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ESCAPE FROM STAGNATION

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ESCAPE
FROM STAGNATION
AN ESSAY ON BUSINESS
FLUCTUATIONS

BY
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CONTENTS

CHAP.		PAGE
	FOREWORD	vii
I.	INTRODUCTION	i
II.	THE ASCENDING PHASE, RESULTING FROM ERRORS OF DEFECT	8
III.	DIFFICULTY OF ESTIMATING COSTS	21
IV.	CRISIS POINT AND RECESSION OF PRICES	44
V.	INFLUENCE OF THE MONETARY AND CREDIT ELEMENT ON THE DEVELOPMENT OF AN INDUSTRIAL FLUCTUATION	68
VI.	CONCLUSIONS DRAWN FROM THE THEORY	107
VII.	SOME RECENT EXPLANATIONS OF THE CRISIS	119
VIII.	PRACTICAL CONCLUSIONS	149
	INDEX	157

FOREWORD

THIS little volume contains an amplification of certain articles which appeared in the *Giornale degli Economisti*, *Riforma Sociale* and the *Zeitschrift für Nationalökonomie* during the years 1932 and 1933. I should like to take this opportunity of expressing my gratitude to the respective Editors of these influential reviews for their permission to make use of this material in the present form.

Although every writer naturally desires that his book may achieve a certain degree of popularity, I fully realise that this work may not appeal to the general public. Had I made this aim my first consideration it would have been necessary to provide a background of general knowledge, to embellish every chapter with illustrations of the various arguments, and also to make use of current phrases which would convey an impression of familiarity with business life and practical activity. I should also have given a lengthy explanation of the reason why this book is opposed to those who prophesy the end of capitalism, or propose political and social panaceas as a means of avoiding a recurrence of the crisis. Controversy, especially when it is personal, constitutes for many people the indispensable spice of reading.

Instead of doing this, however, I preferred to present the thought in the form in which it matured after long reflection.

LONDON,

June, 1933.

CHAPTER I

INTRODUCTION

I. THE NECESSITY OF A PRELIMINARY THEORETICAL ENQUIRY

THE crisis is a subject which concerns all classes of citizens. No one, be he ascetic or nabob, can feel that it is beyond his sphere. It is possible, indeed, that the universality of the interests involved is the cause of the confusion in the points of view and the failure to form a clear conception of the present economic conditions.

It cannot be denied that the crisis is everywhere discussed and all are eager to emerge from it, as from a prolonged misery. But it should be remembered that—at least as regards certain classes—there have been, in the not far distant past, long periods of prosperity. It is therefore not unreasonable to assume that the economic life moves in waves, the crisis phase of which is felt only because people accept periods of prosperity as the normal condition and are inclined to give undue importance to the adverse phases.

Another noteworthy fact is that, at each recurrence of a crisis—when on one hand large quantities of goods are amassed and on the other extreme

poverty is rife—Capitalism is always accused of being the cause of the depression, and the necessity for a new economic system is proclaimed. Towards the end of the nineteenth century Socialism in various forms was urged in opposition to the theories of the liberal school. During the period immediately following the war, Bolshevism was offered as the panacea for all economic ills. The fact remains, however, that no system devised for the general betterment of mankind has ever proved itself capable of eliminating, or even lessening, the severity of the crisis.

Meantime, people are driven by pecuniary difficulties to seek some other means of escape from the present period of depression, without resorting to solutions so drastic as Socialism or Bolshevism, either of which would cause a great upheaval in the economic and legal structure of society. Remedies of the most varied nature are suggested by different classes of sufferers. Each person has a different suggestion to offer, with the exception of a few who confine themselves to enquiring mildly how much longer the crisis will last.

But any remedy, if it is to justify the confidence even of the person who suggests it, presupposes an explanation of the fluctuating course of business, just as a medical prescription, in order to effect a satisfactory cure, must be based on an accurate diagnosis of the complaint. Unfortunately, we are still only groping our way towards the knowledge of the true causes of the crisis and the subsequent depression. The Governments devote their atten-

tion to the most immediate phenomena: armaments, reparations, war-debts and tariffs; manufacturers ascribe the crisis to over-production; merchants find a reason for it in decreased consumption; students differ more than ever in their opinions. In the study of economic fluctuations, therefore, the explanation of one fundamental question is still a subject of controversy, viz. *why* the movements in the level of profits, prices, employment, production and consumption do not proceed upwards or downwards in one unbroken line, but are a series of gradual movements in the same direction, comparable to a slowly ascending wave, finally reaching a climax and subsiding.

Taking into account, therefore, the fact that we have no certain knowledge on this point, the soundness of the explanation offered as to the cause of the crisis should be our first consideration when dealing with any remedy which may be proposed. If that particular remedy has already received a practical trial, its efficiency can of course be judged also in the light of experience, but in any case, the necessity of a preliminary theoretical enquiry is evidently undeniable. This process the reader is invited to follow in the consideration of the most important of the remedies suggested.

2. THE TRADE CYCLE IS INFLUENCED BY FACTORS OTHER THAN MONETARY

Many explanations of the trade cycle have been offered. These it is not necessary to refer to at any

length as they have already been most ably dealt with by other writers. It may be mentioned, however, that certain authorities, such as Hawtrey,¹ attribute the progressive rise and fall of the most obvious external manifestations of the trade cycle, and the most generally accepted indices of its course, almost exclusively to monetary and credit phenomena. Indeed, they regard the *periodical* character of the industrial fluctuations which form a trade cycle as being wholly due to monetary causes. Among the many theories advanced, this particular opinion has attracted numerous and influential supporters.

Other writers, such as Keynes, who formerly believed the actual starting-point or "impulse" of these fluctuations to be independent of the banking system, which they thought could only serve to modify the upward or downward movements of the level of profits and prices, have modified their opinion. In their more recent works they state that the banking system itself, "in so far as it is a free agent acting with design, can, by acting as a balancing factor, control the final outcome"; and hence booms and slumps are simply the result of oscillations in the terms of credit granted by the banks to those who produce goods and provide services.²

Again, other authorities, including Robertson, who endeavour to throw light on the true causes of the economic fluctuations, as opposed to

¹ R G Hawtrey, *Trade and Credit*. Longmans, Green & Co., p 175, and many other references.

² J M Keynes, *A Treatise on Money*, Vol. I, Nos. 183-4 *et passim*. Macmillan, London, 1930.

financial and psychological causes,¹ consider that a preliminary demand for short-term credits is indispensable to every expansion of production, and are constrained to admit that the responsibility of meeting this demand rests with the banks. They do not make it clear whether, according to Keynes' recently expressed opinion, the bank is the *primum mobile* in the chain of casualties which leads to an industrial fluctuation, and also the most important factor in it; or whether the banks, by supplying loans, simply contribute towards the magnitude and duration of the cycle. Moreover, with the monetary explanation of the trade cycle offered by writers of considerable authority are connected proposals of inflation and protective tariffs, as a means of bringing about a revival; proposals to which many Governments have hastily and without due consideration given effect.

Industrial fluctuations are now so exhaustively studied that it seems superfluous to profess to be seeking "causes" and premises other than those which have already been considered, more or less explicitly, in connection with the various theories. There may even be very little excuse for seeking *one sole cause* for these waves. Even the writers mentioned above are agreed that factors other than monetary are concerned in the determination of an upward phase.

The problem is to ascertain which, among the different groups of factors, are really essential to the

¹ D. H. Robertson, *Banking Policy and the Price Level*, p. 81. King & Son, London, 1926.

production of a *progressive* movement of profits and prices, and which play a secondary part. It is certain that, when factors combine and converge, the influence of each depends to some extent on the conditions in which the others operate. Whether a given factor is indispensable, or whether it is of primary importance, may be deduced from the fact that, in the first case, its absence will impede the development of the industrial fluctuation, but, in the second, will do no more than limit its magnitude and development.

The study which follows excludes in its early stage all banking and credit operations, in order to ascertain whether, in such conditions, the development of an industrial wave is conceivable. Since this question can be answered in the affirmative, it naturally follows that an industrial fluctuation cannot be regarded as a phenomenon dependent for the greater part on money and credit. The next step is to prove that, were it possible to eliminate the action of a certain factor, not of a monetary nature, which will be revealed by the examination, there could be no economic wave, even in countries where the banking system is most widely diffused. It is evident, therefore, that the movement may be attributed chiefly to this factor. Furthermore, the monetary theory being confuted *per absurdum*, it becomes possible to formulate a new explanation of the cyclical phenomena.

In the light of these deductions, the soundness of which will bear the test of a critical examination, the means of escape from depression can be studied

with increased assurance. If it can be proved, pending events favourable to production, that the proposed remedies are closely connected with the fundamental factor which determines the ascending phase and the crisis, there will be a hope of adjusting the conditions of disequilibrium which result from these movements, as also of accelerating the ascending wave movement which follows the declining phase and the stagnation. If, on the other hand, the proposed remedies appear to have no connection with this factor, their inadequacy will soon be apparent, and it will be the duty of scientific experts to expose it, in order that useless and even injurious experiments may be avoided.

CHAPTER II

THE ASCENDING PHASE RESULTING FROM ERRORS OF DEFECT

I. EVENTS FAVOURABLE TO PRODUCTION LEAD TO AN INCREASE IN PROFITS AND PRICES WHICH IS BASED ON "REAL" SAVINGS

FOR the purpose of simplifying the arguments, we may imagine a country in which banks do not exist, and gold coin is the only form of currency, the amount of gold produced being sufficient to meet all trade requirements. Our study of the situation begins during a period of depression, when production is at a low ebb.¹ In the course of time, therefore, the goods on the market are consumed and even the reserve stocks are depleted. The natural result is that prices are driven up and production is consequently stimulated and expanded.

But this phenomenon of consumption even during a period of depression, and with the natural tendency to expand production in the continuous effort to

¹ We will follow the modern business historians, notably W C Mitchell (*Business Cycles*, 1927, p 79), in regarding the business cycle—or, more precisely, the business fluctuation—as successive phases of crisis, depression, revival, prosperity, and again crisis (or recession). Those who support this theory do not, however, explain why all these phases are successive

regain the standard of living which existed before the crisis, can never lead to a *progressive* increase in the profits of entrepreneurs, the revenues of factories, and the prices of goods for which the demand has increased. That is to say, a new ascending phase cannot result from it.

Even if the revival of production referred to above should occur *simultaneously* throughout all branches of industry—which very seldom happens—the entrepreneurs would gain only mediocre profits and they, in their turn, would remunerate capitalists, landowners and operatives at a low rate. It is obvious that prices cannot increase when the incomes of all these classes of the community are restricted. Who could afford to pay high prices? How would such prices be maintained? So long as the condition of the market remains unchanged, it follows that those demands which persist, even through a period of depression, tend to restore an equilibrium as between requirements which are known and production which, with marginal variations, is adapted to them; they tend, that is to say, to stabilise prices rather than to cause a *progressive* increase.

As a matter of fact, before the so-called "wave of prosperity" can begin to rise, there must have taken place certain events calculated to increase the profit of production, or at least to raise the hope of an increase. Such events may be, for example, an improvement in the method of production which will reduce the cost; an increase in the demand for certain goods, leading to an increase in the price;

the abolition of a duty which had artificially raised the price of certain commodities.

Similarly, certain other events tend to reduce profits. Among these may be mentioned a falling-off in the demand, which leads to a reduction in the price; the imposition of any duty which leads to an increase in the price of wheat and thus renders it necessary for the producers to pay higher wages to their operatives.¹ There are also events which may retard or entirely suppress the upward phase of a cycle.

Now when an event tending to increase profits takes place during a revival phase, the approximate result is that a manufacturer who formerly produced at 90 and sold at 100 is now able to produce at 50 and sell at a little less than 100, or he may continue to produce at 90 and sell, let us say, at 130. He will endeavour, therefore, to increase his output, even though he may have to pay a higher

¹ It is obvious that an increased demand, either at home or abroad, may have somewhat the same effect as a technical improvement which *reduces* the cost of production and leads to an increased output for the sake of higher profits. Possibly the effects of a genuine and important technical improvement are not limited to any particular branch of industry, but this is equally true of an increased demand. Similarly, a falling-off in the demand is tantamount to an *increase* in the cost of production. This may be brought about by the imposition of a new duty or by the fluctuations of the purchasing power of money.

There are also many events which tend to reduce the cost of production for certain classes of goods, while increasing it for others; e.g. a war, or the cessation of war, both of which benefit certain classes of producers and injure others. Such an event will be favourable or unfavourable to the production of a country according to whether the benefit or the injury predominates, since the predominating factor governs the difference between cost of production and market price.

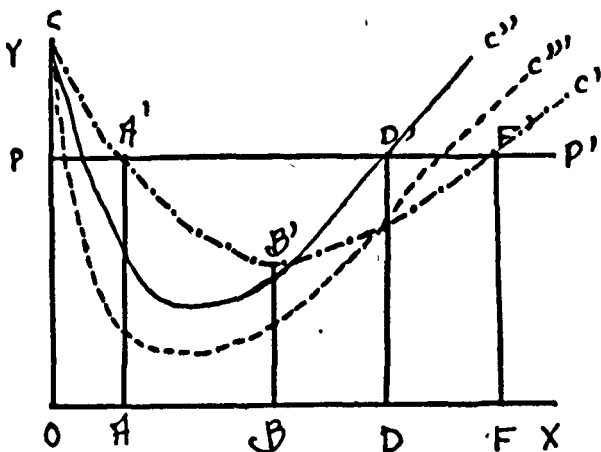
price for the factors of production,¹ also, if he

¹ In the following graph, OX representing the quantity produced and OY the cost per unit, either marginal or average, as also the price of the product taken as constant, CC^1 is the curve of the average cost per unit; CC^2 the curve of the marginal cost per unit; PP^1 the constant price of the product, whatever may be the supply.

The entrepreneur: (a) does not find it profitable to produce a quantity inferior to OA or superior to OF, since in both cases he would incur a loss; (b) always finds it profitable to produce any quantity between OA and OF, (c) realises the maximum profit by producing the quantity OD, which corresponds to the marginal cost of the unit DD^1 , equal to the sale price OP, (d) neither gains nor loses by producing the quantity OF. He does not limit himself, however, to producing the quantity OB, but—either at one output or by degrees—expands the supply to OD.

A reduction of costs implies the lowering of the two curves of the unit cost; and similarly, an increase in price implies a displacement above the curve PP^1 , parallel to the abscissa. In both cases the quantity which ensures the maximum gain is obtained by a *more extensive* production and the entrepreneur must endeavour to obtain it by means of *progressive* expansions of the supply.

The curve of the total costs of an enterprise is shown by the graph on p. 25



has not the necessary capital, he will borrow the savings of private capitalists up to an amount which will at least cover the estimated cost of a first flow of output. This amount he hopes to realise by the profitable sale of the goods. Thus, from the beginning of the process of production there is an increase in the prices of many producers' goods, such as raw material, machinery, necessaries for workers, etc. There is also an increase in the incomes of the various persons engaged in the favoured production, such as operatives, employees, capitalists, landowners¹

But, assuming that these persons, who probably imagine that the period of prosperity will continue indefinitely, spend at any rate part of their additional incomes, a *larger income will also be earned* by others from whom the former purchase commodities at *increased prices*, thus excluding from the market many former consumers. So long as the flow of the "real" increased incomes lasts, it will be possible to maintain the increased *prices* of goods purchased with them

¹ Many people believe that the reduction of costs is coupled with the elimination of the incomes of certain productive factors which can be dispensed with, e.g. operatives whose work can be done by machinery, producers of raw material which is replaced by another and less expensive type. Hence the total income of the community would be diminished. A reduction of costs, however, may be obtained *without* the reduction of pre-existing incomes. This may occur when, still at a cost of 90, the entrepreneur can obtain nearly twice the former quantity of goods owing to an improvement in the plant. Moreover, in spite of a reduction in the incomes of certain factors, the total income of a country is augmented owing to the increased productiveness brought about by the new combination of factors

Furthermore, the factors of production applied to other branches of industry gravitate in due course towards the favoured one, thus diminishing the supply of other classes of goods, both producers' and consumers'. This leads to an increase in the respective prices which is more or less accentuated according to the elasticity of the various demands. Hence there is a readjustment of the general price level, that of the articles produced under more advantageous conditions, in consequence of the favourable event, becoming relatively less, while there is an increase in the prices of various other commodities, both producers' and consumers'. Thus a general upward step is taken, first in incomes, and subsequently in prices, the origin of this step being an event which led to an increase in profits or, at least, to additional expenditure in the hope of such an increase.

It may be objected that, since there is no change in the total amount of money in the country, while the quantity of certain goods obtainable at reduced prices has increased, there must inevitably occur a heavy fall in the prices of, at least, these particular goods. But, even if it must be granted that such a fall is probable, it may reasonably be argued that : (a) in each case it is the amount of money *in circulation* which must be taken into account, in connection with the increased *velocity of circulation*¹ during periods of increased activity ; (b) during a period of depression, a certain proportion of the monetary

¹ In the sense of the average number of transactions carried out with the unit of money in the unit of time.

wealth of a country remains idle in the hands of private persons, loans being sought by entrepreneurs only when they require them; (c) any reduction in costs which affects several industries, such as a reduction in the cost of transport, leads to a corresponding reduction in the cost of producing gold, and therefore to a rise in the price level of gold, (d) finally, goods obtained at a lower price are more readily exported and may thus cause in individual countries a flux of gold and hence a redistribution of gold in proportion to the activity of foreign trade, since a trade cycle never develops at the same rate in all countries.

It is however manifest that, if all whose incomes are increased should refrain from increasing their consumption, the consequences above described would be averted.

2. EFFORTS TO INCREASE AN INADEQUATE SUPPLY MAY RESULT IN A PROGRESSIVE INCREASE IN PROFITS, INCOMES AND PRICES

It is extremely difficult for a manufacturer, in his first output after a "favourable event," to place on the market so large a quantity of goods that the whole of the profit accruing from the reduced cost of production is realised. It may even happen that the margin of profit is entirely absorbed by the first increase in the price of producers' goods, in which case there would be no inducement either to augment or curtail production. Similarly, it may happen that the cost of the first output exceeds the profit.

But if, after paying for the factors of production and putting aside the necessary reserve funds, the manufacturer sees that it will still be profitable to follow up his first output by an increased production, he can devote to this purpose the remaining profit on the first output without affecting the rate of his expenditure. In the same way, those who benefit by the renewed activity may—after raising their standard of living to its former level—lend the manufacturer the residue of their additional incomes in order that production may be still further increased. The manufacturer will thus be enabled to produce a second and more extensive supply, *even though the means of production may be dearer.*

Hence many incomes are augmented and, if even part of this additional income be circulated, the result will be a *second increase* in the prices of various goods. This process will continue until, owing to successive expansions of the supply, all the profit rendered possible by the "favourable event" is exhausted. This profit forms the basis of the successive increases in the price of the factors of production, or rather of the incomes in which it is absorbed: it is also the basis of the prices of the various goods purchased by means of those incomes. Conversely, the progressive increase in prices may continue uninterrupted until it is based on the profits arising from the expanded production.

Again—and this is a more important consideration—if the supply is still inadequate and production may profitably be increased, the capital necessary for this further output may be derived not only

from savings in existence at the beginning of the revival, but, as mentioned above, from the additional incomes of those who profited by the revival. Meanwhile, the renewed consumption may be maintained

We are led, therefore, to the conclusion that, even in a country which has no banking system or credit instruments, a progressive rise in incomes and prices is conceivable. This upward phase is determined by four principal conditions (a) a "favourable event" which gives rise to the hope of increased profit, (b) the existence of idle savings which admit of the first output, (c) the inclination, on the part of manufacturers and others who profit by the increased activity, to spend at least some proportion of their gains and, after restoring their standard of living to its former level, to invest the remainder in productive activities, (d) production on a scale which finally exhausts the possible profits, though only after successive expansions. In other words, in the first output, as also in subsequent supplies, may be observed an error, viz an inadequate supply in relation to the profits obtainable.

3. CONFIRMATION OF HYPOTHESIS BY INDUCTIVE REASONING

There arises the question: Are facts in accordance with the above theory? Inductive reasoning leads inevitably to the conclusion that they are.

It may be urged that inductive analysis is not permissible, seeing that a country devoid of banks, such as we imagined for the purpose of our argu-

ment, does not exist. The facts to which we appeal, however, are independent of any consideration of credit, being concerned only with production, an activity which may be carried on—though perhaps with difficulty—without recourse to credit.

It is undeniable that, when the manufacturer embarks on the first output, there is only a limited number of factors of production. Setting aside the assumption that they are permanently available, it is not easy—even when the revival has actually begun—to displace the factors applied to other purposes, unless the profit of the new production is clearly manifest. However willing may be the manufacturer to pay at a high rate, he cannot immediately increase the number of factors on the market. For this reason, the total expenditure of the manufacturer may be considerably below the price of the goods. Hence he will be encouraged to extend the supply.

It is also undeniable that various economies may be introduced in factories which are enlarged. They are effected by means of: a more rational organisation of work; standardisation of work, e.g. greater speed and precision in the routine work carried on in the various departments, an improved method of production; and also the vertical combination of enterprises. Finally, there are what Marshall terms *external* economies, resulting partly from the localisation of industries and partly from the improvement in general conditions.

It is evident that these economies cannot be computed in advance, since some of them are

independent of any particular factory which may be under consideration, e.g. external economies which are effected after a certain time. They may, however, lead to the result that the cost of production *does not increase in proportion to the increasing output* and, therefore, remains below the market price.

Facts also prove that the entrepreneurs, by entering into long-term contracts, can ensure to themselves for a considerable period the profit arising from the lagging in the increase of salaries and rates of interest. The longer the period which elapses before the manufacturer renews his capital or contracts new loans, the less will be his requirement, owing to the increase in the price of consumers' goods.

Furthermore, only the better-equipped factories, capable of producing a larger quantity of goods at a lower price, will devote their energies to the new activity. During the early days, therefore, the effect of competition in lowering the price of the product and the differential gain of an enterprise is limited. All these considerations confirm, in a more or less marked degree, the hypothesis that a first output *does not exhaust* all the realisable profit, but leaves opportunity for *progressive* extensions of the supply.

Moreover, the possibility of gradually obtaining working capital from the actual profits of production frees the manufacturer from the necessity of burdening himself, from the beginning, with all the working capital necessary to the process of pro-

duction. If he has to provide only a part of it, he may decide to extend his plant temporarily, and thus effect greater economies, during a specially active period. (In the meantime, it is true, he risks the danger of being compelled in the future to hold in reserve a larger amount of working capital, according to the stage of the productive technique.)

