption—it must, instead, give the increase to lower incomes, or reduce hours of labour. Second, the total rate of spending on planned equipment must be equal to the planned accumulation of surplus, plus free saving. This involves a close collaboration between the Planning Commission, Parliament, and the democracy, and with the whole of productive activity throughout the country; it involves not only day-to-day replacement of equipment but long-term Plans.

No democracy will ever run a planned economic system without developing a *soul*. Each individual has to know in his heart that he is a member of a community that deeply cares for his well-being; in return he must gladly serve the community of his fellows. “Each for all, and all for each” has to become every-

day practice. Ideals are most important, not as vague dreams and aspirations, but as things that can be really practical, things that can be brought to earth and enjoyed by a planning democracy. But the whole idea of exploitation, the lust for power over helpless victims, have to be rooted out and burned—these have no place, but a harmful one, in a planned democracy.

To conclude, a democracy stands to reap immense benefits from planning its productive and political systems—indeed, it can never be a real democracy without doing so! Human beings can be released from the haunting misery and fear of destitution; liberty can be maximized; the vast potentialities of well-being that reside in the communal productive machine can be made realities. Justice and liberty might be watchwords of true democracy. But they can never be realized in practice by any modern community, unless it controls, in the interests of all, the great machine that we call the economic system.

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