Basing our arguments on fact—the fluctuation of prices—we have considered the imaginary case of a country without banks, in order to ascertain whether here also there can exist the possibility of a *progressive* increase in profits, incomes and prices. We have proved from facts that *such an increase is possible*. Here may be seen, in its primary aspect, the incriminatory factor in the rising wave.

At the base of a first application of productive factors an error may be observed, viz. an inadequate supply in relation to the profits obtainable. This is due to certain incalculable elements in the cost of production, chiefly the lack of elasticity in the supply of factors of production when the favourable event occurs, and to the development of various difficulties in the plant which is gradually brought into use. This error is quite distinct from those which are sometimes termed "optimism" and "pessimism,"¹ as also from that which certain writers connect with capitalistic methods, in the belief that, considering the *length of time* required for the process of production, the manufacture of both producers' and consumers' goods must be far

¹ Pigou, *Industrial Fluctuations*, p 87 Macmillan, London, 1907.

in advance of their sale, and hence the estimates of future demands are necessarily inaccurate.¹

Although springing from conditions in which the technique of capitalism is brought into action, the fault we are endeavouring to account for is invariably apparent, even when there are no currents of "optimism" or "pessimism" and the future demand can be accurately estimated. It consists in the inability of the manufacturer, in organising a fresh output, to compute *the cost* of the total *profitable* production and to avail himself, without loss of time, of the requisite number of factors.

¹ Aftalion, "The Theory of Economic Cycles based on the Capitalistic Technique of Production" *Review of Economic Statistics*, October, 1927, p 165 *et seq*

CHAPTER III

DIFFICULTY OF ESTIMATING COSTS

I. COMPLICATIONS IN ESTIMATING THE COST OF PRODUCTION OWING TO THE DIFFICULTY OF DISTINGUISHING BETWEEN GENERAL AND PARTICULAR EXPENSES AND TO THE USE OF FIXED CAPITAL

SEEING that the error of an inadequate supply is gradually corrected by successive expansions, it may be asked why the supply does not at last precisely meet the possibilities of the demand but, sooner or later, leads to a change in the trend of prices. This change is a sign that, as regards the *greater part* of the industry, the supply exceeds the absorbing capacity of the market.

If an unfavourable event should occur while the output is in course of expansion, thus reducing or eliminating the profits, a fall in prices is explicable. The event may be entirely unconnected with the factory, e g. a falling-off in the demand, a poor harvest, which increases the price of foodstuffs and, consequently, the rate of wages; a prearranged and drastic deflation, etc. It is comprehensible that, in such a case, the rising wave may be retarded or entirely arrested. If the profits are cut down

many goods remain unsold, thus leading to the condition known as a "crisis" in the producing factory or factories. But the question arises why should this situation occur, as it always does, after a longer or shorter period of prosperity, even though no unfavourable event has taken place?

It is noticeable that in every firm the working expenses tend to increase, little by little, to an extent which the manufacturer cannot estimate in advance with any degree of accuracy. He may anticipate the payment due from him for the use of capital, for wages and for rent, and yet, however accurate may be his estimation of these items, his accounts will show that the actual cost per unit of his goods far exceeds the estimated amount. What is the explanation of this paradox?

Here, also, the truth can be ascertained only by, first, inductive and, later, deductive reasoning. Inductive enquiry shows that the factors of production are very numerous. They are therefore divided into classes, variously denominated by the different writers. There remains the difficulty of assigning each factor to its respective class, once its function has been determined. Any inaccuracy in this respect, e.g. the inclusion under the heading of fixed expenses of an item which varies according to the extent of the output, may lead the manufacturer to the conclusion that he is realising a profit when, in reality, he is incurring a loss. In other words, it may lead to a *second error*, in addition to that of an inadequate supply. An example of such an error may be found in the calculation of expen-

diture for superintendence as being in inverse ratio to the output while, in reality, it increases at almost the same rate.

The error arises in the following manner : in the light of his past experience, the manufacturer calculates the cost of the present output on the basis of a percentage. No distinction is made between expenses which are fixed, within certain limits of production, and thus in inverse proportion to the output, and those which vary according to the scale of production—and this not at a fixed rate, but according to the different stages of development reached by the factory and the particular conditions of the market. For this reason the estimation of the various items of expenditure on the basis of unvarying percentages is liable to fall short of the reality.

An inductive enquiry shows also that *fixed capital* to a considerable amount is necessary for production : e g. premises, machinery, land, according to the increasing requirements of the factory, all of which are indivisible and definite in substance.

This fact entails various consequences : in the first place, the production is gradually expanded, since divisible factors, which vary almost continuously, are combined with the fixed capital, which varies only at intervals. It is reasonable that this process should continue until the fixed capital is fully utilised, that is to say, up to the point at which the successive additions of variable factors result in an increased production, the increase being *proportionately greater* than that of the variable factors.

If, beyond this limit, the fixed capital undergoes no change and the doses of variable factors are continually increased, the rate at which the production increases will steadily diminish until the point is reached at which every output is practically insupportable

In calculating the expenditure, especially in advance, the manufacturer usually considers the plant as producing *up to its full theoretic capacity*, while as a matter of fact the actual output may be—and often is—considerably less. In other words, he assumes that the plant, represented by the fixed capital, is such that all the economies referred to above will be effected. This, however, is rarely the case

Any slight defect in the organisation of the undertaking will cause delays, inconveniences or obstacles which will affect each department in succession and, in the aggregate, seriously limit the output. These defects may possibly occur in the co-ordination of the different processes or in the relations between the various departments. Those which receive the orders, arrange for their execution, provide the necessary factors, carry out the actual process of manufacture in the workshop.

It will be readily understood that even a slight decrease in the output may lead to a more than proportionate diminution in the profits¹. The truth

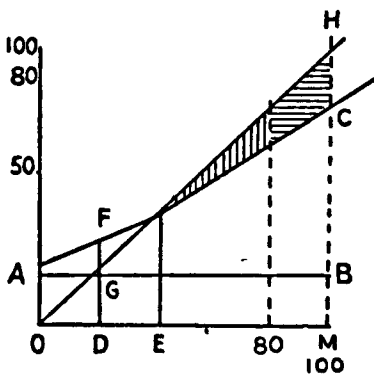
¹ In the following graph showing the total expenditure of a single firm, the output is represented on the abscissa and the costs and successive returns from the sales on the ordinate, AB represents the curve of the constant costs within certain limits, in inverse proportion to the number of units produced,

is that the quantity of goods manufactured and sold is usually below the estimate, while the expenditure is the same as if the output coincided precisely with the amount anticipated.

If such defects, which are hardly perceptible even to experienced and prudent manufacturers, continue through several productive processes, the factory will probably incur heavy expenses which

AC the curve of costs, in proportion to the quantity produced, which inclines towards the axis of the abscissa in proportion as certain combinations of factors may be more easily replaced by more economical combinations, OH the curve of the returns from sales, assuming that the price does not vary on account of variations in the supply

In a plant the maximum capacity of which is represented by 100, the production of the quantity OD implies a loss, represented by FG; if the production is extended beyond the quantity OE, to the *maximum* output, the profits increase to an amount represented by the shading. A reduction of barely 20 per cent in the output, i.e. from 100 to 80, causes a reduction of over 50 per cent in the profits. This is explained by the necessity of increasing the capital for various reasons, such as adding to idle capital, meeting the cost of hindrances, delays, etc



are not provided for in the estimate, even if no additional outlay is necessary in respect of premises, improvements and publicity. Hence a loss will still be incurred even though the maximum capacity is reached as regards operatives, raw material, machinery and all other items in the equipment of a factory: and this, as experience shows, is very rare.

Furthermore, if the maximum output is to be attained, one of the points to be considered is the elimination of every cause of delay which, however perfect may be the organisation, is likely to occur in the manufacturing process. The work is often carried out in different departments, each being responsible for some particular part of the product, and the assembling of the parts is the final stage. Imperfections, however slight, in any of these parts leads to considerable loss of time, seeing that they necessitate extra work in repairing or even remaking some of the parts.

In this case also the wasted effort may be regarded as the subtraction of productive factors from efficient work, and hence as a further decrease in production, over and above that due to a possible defect in the administrative organisation. On the other hand, the expenses would be no greater were the firm producing at its maximum capacity during the whole term of the contract.

Any investigation into the inaccurate estimates of costs, in which the inaccuracies are due to defects (however slight) in the manifold activities of the firm, would necessarily be very far-reaching: it would also be subject to continual modifications

according to the particular branch of industry and the special market under consideration. In order to show how it is possible to incur losses—sometimes very considerable—which cannot be anticipated, even when organisation and functioning are perfect in every respect, it is only necessary to point out, as above, the most usual defects in business concerns in which fixed capital is utilised.

2. PART PLAYED BY FIXED CAPITAL WHEN A FIRM IS ENLARGED

Inductive enquiry shows further that the use of fixed capital produces certain effects when a firm is enlarged. Once the maximum output has been attained, an enlargement of plant is necessary for any further increase, no matter how insignificant ; and this cannot be effected without incurring heavy expenses.

When it is evident that production may profitably be expanded, it may be taken for granted that, assuming the output of the original plant to have been 75 or 80 per cent. of the amount estimated, it will not, after enlargement, exceed this proportion. Indeed, unless the management and organisation are raised to a higher standard, this percentage will not even be reached, since the relations between the managing departments on the one hand, and the different departments through which the goods must pass before they reach the workshops, on the other, are now more complicated.

In addition to delay in the consignment of the various parts requisite for the finished product, there

will now be increased obstacles, since the new factors of production will not harmonise with the original elements to such an extent as to be entirely equal to the exigencies of the increased production. It follows, then, that the actual output of the new plant will be considerably less than double the *percentage of utilisation* attained by the former works, i.e. it will be neither 160 nor 150.¹ A factory, for instance, with a capacity of 100 and a waste of 25, may be enlarged until its capacity is 200: the waste will not only increase from 25 to 50 or, in other words, remain in the proportion of 25 per cent., but will increase to 30 or 32 per cent.

In this way a new item of expenditure arises which, like those mentioned above, is connected neither with the price of the factors of production, nor with the ordinary estimates. It appears in the form of a decrease in the output, the expenditure remaining as estimated for an output of precisely double the former (at least 150). It follows, then, that the profit accruing from the enlarged plant is not sufficient to pay more than a small proportion of the expenses arising from the new capital employed for the additional production, since it is only slightly in excess of the former profit. Thus the manufacturer, having failed to effect all practicable economies in the original works (i.e. having failed to utilise their maximum capacity, in respect of output and profit, before incurring new expenses),

¹ R. de Fleury, *La Production industrielle intensive*, p. 56. Dunot et Pinat, Paris. A. Cabiati, *Scambi internazionali e politica bancaria in regime di moneta sana e avariata*, pp. 188-92. Bocca, Torino, 1929.

finds himself confronted by heavy losses instead of the profit which he anticipated, as the result of increased business. In other words: although he may have the orders, he can neither carry them out entirely nor obtain from them all possible profit.

It is obvious that the loss will be still heavier if, owing to a slight increase of business, the factory obtains new fixed capital for the purpose of increasing its output to *only a slight extent*. In view of the absorbing capacity of the market, this capital cannot be fully utilised. Indeed, in many cases, the manufacturer acquires it only because he *expects* his business to develop, and desires to be prepared for this contingency. It is usually said that fixed capital renders the supply of the product too "inelastic" as regards the needs of the moment; i.e. the supply must either precede the demand—as in the case mentioned above—or it must lag behind, as may happen owing to the fact that new plant cannot be obtained without a certain delay. In either case, the disequilibrium of the supply is more accentuated than it would be, were there no *fixed* capital to take into account.

Consequently, the use of fixed capital—whether or not a manufacturer enlarges his original works—may well lead to an increase in expenses which does not arise from the remuneration of the factors of production, and cannot therefore be estimated in advance by comparison with analogous cases, or by former experience.

Finally, when a firm is expanded, not by suc-

cessive additions of divisible factors to the fixed capital, but by a *simultaneous* increase of all the factors—when, for instance, it is amalgamated with another—the economies which result from the larger scale of operations may be *more than counterbalanced* by other expenses. These arise from the difficulty of maintaining the managing services at the highest degree of efficiency, seeing that they are now larger and composed of mixed elements from each firm. Consequently, there is less sense of solidarity than would exist between persons employed in one single firm. Amalgamated firms, therefore, cannot reduce expenses to the extent anticipated. Hence, under the new conditions, the output either falls off to a very marked degree, or the quantity obtainable at decreasing cost is less than that which was formerly assured by the two firms before amalgamation took place.

By whatever means a firm may be expanded, its estimate of expenditure must include the amount necessary to replace the fixed capital as it becomes exhausted. This occurs either from technical and economic causes (depreciation of plant, amortisation of loans, etc.), or as the result of fortuitous circumstances (insurances, etc.). The omission of any of these elements in the estimate of expenditure will cause the manufacturer losses which he has not taken into account.

Every firm which is expanded requires a larger amount of working capital during its future existence. It has been pointed out that the manufacturer is not compelled to burden himself, from

the beginning, with the responsibility of providing the entire working capital necessary for production. But if the profit on the output is not sufficient to supplement within a reasonable period the capital at the manufacturer's disposal, it may be necessary to pay interest on short-term credits at a rate which, taking into account the upward phase of the cycle, may be very high as compared with that on a long-period loan.¹ The uncertainty on this point forms another element which further complicates the estimation of costs.

3. COMPLICATIONS IN ESTIMATION OF COSTS OWING TO PRODUCTIVE PROCESSES. THE COST OF MARKETING

Furthermore, inductive enquiry shows that producers' goods increasingly remote from the finished product are required in modern manufacturing processes. Many stages must be passed before a motor, an aeroplane or a cannon can be produced. Every firm, owing to its use of fixed capital, finds a difficulty in suddenly increasing its output. If, therefore, there should be any modification in the demand—as, for example, an increase in the demand for motors—the firms which supply the finished product would find it impossible, after the first expansion of their output, to obtain, either immediately or at stated intervals, the quantity of producers' goods requisite for the manufacture of

¹ I venture to refer to my "Studies on the Monetary Theory of Trade Cycles Relations between Interest and Discount." *Giornale degli Economisti*, March, 1930.

a further stock. This is described, somewhat vaguely, as the impossibility of making the work "run parallel" in the different stages.

As regards the production of motors, for example, the firms responsible for the second stage, who also make use of fixed capital, will find it equally difficult to produce the necessary supply of producers' goods for the first stage. This will cause a *delay* in the execution of the larger number of orders, and this delay will be repeated through *each* successive stage. Any firm, therefore, which manufactures consumers' goods will naturally provide against this delay by obtaining a *larger supply* of producers' goods than is needed for immediate use.

This reasoning applies to every firm which requires goods that are manufactured in a series of stages. It follows that, should the demand for such goods increase, the supply of producers' goods tends to increase in proportion to the number of stages necessary to the manufacture of the finished article,¹ while a decrease in the demand naturally has the contrary effect.

Meanwhile, the increased demand naturally leads in the first place to a shortage of producers' goods. Thus the firms who are responsible for the finished article will not be able to produce at their full capacity and, consequently, will find that their

¹ Cf the careful analysis of Prof Fanno in "Cicli di Produzione, cicli di credito e fluttuazioni industriali" *Giornale degli Economisti*, May, 1931. This is an authoritative confirmation of the theory enunciated above, since it brings to light another *element* of expenditure, which is not at first evident in the price of the factors of production.

profit is diminishing. But as, in the course of time, the supply of producers' goods becomes excessive, the manufacturers of such goods will realise that the price no longer covers the cost of production. They will naturally reduce their output, and this reduction will be repeated and *accentuated* in the more remote stages. Productive activity, however, aims at adapting itself to the *current* demand of the market and, sooner or later, it must be resumed, even in the earlier stages. It is impossible to anticipate the moment when the temporary surplus of the more remote instrumental goods will be absorbed by the market so that the demand of the firms responsible for the finished product will revive. It is necessary to wait until the demand actually occurs. Hence, when this happens there will be a certain delay in fulfilling the orders, seeing that it will be necessary to reopen, or increase the output of, factories which are wholly or partially out of action. The cost of production, therefore, will finally increase also for firms producing consumers' goods.

Moreover, the cost of transport and of marketing in the various countries must be added to the cost of expanding production (in which all practicable economies are not effected) combined with the loss involved by a deficient or excessive supply of producers' goods. These expenses tend to vary in direct ratio to the amount produced and to the distance of the enlarged factory from the market. In more remote factories, therefore, they may increase to such an extent as to neutralise, or even

exceed, the profit derived from the various internal economies which are effected. As a matter of fact, the facility of transport and marketing is seldom taken into account in any extension of a factory. These two considerations, which are common to all factories, are highly important and of frequent recurrence. Their omission from an estimate of costs may possibly lead to an unwelcome surprise.

4 THE ESTIMATE OF COSTS IS NOT ONLY COMPLICATED BUT ARBITRARY

The above considerations show how complicated is the estimate of costs. Each firm, even in the same branch of industry, is carried on under different conditions. Each factor of production is employed in a different degree. In each firm, also, there is a *continuous* expansion or contraction of the output owing to the different phases of increasing or decreasing per unit costs, or to changes in the price of one or other of the factors.

In this perpetual motion profit and loss are neutralised alternately up to a certain period. The conception of costs, therefore, can apply only to one particular moment, and the only reasonable method of estimating them is to take the average during a period of sufficient length to cover all the charges. It would be extremely difficult to make any reliable estimate of costs by dealing with a relatively short period, such as a single year. An annual balance-sheet is admittedly an accountancy fiction. When it is necessary, for any reason, to draw up such a statement, an arbitrary element

enters into the estimate of costs, in addition to the difficulties above mentioned.

Arbitrary elements are noticeable in other respects. No large factory sells its products at identical prices in different markets. In each market every factory, although it has competitors, is protected by a partial monopoly, owing to its relations with its customers or for other reasons.¹ Seeing, therefore, that the entire output must be distributed, it is necessary to take into consideration the prices obtainable in the different localities and to cover the greater part of the cost by the sale of those goods which realise the highest prices.

This principle is characteristic of firms producing on a system of joint and connected costs, as also of those producing by vertical combination, or the integration of industries. The entrepreneur of the vast concerns which are so numerous in these days continually displaces the burden of the total costs, removing it from one special product to another, according as the selling conditions are more or less favourable to him, and also according to the continual modification in the supply of the various goods or services produced by him. The proceeds of the sales decide the proportion of the expenditure which is to be assigned to the various products. It is obvious that these proceeds bear no relation to the price of the factors of production. The difficulty of estimating them in advance is therefore all the greater.

¹ A Marshall, *Principles of Economics*, p 421, fifth edition. Macmillan, London.

The errors which are liable to occur, when a manufacturer attempts to estimate, even approximately, the cost of increased production in the near future, are already numerous. Should he desire to go a step further and estimate the *selling price* of the finished goods, he will meet fresh difficulties since, when his output finally reaches the market, the price may fall to an extent which cannot be foreseen.

It is true that, in an open market, each manufacturer provides the amount which he considers advisable. But if he cannot foresee the extent to which his own contribution will affect prices and, consequently, the profit, still less can he foresee the extent to which prices will be affected by the production of rival firms whose possibilities and intentions he has no means of ascertaining. Every manufacturer, therefore, is liable to miscalculate the profits, whatever line he may take, owing to his ignorance of the extent to which prices will be affected by his own and his competitors' contributions to the market.

Finally, if the demand for consumers' goods should vary during the process of production—if, for instance, after an increase there should be a falling-off in the demand—the manufacturers incur a loss owing to the reduction in price which would result. To this loss must be added those caused by the failure to utilise fixed capital to its utmost capacity; by the inadequate or excessive output of firms responsible for the product in its earlier stages; by the reduction in prices due to competition. None

of those elements which curtail profits can be accurately determined in advance. The variations in costs cannot be ascertained until the process of production is complete. It follows, then, that the manufacturer who gradually increases his output is, consciously or unconsciously, falsifying his own estimates of expenses and profits.

He will be tempted to increase his output by degrees until there is an appreciable margin between the costs, as computed *a posteriori*, and the market price. Since, however, the management of the concern does not rest entirely with the manufacturer but, on the contrary, is largely influenced by circumstances, there must always be a *final* output, the cost of which will exceed whatever profit may be obtained from the sale of consumers' goods. The output will be launched on the market in the effort to obtain further profit by adapting the supply exactly to the demand. This, however, is impossible, seeing that there are additional expenses which cannot be estimated with any degree of accuracy.

These are the actual conditions of production, as undeniably proved by facts.

5. MOVEMENTS OF THE MARKET AFTER A FAVOURABLE EVENT

It may be argued that the situation described above is the normal state of the market. There is never perfect equilibrium between supply and demand. And even if a careful analysis shows this to be due to variations in and inaccurate estimates

of the cost of production and the market price, it is still not clear why any explanation of the crisis should be based on these circumstances.

The logical connection may be understood by observing the effect of a favourable event on the organisation of production. In a market where supply and demand are almost equally balanced, e.g. during a period of revival, even though there may not be a perfect equilibrium throughout the whole productive field, the excessive supply in some branches will tend to counterbalance the defect in others. Every manufacturer endeavours to adapt the supply to the demand by means of marginal variations: thus, if in one year the supply exceeds the demand, he will take care to reduce it to reasonable limits during the following year.

But as soon as an event occurs which warrants the hope of increased profit, *many branches of industry* are at once stimulated and expanded. The relation between instrumental, complementary and substitutional goods links, *ever more closely*, business concerns which at first sight appear to be totally unconnected, and it is now impossible for an expansion in the supply to be confined to one branch of industry, or even two or three. Hence many firms must be affected by an increase in production, even those which may have been compelled to reduce their output because it exceeded the demand. If it be admitted that, in any factory which increases its production, the first output does not exhaust all available profits, it follows that the supply may be *progressively* increased, in order to

counteract the first error of deficiency. As a matter of fact, however, it is through these progressive increases, which are usually more or less unregulated, that the manufacturer commits the errors referred to above. These errors tend not only to increase in magnitude as the expectation of profit becomes more certain, but also to appear *in the same direction*.

The errors—and consequently the expenses—**increase as production increases, if manufacturers, in the hope of increasing their profits, extend their plants and add to the number of their workers before effecting all possible economies in the original works.**¹ Similarly, the greater the expansion in the production of consumers' goods, the less adequate becomes the supply of producers' goods to the requirements for the later stages of the manufacture. Furthermore, the miscalculation of each factory is increased by lack of data as to the quantity of goods which will be put on the market by their competitors. It will be seen, therefore, that the mass

¹ By a curious misapprehension, many manufacturers understand "intensification of production" in the sense of expansion, rather than of increased capacity. They seek concrete evidence which will convey the impression of prompt action to that part of the public which is interested, and show that advantage has been taken of the precise moment "favourable to industry." This is done even before the plant already in use has been brought up to its full capacity, since the method of simply increasing capacity would appear too modest a programme to those incapable of appreciating the importance of good administrative and executive organisation. No weight is attached to the fact that the capital necessary for the new expenditure may amount to a large sum and possibly exceed the estimate. In that case, the expansion, when complete, may prove to exceed the requirement and can only be profitable in the event of a continual increase in prices.

of errors which is almost inevitable, and begins at a moment not easily determined, results in a *more rapid increase* in the cost of production than in the selling price

6 THE INCREASE IN THE COST OF PRODUCTION IS ACCENTUATED BY SPECULATION

The increase in the cost of production, as compared with the selling price, is sometimes accentuated by speculation. The actual purchasers of consumers' goods are brokers, wholesale dealers and speculators. When an increase in price is anticipated they immediately order large quantities of goods, regardless of *present requirements and prices*. The acceleration of production passes from stage to stage *in increasing proportion* and—the output of producers' goods being first inadequate and afterwards excessive—leads to further increases in the cost as compared with selling prices. If the purchasers are of opinion that, at a particular moment, the price will cease to vary, they reduce their orders, and this reduction continues, also in increasing proportions, throughout the successive stages. Thus, what is spoken of as a wave of "optimism" or "pessimism" on the part of individual manufacturers, is in reality an example of capitalistic technique, which has a stronger influence than psychological manifestations.

It cannot be denied, however, that the psychological element always plays some part in the situation and increases the errors incidental to it, although—once the position is understood—it will

be seen that this element is less important than is usually imagined. It is also true that the speculators themselves may be influenced by a misinterpretation of the various indices of the market, and also that the anticipated results may be frustrated by reckless speculation. Moreover, every manufacturer, seeing the growing demand for his products, can invest additional fixed capital in his plant. The funds at his disposal, and at the disposal of those remunerated by him, being inadequate for his purpose, he will negotiate a loan of capital, not derived from his former production, in order that he may enlarge his plant and consequently increase his output. Sooner or later his output will exceed the absorbing capacity of the market and, as a result of this error, the surplus supply will necessarily swell the reserve stock.

It may also happen that the manufacturer will realise *de visu* that his expenditure is increasing more rapidly than the price of the goods. During an upward phase, operatives, landowners and capitalists demand higher remuneration, being convinced that the increase in prices will be permanent : in many cases this remuneration is altogether disproportionate to the actual prices. The manufacturer may possibly refrain from putting his goods on the market, preferring to hold them in reserve in the hope of obtaining higher prices in the future, thus extending the process of production, which is not completed until the goods are sold.

Either of these alternatives—the expansion of the plant or the carrying on of work in order to increase the stock—involves the use, not only of

the sum invested in fixed capital and reserve stock, but also of the larger capital necessary to cover working expenses during the period in which the goods remain unsold

To sum up: during a first application of the factors of production, a deficiency in the supply results in the costs increasing at a *less rapid rate* than the prices, as regards subsequent applications, further errors—for which the manufacturers are only partly responsible—lead to a *more rapid* increase in costs than in prices, assuming that, in the meantime, no improvement has taken place in the method of production. The importance of the phenomenon is seen by the fact that this increased rate cannot be anticipated, nor is it possible to know precisely when its slackening will result in a perfect balance between supply and demand. Similarly, it is impossible to foresee the prices at which the finished product will be sold, since each manufacturer is free to put on the market the amount which he considers advisable. Hence each manufacturer reaches the limit of his profit after a succession of experiments; while, as has been said, a *final* application of factors usually exceeds this limit in a considerable degree

Thus the increase in incomes and prices—which is necessarily progressive since the manufacturer cannot, at one output, produce a supply equal to all possible demands, and therefore endeavours to rectify the initial error by degrees—leads to errors of a different nature from the first, owing to variations in cost and price. These changes cannot be

DIFFICULTY OF ESTIMATING COSTS 43

foreseen, owing to the lack of available data. Hence it is never possible to adjust the supply to the demand and, for this reason, the upward phase itself breeds the germs of the crisis

CHAPTER IV

CRISIS POINT AND RECESSION OF PRICES

I. EXCESS OF COSTS OVER PRICES. CONTRACTION OF THE SUPPLY

WHEN a manufacturer finds that the cost of production exceeds the sale price of his goods, he naturally attempts to remedy this defect. His first step will be to cover the deficit by raising a loan which will supplement the returns and enable him to carry on his business, remunerating the factors of production according to his contracts and making no change in their combinations.

It is understood that this solution is only temporary. The manufacturer endeavours, therefore, in the meantime, to increase his profits by raising the price of the goods. They should now be sold at a price sufficient to cover the cost of production and, also, to repay the debt which he has incurred in order to cover the deficit.

During an upward phase, however, the amount of "real" savings in the hands of private individuals is limited, moreover, it is not always easy to call in, within a relatively short period, money already invested, in order to re-invest it at higher interest. Hence the demand of manufacturers who

CRISIS POINT AND RECESSION OF PRICES 45

require capital, at any cost, leads to a considerable increase in the rate of interest.¹ This increase will probably be maintained, since the scarcity of "real" saving is accentuated, owing to the fact that, at an advanced stage of the ascending phase, further increases in profits are not possible for a considerable period, owing to the series of outputs which is on the market by that time.

All manufacturers who have been induced by the favourable event to increase their production, in order to realise as soon as possible the maximum profit, find that they have entered on the curve of increasing costs. This implies that the greater part of the profit is *already* distributed among the factors of production, admitting, for the sake of argument, that the average price level, for reasons connected with money and credit, remains practically unchanged. Hence the manufacturers can no longer obtain very high profits, nor will the increase in the "real" incomes of the factors of production be long maintained. This general principle is not disproved by the fact that certain firms may not be in the position described, nor does their pros-

¹ Certain writers, in examining the facts which mark the course of a cycle, attribute this increase in the rate of interest to reasons connected with monetary and banking operations. It is, of course, quite possible that there may be, during this period, international movements of capital, or special situations in banks which tend to accentuate the increase.

Such circumstances, however, are exceptional and must not be confused with the factors already in existence. The rise in the rate of interest, even when apparently unwarranted by circumstances, is likely to result from the scarcity of "real" saving. To regard it simply as a phenomenon connected with money or credit is likely to lead to a misapprehension, as is shown in Chap. V, p. 101.

perity influence the total income to any appreciable extent

If, therefore, the incomes derived from the intensified production are not further increased, the manufacturers' attempt to sell at higher prices can have no lasting success

In these conditions, i.e. when the manufacturer is compelled to pay a higher rate of interest for any additional capital which he may require, but cannot obtain a higher price for his goods, he adds to the reserve stock those already manufactured, and curtails his output, hoping thus to eliminate the excess of costs over the sale price. In attempting to carry out this intention he is guided only by the sale price of his own goods and the average general price level. It can hardly be expected that he will at once adopt the alternative course of reducing the price of his products. He is deterred from doing so by the fear of "spoiling the market" and thus increasing his difficulties.

Strictly speaking, the manufacturer could reduce the cost to some extent by a more efficient organisation of his existing plant. But, when the upward phase has already prevailed for a considerable period, he is induced by a variety of motives to manipulate the prices—or await their settled increase—rather than to operate on the costs. On the other hand, taking into account the similar situation of many other firms, no effort in this direction would be likely to have much effect in modifying the deficit. The manufacturer, therefore, finds himself compelled to restrict both the production of

consumers' goods, and his own orders for producers' goods.

2 THE PEAK OF THE BOOM, OR CRISIS POINT

The deficit in the manufacturer's balance-sheet shows that, as far as *current prices* are concerned, a certain quantity of goods has been produced at a cost which cannot be entirely covered by the returns. Hence it is necessary for the factory to restrict production to such an extent as to bring it within the limit of the decreasing per unit costs, or, at least, within a lower limit on the line of increasing costs. In this way—assuming that the demand does not vary—the market will absorb the goods above mentioned, *at current prices*, during the period of restricted production

It is obvious that the success of this policy depends entirely upon the maintenance of the demand, and also of the general price level. At the period when the manufacturer decides to curtail his output, however, these conditions are only partially fulfilled

In regard, more particularly, to the production of consumers' goods, certain expenses—in other words certain incomes—cannot be eliminated, even when the activity of the factory is curtailed. Such, for example, are the expenses connected with the managing and organising staff, maintenance of the plant, amortisation of loans and insurance premiums. Other expenses may be reduced in proportion to the reduction of output, e.g. payments on account of motor-power, superintendence, main-

tenance of machinery, correspondence and transport. There will also be a reduction in the expenditure for raw material and payment of operatives.

This decrease in expenses implies a corresponding elimination of certain incomes hitherto derived from the firm. As the falling-off in the demand for producers' goods affects the industry in *ever-widening circles*, until it is felt in the most remote stages, and even in certain stages of associated industries, the elimination of incomes will be extended to a corresponding degree. Hence *each single factory* engaged in the production of consumers' goods, which restricts its output causes a reduction in the flow of those very incomes which *maintain* the demand for various goods at current prices. At the same time there is no appreciable increase in other incomes to counterbalance the deficiency, seeing that the majority of manufacturers have entered on the curve of increasing per unit cost.

The increase in the cost of production, with the resulting deficit, does not occur *simultaneously* in all firms engaged in any particular industry. No two firms coincide in every respect—period of existence, combination of factors of production, organisation of markets as regards both the supply of producers' goods and the sale of the product, financial backing. The different firms are directed by persons of varying degrees of intelligence and business capacity: no two therefore react in precisely the same manner to any alteration in the price of one of the factors of production, or in the market

CRISIS POINT AND RECESSION OF PRICES 49

price of the product. Various considerations, such as the review of the total expenditure, the repeated verification of an excess of costs over current prices, the end of an almost habitual waiting for an increase in prices, come to a head at *different* moments in the various factories engaged in the same branch of production and, *a fortiori*, also in other branches. Thus many forms of production may be continued on the same scale, or even extended, at costs which will prove *in the end* to have been excessive, but which, in the meantime—being distributed in a flow of incomes which may even show a certain increase—tend to counterbalance the falling-off in other directions and to maintain the demand for commodities at current prices. Workers and instrumental goods, no longer required in a firm which has restricted its output, may be absorbed in another whose activity is unabated, or even increasing, because it is still lucrative—or thought to be so.

Sooner or later, however, the progressive increase of costs is clearly evident, not only in any particular branch of industry, but also in related branches which are drawn up with it on the rising wave. Sooner or later a point is reached at which it is no longer possible to counterbalance the decrease in certain incomes by a simultaneous increase in others.

Thus the *crisis point* is reached. At this stage, every firm which restricts its output of customers' goods and its orders for producers' goods reduces the aggregate income of a large number of persons, while *no corresponding increase* occurs in other incomes. In other words, not only does such a firm

produce an over-supply of its goods—as shown by the “deficit” according to current prices—but it causes a similar result as regards the goods produced by other firms, seeing that the reduced incomes no longer admit of purchases on the same scale and at the same prices as before. It may be stated, therefore, that an attempt on the part of a firm to rectify an error in its output leads sooner or later to a *reduction* of the highest general price level, as a consequence of the inevitable falling-off in the demand.

In the course of time it will lead also, owing to the complicated connections of industrial life, to a *reduction* in the price of the goods produced by the firm itself, since, as has already been said, the reduced incomes no longer admit of the former expenditure. Both reductions will be more or less marked according to the extent to which the output was restricted.

Thus it may be said that the original reduction of output leads to two distinct series of results: (1) *In regard to other firms producing goods of a different nature*, who may find that—although they have committed no error—their costs exceed even the market price of the goods, so that they also are compelled to reduce their output, (2) *In regard to the firm which first restricted its output*, which finds that, after the fall in price of its own goods, the first restriction is not sufficient to adjust the difference between cost and price. It may therefore be compelled to effect a *further reduction* of output, in order to eliminate the *new* excess of costs, which

CRISIS POINT AND RECESSION OF PRICES 51

is due to the particular remedy it has elected to apply.

3. AFTER THE CRISIS-POINT IS REACHED THE FALL OF PRICES CONTINUES UNTIL THE COSTS ARE CURTAILED TO A GREATER EXTENT THAN IS NECESSARY ACCORDING TO THE PRICE LEVEL

It is obvious that these successive restrictions must lead to a fall in prices, proportionate to the number of firms whose accounts show a deficit owing to previous reductions. This downward movement will probably continue until the firms on the market no longer consider it necessary to curtail their costs; i.e. until the only firms left on the market are those whose costs do not exceed a given price level. This will occur when the costs have been curtailed to an even greater extent than is required by the price level, and the separate combinations of factors of production have been reorganised in each factory on a more economical basis. The firms remaining on the market have shown themselves capable of producing at a lower cost than others, owing to a more effective combination of factors, or because they possess a larger reserve fund, accumulated in the time of prosperity. When differential gains are ignored—and during this period they are not large—it may be said that the curtailment of the cost of production must *precede* the fall of prices if the former, being distributed in incomes, is to maintain a given price level and render it permanent.

The reduction of costs may occur in those very

firms which show a deficit, or possibly in others engaged in different branches of production. In the latter case, seeing that profits are increased by a prudent reduction of costs, the curtailment of production and of incomes in certain undertakings may be more than counterbalanced by the increase in others. A further collapse of prices may thus be prevented

In conclusion, a general fall in prices occurs when a factory, at the highest point of expansion, restricts its output in order to do away with the excess of costs over current prices, assuming that the accompanying reduction of incomes is not counterbalanced by an increase of others in another part of the market. It has already been pointed out that restrictions of output are extremely detrimental to factories other than those in which the reduction takes place, even when there is no error on their part and their costs have been kept far below the maximum level reached by incomes and prices during the upward phase. The reduction of output also involves the necessity of *further* reductions on the part of the same factory from the moment when the price of its product begins to fall. This decrease in incomes and prices, for reasons given above, marks the *beginning* of the crisis.

In order to determine the precise *moment* at which the crisis begins on any particular market, it would be necessary to have access to the accounts of all factories and to draw just conclusions therefrom, in spite of the difficulty of calculating the costs.

CRISIS POINT AND RECESSION OF PRICES 53

By no other means is it possible to ascertain when, and for what particular reason, the decrease in the aggregate flow of incomes occurred, and when the recession of prices became an established fact.

Nor is it possible to foresee the duration and extent of the recession. They depend on the facility with which the factories engaged in the various industries can be reorganised and thus reduce their costs below the level which the prices are likely to reach in consequence of the original reduction of output. The fall in incomes and prices cannot be arrested until the costs of the greater number of factories are adjusted to this level.

It is obvious, however, that the standard of living will then be considerably reduced as regards the majority of the population.

4. HOW TO PREVENT OR CURTAIL THE DOWNWARD TREND OF PRICES

At this point it may be seen that the effort to find the new equilibrium between the results of over-supply, as manifest at the height of the upward phase, and the objective possibilities of production is made by means of a *series of attempts*; that is to say, by means of errors and of deviations from that policy which, when the cycle is complete and its elements understood, may be termed absolutely "rational."

As a matter of fact, a period of price recession could be avoided, or at least much curtailed, if the following conditions were fulfilled: (a) the

obtaining of timely and precise knowledge as to the moment in which the "deficit" of one or more factories on the market, with the consequent restriction of output, caused a diminution in the total flow of incomes, owing to the fact that there was no corresponding increase in other directions to counterbalance this loss; (b) the accurate estimation of the manner in which the general price level may be affected by a *first* restriction of the output of one or more factories, whose accounts show a "deficit," since the need for *successive* reductions—leading sometimes to the collapse of other firms guilty of no error of judgment—is gradually determined by the manner in which such consequences influence the prices; (c) the immediate restriction of output in such a degree as may be necessary in order to produce an equilibrium between costs and lower prices, (d) the destruction of surplus goods, that is to say, all goods which destroy this equilibrium

For greater precision, the sometimes very heavy expenditure for the maintenance of unemployed workers must be included in the cost of the production which is still carried on, since the restriction of output implies the deliberate suppression of many workers' means of subsistence. Such persons must, therefore, be assisted—even if only in a slight measure—by the State, being paid for public works, or receiving some other form of relief. Hence the *actual cost* of production, strictly speaking, should be much below the amount necessary for adjustment with the lower price level, in order to admit

CRISIS POINT AND RECESSION OF PRICES 55

of the accumulation of savings to be devoted to the maintenance of those who have lost their employment and are not absorbed into other branches of industry.

Whatever form it may take, owing to the complicated nature of the phenomena, the accumulation of such savings is indispensable to the establishment of an economic and social equilibrium at the close of a period of recession, as also for the arrest of the downward movement in incomes and prices. If single groups of a community are taken into account it will be seen that the savings may be transferred from one to another, in the form of loans. The consideration of particular cases, however, does not affect the general problem.

On the other hand, if it is not possible to induce individual producers to take the Spartan decision of destroying all surplus goods—since owners of reserve stocks always cling to the belief that the fall in prices is temporary and, sooner or later, a revival of trade will enable them to obtain even higher prices than before—a certain amount of savings will also be necessary in order that the surplus goods may be purchased. This purchase will be made either in one single transaction, at a fixed price for the whole amount; or by degrees, the price being determined in each case by the average price level which, being adapted to the cost, can be maintained in that particular market.

So long as former accumulations of savings are still in reserve, the necessary allocations for this purpose may be made with facility. When they

become exhausted, the cost of the production still carried on must be reduced so far as to allow a margin capable of covering, not only the expenses for the maintenance of unemployed factors of production, but also the amount necessary for the purchase of such goods as have been produced in excess of the *new* equilibrium. It may be definitely stated, as a general rule, that *it is solely the saving of those who continue to produce*, or who accumulated reserve funds in former times, which to some extent neutralises the errors of the rest of the community and retards, or arrests, the recession of prices. The essential point is that it should be "real" saving—that is to say, saving obtained by an *effective reduction* of costs or previous accumulation.

In this phase of the business fluctuation, which has very acute political and social repercussions, the State usually intervenes, raising large sums by means of taxation or voluntary loans. In the case of taxation, it appears as if the country pays nothing for the use of the saving ; but all the phenomena relative to the incidence and diffusion of taxation take place. With regard to loans, the nation pays interest to the owners of the saving which it borrows and, similarly, the phenomena of readjustment may be observed. Any enquiry into the various results of this phase would lead to subjects far remote from our present purpose, which is to ascertain the conditions necessary for ending, or curtailing, the recession of prices.

5. DIFFICULTY OF FULFILLING THE CONDITIONS
NECESSARY FOR AVOIDING OR CURTAILING
THE PERIOD OF RECESSION

There are, however, many obstacles to the fulfilment of the conditions necessary for putting an end to the period of recession and developing the rational policy by which the crisis may be brought to a close.

In the first place, it is difficult to ascertain the extent to which each separate firm has produced goods in excess of the quantity absorbable, at current prices, at any given moment. It is also difficult to decide precisely when the aggregate income ceases to show an increase in one direction sufficient to counterbalance the decrease in another, due to the first reduction of output by a single firm. In the third place, it is difficult to determine how far prices will fall as a result of the first reduction of output by a single firm, and subsequent reductions by others, as they became necessary. It has been already pointed out that the duration of the recession depends upon the promptitude with which the factories reduce their cost of production.

Again, even if these data could be obtained, it would still be no easy matter suddenly to restrict the various forms of production to such an extent as would bring the supply into equilibrium with the lowest level of prices compatible with the flow of incomes arising from the production that is still carried on. Such drastic action would deprive of their means of subsistence a large number of persons engaged in productive industry, while for many

other reasons, both social and political, it would be inadvisable.

Finally, it is difficult to obtain possession without delay of all the real saving necessary to arrest the fall of prices, assuming that the crisis extends to various countries in which the costs of production are not being steadily reduced.

Only at the end of a period of recession is it noticed that certain firms, faced by a deficit in the balance-sheet, have cut down their production and thus reduced the aggregate flow of incomes, seeing that there were no corresponding increases in the market. It can be observed, also, that, in consequence of this cutting down of production, a certain amount of saving must be devoted, in some form or another, to the maintenance of unemployed workers and the reabsorption of surplus goods. It can be definitely stated that the whole community is compelled to fulfil these conditions. As, however, it is impossible accurately to foresee the future state of the market, the necessary conditions are fulfilled, after a certain time, by the whole community, in opposition to what appears to be the only rational policy, during the lowest phase of a cycle, *if only* it could be carried out. That is to say, the community fulfils the above conditions after many "errors" due to inability to estimate the supply that should be produced, taking into consideration the state of the entire market.

As a matter of fact, the proceedings of single firms must necessarily be erroneous, even during this descending phase. Being unable to decide the

CRISIS POINT AND RECESSION OF PRICES 59

level of the cost at which it is profitable to produce and the level of the price at which the goods should be sold, they endeavour in this phase also to reach an equilibrium *by means of experiments*. Indeed, the whole period of recession represents this search for an equilibrium through *errors* which, even in this phase, may take the form first of "defect" and later of "excess," as opposed to a reasonable course of action which can be determined beforehand.

6. ERRORS OF DEFECT AS REGARDS THE NECESSARY REDUCTION OF OUTPUT IN CONSEQUENCE OF A DEFICIT

It is very probable that, even in cutting down production, a manufacturer may commit an error of defect, i.e. *he may fail to reduce it to the extent demanded by the deficit*. Or, he may make no change, under the mistaken impression that he is thereby protecting the interest of the factory.

Thus, for example, even though he may realise that the cost exceeds the sale price—which he cannot increase—he may possibly continue to produce at the same rate as before owing to an exaggerated fear of spoiling the market, or even in the expectation of an improvement in prices, which blinds him to the changed conditions of the market.

At first sight it may seem that the errors of defect in the reduction of the supply are likely to lead to a correspondingly slighter reduction of incomes and of the general price level. But if, meanwhile, the costs continue to increase *in at least the same proportion* as during the period prior to the deficit,

each delay in reaching a decision as to the course to be pursued adds to the gravity of the factory's situation and leads in course of time to a far more sweeping reduction of costs.

Statistics constantly show that, after the first recession of prices, the supply of the *finished* goods does not diminish in proportion to the decrease in the demand. This is due in part to reasons already given, and also to the fact that the prices of the factors of production do not fall at the same rate. The price of raw materials falls rapidly, so that the inventory value of the factories is also reduced, seeing that it includes the raw material purchased, or ordered, in the time of prosperity, as well as the stock of manufactured goods ready for sale. On the other hand, salaries and other items of expenditure for which there is a long-term contract are less affected by the fall of prices. Hence the production of a factory diminishes with greater or less intensity, according as the largest items of expenditure are those which may be reduced with less or greater facility respectively: that is to say, in the first case the factory continues to produce in larger quantities, committing errors of defect in the reduction of costs.

It often happens that a firm maintains its output, even when the returns do not cover the *prime cost*, because it considers that it would incur heavier expenses by remaining inactive for a certain period, taking into consideration the maintenance of expert workers and the managing staff in the present and the resumption of business relations in the future.

CRISIS POINT AND RECESSION OF PRICES 61

Again, as has been already mentioned, even if a manufacturer contemplates definitely retiring from business, owing to the deficit in his balance, he may carry on his production as before until the returns cover the average cost—not indeed of the production already in hand—but of other possible undertakings which the sum acquired from the liquidation of his plant might enable him to enter.¹

In reality, the price which leads to the diminution or suspension of a firm's activities differs greatly, in relation to the costs, from that which induces it to offer its goods on the market or to enlarge its plant. The last-named must at least cover the average cost of a first application of factors. The former may not for some time cover the average or even the marginal costs. This is the reason why, during this phase—unlike the characteristics of an upward phase—the firms desiring to remain on the market do not “discount” the fall of prices, and therefore do not immediately contract to the degree necessary their production of consumers' goods and their orders for instrumental goods. Before making a choice among the various courses open to them, they continue to produce goods which swell the existing stock. In this case, also, the error naturally leads to certain results. The costs are likely to increase out of proportion to the continued production; the longer the delay in reducing them, therefore, the greater will be the necessary reduction when it is made. Should the entrepreneur elect to

¹ See also the present writer's book *Variations di costo e sviluppo dei cicli economici*. Sampaolosi, Rome, 1929, pp. 55-57.

reduce costs by reducing output, rather than by re-organisation, this reduction also will be greater in proportion to the time which elapses before it is effected.

Finally, firms may commit other errors of defect under the pressure of political interest. The working classes have the right to live during a period of depression : it is not just that they should suffer for the mistakes of others. It therefore happens that, either directly or owing to measures taken by those in authority, private firms continue to produce, even though the working day may be shortened and the profits negligible. The remedy for this economic absurdity is the awarding of *bonuses* and *indemnities* to such undertakings, in the most varied forms and naturally at the charge of the State, as would also be the grants allotted to the unemployed and the public works initiated for their benefit.

All such expedients as bonuses, public works and grants are intended to add temporarily to the flow of incomes and so lead to an increase in production, or at least to the absorption of the commodities already manufactured. But in order to form a just conclusion as to whether these expedients fulfil their purpose, or whether they resolve themselves into errors of defect, as regards the cutting down of production and, even more, of costs, it is necessary to take into account the sources from which the funds are drawn.

Whether the sums employed in any form of relief represent saving on current or on past production,

CRISIS POINT AND RECESSION OF PRICES 63

the level of incomes is temporarily raised. The injections of "real" saving make it possible to extend productive activity, or at least to absorb part of the unsold commodities. But, when the firms are encouraged to increase their activity, the cost of production, *if not reduced beforehand*, tends to increase in at least the proportion which, either in the firms under consideration or in others, resulted previously in a deficit. Scarcely, then, has the direct or indirect demand of the State ceased, than the excess of costs over the reduced prices reappears. The temporary remedy only causes the situation to become more acute. The saving devoted to bonuses, public works or grants must be regarded as lost, except as regards that part which has taken some concrete form of public or private utility. The error of over-production, increased by State intervention, leads to errors of defect which, in their turn, result sooner or later in an even more serious fall of prices, unless costs are reduced before factories are encouraged to increase their activities.

If, on the other hand, the funds are drawn from the current incomes of citizens in the form of taxation, the result is practically the same, while the object of increasing the aggregate income of the community is not even temporarily attained, since taxation in this case only means taking a certain proportion of the income of some groups in order that it may be given by the State to others.

7 ERRORS OF "EXCESS" AS REGARDS CURTAILMENT OF SUPPLY

As opposed to errors of defect, there may be an "excess" in the curtailment of supply, either on the part of those particular factories which were at first inclined to abstain from reducing their output, or of persons engaged in other occupations

The psychological element is a powerful factor in increasing the reduction in incomes and prices during a descending phase. A slight fall in the price of raw materials may lead to a much more serious drop in the value of plant and stock, since it causes the apprehension of a future decrease in the sales

Those who buy short are especially sensitive to alarmist rumours and, as soon as there is any weakness in quotations—either of commodities or securities—the purchaser endeavours to dispose of the goods thus emphasising the downward trend.

Even those who would be inclined to pay cash for their purchases follow the natural inclination to wait until the price has reached the minimum, although it is impossible to know when this will happen or what the minimum will be. This delay, however uncertain it may be, retards the sales and causes the prices to fall more rapidly than would otherwise be the case

Finally, speculators who operate on a large scale may deliberately cause a fall in prices, in order that they may repurchase either commodities or securities at advantageous prices.

CRISIS POINT AND RECESSION OF PRICES 65

The result is that the reduction of output and incomes continues for a longer or shorter period according to the gravity of the errors of "defect" or "excess" in the reduction of the supply, or, in other words, according to the magnitude of the individual interests involved, the pressure of the working classes—which renders the elements of cost more or less inelastic—and the organised action of speculators.

The reduction in incomes and prices, as also the increase during the upward phase of a cycle, takes place *gradually* as the result of errors due to the variations of cost and price. Errors do not spring from the action of any particular firm but of all those on the market. The upward phase represents the attempt to correct the error of an insufficient output. In the course of this attempt other errors are committed for which individual firms are only partially responsible. The result is an excess of supply over demand and, consequently, a change in the trend of incomes and prices. The downward phase, on the other hand, represents the attempt to eliminate the excess of costs as usual, by cutting down production. Since these successive reductions of output affect the level of incomes to an extent which cannot be foreseen, in the actual elimination of costs they may lead to a course of action which errs either by "defect" or by "excess." But the reductions of incomes and prices continues step by step until a point is reached at which the costs are adjusted to the reduced prices. At this point the costs are distributed in the form of incomes, the spending

of which serves to arrest a slump in prices and to maintain the level which has been reached.

8 DEFINITION OF BUSINESS FLUCTUATION

An industrial cycle—or, more precisely, a business fluctuation—may be defined as the development of a series of errors in the supply of a product, first of defect and subsequently of excess, originating in an event favourable to production

It may happen that, after the completion of a wave, the event which caused it continues to influence the profits. In such a case, if a second favourable event should lead to a second wave, this wave (or cycle) tends to develop on an ascending curve of profits and prices, as compared with the first.

Similarly, if there should be any deterioration of the social or the purely productive organisation during the progress of the first wave, for political or economic reasons, with destruction of wealth and more or less manifest losses, and if, in the meantime, a favourable event should lead to another wave, this second wave would tend to develop on a descending curve of profits and prices.

The trends of longer duration appear to be due to the action of events the influence of which extends beyond the descending curve of the shorter industrial wave and modifies its natural course, whether upward or downward. The wave of the longer fluctuation does not rise to so great a height and is more extensive, because the influence of the favourable event which gave rise to it, although continuous, is gradually weakened by other influences brought

CRISIS POINT AND RECESSION OF PRICES 67

to bear upon it. But even the longer wave may be regarded as due to a series of errors committed by factories which do not realise the *intensity*, the duration, or the overlapping of events influencing production, and therefore do not succeed in adjusting the supply to the demand, even during the longer period.

We will not touch here upon the repercussions which a business fluctuation produces in countries having trade relations with that in which the disturbance actually occurs, whether or not the situation is aggravated by tariff restrictions. The position may be complicated *ad libitum*.

CHAPTER V

INFLUENCE OF THE MONETARY AND CREDIT ELEMENT ON THE DEVELOPMENT OF AN INDUSTRIAL FLUCTUATION

I. TYPICAL EXAMPLES OF THE INFLUENCE OF THE MONETARY AND CREDIT SYSTEM

THE points dealt with so far show that errors may arise independently of any action on the part of banks, and may lead to progressive upward or downward movements in incomes and prices. The industrial fluctuation cannot, therefore, be regarded as a phenomenon due chiefly to the system of credit. Even when this element does not enter into the situation, errors connected with the incalculable dynamics of costs and prices are still found to be the predominant factor.

The probability that errors may be committed by entrepreneurs in the most varied branches of industry, in their attempts to adapt the supply to the possibilities of absorption, increases according to (a) the extent and unexpectedness of the fluctuation between costs and prices, as caused by more exorable event ; (b) the number of industries able ever this difference is felt ; (c) the complexity is gradual relationship (instrumental, complementary

or substitutional) between the additional goods produced and those already on the market. It will be readily understood that in this network of connecting links the disequilibria must necessarily be multiplied.

But this further stage of the theory which explains the crisis and the industrial wave must be built on definite facts capable of being expressed in numerical terms, so that there can be no doubt that we are dealing with practical realities and not with abstract arguments. It is necessary, therefore, to bridge over the last gap by means of concrete facts or, in other words, to consider the cyclical development as it occurs in countries where money may be obtained in various forms and a system of credit exists. Only in that way is it possible to decide whether the monetary and credit element exercises a definite influence on the origin, as well as the development, of an industrial fluctuation and, if so, in what manner.

In post-war literature there is considerable exaggeration on this point. In order that illusions may be dispelled, it is desirable to examine economic activity as carried on under three distinct monetary systems: (1) the pure "gold standard" system, i.e. the circulation of gold, or notes readily convertible into gold; (2) the "managed gold standard" system,¹ which allows an internal circulation of notes and also makes use of gold (or of bills or other forms of credit) for payment in other countries; (3) the paper money system, which

¹ This includes to some extent the systems of "gold bullion" and "gold exchange standard."

enforces the circulation of inconvertible notes. In such cases the analysis will determine whether the monetary or credit element can in itself produce the favourable event which originates an upward phase, or, if not, whether it is capable of influencing the development of the business fluctuation.

2. UNDER A PURE "GOLD STANDARD" SYSTEM AN INCREASE IN THE QUANTITY OF GOLD TENDS TO BRING ABOUT AN UPWARD PHASE

As regards the first and second systems above-mentioned, which are based on the circulation of gold, it is evident that the monetary element may itself produce the favourable event, should it happen that an ever-increasing amount of gold is obtained from the mines. Those who export goods and labour from gold-producing countries obtain in exchange an increasing quantity of gold, with which it is possible to purchase goods and labour on their own markets. If the total of such goods and labour remains unchanged, their price will increase.

It is possible to follow this movement from the first person who handles an increased quantity of gold, i.e. the exporter in the gold-mining country, to the last person who sells certain goods in the country under consideration, i.e. the person who, selling his goods at higher prices than before, extends and eventually completes the diffusion of the increase in prices. This last seller, however, although he may obtain a high price, does not profit in the same degree as the first exporter, since a general increase in prices has taken place on the

home market during the interval between the first and the last transactions.

It is well known that the increase of prices is not uniform with that of costs. Indeed, the *temporary* existence of differential profits, which render the production of certain goods more profitable than that of others and so lead to an extension of the supply of the more lucrative goods, arises from the disparity between the cost of production and the increased market price of the goods.

The greater availability of gold is thus tantamount to an increased demand for commodities, the prices of which will, in consequence, rise automatically. When this increase becomes very considerable, as compared with the increase in costs, while at the same time a first application, or subsequent extension, of productive factors does not *entirely* exhaust the additional profit of the increased production, the result will be a *progressive* increase in the remuneration of those engaged in the work. There will also be a *progressive* increase in the prices of various commodities, according as this additional remuneration is devoted to the purchase of such commodities. It is evident, therefore, that the rising wave, the crisis and the depression may be experienced in precisely the same manner as has been described in the hypothetical case of a country in which there is no banking system.

It is obvious that the action of the increased quantity of gold will be felt, sooner or later, in all countries which have commercial relations with the gold-producing country. In each of these countries

it may be of longer duration than the industrial fluctuation which it has caused, and may eventually lead to more prolonged ascending and descending movements.¹

3 UNDER THE "GOLD STANDARD" SYSTEM THE TOTAL AMOUNT OF LOANS GRANTED MAY NOT EXCEED THE LIMITS FIXED BY THE RESERVE FUNDS

Apart from the case of the increased production of gold, it is necessary to consider the influence of the credit system on the development of the industrial fluctuation, in regard to the "pure gold" and also to the "managed" standard.²

Under the "pure gold" standard, the element

¹ In Cassel's well-known Geneva studies on gold (*L'offre de l'or, Rapport provisoire de la Délégation de l'or au Comité Financier*, 1930, p. 73 et seq.) he is entirely in agreement with this view when he states that, during the nineteenth century, the prolonged cycle of prices depended on the production of gold which, in that country, was the predominant factor in the variations of the general level. But this dependence does not arise from the simple statistical correlation traced in the study referred to above. Close reasoning is necessary in order to arrive at this conclusion, since the production of gold constitutes only one of the events which may lead to a cycle of long duration.

² It is well known that a pure gold coin standard is characterized by the following conditions: (1) equality of each country's monetary unit with a given weight of gold; this equality being maintained by the ready convertibility of coinage into gold, or vice versa, i.e. the free fusion of coinage or the conversion of metal into coins, (2) the free international circulation of gold, (3) the constant equality in exchange of monetary units (gold parity) of the different countries, (4) connection between countries which adopt gold as coinage, in the sense that, assuming the purchasing power of the monetary unit to be constant in terms of gold and in terms of other gold currencies—although the purchasing power in terms of goods, and hence the general level of prices, may vary—the variations in the general level of prices tend to occur in the same direction.

of credit exercises no influence on the *beginning* of an upward phase because loans are not granted by banks *until an event favourable to the production of certain goods has already taken place*. This is perfectly logical. Banks which are responsible for the loans, and are guided by sound business principles, prefer to entrust capital only to those who appear capable of using it to the best advantage and repaying it in due course. On the other hand, private entrepreneurs are induced to negotiate loans and expand their production only when they anticipate profit on such a scale as to justify them in so doing.

It is true that the Central Bank may lower the discount rate to such an extent, and grant loans at so low a rate of interest, as to reduce the cost of production and thus bring about a favourable difference between cost and price, or, in other words, increase the profits. By this means the entrepreneur is enabled to obtain land, capital and labour on profitable terms, seeing that he can borrow capital at a low cost. Without taking into account the psychological factors, which have considerable influence during a period of depression, it must be assumed that the Bank, in order to grant these loans, must have at its disposal a large amount of gold, as would be the case during an increased production of gold, or as happened to certain countries after the war, e.g. the United States. This superabundance of gold, however, does not occur under a genuine "gold standard" system, with the free international distribution of gold, since one of the advantages of this system is that the quantity of

gold in each country is adapted to the requirement. All the gold in excess of this amount finds its way to other countries and adapts itself to the demand by means of continuous importation and exportation. Thus the Bank's policy of lending at a low rate of interest could only be carried on during a brief period and could never constitute the favourable event which would originate an upward phase.

As regards individual firms there is undoubtedly a danger in connection with the amount of the loans granted by the Bank. So long as only a small amount is lent, such as would naturally have accrued to any given firm, the intervention will only serve to facilitate the saving, without producing other results of any importance. But if the Bank—for the sake of profit and disregarding the situation of the market and the factories—should grant larger loans to individual entrepreneurs, it sets in motion a productive activity beyond that degree which can be profitably carried on by them. The result of bankers' intervention is that, even when the output of a factory no longer covers the costs, funds are provided to enable the entrepreneur to pay for the factors of production and thus maintain their output on the same scale as before. Hence, as regards separate factories, there are good grounds for the opinion that, under the conditions indicated, credit facilities tend to increase the errors and accelerate the deficit.

This, however, is a consideration which applies only to individual firms. With regard to the entire market, this danger does not exist under the "gold

standard" system. The Bank is always limited by the quantity of gold at its disposal or, in other words, by the necessity of *maintaining a reserve*, either in compliance with the law or in accordance with ordinary business principles¹ Thus, if a

¹ The note convertible into gold represents an obligation on the part of the Issue Bank to pay at sight to bearer the sum indicated, just as a cheque represents a corresponding obligation on the part of a deposit bank, whatever differences there may be between the two demands for payment, or between the functions of an issue bank and an ordinary deposit bank. Any person who has deposited a sum in these banks is entitled to demand notes or draw cheques, as the case may be, during the period for which the loan is granted.

The situation of borrowers in regard to the bank is identical with that of the original depositors, whether they have previously deposited other securities—bills of exchange, shares, bonds, etc., as guarantee—or whether, having opened a credit on the base of a simple verbal promise, they occupy the position of creditors in regard to the bank for the sum lent them and, leaving it on current account, may gradually avail themselves of it as if they had previously deposited a corresponding amount, which they were entitled to draw upon during the period covered by the loan.

In this way the present-day Bank is the organ which continuously "creates" deposits, i.e. continuously declares itself a debtor towards those who deposit cash, or securities readily convertible into cash (*effective deposits*), and equally towards those to whom it has granted loans for a certain period, during which they have a current account in the bank (*fictitious deposits*). Assuming a system of full exchange of notes into gold, however, both Issue Bank and others are only able to grant loans in notes or cheques—in other words, to create credit—within certain limits.

According to the working of the present system the limit, whether automatic or governed by ordinary business principles, is reached as soon as the Bank has to make use of its reserve in order to meet the demands for payment, whether made by original depositors or by borrowers. The ordinary Bank exhausts its reserve of notes. If, then, the notes are taken to the Issue Bank for conversion into gold, the gold reserve of the Issue Bank becomes exhausted. In such a case as this, the monetary system of the "Gold Standard," as it existed before the war, is exemplified.

larger loan be made to certain firms, thereby increasing their errors, smaller loans must be made to others. This immediate "check" may be seen to be another advantage of a "gold standard" system, in addition to that of adjusting the supply of gold to the actual requirements

4 UNDER THE GOLD STANDARD ANY DECREASE IN THE PROPORTION BETWEEN RESERVE FUNDS AND LIABILITIES INCREASES THE LENDING CAPACITY BUT DOES NOT PRODUCE INFLATION

It is true also that, when the mechanism of credit is fully developed, every bank may for a time grant loans in excess of its available reserve funds. Furthermore, every lessening of the fixed proportion between reserves and liabilities tends to increase this faculty ¹

¹ Thus a bank may take into account that the clients to whom loans are granted do not always avail themselves *immediately* of the *total* amount of the loan which is placed to their credit on current account. As a matter of fact, a tacit understanding is established between the bank and the borrower by which notes are requested, or cheques drawn, in a measure *determined* by the requirements of the latter. The Bank, therefore, estimating this measure with much accuracy, accumulates as reserves for the loans granted, not the whole amount of the effective deposits which remains after making due allowance for withdrawals, but simply a percentage of this amount which, in its turn, is utilised as "reserve" for covering withdrawals on account of the loan.

Consequently, whatever still remains of the original deposits after deducting this twofold "reserve" percentage, may be devoted to further loan operations with clients whose business methods are identical with those of the borrowers referred to above. The possibility of the Bank granting and raising loans is much increased, but inflation will not occur, simply because the borrowers do not avail themselves immediately of the whole amount to which they are entitled. Thus the circulation of notes or cheques is less than would be expected in comparison with the loans nominally granted.

The capacity of the Bank to grant larger loans may be due

Inflation, however, does not take place when the Bank negotiates loans with persons whose financial position is undoubtedly sound. When the loan matures, the borrower repays the notes or cheques which were withdrawn, these having been in circulation in the meantime and played their part in business affairs. On their return to the Bank the "fictitious" deposits are annulled and the frozen capital becomes liquid. Should other loans be negotiated at the same moment, a flow of notes or cheques takes place, this tending to adapt itself to the current demands of the market.

Inflation is likely to occur when bills discounted

less to the policy of the borrowers than to the credit mechanism, particular circumstances or preferences of the public. As part of the credit mechanism may be mentioned the "clearing" system, which reduces the need for reserves.

Among the cases in which each loan *does not always* imply a decrease in the available reserve may be mentioned one to which Keynes attaches much importance, viz that of loans granted to clients who are debtors to the *effective* depositors of a bank (*A Treatise on Money*, Vol I, p. 26). In such a case, the amount which lies idle in the Bank, in reserve for loans, becomes liquid and available as soon as the effective depositors receive payment and, consequently, increase their deposits by the amount of such payments.

Among the preferences of the public may be mentioned that for deposit accounts. The necessary proportion of reserve funds varies according to the nature of the deposit, that for current accounts (demand deposits) being larger, e.g. 9 per cent, while for deposit accounts (time deposits) it may perhaps be only 3 per cent. Thus, when the public manifest a preference for deposit accounts, it is to the interest of the Bank that this preference should be encouraged as much as possible, seeing that two-thirds of the reserve formerly maintained for the purpose of covering current account deposits are released. Thus it becomes possible to grant loans for proportionately larger sums (F. A. von Hayek, "Reflections on 'The Pure Theory of Money' by Mr. J. M. Keynes," *Economica*, February, 1932, p. 34, footnote).

by the Bank are not met when they fall due and, consequently, are renewed, when credits are not disposed of at the expiration of their term, when advances to the Government, which should be refunded from the revenues, cannot be liquidated owing to the inadequacy of these revenues. In such cases the notes or cheques issued do not return to the Bank for cancellation, but remain in circulation. Being in excess of the goods for which they may be exchanged, they tend to depreciate in value.

But, so long as they circulate exclusively on a fiduciary basis, as they do under a pure "gold standard" system, the owner—whether depositor, borrower, or a third party—can always present them at a bank for conversion into gold, just as the owner of a cheque-book can always demand from the bank the payment of his deposit in convertible notes.

The reserve of the Central Bank, in all its forms, is a prompt and automatic corrective to any excess in the means of payment. Inflation disappears in proportion as the reserve enters into circulation. Beyond that point, unless there is very skilful manipulation, the Bank becomes insolvent.

In no case, therefore, can the credit element serve to raise prices and thus produce the favourable event which leads to the upward phase. Similarly, it can have no lasting influence on the development of the business fluctuation until banks support the error by granting unduly large loans from their reserve funds. Hence the influence of the credit element on the origin and development of an economic

fluctuation is—at least under the “gold standard” system—almost negligible

5 IN ALL COUNTRIES THE GOLD STANDARD IS MODIFIED UNTIL IT BECOMES A “MANAGED” GOLD STANDARD

A simple fiduciary circulation, i.e. a pure gold standard, such as was conceivable before the war, no longer exists in any country. Gold is not in circulation, but safely housed in the vaults of the Issue Banks, its place being taken by a mass of credit instruments, which has everywhere increased to an extraordinary degree¹ in proportion to the increasing demands of industry and trade. This stupendous need for money, as compared with the scanty supply of gold, has made it necessary to exercise the utmost economy in the use of this metal.

As regards *international relations*, the “gold standard” has been modified in a corresponding degree. Those States which, after the war and the consequent period of inflation, addressed themselves to the task of restoring their currency, were first confronted with the problem of stabilising its purchasing power in terms of gold and of other gold currencies, and subsequently with that of adopting a system under which gold would be excluded from internal circulation and the demand for it limited.

¹ In the most important countries, such as Great Britain, the total value of credit instruments now in circulation is ten times greater than it was in 1850, while the gold has increased scarcely two and a half times. In other countries the situation is practically the same.

The most suitable systems appeared to be those under which, in addition to abolishing the right of private persons to receive coin from the Mint in exchange for gold, the convertibility of notes into gold coinage should also be abolished, except in cases of payments due to other countries. In these cases notes would be convertible into gold bars, as under the gold bullion standard, or into bills which, in their turn, would be convertible into gold in the country of issue, as under the gold exchange standard.

The disadvantages of these systems, however, as had been anticipated, soon became apparent in practice. In the first place, those countries which had linked their currencies with sterling were more seriously affected by the fluctuations in its purchasing power in terms of gold or of other gold currencies. Furthermore, those which had in their possession notes convertible into bills were influenced by these fluctuations to convert the bills themselves into gold, or some other form of cash, in the country of origin, thereby causing a rapid outflow of large quantities of gold from those very countries which were financially the soundest. Hence the Central Banks of these countries were compelled to exercise an increasingly rigorous control over the available gold, as also over the home market, in order that the inflows and deflows of gold should no longer affect the mass of credit instruments on the market, more especially notes and cheques. Without such control even slight variations in the gold reserve would soon lead to serious

inflation or drastic deflation, thus rendering practically impossible any development in the economic life of the country

This control, or "sterilisation" of gold, was necessarily increased as a result of the *political conditions* which prevailed after the war, involving the payment of reparations otherwise than in kind and the settlement of inter-allied debts, and of the *technical conditions* under which many nations have attempted to restore their currencies¹, some selecting a high, others a low standard of stabilisation, but all establishing an artificial difference between the purchasing power of their currency at home and abroad. The gold naturally flowed into the creditor countries, as also into those which adopted a low level of stabilisation, such as the United States and France respectively. In the others, owing partly to their immediate requirements and partly to their anxiety with regard to the future, gold was actively forestalled for the purpose of increasing the reserve, and, once obtained, was jealously guarded.

In pre-war days, when it happened that a quantity of gold in excess of the demand flowed to a country, the result was an increase in the means of payment, a rise in the general price level, and also the importation of goods and services from countries in which they were cheaper. At the same time the reserves of the Central Bank were strengthened, and it was thus enabled to lower the discount

¹ Cf. P. Jannaccone's lucid article, "Il Problema dell'oro," *Nuova Antologia*, 16 October, 1932.

rate and facilitate financial operations of all kinds with debtor countries, thereby saving them from the necessity of putting their products on the international market at any price. The automatic functioning of the gold standard system, as well as the inclination of each country to utilise its surplus gold in the form of loans, led to the redistribution of gold on the international market, either in payment for imported goods or as loans.

After the war the United States and France sterilised large quantities of gold, thus rendering them negligible as a basis of credit, increasing the scarcity of gold and, in a certain measure, contributing towards the fall of prices. With the object of safeguarding themselves from any possible invasion of goods or services cheaper than their own, these countries have introduced high tariffs and evinced a decided, and to a great extent unreasonable, desire for isolation.

In this way, owing to *political and technical* conditions, the automatic functioning of *internal* relations between gold movements, credit instruments, and the general price level has ceased. As regards *international* relations, price mechanism—by which merchants imported goods from other countries and paid in gold rather than in bills, whenever the cost of bills exceeded the “gold points”—has been destroyed. In many cases even the device of raising the discount rate in order to attract gold from other countries has been rendered practically ineffective in consequence of the intense desire of every country to retain its gold.

Thus, as regards relations with other countries, the Central Banks, having acquired control of the credit circulation, encourage the importation and exportation of gold by means of direct buying and selling, marked variations in the discount rate, and operations on the open market their object being to ensure relative stability in the exchange rates. As regards the *home market*, since notes are no longer freely convertible into gold, the Central Banks seek to neutralise the effects of manœuvred gold currents on the circulation of credit instruments and price levels.

6 EVEN UNDER THE "MANAGED GOLD STANDARD"
 LOANS ARE NECESSARILY LIMITED, AND PLAY
 NO PART IN CAUSING A BUSINESS FLUCTUATION

The conviction that Central Banks have the power of raising or lowering price levels, according as they increase or diminish their loans, possibly arises from the fact that they have the power of sterilising gold—no difficult matter, since it is only a question of withdrawing it from circulation—and that there is now no free international flow of currents which would adjust the amount of gold in each country to its actual requirements. Some authors, therefore, believe the Central Bank to be capable of contributing directly towards averting a downward phase.

This theory, however, is open to dispute. Not even under a "managed gold standard" can the Bank grant loans at its own discretion. In the first place, if it is guided by economic principles it

cannot discount bills at a rate below that which it pays as interest on deposits. On the contrary, it is compelled to maintain a higher level of interest on loans granted to entrepreneurs. The reason is that the Bank must be in a position to advance, at some future date, the working capital required for the maintenance of those plants which are now resuming or extending production by means of loans already granted. Also, it must be prepared, in the event of the profit being inadequate, to advance the sums required for the amortisation of these plants.

It follows, then, that the minimum rate of interest on loans granted by the Bank must always exceed that which the reserve renders possible, and must show a continual variation. Not even under the "managed standard" can the mere fact of a fall in the discount rate lead to so great a reduction in costs, and consequently to so great a divergence between reduced costs and stationary prices, as to bring about the resumption of activities.

Assuming that the divergence is felt *temporarily*, the question arises whether any person who resumes or intensifies production on this account can know how long the low rate of interest will be continued. If his costs should increase, has he any assurance that his bank—and, indeed, the banking system of the whole country—will reduce the rate of interest so far as to *neutralise* the diminishing divergence between rising costs and stationary prices? Furthermore, who can foresee the *minimum* rate of interest and the *maximum* extent of credit which

will be necessary in order to favour production of various kinds ?

Consequently, the utility of resuming or extending such production must remain doubtful. Abundance of means, made possible by the low rate of interest, constitutes a condition favourable to an upward phase, but it does not eliminate that element of insecurity which so strongly influences the actions of business men. All these considerations would be more or less openly taken into account by them and, however irrational they might be, they would not expand their production simply because the Bank, for the moment, was granting loans at a low rate of interest.

Correlatively, if the Bank can neither reduce the discount rate to any great extent, nor grant important loans, neither can it exercise a lasting influence on the average general price level. It may, however, in defiance of sound economic principles, grant loans to persons who do not repay them at the time fixed, thus raising the price level. It is true that notes, even if they depreciate in value, cannot be freely converted into gold and thus do not directly affect the gold reserve. The increase of prices on the home markets, however, leads to an increase in importations from other countries where the goods are cheaper. The demand for foreign bills becomes more marked, in consequence of the increase in the mass of notes, and this demand weakens the exchange quotations of the national currency until, finally, the Government is compelled to intervene in order to protect it. This interven-

tion takes the form of disposing of the bills which, equally with the gold, are included in the Government's reserve funds. In practice, therefore, even under the "managed standard," and when notes are no longer freely convertible into gold internally, the Bank is bound to refrain from reducing the discount rate, and also from granting loans, beyond the limits consonant with its reserve. By no possible means, therefore, can the Bank bring about a favourable event which will avert the downward phase.

What, then, would be the consequences of pursuing a policy of very easy credit, regardless of all considerations to the contrary? There being no genuine circulation of bills, loans obtained from the Bank would be invested, not in labour, machinery and raw material, but in Treasury bonds and other Government securities, which would therefore increase in price. The Government would therefore be enabled to profit by reducing the interest payable on other securities.

Taking into consideration the low level of industrial and commercial activity during a phase of depression, the proceeds from the sale of securities would not be invested in productive activity. Whether it were prudent or not, persons who sold their Government securities would reinvest the proceeds in industrial securities yielding a higher rate of interest. They would naturally choose, first, the most reliable investments and, subsequently, those that were less sound. Finally, little by little, private entrepreneurs would follow the example of

the Government and replace old bonds, at a high rate of interest, by new loans on better conditions. New shares and bonds would be issued. The Stock Exchange would show signs of revival and enthusiasm. In America, for example, during the first months of 1932 securities rose to about 120 per cent of their value. Here, however, the effects of easy credit would cease except in the event of forced expansion, and this would endanger the stability of the national currency.

It is certainly difficult to grasp the reasons for diverting funds from Stock Exchange speculation, in which at least a certain profit might be expected, to industrial undertakings in which the profit was very uncertain owing to the fact that low prices were expected to prevail for a long period. The incentive to expand production must have originated in a rise in prices which, in the circumstances under consideration, must, in all probability, have been due to one of the following causes:

1. A reduction in taxes, resulting from the conversion of Government debts and the lessening of the burden of the interest payable thereon. But no budget has ever been balanced as the result of the conversion of securities and, even in such an event, no Government would immediately cut down taxation. No examples of such an action are to be found in history. In any case, the reaction on private incomes of such a reduction would be too remote and indirect to lead to an increase in the demand for any commodity and hence to an in-

crease in its price. This reason, therefore, may be dismissed.

2. The expectation of an increase in prices might be traced to the profit realised by private firms in which certain liabilities had been replaced by others less heavy. This reduction of costs, however, is usually trifling in comparison with the total liabilities of a firm, and does not provide a satisfactory reason.

3. The profits arising from fortunate speculation might possibly lead to an increased demand for goods and services, and thus to an increase in prices. It is true that considerable sums were acquired in this way, but they were limited to groups of bill-brokers and financiers. Hence they were not diffused extensively enough to lead to a decided increase in prices of general commodities.

4. Finally, the initiation of public works might be the reason. But however large might be the Government's demand for goods or labour, it scarcely serves to reduce, in any appreciable degree, the unemployment which is so serious a burden in all countries.

If, therefore, no rise in prices can be traced to any of these causes, there was no reason why the funds of the banks should flow towards production, become redistributed in the form of increased incomes and, by means of the expenditure of these additional sums, lead to an increase in the demand for many commodities and a corresponding increase in their prices.

7 EXAMPLES OF THE RESTRICTED INFLUENCE OF CREDIT ON THE GENERAL PRICE LEVEL

The above arguments find their confirmation in facts. An upward phase has never been caused by credit, whether under the "gold standard" or the "managed standard" system.

If we turn to the past and consider the countries under the "gold standard" which have had wide experience of the credit system, e.g. the United States, we see that, from the time of the serious depression of the post-war period until 1928, the loans and investments of all the banks have increased continuously, at a more rapid rate than that of the commodities to be exchanged. This is shown in Table 1 of the Appendix to this Chapter.

As a matter of fact, the figures also show a progressive increase in bank deposits, *parallel* with the increase in loans. This parallel movement points to the conclusion that the quantity of goods increased at a lower rate than the mass of monetary means, from the moment when a large proportion of such means was left idle at the Banks. In spite of the increase in monetary means, the general level of prices showed no decided tendency to rise during the period of 1921-28, as will be seen by Table 2 of the Appendix.

In 1928 the price level corresponded to that of 1921. The fluctuations which occurred during this period may be attributed, according to a very detailed study which appeared in the *Federal*

Reserve Bulletin,¹ to changes in the prices of raw materials, more especially in those industries in which the supply of producers' goods is not adjusted to the demand. The question of credit plays no part in this matter.

During the shorter period 1928-30 no decrease is apparent in the loans and investments of the Banks. Thus, at the time of the collapse of the shares of the New York Stock Exchange in 1928, large sums formerly employed in speculation were thrown on the market. But even this mass of monetary means did not serve to avert a collapse in prices, or even to prevent its gradual increase.

If we take the case of Great Britain—which provides an example differing in many respects from America—the doubt as to the value of credit, as a remedy for depression, will increase. After the revaluation of sterling there occurred in England an uninterrupted series of difficulties and obstacles in connection with trade and industry. The effort of pursuing a difficult line of action, however, has not prevented the mass of monetary means from exceeding the demands of the market. British statistics, indeed, show a continuous tendency on the part of depositors to increase their time deposits and deposit accounts. The abundance of means of payment did not prevent a heavy fall in prices between 1929 and 1930. The reason is obvious. The available saving was not invested in industry, which was under the incubus of serious deflation and offered

¹ "Recent Changes in the Wholesale Price Level in the United States," *Federal Reserve Bulletin*, May, 1931, p. 172 *et seq*.

no attraction in the form of assured profits. Neither, for the same reason, can it be invested in production in other countries while the depression continues and no favourable event takes place. Thus, in England also, the Banks were compelled to invest their available funds, more or less directly, in Government securities and Treasury bills, owing to the lack of the usual financial operations connected with productive activities.

An expansion of credit occurred more recently, when the British Government abandoned the gold standard. After September, 1931, the price of British goods increased by about 8 per cent. as compared with their former level. It was necessary, however, to limit the inflation in order to prevent too severe a reaction on the exchange value of sterling. The increase could not be maintained and, after a short period, there was a fall in the general level of wholesale and retail prices, as also in the cost of living.¹ (See Table 3)

The same conditions may be observed in France. The inflow of gold, which has lasted over three

¹ It cannot be said that deflation took place during the year July, 1931-July, 1932 (see Tables 4 and 5). The circulation of notes has increased, as also the volume of bills and bank investments. Bankers' deposits at the Bank of England have increased by £16,000,000 sterling, while the various rates of interest have been very moderate. Even the price of British goods has fallen although, taking into account the devaluation of sterling, it should have increased considerably. The difference between the price level which they might reasonably have been expected to reach, and that which they actually attained, was in favour of exportation, so far as this is possible in view of the protective barriers raised by other countries and by Great Britain itself. This proves that not even here has the abundance of credit led to a decided increase in prices.

years, could not be entirely "sterilised" and has produced notable changes in the mass of securities, though in varying degrees. From 1929 onwards, however, there has been a decided downward trend in the general level of wholesale and retail prices, as also in the cost of living.

When we come to the present moment and consider the results of a policy of credit on a large scale, as carried out in the United States, we find little difference. The formation of the "Reconstruction Finance Corporation" in October, 1931, is one of the principal outcomes of this policy. By the end of June, 1932, this institution had granted loans to the total value of \$805,150,000, of which barely \$76,000,000 has been repaid.¹ This is inflation, in the true sense of the word, since the loans, once granted, remain in circulation. Mention should also be made of the purchase of securities by Federal Banks, on the open market, to the total value of \$110,000,000, the passing, in July last, of the "Federal Home Loan Act," by which the use of other classes of public securities was authorised as guarantee for the issue of National Bank notes, and thus the circulation of additional notes to the value of another milliard dollars was rendered possible², the activities of the Banking Bond Con-

¹ "Second Report of Reconstruction Finance Corporation, *Federal Reserve Bulletin*, August, 1932, p 481

² In virtue of this measure, securities to the value of \$3,763,000,000 may be used as guarantee for the issue of notes. The maximum value of such notes must not exceed the amount of paid-up capital belonging to the Issue Banks, which amounted in June, 1930, to \$1,569,000,000. As there were already in circulation notes to the value of \$652,000,000, a further \$917,000,000 could be issued.

sortium, and, finally, the operations of the "Commodities Finance Corporation," established on 9 August, 1932, for the purpose of extending credit to purchasers of goods. It will be seen, therefore, that, in a relatively brief period, one of the most comprehensive programmes of expansion on record was carried out.

So far, only the Stock Exchange has been affected. There was an increase in unemployment during July and August, 1932. The weekly reports issued by the Banks continue to show a decided contraction in discount bills and investments relating to commerce. Goods and passengers are needed for the railway transport industry, rather than capital, either fixed or liquid.

It is true that the fall in price of certain raw materials has ceased during recent months, an upward curve having, indeed, begun (see Table 6). It will be seen from Table 7 that the *visible* stocks show a continuous increase from 1928 onwards; hence the increased price is not due to a larger demand, but to a cut in the supply, due to the fact that the greater part of production is controlled as a safeguard against over-supply and subsequent depression, in the event of a continuous rise in prices during a long period.

It is reasonable to conclude, therefore, that, even under a "managed gold" standard, the Banks can neither raise the general price level, nor lower the cost of production, to such an extent as to produce an industrial fluctuation in the one case, or to remedy trade depression in the other. They may

possibly influence the development of the economic wave, once the upward movement in incomes and prices has been started by *other events*, and this influence will make itself felt in proportion as the Banks retain control of the exchange and the Government, by means of tariffs, hinders the importation of foreign goods by those who wish to avoid paying the high prices of the home markets. Under these conditions a certain degree of inflation *may* take place, within limits which have been frequently indicated in preceding chapters, and certain factories may be encouraged to produce on a larger scale than is profitable. Even under the "managed standard," however, these phenomena do not attain considerable proportions over the entire market, and the influence of the credit element on the development of the cycle is always limited. The contrary opinion of many writers, and of Governments who yield to the pressure of interest, is thus disproved by facts.

8 UNDER THE SYSTEM OF FORCED CURRENCY, CREDIT MAY BE THE CAUSE OF AN ASCENDING PHASE

The possibility of inflation, when the Government authorises the issue of inconvertible notes by the Central Bank, is an entirely different matter. Such an issue generally implies the insolvency of either the Bank or the Government. In the latter case it means that the Government is unable to repay the loans granted by the Bank, which may be due to various reasons, e.g. the outbreak of war, when

the reserves of the Bank are appropriated by the Government, and its creditors within the country are paid in paper money.

The inconvertibility of notes lent to the State must obviously be extended to notes lent to private persons, in order to meet the exigencies of commerce. Hence, side by side with an inflation on account of the State is an inflation on account of the market. The Central Bank is relieved of the obligation of maintaining a fixed relation with the reserve, and the only restriction to its issue of notes is a maximum value, usually large and susceptible of increase. The public arrive at the conclusion that the obtaining of loans depends on the strength of political pressure. The loans, therefore, which the Government devotes to the remuneration of its contractors, as well as those granted to private persons, serve equally to increase the demands for commodities of the most varied nature and thus lead to an increase in prices. That is to say, they may constitute the favourable event which leads to the increase of production and thus to an upward phase of incomes and prices.

The Issue Bank has to meet only a trifling charge for the printing of inconvertible notes. Hence it may allow itself the luxury of granting them, in the form of loans, to persons who will find repayment difficult. While maintaining a low discount rate, it can supply entrepreneurs, within a short period, with all the saving they require, and the entrepreneurs always end by demanding more than is necessary.

When saving is scarce, it is indeed difficult to estimate the precise amount which should be devoted to the expansion of production, when it becomes abundant, the difficulty is increased to an enormous degree. The facility with which credit may be obtained does not encourage restraint in this direction, but tends rather to cause negligence in effecting all possible economies in the original plant. However prudent the entrepreneur might be, he could not have the necessary contacts with owners of saving, or be in possession of other information, which would enable him to ascertain whether saving is really plentiful. From the moment when the Banks become its sole administrators, supreme within certain limits, they can increase its availability at will.

In raising a loan the entrepreneur can also claim that he is acting with foresight. Once the upward phase has begun, a larger amount of money is undoubtedly required in order to carry on the same amount of business. He is influenced also by the desire to provide himself with funds while interest and discount rates are low, since it is impossible to say what will happen to-morrow. Furthermore, when a rise in prices is expected, it is desirable to work for the reserve stock as well as for the market, in the hope of selling the stock so accumulated at a high price. Hence the demand for loans increases and the issue of notes continues. This demand is also increased for other reasons, beyond the requirements of the moment.

Such reasons may be the desire to avoid a possible

depreciation of the note, which would involve the depreciation of the loans obtained on advantageous terms. The entrepreneur therefore invests part of the loan in new plant, which has the advantage of increasing in value so long as the upward phase continues. Another reason for raising loans is that an increase of fixed capital necessitates an increase in the working capital, since a given proportion between the two factors must be maintained.

Under a system of inconvertible paper money, therefore, business concerns tend to assume unduly large proportions and to accentuate those errors which are associated with an upward phase.

9. THE CONTINUOUS ISSUE OF INCONVERTIBLE PAPER ACCELERATES THE PROGRESS OF COSTS AS COMPARED WITH THAT OF PRICES

The mistakes and omissions of individual factories in the extension of their output lead to errors in all directions. The failure to effect all possible economies in the working of the original plant, together with the inferior organisation of labour which is bound to accompany the hurried extension of a business, leads to an increase in costs more than proportionate to the additional activity.¹ Secondly, the maladjustment in the supply of producers' goods becomes more marked from the moment that the demand for the expansion of fixed capital follows the movement of credit, and appears to be very considerable. The disequilibrium between supply and demand increases, and adds to the burden of

¹ Cf the present study, preceding chapters, especially Chap II.

costs. Thirdly, errors in the calculations of each factory occur more frequently now that there is a general expansion of production, in the hope of higher prices. All entrepreneurs seek to make profit by the simple means of borrowing to-day a certain amount of saving which may be repaid to-morrow in depreciated currency. At the same time, the reckless output on the part of continually expanding factories has the effect of lowering the price to an extent which cannot be estimated beforehand, and thus leads entrepreneurs into fresh errors. The combined mass of these errors continually increases the progress of costs as compared with that of the market prices. We thus arrive at another conclusion. In order to ensure the continuation of productive activity and defer the beginning of the crisis, loans are granted by the Bank; but this is not sufficient. These loans must be granted to each firm in such a measure as appears, *a posteriori*, more than proportionate to the increase in the selling price, so that, in the meantime, it covers the varied and irregular progress of the costs, as occasioned by the above-mentioned errors. If the costs should increase so rapidly that, in certain firms, the injections of capital by the Banks do not cover them, and if, at the same time, there is no increase in the incomes assured to the community from other sources, these firms will find it impossible to maintain their rate of production, in spite of the fact that the Bank has issued, and continues to issue, large blocks of notes. When this stage is reached, it may be said that the crisis has begun.

As a matter of fact, it is not so much the amount of a loan, at any given moment, which is of importance to a firm, as the succession of loans for the purpose of remunerating the productive factors, and thus maintaining the prices of the most varied commodities, by means of the circulation of the incomes thus provided. From this consideration also it may be seen that the principal cause of the economic fluctuations is not the credit system, but the different rates at which the cost of production and the selling price increase.

The weakness of Keynes' recently expounded theory regarding the crisis lies in its disregard of the differential and unpredictable dynamics of cost and price ¹

10. UNDER A SYSTEM OF INCONVERTIBLE PAPER THE TREND OF PRICES IS VERY IRREGULAR

The excess of cost over price is more probable under a system of inconvertible paper than under the "managed gold" standard. In the first place, it is due to the isolation of the country from international monetary currents and also to the greater variability of the exchange rate, which increases the element of risk in all trade relations. In the cost of many imported goods is included, therefore, a heavy premium for insurance against the depreciation of the national currency in terms of other currencies. This premium varies according to the subjective valuations of importers, which no competition can equalise.

In the second place, the cost may suddenly in-

¹ J. M. Keynes, *A Treatise on Money*, Vol. I, Part I, pp. 183-4.

crease at a more rapid rate owing to the variability in the prices. Under a system of inconvertible paper these rise and fall suddenly, at irregular intervals, as may be seen from the comprehensive statistics issued in this connection. According to a theory which is very useful for the study of the relations between home and foreign prices, this may be explained by the fact that paper money, is at the same time, the medium of exchange and a credit instrument for the public debt. Hence, while it is subjected to those fluctuations in purchasing power which always accompany inflation, it is also affected by the fluctuations in the value of securities.¹ As an example of this twofold influence, mention may be made of the fact that a fall in the level of prices may be caused by the hoarding of paper money in the country, or by a large demand for it abroad, as the result of a movement of confidence. The lack of confidence leads, naturally, to the opposite result. Hence that feeling of distrust which is immediately reflected in the fall of the exchange rates reacts on the *cost* of the product, causing it to rise. Confidence, which is more directly reflected in the buying up of paper money, reacts on the *price* of the product and depresses it. Both distrust and

¹ "The variation in value due to an increase in the amount of money in circulation may be described as an objective phenomenon of quantity, automatically affecting prices. On the other hand, the variation due to the daily traffic in public debt securities is a subjective phenomenon, and arises from the opinion of the investors, which varies from moment to moment, from place to place, from person to person"—A. De Viti De Marco, "La Finanza Straordinaria," Appendix to *I primi principi dell'economia finanziaria* Sampaolesi, Rome, 1932

confidence cause variations in the two limits of profit and may facilitate the unexpected emergence of costs as compared with current prices.

In so unstable a position, a factory which is in danger cannot be saved by fresh issues of paper money. Long before the prices on the home market have increased, the new mass of notes may lead, after movements of distrust, to a further collapse of exchange rates and an increase in the cost of many imported articles, such as raw materials and other instrumental goods.

The Bank, finally aware of this danger, safeguards itself, therefore, by suddenly raising the discount rate in anticipation of a heavy increase in the demand for loans. This raising of the discount rate is regarded by many as the cause of the crisis. But such a conclusion may be described as mistaking the shadow for the substance. The monetary phenomenon is always a reflection of disturbances in business. When they finally reach a climax the Banks realise the futility of giving further help in the form of credit.

Hence, as a conclusion to what has been said above, it may be stated that the efficacy of the monetary and credit element, as a means of arresting depression, appears to be very slight except in two cases: when gold is abundant and when there is an issue of inconvertible paper. The first is very far from being the present position. The second brings with it numerous misfortunes and, in reality, only adds to the gravity of the situation, even if it temporarily diverts a crisis.

With regard to an issue of inconvertible paper, it may be stated that, when the upward phase has once begun, the granting of loans accentuates the rise in prices and hastens the development of the business fluctuation. But its repercussions on the progress of costs and the rate of exchange are so marked as to increase the severity of the collapse, rather than to limit its effects. In no case, therefore, does inflation afford the means of putting an end to a period of depression.

APPENDIX TO CHAPTER V

TABLE I

TOTAL LOANS, INVESTMENTS AND DEPOSITS—ALL BANKS IN THE UNITED STATES *
(Exclusive of Interbank Deposits)
[in millions of dollars]

Date.	All Banks.			Member Banks.			Non-Member Banks.			Deposits (Exclusive of Interbank Deposits)		
	Total.	Loans.	Investments.	Total.	Loans.	Investments.	Total.	Loans.	Investments.	All Banks.	Member Banks.	Non-Member Banks.
1924—30 June .	45,180	31,523	13,657	27,176	19,204	13,963	18,013	12,320	5,693	43,405	25,711	17,694
31 Dec. .	47,182	32,440	14,742	28,742	19,933	8,813	18,437	12,501	5,929	45,835	27,836	17,999
1925—30 June .	48,830	33,865	14,965	29,518	20,655	8,863	19,312	13,210	6,102	47,612	28,440	19,172
31 Dec. .	50,603	35,640	14,963	30,884	21,996	8,888	19,720	13,644	6,076	49,224	30,029	19,195
1926—30 June .	51,562	36,157	15,404	31,184	22,000	9,123	20,378	14,097	6,281	49,733	30,781	19,925
31 Dec. .	52,818	36,759	15,260	31,642	22,652	8,990	20,376	14,106	6,269	50,029	30,474	19,555
1927—30 June .	53,750	37,360	16,391	32,756	22,938	9,818	20,994	14,421	6,573	51,662	31,269	20,393
31 Dec. .	55,450	38,407	17,043	34,247	25,886	10,361	21,204	14,521	6,683	52,909	32,063	20,846
1928—30 June .	57,265	39,464	17,801	35,061	24,303	10,758	22,204	15,161	7,043	53,398	32,133	21,265
31 Oct. .	57,219	39,671	17,549	34,229	24,325	10,604	22,291	15,346	6,945	53,720	32,138	21,582
31 Dec. .	58,266	40,763	17,504	35,684	25,155	10,529	22,582	15,607	6,975	56,766	34,826	21,940
1929—27 March	58,019	40,557	17,462	35,393	24,945	10,448	22,626	15,612	7,013	54,545	33,215	21,330
29 June .	58,474	41,512	16,962	35,711	25,658	10,052	22,763	15,853	6,910	53,852	32,284	21,567
31 Oct. .	58,833	42,201	16,634	35,914	26,165	9,749	22,922	16,036	6,885	55,180	33,004	22,176
31 Dec. .	58,417	41,898	16,519	35,934	26,150	9,784	22,483	15,748	6,735	55,289	33,865	21,424
1930—30 June .	58,108	40,618	17,490	35,656	25,214	10,442	22,453	15,404	7,048	54,954	33,690	21,264
31 Dec. .	56,209	38,135	18,074	34,860	23,870	10,989	21,349	14,246	7,085	53,039	32,560	20,479
1931—30 June .	55,001	35,384	19,637	33,923	21,816	12,106	21,099	13,586	7,531	51,782	31,560	20,216
31 Dec. .	49,704	31,305	18,399	30,575	19,261	11,314	19,129	12,054	7,084	45,821	27,432	18,389

* Federal Reserve Bulletin, May, 1931, p. 253; August, 1932, p. 489.

TABLE 2

INDICES OF WHOLESALE PRICES IN THE UNITED STATES
(Annual Averages)(BUREAU OF LABOR STATISTICS)
(1926 = 100)

1921	97 6	1925	103 5
1922	96 7	1926	100 0
1923	100 6	1927	95 4
1924	98 1	1928	96 7

TABLE 3

INDICES OF WHOLESALE AND RETAIL PRICES AND OF COST
OF LIVING IN GREAT BRITAIN*(Bulletin mensuel de statistique OF THE LEAGUE OF NATIONS)*

Year	Index of Wholesale Prices (Board of Trade) (Base, 1913)	Index of Retail Prices (Base, 1914)	Cost of Living Index (Base, 1914)
1921	197	230	226
1922	159	176	183
1923	159	169	174
1924	166	170	175
1925	159	171	176
1926	148	164	172
1927	142	160	168
1928	140	157	166
1929	137	154	164
1930	120	154	158
1931	104	130	147
1932 (Jan) . . .	106	130	147
1932 (June) . .	98	125	143

INFLUENCE OF MONEY AND CREDIT 105

TABLE 4
CURRENCY AND BANKING
(£ Million)

	July, 1931.	July, 1932.	Difference.
Bank of England :			
Gold	154 5	136·7	- 17 8
Note Circulation	358 2	367 0	+ 8 8
Reserve	57·5	45·5	- 12·0
Proportion	48 6%	33 8%	- 14 8%
Bankers' Deposits	69 3	85 0	+ 15·7
CLEARING BANK :			
Deposits	1,787·7	1,803 9	+ 16 2
Acceptances	113·0	84·5	- 28·5
Cash	183 0	190 7	+ 6 9
Discounts	281·0	317 4	+ 34 4
Investments	299 5	348·8	+ 49 3
Advances	913 0	836 2	- 76 8

TABLE 5
MONEY RATES *

	July, 1931 (beginning).	July, 1932.	
	%	Beginning. %	End. %
Bank rate	2½		
Treasury Bill tender rate.	£1.19s 9 87d	16s 11 82d	10s. 1 93d.
Market Rates :			
Call money	1½-2	½-1	½-½
"Hot" Treasury Bills	1½-2	½-½	½-½
Three Months' Bank Bills	1½-2	1-1 ¼	½
Bank's Deposit rate (London)	1	½	½

* *Lloyds Bank Monthly Review*, September, 1932, p. 391.

TABLE 6
AVERAGE PRICES *

Commodity	1928	1929	1931	1931 (June)	1932 (August)
Wheat (No 1 Manitoba, Winnipeg) doll. per bushel	1 35	1 34	0 59	0 50	0 56
Cotton (American middling)—d per lb	11 17	10 52	5 92	4 29	6 72
Wool (Queensland scoured)—d per lb	41	26	20½	17	19
Sugar (B W I), per cwt	26s 4½d	22s 9d	19s 11d	17s 9d	17s 7½d
Tea (all saleable in London)—d per lb	16 72	16 25	12 24	7 31	9 46
Petroleum (Kansas-Oklahoma) doll per barrel	1 203	1 231	0 772	0 860	0 860
Tin (London-standard Cash) £ per ton	227 63	203 94	118 11	116 11	148 08
Copper (London-standard) £ per ton	63 73	75 47	38 31	29 91	35 81
Rubber (London-standard, ribbed) —d per lb	10 719	10 250	3 151	1 712	2 906

* Westminster Bank Review, September, 1932

TABLE 7
VISIBLE STOCKS

Commodities	July, 1928	July, 1929	July, 1931	July, 1932
Wheat (Million bushels)	244	351	443	445
Cotton (Thousand bales)	4,962	4,476	7,752	8,205 *
Wool	(Data not available)	(Data not available)	(Data not available)	(Data not available)
Sugar (Thousand tons)	4,764	5,669	8,104	8,069
Petrol (Million barrels)	571	612	587	552 †
Tin (Thousand tons)	25 5	30.3	62.0	61.0
Copper	(Data not available)	(Data not available)	(Data not available)	(Data not available)
Rubber (Thousand tons)	271	301	546	644 †
Tea (Million lbs)	179	239	223	200 ‡

* August, 7,793 † Data of June ‡ August, 202

CHAPTER VI
CONCLUSIONS DRAWN FROM THE
THEORY

I. BANKING OPERATIONS LEAD TO AN INCREASE IN
THE ERRORS OF ENTERPRISES, AND POSSIBLY
ACCOUNT FOR THE RECURRENCE OF UPWARD
AND DOWNWARD MOVEMENTS

THE development of the industrial fluctuation is affected to a more or less marked degree by the Bank's action in granting excessive loans to entrepreneurs and thus facilitating the committal of further errors.

As the Bank relieves the entrepreneur of the difficulty of obtaining capital, placing large sums at his disposal from the moment when he begins to expand his production, the latter is less observant than he would otherwise be in noting the exact moment when his desire for expansion leads him to increase his output to excess. The Bank, therefore, increases the duration of the business fluctuation in proportion to the length of the period of inflation which it is able to bring about, and also according to the monetary system which prevails. It thus increases the severity of the crisis.

Hence the intervention of the Bank plays a part

in the theory which we have formulated in explanation of the error, since the Bank first commits a similar error itself, either in the hope of profit or for political reasons, and then assists entrepreneurs to commit it also. The error, although in no way actually brought about by the Bank, is therefore increased by it, and appears to be a fundamental characteristic of all productive activity. If errors could be eliminated, i.e. if at each moment the supply could be adjusted to the demand, there would be no cause for a cyclical movement, even in countries where banking activities are most widely diffused.

The conclusion we have reached so far—if it be sound—entirely confutes the explanation of the cycle as a phenomenon mainly due to monetary and credit reasons. It also explains why, as far as we know at present, the trade cycle is not limited to the capitalist system, but is common to all systems of production—collective, socialistic or syndical. From the moment that errors arise in the unpredictable dynamics of costs and prices, *it is not a different system of production* which is needed, but *different men* to deal with the situation, i.e. prudent and far-seeing men, capable of dealing with the increasingly complicated network which links the production of the various commodities. This, however, can scarcely be hoped for, either in the near or the distant future.

On the other hand, some light may be thrown on the *approximate recurrence* of the wave movement by the knowledge that banks may cause an

upward phase by means of the issue of inconvertible paper, and may also increase the strength of even a slight "impulse" favourable to production. Admitting the necessity of a preliminary event favourable to the arrest of a revival phase, and admitting also the possibility of fluctuating movements which are independent of banks, there is still ample reason to assume that banks, even when they do not originate the upward phase, exercise considerable influence in this direction.

When a revival phase lasts for a considerable period and no event occurs in the ordinary course which is likely to affect it, the interest of certain groups demands that no effort shall be spared in order that a favourable "event" may be created. The efforts range from measures readily effected by persons possessing political influence, such as an issue of inconvertible notes, the granting of certain loans, or the abolition of tariffs,¹ to those requiring special conditions in respect of persons and environment, e.g. an improvement in methods of production. It is very probable that the combination of these efforts will result in a favourable event of

¹ There is no mystery in the strong pressure which, for some time, the industrial classes have brought to bear on all Governments, in their desire for an increase in the circulation of money. The excessive rigidity of the economic organism, the need for a more "elastic" policy, if there is to be any hope of re-establishing the interests of the entire community, which are now imperilled, is a subject which is often discussed. The problem cannot be put on another plane. It is always a problem of increasing "elasticity" *within the limits of profitable production*, ascertained with precision. If, in the beginning, the means for this production are inadequate, they must be increased; and, as has been shown, credit on easy terms is not sufficient.

some kind, possibly unimportant in itself but, when seconded by banking intervention in the form of adequate loans, capable of initiating a new trade cycle

2 THE THEORY BUILT UP SO FAR IS CONFIRMED BY INDUCTIVE REASONING

The last gaps in the concrete phenomenon having been bridged, the next step is the consideration of the history of the industrial fluctuations in those countries where it may best be studied. Inductive reasoning, which shows the relations between prices and the most varied phenomena—e.g. the production of precious metals—but does not go so far as to explain these relations, which tests theories, but is not equal to saving us from the necessity for them, which accompanies, step by step, the development of a theory on deductive lines, but cannot be substituted for it; here fulfils its last typical function of confirming, not isolated hypotheses and abstract theories, but the entire theoretical structure.

As a matter of fact, it is possible, in the first place, to trace in many countries the relationship between the beginning of an industrial fluctuation and the "favourable event" which arouses the hope of increased profit. It may take the form of an improvement in the method of production, e.g. the construction of railways in 1872, the utilisation of steel in 1882, the adoption of electricity for practical purposes in 1900-07, the invention of motors propelled by oil in 1912. It may also be

CONCLUSIONS FROM THE THEORY 111

a political expedient, by means of which loans are granted to certain industries, as happened after the war through various forms of inflation.

In the second place, it is known that, in the early days of an industrial fluctuation, after a period of revival, only a very small number of firms devote themselves *at first* to the favoured production, and also that the available factors of production are very limited. These facts go far to prove the truth of the hypothesis of a *first* flow of production below the demand and the possibility of progressive expansions of this flow.

When this takes place the number of factories gradually increases, as is shown by the issues of shares and bonds. Productive activity, aided by the Banks, rises to a feverish height, and reasonable measures for effecting all possible economies in the working of the original plant, and so avoiding an increase in costs, are too often neglected. American statistics on the utilisation of plants, which form a valuable contribution to this branch of investigation, show that, during the upward phase, many factories are enlarged, although their output is barely two-thirds of the capacity; and, moreover, after the enlargement, the new plant often produces far less than its maximum output. These additions to costs, which cannot be estimated in advance, appear as diminished production, owing to the fact that all possible profit is not extracted from the capital, seeing that the former waste is continued.

In the same way, statistics of the production of instrumental goods show that not only is it in excess

of consumers' goods in the upward phase, but also in advance, so that the supply of instrumental goods to manufacturers of consumers' goods—or of goods closely allied to them—becomes more and more inadequate. Thus the progress of costs increases as compared with that of prices.

In the last stage of the upward phase a reckless production on the part of competitive firms is shown by the statistics of warehouse and reserve stocks, and this has the effect, sooner or later, of depressing the price of consumers' goods. Finally, when the crisis actually prevails, the fact that all countries feel the necessity of "rationalising" their respective industries can only mean that they feel they ought to remedy what is "irrational," in other words, *errors* committed in large numbers by business firms, though certainly not of deliberate intent. By the most varied manifestations, which it is not possible to enter into here, inductive reasoning confirms the essential points of the theory to a degree almost unhopcd for.

2 THEORETICAL CONCLUSIONS

Thus our theory lends itself more especially to the supplementing of that which ascribes the disequilibrium between demand and supply to "resistance" or "friction" in the adjustment of the supply to the demand: or, to make use of another expression, to the varying degrees of "elasticity" manifested by all goods and services produced. It investigates the nature of the obstacles which impede the uniform progress of productive activity,

seeing that it should be possible to estimate this progress with precision. It harmonises with the theory which recognises the "unequal reactions" of the data of equilibrium to the modifications of the market, as factors in the imperfect adjustment between supply and demand. It explains all the most striking phenomena of the economic fluctuations around a "secular" trend: from the varying progress of the respective curves of consumers' and instrumental goods to the increased disequilibrium which occurs in those countries having the most complicated economic organisation; and finally, to the decrease of this disequilibrium which results from some form of combination—horizontal or vertical—between business enterprises.

The "error" also may bear some definite relation to the general fact that a *certain period of time elapses* between the beginning and the end of a productive process, and that, during this period, the initial data may be modified in such a way as to impede the adjustment between demand and supply in the majority of industries, while at the same time there are no compensatory movements, either in those particular markets or in others. But "time" is a condition which enters into all our actions; it must be taken into account in every dynamic construction. The problem will be more readily solved, therefore, not by a simple reference to this factor, but by examining which of the phenomena arising *in the course* of a productive process causes the disequilibrium which leads to an increase or decrease of the total income.

Thus the conclusions which may be drawn from the points discussed so far appear to be the following :

1. In a country without banks, an upward movement after a period of depression can only be initiated as the result of an " event " which arouses the hope of increased profit . there being at the same time sufficient saving to provide for a first application of productive factors

2. In the case of a manufacturer's production being below the demand, owing to unpredictable circumstances, such as lack of elasticity in the supply of factors of production and neglect of the numerous economies which could be effected within and without the factory, this error may be corrected by successive expansions . Each expansion leads to an increase in incomes and the expenditure of this increase causes the price of many commodities to be raised

3. The adjustment of the supply to that particular quantity of goods which can be profitably produced, as also the continuous equilibrium between production and consumption, is never attained since, in the expansion of activities, the cost finally exceeds the price , the production having been increased in the endeavour to adjust them proportionately. The increase in costs, more rapid than that in prices, is also determined by factors which are unpredictable, some being due to the action or the negligence of the entrepreneur under consideration, and others to the action or the negligence of others connected with him in regard to instrumental, complementary or substitutional goods

CONCLUSIONS FROM THE THEORY 115

4. Moreover, the unregulated supply of any particular product which is put on the market by rival firms tends to depress the market price to an extent which cannot be foreseen. Also the different dynamics between cost and price, which occur in most of the firms in those particular branches of industry which are drawn into the upward movement, lead to production beyond the absorbing capacity of the market. Thus, even during the upward phase, the germs of the crisis may be discerned.

5. When the manufacturer observes the excess of costs over prices he reduces both his production of consumers' goods and his orders for instrumental goods. This involves a reduction in the incomes of a certain group of persons. When this decrease is not counterbalanced by a corresponding increase in the incomes of other groups, the market under consideration reaches "crisis point." The stages are as follows: diminution in the price of goods, the demand having fallen off owing to a reduction of incomes; diminution also in the price of the goods produced by the factory under consideration, which finds that it has a deficit balance and will be compelled to cut down its production a *second time*. Thus there will be a succession of falls in prices, until such time as the reduction of costs is not followed by a reduction of prices but—the costs being permanently distributed in income—serves to maintain them at a given level. The fall of prices may lead to the collapse of firms which have committed no error, since errors committed on a large scale react on all, without distinction. When

the general collapse is arrested, there will remain on the market only those firms which can produce at the lowest costs.

6 It is manifest, however, that in the cost of production still being carried on, there must be included the expenditure, sometimes very heavy, for the maintenance of unemployed persons by means of grants, public works, or any other form of assistance

7. In addition, when the bottom of the depression is reached, a certain amount of saving will be required for the purchase of the surplus goods on the market, in the event of their not being destroyed. Finally, it is in all cases exclusively the saving of those who are still producing, or who have already accumulated a certain amount, which repairs the errors of others and so serves to arrest the fall in incomes and prices, assuming that the flow of this saving continues

8 Not even in the descending period can firms succeed in calculating the level of the cost at which it is profitable to produce, and of the price at which it is profitable to sell. They try to find the mean between the two extremes by attempts, i.e. by committing errors which, even in this phase, may appear first in the form of defective, and later in the form of excessive, production, as compared with the only course which, at the end of a cycle, could be termed "rational."

9 The industrial fluctuation, therefore, may be defined as "the development of a series of errors in production, first on the defective and later on

the excessive side, which have their origin in an event favourable to production." The fluctuation of longer duration may also be regarded as due to the errors of firms which fail to grasp immediately the magnitude, duration and overlapping of such events as are favourable or unfavourable to a country's production.

10. The influence of the monetary and credit element on the beginning of an economic fluctuation is not important, except in two cases of an increased production of gold and the issue of paper money. At the present time it is very improbable that the first case will arise ; while, with regard to the second, recent experience has proved that it involves deplorable economic consequences.

11. Once the upward phase is initiated by one or other of the events mentioned above, or for other reasons, the influence of the credit element varies according to the monetary and banking systems of the country. Under the "managed standard" system the mass of gold can accentuate the rise in prices and the duration of the upward phase, in proportion to the restrictions placed on the conversion of notes into gold ; but disturbances are produced in productive economy which lead to a more rapid increase in costs than in prices. Under a regime of inconvertible notes the mass in circulation invariably leads to an increase in prices, but it causes still more profound disturbances in the productive world, since the hope of saving businesses from collapse by means of new issues of inconvertible notes is futile.

12. The errors of firms, however, are increased by the intervention of banks. They manifest themselves as the fundamental characteristic of all productive activity, as also of the fluctuations which accompany it

CHAPTER VII

SOME RECENT EXPLANATIONS OF THE CRISIS

I. KEYNES' THEORY AND THE REMEDIES PROPOSED FOR THE DEPRESSION

IN certain respects the theory developed in this study, while corresponding with those mentioned above, is opposed to more recent works which offer other explanations of the crisis. It is not possible to make here an exhaustive critical examination, but perhaps a few words with regard to the most important points of difference will not be out of place, as they may help the reader to grasp more fully the significance of what has been said so far.

The outstanding works on this subject—to which many Governments have had recourse for practical purposes—are the monetary explanation of the crisis given by Mr. Keynes and the explanation offered by Professor von Hayek regarding alternations of the length of the productive process, there is also the political aspect, under which the crisis is connected with the instability of the monetary systems and the growth of protectionism.

The explanation which has been given so far

makes it unnecessary to enter into a detailed discussion of Mr Keynes' theory, which is built up with much ingenuity from a very original point of view. In his opinion, as is well known,¹ the upward phase consists in an increase in the price of consumers' goods and the consequent possibility of profit for the producers. He does not consider the manner in which the loans granted by the Banks will affect the productive structure and the cost of production. This conception of the cycle naturally leads to conclusions of the utmost importance.

The first of these conclusions is that, by means of continuous inflation, the upward phase may be maintained for an indefinite period, should the banking organisation so desire. At the same time, the remedy for the crisis is to be found in inflation, which renders it possible for every consumer to purchase goods, whatever may be the successive increases in the cost of production, because the Bank supplies the means for increasing the selling price to an even greater extent.²

The second conclusion arrived at is that the upward phase will last only until loans are no longer granted, seeing that the demand for consumers' goods is maintained by means of loans: or until

¹ "This is not intended as an assertion that the banking system is the only factor in the situation, the net result depends on the policy of the banking system in conjunction with various other factors. But in so far as the banking system is a free agent acting with a definite design, it can, by intervening as a balancing factor, control the final output"—J. M. Keynes, *A Treatise on Money*, Vol I, p. 183.

² This statement is more explicit in *Essays in Persuasion*, p. 148 *et seq.* London, 1931.

the supply is capable of meeting all possibilities of demand. The "boom" will cease, therefore, as soon as the price of consumers' goods shows a sufficient reduction. But this arrest of prices is not necessarily followed by loss for the factory and depression on the market. The preceding profits may well be annulled, but the lowest profit obtained from the sale of the goods may still cover the costs of production. A well-balanced supply is established, however, at the level of this lower price.¹

According to the theory evolved, the first conclusion, i.e. the possibility of perpetuating an upward phase by means of continuous inflation, is untenable. Even on the hypothesis of a banking system under which only cheques are used, *without the obligation of a corresponding reserve*—which coincides to some extent with a system of inconvertible paper²—the loans continually raise the level of prices, but at the same time increase the errors of firms, as has been seen, and accelerating the increase of costs in such a degree that, at a certain point, the costs exceed the selling price of the product. Since this rapid progress of costs is increased, rather than corrected, by inflation, the hope of maintaining production by the aid of fresh loans is bound, sooner or later, to prove futile.

The second conclusion is also untenable. It is obvious that, at the end of the upward phase, the recession of prices and trade depression is bound

¹ J. M. Keynes, *op cit*, p. 289; also Chap XVIII, especially Section 2.

² J. M. Keynes, *op. cit.*, p. 31.

to occur without delay. If it can be proved that, with no possibility of providing against it, the costs may finally exceed the price obtained for the goods, this excess implies not only the elimination of all profit and the expenditure of saving formerly accumulated, but also an economic loss for the factory and a consequent contraction of output. When, therefore, a deficit occurs in the majority of firms on the market, the diminution of the *aggregate* income is inevitable, with all the consequences mentioned above.

| 2. VON HAYEK'S THEORY |

In Professor von Hayek's opinion, the origin of the trade cycle is to be found in the changes of the productive structure or, to speak more precisely, in the transition from a longer to a shorter productive process.¹ This transition takes place when the demand of a large group is transferred from instrumental to consumers' goods.

This theory is built up by means of a very close analysis. Taking into consideration certain conceptions and propositions of Bohm-Bawerk, e.g. the conception of the average length of the productive process and the affirmation that the longer processes result in a larger supply of goods²;

¹ The clearest exposition of this theory is found in *Prices and Production*, G. Routledge & Son, London, 1932.

² Made by more recent critics, Augusto Graziani, *Capitale e Interesse*, Monograph written for the Royal Academy of Moral Sciences, Naples, 1923, pp. 22 and 23, also Studies by the present writer on the "Monetary Theory of Trade Cycles: Relation between Interest and Discount," *Giornale degli Economisti*, March, 1930.

admitting the hypothesis that each productive process for a certain quantity of consumers' goods may be divided into various stages, requiring equal periods of time, so that the length of each process, or the degree of capitalisation, is proportionate to the number of stages; recognising, according to von Wieser's distinction, a twofold category of instrumental goods, "non-specific," including those which may be used in all (or nearly all) stages of production, and "specific," including those which can be used in only one stage (or very few stages) of production; assuming that the continuity of the flow of capital invested depends on the profit assured from each stage of production, Professor von Hayek deals with two hypothetical cases in which modifications may take place in proportion with the equilibrium established at a given moment between the demands for consumers' and producers' goods. Each argument is complicated, at every stage, by the consideration of the banking interest, based on a conception previously formed by von Mises.¹

The first hypothesis is that, given an unvarying mass of money, part of it is diverted from the purchase of consumers' goods and applied to new

¹ "The first effect of the increase of productive activity, initiated by the policy of the Banks to lend below the natural rate of interest, is . . . to raise the prices of producers' goods, while the prices of consumers' goods are very slightly affected . . . But a reverse movement soon sets in; the prices of consumer's goods rise and those of producers' goods fall; i.e. the interest on loans is raised and again approaches the normal rate"—L. von Mises, *Theorie des Geldes und der Umlaufsmittel* Fisher, Jena, 1912

production Hence there is a decrease in the price of consumers' goods and an increase in that of producers', although not in the same degree. The decrease in the price of consumers' goods is generally felt more strongly in those productive stages which are nearest to the finished product, and less in those which are more remote. This does not imply that the prices of producers' goods in the advanced stages decrease in the same ratio as those of consumers' goods, since the fall is checked by the greater demand which arises for all producers' goods, now that a larger amount of saving has been devoted to their production. The decrease in price naturally results in a decrease in profits, this being also more marked in the advanced than in the remote stages. It follows, then, that the manufacturer of producers' goods in the advanced stages will be disposed to curtail his output.

But, as has been said, the increased demand for all producers' goods leads to a decided increase in the prices of those belonging to the more remote stages, and a higher price arouses the hope of greater profit. A larger quantity of "non-specific" producers' goods flows, therefore, towards the remote stages. But the consequent decrease in the supply of producers' goods belonging to the advanced stages tends to cause an increase in their price. Hence, after a longer or shorter period of preparation, the "specific" and "non-specific" productive factors are distributed among the various stages in such proportions as to equalise the remuneration received by factors in each stage. This implies a

tendency towards the equalisation of profits throughout all the stages

Thus the investment of additional saving in productive activity, and less in consumers' goods, results in an increase in the prices of both "non-specific" and "specific" producers' goods of higher stages; as also a decrease on the amount spent in the more advanced stages. If, therefore, the demands for consumers' goods and instrumental goods respectively were formerly in the proportion of, for example, 40 to 80, or 1 to 2, the proportion will now be, possibly, 30 to 90, or 1 to 3.

It should be noted that, with regard to the first hypothesis, the author does not show that the aggregate income of the entire group concerned undergoes any reduction. The factors are displaced in favour of the remote (or higher) stages only because these are more remunerative. The incomes, therefore, are redistributed rather than decreased. Manufacturers of consumers' goods, and of "specific" producers' goods in the more advanced stages, obtain less, while those of "non-specific" and "specific" goods in the higher stages obtain more. The total remains unchanged. It should also be noted that Professor von Hayek offers no explanation of the reason why funds are diverted from consumption and invested in productive activity. It can only be in the hope of realising greater profit, at least in the production of certain goods. A larger supply of producers' goods may be put in hand, simply in view of the fact that consumers' goods, once manufactured, are sold at

considerable profit. Hence, as regards any group of goods, or of industries, which warrants the hope of increased profit, there must always be either an increase in the demand, or a decrease in the cost of production, *prior* to any new injection of saving, that is to say, there must always be a "favourable event" out of the ordinary course, which constitutes the real origin of the displacement

Without, however, entering into any further examination of the theory, it should be noted that, in the author's first hypothesis, *the crisis does not necessarily take place*. In consequence of a larger investment of saving in production, a condition of *equilibrium* could readily be brought about, since the productive factors are distributed in such a way as to equalise the profits of each stage, while, taking into account that there is no decrease in the aggregate income, there is no justification for a general recession of prices

The second hypothesis deals with the case of a mass of money which increases because: (a) the Banks grant credits, the greater part of which are employed in *the purchase of producers' goods*, (b) the Banks grant credits, the greater part of which are employed in *the purchase of consumers' goods*

In the first case, there is a greater demand for producers' goods and for the expansion of supplies in the productive stages, in other words, for transition to longer productive processes. The difference between this and the former case of additional saving is that, in each stage, the price of goods may increase, owing to the larger amount

of money available. This increase may be distributed in the form of larger incomes for those engaged in the production of the goods, taking into account the competition existing among the manufacturers who obtain the loans. But, if the length of the productive process, the additional number of stages, and also the flow of non-specific goods towards the higher stages be admitted, it follows that a point must be reached at which the production of consumers' goods begins to decrease. An increase in price will naturally follow, and this will lead to a movement *in the opposite direction* to that which was started when capital was diverted towards the production of producers' goods, seeing that there is now a hope that the profit on the manufacture of consumers' goods will exceed that on producers' goods. The latter, therefore, will no longer be produced in such quantities as before, while the production of consumers' goods will increase. The course of this movement will be similar to what it would have been had the additional credit been devoted, in the first place, to the purchase of consumers' goods, as in case (b).

What, according to Professor von Hayek, are the consequences of this movement? The increase in the prices of consumers' goods causes a flow of non-specific producers' goods towards the more advanced stages. The manufacturers of such goods in the more advanced stages also receive greater remuneration. Only the "specific" goods of the higher stages remain unemployed, decrease in price, and finally are produced in much smaller quantities.

This, according to Professor von Hayek, explains why, at a given moment, many factors cannot find employment ¹

It is true, he adds, that the Banks may still defer this unemployment until new credit can be found. In this way the supply of producers' goods can be increased, so as to maintain the proportion established between producers' and consumers' goods at the time when loans were devoted to increasing the supply of the former. New loans, however, cannot be granted *ad infinitum* for the purpose of maintaining a fixed proportion through all vicissitudes. A point must always be reached at which the Bank is no longer in a position to grant such loans. Then will come the return to less "capitalistic" production and the number of stages will be reduced. The recurring modifications in the proportion between the demands for consumers' and producers' goods, which the Banks cannot always succeed in eliminating, must inevitably lead to a crisis.

3. OBSERVATIONS ON PROFESSOR VON HAYEK'S THEORY

While fully appreciating the subtlety of the analysis which is here briefly summarised, we must express some doubt as to the *necessity* of a general crisis, even according to the second hypothesis. If it be admitted, as Professor von Hayek implicitly admits when he quotes von Mises, that a fall in the discount rate 'creates' the discrepancy between

¹ F von Hayek, *Prices and Production*, cit , p 87

cost and price, and constitutes the "favourable event" which originates a cycle, it is hardly conceivable that, simply because money is cheap, the production of producers' goods of every description is expanded for the purpose of producing larger quantities of consumers' goods of every description, by means of longer productive processes. (It has been demonstrated, both by arguments and by facts, how improbable it is that a fall in the discount rate could have such an effect as von Mises imagines)

On the actual market, however, the costs and prices of the different goods are not equal. There will always be a group of goods which appear to be more profitably produced than others, and towards this group will flow by preference the funds granted at a low rate by the Banks. Similarly, the production will be expanded, not indeed of all kinds of producers' goods, but of those which are necessary to the increased production of that group of consumers' goods which is sold at the highest profit. The production of such goods will be maintained until it is estimated that the price covers the cost. At this price there is a tendency to establish a supply adapted to the demands of the market.

According to the author's argument, when the increased production of *producers' goods required for a given group of consumers' goods* leads to a scarcity of *other groups of consumers' goods*—with a corresponding increase in price from the moment when the demand for them becomes constant—the

non-specific goods applied to production which was formerly profitable will be diverted towards the production of these other groups of consumers' goods in so far as greater remuneration is expected and obtained from them. Greater remuneration will also be obtained by the producers of "specific" producers' goods in the various stages necessary to the manufacture of these consumers' goods which have increased in price. Only the "specific" goods of the remote stages of the finished products which have decreased in price, as compared with others which have increased, will be unemployed. This, however, is very far from constituting a decrease in the *total income* of the community, and a general recession of prices.

It should be noted also that the flow of "non-specific" goods towards the production of that group of consumers' goods which, owing to their scarcity, have increased in price leads finally to a reduced output of those consumers' goods from which they were diverted. If the demand for these last-named goods shows no decline, it follows that their price will increase; hence, for the second time, they will attract either the "specific" goods belonging to the higher stages, which have been unemployed, or the "non-specific" goods which had been diverted towards the production of those goods which had become scarce. It will now be necessary to increase the number of stages if the supply is to be increased. These movements of productive factors will continue until—as in the preceding case—a redistribution of producers' goods

has taken place, together with the equalisation of the profits assured by each productive branch and, within the ambit of each branch, by each stage supplying goods again found to be necessary to the production of a certain quantity of consumers' goods.

Hence it is inconceivable, according to Bohm-Bawerk's and the author's premises, that as great a mass of consumers' goods, constantly demanded by the market, could be produced through long productive processes with numerous stages as through shortened productive processes with fewer stages

There can be no doubt that, while factors are diverted from one group of goods to another, according to economic principles, i.e. for the purpose of higher remuneration, productive methods should be improved in such a way as to make it possible to suppress certain stages, together with the corresponding "specific" goods, otherwise there will be a net decrease in the aggregate income, with no counterbalancing increase in other parts of the market

This coincidence, however, is not likely to occur. In each case an extraneous event, not contemplated by the author, would be introduced into the productive structure. Hence, even if the hypothesis of an increasing mass of monetary means be accepted, the *inevitability* of a general crisis does not spring from the displacement of productive factors so that they may be employed in more remunerative production. Nothing more important than particular and temporary movements of factors is likely to occur, for a crisis in certain branches of industry

is counterbalanced by the prosperity in others. The possibility of a general crisis, which only arises when a reduction occurs in the aggregate income of the entire community, is confined to the occurrence of some event extraneous to the productive structure. Examples of such events are: an improvement which eliminates the need for certain producers' goods and consequently of the corresponding stage of production, a decline in the demand for certain goods originally produced at greater profit, with no compensating increase elsewhere, or an increase in the rate of interest, owing to the banking situation.

It is interesting to notice that, while this brilliant writer does not deal with the possibility of entrepreneurs committing *errors of excess* in their output, he accounts for the crisis by an explicit reference, towards the end of his work, to a collective error in production¹. He affirms, in fact, that the credits granted by the Bank are employed at first in manufacturing producers' goods of every description in order to increase the production of consumers' goods. As the productive processes become longer, the available quantity of consumers' goods begins to decrease. This is followed by a

¹ "The situation would be similar to that of a people in an isolated island if, after having partially constructed an enormous machine which was to provide them with all necessities, they found that they had exhausted their savings and free capital before the new machine could turn its products. They would then have no choice but to abandon temporarily the work on the new process and to devote all their labour to producing their daily food, without any capital"—F. A. von Hayek, *op. cit.*, p. 84.

reckless return to their production, in order to meet, as far as possible, the demands of the market, which have not varied. Thus the manufacture of producers' goods is interrupted. It must be observed, however, that this collective error, which is due to an entire lack of foresight regarding the marketing and the profits of producers' goods, seems altogether inexplicable.

As a rule, the individual entrepreneur extends his plant in proportion to the margins of profit which he already anticipates, whether on account of the reduction in the rate of interest, or in consequence of any other event. If he should be mistaken in his estimate, the reason is that the cost and price are modified to a degree that could not be anticipated.

But, in admitting that entrepreneurs of *all* instrumental production hasten to extend their plant simply because they can raise loans at a low rate of interest (although there is no prospect of selling goods thus produced within a reasonable time and at an appreciable profit), while at the same time neglecting the production necessary for meeting the normal demands of the market, Professor von Hayek is fully accepting the theory that the crisis is due to the errors of those responsible for the undertaking, though he presents it in an exaggerated and improbable fashion.

To sum up: in the author's chain of reasoning the crisis is imputed to the Bank's inability to continue to grant loans indefinitely, which makes it impossible to maintain the established proportion

between the respective demands for consumers' and producers' goods. He thus gives primary importance to those very "monetary causes" which he himself has throughout carefully subordinated to other and deeper reasons connected with the productive structure.

4. SALTER'S AND SCHANZER'S THEORY

According to other writers, the decisive factor of the present depression is to be found in the political conditions which prevailed after the war. These conditions have had profound repercussions in the economic field, especially as regards the instability of the monetary system of different countries and the growth of protectionism.

Among the many works in agreement with this trend of thought mention may be made of two, viz *Recovery: the Second Effort*, by Sir Arthur Salter, one of the greatest exponents of the League of Nations in the effort to reconstruct Europe, and also *Il Mondo fra la Pace e la Guerra (The World between Peace and War)*, by Carlo Schanzer, formerly an Italian Minister of State. The last named is a scholarly work bearing evidence of careful preparation.

Different as they are in conception and analytical processes, the two works are alike in their critical examination of the factors which, according to the respective authors, have combined to bring about the present conditions. Nor are they entirely at variance with the opinion expressed in the Minority Report of the Geneva Delegation on Gold, which

brings forward, as the preliminary and essential cause of the crisis, the unequal distribution of gold among the various countries. This is an injustice which, like so many others, is aggravated by the question of reparations and war debts.

As a matter of fact, the proposition has no true theoretical basis. In the monetary field it depends on the principle of the "pure gold standard" and the circulation of notes readily convertible into gold. In international relations it reaffirms the advantage of free trade for all countries. It goes so far, however, as to admit that the *violation* of these principles has led to the collapse of prices from which we are now suffering. This statement, too, sounds well in the mouths of politicians and "practical men," who for once find themselves in agreement with theorists in admitting the undeniable influence of these principles upon the life of a nation.

There can be no doubt that monetary disorganisation and hindrances to the freedom of international relations render the course of economic life difficult, reduce the revenues of those countries which raise protective barriers, and also increase the burden of costs to such an extent as to provoke a crisis, as at the present time.

But the recognition of the foundation of these principles, and of the result of their violation, does not imply that a complete explanation is offered as to *how* and *why* economic fluctuations are produced in all times and all places.

It is only necessary to observe the phases of depression in the cycle which began its course after

the war, and to note the "occasional" factors—as political factors must be—which have assumed notable importance in bringing about the depression during the period referred to. Cyclical phenomena, however, have taken place also when there were no such events to account for them, i. e. events extraneous to the economic and productive structure. Moreover, the theory of the above-mentioned writers, although supported by unquestionable principles, is not concerned with the discovery of the recurrent factor which governs the determination of *each* cyclical vicissitude, or the discernment of the mechanism behind the development of the fluctuation itself. It is true, therefore, only within the period under consideration. When it leads to the enunciation of concrete proposals for remedying the present depression, there is no means of proving that the removal of the "occasional" factors which have brought about the present crisis *must* lead to a general revival and a period of prosperity. The reason is that the theory does not take into account the motives for putting into action the mechanism of an economic fluctuation, nor the processes by which this fluctuation is effected.

This explains why, in the proposals of the above-mentioned writers, so little consideration is given, not only to the possibility of giving effect to them but to their practical efficacy, even if the experiment could be made. In this connection, it is perhaps advisable to dispel certain illusions, confining our attention principally to two of the remedies proposed, viz. a return to the gold stan-

dard and the abolition of tariffs, since most of the other proposals either lead up to, or result from, these.

5. RETURN TO THE GOLD STANDARD AS A REMEDY FOR TRADE DEPRESSION

Is it possible to return to the gold standard, as it existed in 1913?

It has been shown that the adoption of a managed standard is not an arbitrary action on the part of Governments and banks, but rather the climax of a process of adaptation to certain conditions. These conditions are in part *objective*, such as the increase of monetary wants and the mass of credit, the absolute decrease of gold in proportion to the increase of the want of money, and the greater inflow of gold to certain countries as compared with others. In part, also, they are *political*, being the result of post-war conditions, such as the hoarding of gold by the creditor countries into which it flowed, the forestalling of gold by other countries for present and future requirements, and also the increasingly artificial distribution of gold as a result of the schemes for the settlement of reparations and war debts. It must also be admitted that, even if the political conditions could be changed, the objective conditions must always remain, necessitating strict economy in the use of the metal. Hence the return to a system of notes freely convertible into gold seems extremely unlikely.

If, however, an international organisation, invested with the power now possessed by the countries

owning the greater part of the gold, were formed for the purpose of regulating the purchasing power of gold in such a way as to maintain the general price level in each country, there would be a return to a managed standard, certainly more rational than that existing at present, but equally far removed from a free and automatic gold standard.

Here, however, is a pitfall. This international organisation may maintain unchanged the general price level, as it exists in each country in accordance with a given monetary arrangement, in which case its value as a means of remedying trade depression will be negligible as soon as it refrains from modifying either costs or prices. Or it may tend to restore lower gold parities, after the depreciation of certain currencies.

The opinion has recently been expressed by the United States of America that a fixed universal standard of the purchasing power of money should be established on a gold basis. This followed immediately on the embargo on gold, the result of the panic of March, 1933, which was due to the excess of loans. Furthermore it is said that the desired object can only be attained by the depreciation of the dollar; that the problems of increasing world prices and creating fresh possibilities of work for men and women who need it are in reality one and the same; ¹ that the American Government intends to facilitate matters for debtors

¹ Quoted from the report of the conversation between President Roosevelt and the Hon. Jung, Italian Minister of Finance, 6 May, 1933

by raising the prices to "such a point that those who have contracted loans will be enabled to repay them, generally speaking, in currency of the same purchasing power as when the loan was granted."¹

It is not easy, however, to believe that the return to the gold standard by international agreement, and possibly preceded by a more or less drastic depreciation of currencies, can afford means of escape from the phase of depression.

In the case of a deliberate depreciation of the dollar only, nothing can be definitely affirmed as to the facility of an industrial revival. If to-day the cost of production exceeds the market price, the currency must be depreciated to such an extent as to eliminate this excess. Should it be desired also to create profit in order to stimulate production, the depreciation must be on a still larger scale. How far would any Government be prepared to pursue this slippery downward path? It is difficult to say. Hence a revival due to the depreciation of the currency is impeded, from the outset, by this uncertainty. It depends entirely on the degree to which the Government feels the necessity of depreciating its currency in view of the cost of production, and on the price level which must be reached in order to admit of a reasonable profit.

The progress of the costs, however, is no less uncertain. In the case of all enterprises which are not reorganised and worked on more economic lines, the revival tends to bring about, sooner or later, a progressive increase in costs such as that which

¹ Speech broadcasted by President Roosevelt, 8 May, 1933.

culminated in their present excess over market prices. What, therefore, may be expected? Will recourse be had to a further depreciation in order again to equalise costs and prices? If a Government periodically avails itself of such a method of covering fresh deficits, the inevitable result will be the annihilation of the currency, while the deficit in the national balance and the balances of private enterprises will remain. Germany, Austria and Poland depreciated their currencies until they were practically worthless, but, in spite of this, they have neither strengthened their economic structure nor increased their capacity for future expansion.

Nor does the hypothesis of the deliberate depreciation of certain currencies only appear more reasonable. When the dollar was definitely dissociated from gold, many currencies linked with it inevitably followed the same course, either by force of circumstances or by international convention. In both cases the exporting industries of these countries would inevitably compete with similar American industries by forestalling the selling markets, their chance of success increasing in proportion to the depreciation of their currency. Furthermore, they would tend to invade the American market which, despite all declarations of a truce in tariffs, would be compelled to protect itself, by means of higher customs duties, from the new "dumping". This would lead to a wave of protectionism throughout the world, since it would be very difficult for any country, seeking to improve its situation by manipulating the currency, to re-

frain from safeguarding its fundamental industries. As regards America in particular, this necessary raising of the tariffs would soon do away with any increase in exportation due to the depreciation of the dollar. It is not possible, therefore, to take up the illogical position of increasing exportation and hindering importation, seeing that imports are in reality payment for exports.

What, then, is the advantage of depreciation? It does not ensure a genuine revival, such as the world needs in order to recuperate. It promises no appreciable increase in the exports of those countries in which it has taken place. It is not even just, since, for the advantage of debtors (although the debts may be those of the Government and public bodies towards the nation) serious injury is inflicted on other classes far more numerous and certainly not less meritorious, namely, workers in receipt of fixed incomes, landowners, and persons in possession of savings. The crisis, which results from a gradual accumulation of errors, cannot be suddenly arrested by monetary miracles.

A further point—and one which is already under consideration—is that, after depreciation has taken place a fixed standard of currency must be re-established by each country. No Economic Conference or international power is capable of lowering the existing gold parities without causing considerable inconvenience. Every country in which the currency is depreciated is faced with a far-reaching problem, viz. the adaptation of its whole economic structure to the new standard of values : an adaptation only to

be effected by means of a *process of stabilisation* which, as is demonstrated by four or five years' experience, must necessarily be gradual and laborious

If, in the anticipated process of stabilisation, the currency is depreciated even to a limited extent, the much desired revival will be greatly impeded. Thus depreciation serves no purpose but that of cancelling outstanding debts and dispelling distrust for the future in regard to contractual undertakings.

It can also be admitted that, within reasonable limits—i e as regards the present purchasing power of certain currencies—legal depreciation is necessary in order to resume a gold system managed by international agreement. But it is quite certain that this resumption, whether or not preceded by the depreciation of the currency, forms only a preliminary condition for securing to a country the amount of money and the elasticity of circulation which it needs at such a period and hence reducing the danger of future oscillations in prices. But it cannot be regarded as an effective remedy for trade depression simply by reason of the fact that depreciation is a convenient resource for Governments.

6. ABOLITION OF TARIFFS

The proposal to abolish tariffs seems perhaps to offer greater hope of success in this respect. It is true that some persons, apparently more practical than others, advocate a *reduction* only, since they desire to retain a certain degree of protection at the frontiers. They affirm that this is necessary in order to assure to the country a variety of products, some

of which could not be obtained without a certain degree of protection, however slight. They claim that it affords a safeguard from "dumping" by other countries, i.e. the invasion of goods at prices so low as to be calculated to destroy competition, either from the country into which they are introduced or from others. In reality such persons wish to retain some degree of protection in order to safeguard the interests involved, from which no Government has ever succeeded in liberating itself. For the purpose of studying the phenomena more closely, however, we will select the most favourable hypothesis and consider the abolition of tariffs—the principle which is attributed with so much pleasure to liberal doctrines. Can it put an end to the crisis and remedy the depression?

Tariffs hinder the flow of products at low prices, therefore their abolition undoubtedly offers immediate advantages to the exporters of goods from foreign countries and the consumers in the country which has established free trade. It is possible, however, that certain classes may be adversely affected by the change.

No exhaustive analysis of the subject is needed in order to show that, if tariffs were abolished, none of the industries which previously enjoyed protection could survive. The country would be faced by two alternatives.

The first is the disclaiming of all responsibility, on the part of the Government, for the consequences of the innovation. In that case there would be serious loss of capital in industries which had

formerly been protected, as also unemployment on a vast scale. This state of affairs would continue until, on one hand, the saving effected by the purchase of products at reduced prices and, on the other, a possible increase in the demand for home products on the part of countries whose exports had increased, led to the revival of these industries, or to the expansion of others. The increased demand for production would then lead to the re-absorption of men and capital. This process, however, is indirect and tedious. In its earlier stages, moreover, the advantages obtained by the abolition of tariffs would be neutralised, if not outweighed, by the losses incurred. Thus the economic revival could not take place in the event of the Government disclaiming all responsibility for the results of the suppression of tariffs.

The second alternative is that the Government should indemnify the industries concerned for their losses in this respect, which at first sight appears more just. The amount required for such indemnities, however, must be raised either by taxation or by loans. In either case, this places on the country additional burdens which may well prove to be very heavy, taking into account the extent of the protected industries. Such burdens may thus neutralise, or even exceed, the advantages derived from the new system.

It is inevitable also that a number of problems, by no means easy of solution, should arise in connection with the payment of the indemnities; while the choice of an unsatisfactory method would only

worsen the situation. It would be easy, for instance, to compensate proprietors and capitalists for their losses, but how could the workers who have lost their employment be compensated? By grants from the Government? By employment in public works? Account must be taken also of all the repercussions caused by the two *opposite* lines of action. How, for example, will the capitalists employ the sums they receive as indemnity, if the country cannot offer profitable production in which they may be invested? For reasons connected with the absorbing countries and the international markets, it is quite possible that the development of such productive activities will be retarded.

On practical grounds, then, the sudden redistribution of wealth which would accrue from the payment of indemnities could not fail to cause an economic upheaval. The protected industries of the principal countries represent enormous sums. It is hardly conceivable that the great coalitions of interests benefited by protection could be easily deprived of their industrial interests, which represent the result of years of work together with generous gifts from the Government, for the benefit of the consumers and the facilitating of a somewhat problematic economic revival.

There is considerable resistance in a strong combination of interests, cemented by habit and prejudice. The ease with which it may be overcome depends upon the inducement offered, in the form of an indemnity, to those who have been deprived of their normal occupations. On the other hand,

a heavy burden is imposed on those who, directly or indirectly, provide the amount required for this purpose, which benefits a class formerly in the enjoyment of considerable privileges.

It is illuminating to note in passing some of the consequences of the abolition of tariffs, since actual examples are extremely rare. However logical a theory may appear to humanity, it is difficult to put it into practice. Thus the science of economics, which is logical, is often diametrically opposed to politics, or the expression of interests and sometimes of sentiments among the less advanced members of the community.

But a close examination of the two remedies proposed is perhaps superfluous, seeing that their application is dependent on one preliminary condition which can only be brought about with great difficulty.

The adoption of the gold standard and the abolition of tariffs alike imply *unanimous goodwill* among all nations, expressing itself in the form of international co-operation for the welfare of the individual and of humanity at large. This unanimous goodwill should first find expression in a disposition to curtail armaments, in order to reduce the overcharged budgets, and to diminish the production of war material—a most unsatisfactory proceeding in the opinion of certain sections of the public.

Unanimous goodwill demands that the problem of reparations and war debts should be settled on the ground of a clear understanding of the debtor

countries' possibilities of payment and the creditor countries' possibilities of absorption, without serious injury to either, although it might involve a sacrifice for all, especially the wealthier countries.

It demands that the atmosphere of insecurity, which for years has been the paradoxical result of a position of so-called "armed security," shall be dispelled; that there shall be a return to the custom of investing capital abroad, as regards creditor countries, which receive greater wealth than they give out; that it shall be made possible for debtor countries to give their products in payment for goods and capital imported.

Too many premises, perhaps! But it is not until these preliminary conditions have been fulfilled that any profitable discussion can take place as to how the mechanism for international payments may be improved by means of an improved "managed" standard; and only then will it be reasonable to cease from hindering the flow of products and capital between the various countries by the gradual abolition of tariffs. Then, also, the unequal distribution of gold will be adjusted, proving itself to be less the cause of the crisis than the *result* of other conditions brought about by the crisis. Already, in fact, the distribution of gold among industrial and financial investments tends to be in favour of the latter, owing to the increase in the purchasing power of the gold coined during a period of high prices. Thus the amount of gold which has been so far concentrated in the United States tends to become redistributed throughout the world, in con-

sequence of the revival of international trade and the different lines of monetary policy.

To state the matter frankly · so arduous is the task of assuring peace in many fields and between many conflicting interests , so unconvincing are the results of efforts to settle international questions of the utmost gravity—(in this connection it is only necessary to mention that liberal Great Britain undertook at Ottawa not to suppress certain heavy duties, within a period of five years, without the consent of the Dominions , also that the adoption of the preferential system between Great Britain and the Dominions has increased the difficulty of lowering the barriers against countries outside the Empire, by means of the most favoured nation clause)—and finally, so doubtful is the practical efficacy of both the remedies proposed, even were it possible to apply them, that the second means of escape appears by no means hopeful.

CHAPTER VIII

PRACTICAL CONCLUSIONS

THE question therefore arises : Is there no other remedy ? Must we remain in the state of depression which prevails at present, until Providence sends a favourable event ? Is this the last word of economists on the subject ? If so, what becomes of the claim that the study of economics is a guide to the fundamental reality, that it clarifies our ideas on complex social phenomena ? At the moment, there appears to be some justification for those who declare that it has been of no practical value since the outbreak of the war. Of what use is any science that does not guide us towards the solution of urgent problems ? Advice, at least, may be obtained from a student of medicine or botany, even though its value in regard to the matter at issue may be doubtful : a general agreement may be reached on a question of hygiene. But what do we find in the economic field ? Rigid with technicalities and argument, uncertain in their analysis of causes, economists have not even the art of formulating theories which appeal to the public. Yet there are so many schools of thought and so many candidates who vie with each other for leadership.

sacrifice of certain local interests, or the uprooting of anti-economic organisations which have gathered, like parasites, on commercial life.

If we pass from the cost of marketing to that of production, we shall find in every factory possibilities of economy. All that is necessary is considerable patience and a certain degree of intelligence.

It is of primary importance that producers and dealers should be able to calculate precisely the cost of a productive process, at least *a posteriori*. The majority of them, however, cannot do so, their nearest approach is to calculate it on the basis of a percentage on the sales. Thus it is not possible to follow the course of expenditure during the different periods of the factory's existence, to obtain up-to-date information of all possibilities of sales on the various markets, or to know the exact total of the so-called economies, both internal and external, effected in each factory. Many people imagine that they are thoroughly acquainted with the intimate working of the factory, while in reality they are entirely ignorant of it. The only means of becoming familiar with all the details of a large factory is the study of the copious information afforded by a carefully collected mass of statistics, obtained by the talent and initiative of the entrepreneur. Unfortunately, however, it is very difficult to gain access to all this information, owing to the desire for secrecy. As a matter of fact, the further the investigation was carried, the easier would it be to deal with extravagance, negli-

gence and defects in the management of the factory. Increased knowledge undoubtedly would lead to a reduction of the costs.

REDUCTION OF COSTS: INCREASE OF PRODUCTIVENESS

In the second place, as has been said,¹ it is necessary to be convinced that economy in the expenditure, without detriment to the product or diminution of the aggregate income, is beneficial to the individual and to the community. We have seen how fallacious is the opinion that a reduction in costs would always lead to a reduction in incomes, and so worsen the situation. If the policy of a reduction of costs were adopted simultaneously throughout the country, on a large scale, it would probably lead to a *temporary* reduction in the standard of living of certain classes, viz. those whose services could be most easily dispensed with under the new conditions. But the sacrifice imposed on the whole community would be less severe, and of shorter duration, than that demanded by any other of the remedies proposed. Moreover, even this sacrifice could be avoided if the reduction of costs were first effected in the manufacture of those goods which have the largest market, since a diminution in their price would be more widely felt than in the case of goods for which there was less demand and would increase consumption.

If, then, instead of compelling banking institu-

¹ See Chapter II, p. 11, footnote.

tions to grant unprofitable loans solely for the purpose of prolonging the existence of certain specially favoured firms, Governments would endeavour to provide credit for undertakings in which all wise economies had been effected, they would encourage retrenchment and facilitate further development on these lines.

In order that these efforts may be fruitful it is also necessary that the currencies should be stabilised and the tariffs reduced. The endeavour to effect wise economies in production accentuates the divergence of the "comparative costs": the essential factor in the development of new currents of commerce¹ Governments should do their utmost to stabilise the purchasing power of the currencies and to enter into negotiations for the reduction of tariffs, more particularly between those States which present wide possibilities of reciprocal outlets for their respective goods. Thus, when the point on which the efforts must be concentrated becomes evident, other remedies will be subordinated to it and assist in bringing about a complete revival.

A solution of this nature, consisting as it does in the development of details of productive technique, must necessarily appear insignificant in comparison with the magnitude of the phenomenon. Such a solution, relying entirely on facts, unsupported by brilliant phrases and holding out no hope of miraculous results, may appear uninteresting. Great upheavals sometimes result from trifling errors. The

¹ This result cannot be hindered by unstable currency or protective policy.

correction of these errors is the entry to the road which leads back to normal conditions. The attention bestowed on apparently unimportant events may lead to the explanation of striking phenomena. Keen and reflective research does not debase scientific study to dull and humiliating drudgery but, on the contrary, serves to illumine it.

Those who are eager to put an end to the depression are confronted by a laborious task. They must reduce costs with the energy which springs from conviction, persevere steadily in this course and, in the new productive activity, avoid errors as far as possible ; at the same time fulfilling other conditions which will not neutralise the benefits obtained. In any case their efforts will not be fruitless. On the contrary they may lead to a new phase of prosperity, especially in those countries where social forces have been seriously disciplined. In this strenuous effort in the direction of economy, in which man's intellect is brought into ever closer touch with the practical work of production, is it not possible that some invention, applicable to many industries, may be brought about, such as an important technical improvement, a substitute for some costly raw material? This has often happened in the past, after a critical period, and such a discovery would bring a reviving breath of prosperity to a depressed world.

For rescue from stagnation, it is always better to look to a continuous effort, which cannot fail to bring about a result, rather than to the application of certain methods proved by history to be unsound,

such as inflation , or to the delusive hope of universal goodwill, which is incompatible with national interests Let us trust, not to others' reasoning, but to our own. According to our own conclusions let us build. The essential dignity of man demands that his greatest conquests and most lasting happiness shall spring from his own inventive and productive energy, rather than from a welter of political interests.

INDEX

In this index an effort is made to introduce various synonymous terms which are common in speaking and writing. For purposes of reference it was not possible to maintain perfect conformity in the text.

- Aftalion, A., 20
Armaments, 3, 146
Ascending phase, see Upward phase
Austria, 140
- Bank .
clearing, statistical table, 105
of England and Bankers' Deposits, 91, 105
of England statistics, 105
Banking Bond Consortium, 72
Banks .
as balancing factor, 4
central, relations with other countries, 83
disregarded for purposes of argument, 8
intervention of, increases errors, 107
Bills of Exchange, 80, 85
Board of Trade, extract from statistics of, 104
Böhm-Bawerk, 122, 131
Bolshevism, 2
Boom, peak of, 47
- Borrowers and Depositors, 75
Bureau of Labour Statistics, 104
Business cycle, see Fluctuation
- Cabiati, A., 28
Capital, fixed :
adds to difficulty of estimating costs, 20-23
and enlargement of a firm, 27-29
increase of, necessitates increase of working c., 97
Capital, working .
obtained from profits of production, 18-19
for maintenance of plant, 84
Capitalism accused of causing depression, 2
Capitalists, compensation of, after abolition of tariffs, 145
Cassel, G., 72
Combination, vertical, 17, 35
Commodities, see Goods

- Commodities Finance Corporation, 93
- Competition
and dumping, 143
and prices, 17, 112
- Corporative system in Italy, 151
- Costs:
and prices, relative progress of under system of paper currency, 97-8
average and marginal, 11
comparative, 154
curve of, 11, 14, 25
estimation of, 22, 23
excess of, over profit, 14
fixed and variable, 23
progress of in relation to that of prices, 22, 40
— cannot be checked by inflation, 121
increased by fall of exchange rates, 100
— speculation, 40
— additional stages in productive process, 31-33
increase with diminishing output, 111
reduction of and corresponding elimination of incomes, 48
— does not necessarily imply reduction of incomes, 153
— as remedy for depression, 150-156
— caused by fall in discount rate, 73
- Credit
control of, by Central Banks, 83
- influence of, on business fluctuation, 69, 72-3, 78, 117
instruments, 79
- Creditors and depositors, 75
- Crisis-point, 47-51, 115
regarded as phase of a cycle, 1, 8, 22, 43
recent explanations of by various writers, 119-148
stages of, 115
the result of a gradual accumulation of errors, 141
- Currency, depreciation of and resumption of gold standard, 142
arguments in favour of d. of the dollar, 138
cannot remedy a crisis, 141
in various countries, 139
insurance against loss caused by, 99
- Currency, stabilisation of levels adopted by various countries, 81
necessary to revival, but gradual process, 141-2
- Currency, forced, see Paper money
- Cyclical development, 69
(See also Business fluctuation)
- Deflation, 81, 90, unfavourable to production, 21
- De Fleury, R., 28
- Délégation de l'or du Comité Financier, Report of, 72

- Deposits, 75-77**
 in United States, statistical table, 103
 increase of, in England, 90
De Viti de Marco, A, 100
Discount rate
 increase in is favourable event, 129
 increased at peak of the boom, 101
 increased in order to cause inflow of gold, 82
 referred to in statistical table, 105
 varied by Central Bank, 73, 81, 82-3
Disequilibrium:
 between supply and demand, 112-13
 caused by resistance, friction, inelasticity or unequal reactions (synonymous terms), 112-13
Dominions, British, 148
Dumping, 140, 143
Duty, see Tariffs

Economists and their critics, 149
Economy:
 external, 17
 internal, 17, 19, 24, 28, 30, 39, 97, 114, 151, 152, 154
 neglect of, 19, 96, 111
Elasticity, 13, 112, 109
Employment, 3
 and cost of production, 54
Errors:
 accentuated by banks, 107-8, 74
 collective, 132-3
 during recession, 58-66
 in classification of factors of production, 22
 in estimation of costs, 23
 — of prices, 36
 — of output, 58-9
 increase of, 39
 psychological element in, 40
Event favourable to production, 8, 68-9
 may be Government loans, under system of paper money, 95
 cannot be loans, under gold standard, 70, 86
Event unfavourable to production, examples, 21
Exchange rate.
 banking operations for purpose of stabilising, 83
 variability under system of paper money, 99
Expansion of production, see Production
Expenses, see Costs

Factors of production
 and favoured industry, 13
 inelasticity in supply of, 17
 difficulty in classification of, 22
 indivisible, 23; divisible, 30
Fanno, M., 32
Federal Banks, see Banks
Federal Home Loan Act, 92
Federal Reserve Bulletin, 90, 92, 103
Fiduciary circulation, 78-9

- Fluctuation (business, commercial or industrial), 3, 4, 6
 and monetary influences, 3, 68, 101, 134
 definition of, 66, 116
 principal cause of, 99
- France .
 and expansion of credit, 91
 and sterilisation of gold, 82
- Free Trade, 135
- Friction, 112
- Germany, 140
- Gold
 basis of monetary systems 138
 bullion standard, 80
 economy in use of, 79
 embargo on, 138
 flux of, 14, 91
 increased supply of, leads to increased demand for goods, 70-1
 outflow of, 80
 the only form of currency, 8
 parities, lowering of, 138
 sterilisation of, 81-2
 Standard, abandonment of by Great Britain, 91
 — as means of avoiding depression, 137
 — pure, 73, 75, 76, 80
 — — automatic functioning of, 82
 — return to, 137, 139
- Goods
 instrumental, complementary and substitutional, relation between, 38, 68, 114
 marketing of, 152
- Graphs, 11, 25
- Graziani, A., 122
- Hawtrey, R. G., 4
- Hayek, F. A. von, 77, 119, 122, 123, 125, 127, 128, 132, 133
- Imports, payment for exports, 141
- Improvement in methods of production, 9, 10, 109, 110, 155
- Income, fall in aggregate, 132
- Incomes
 and prices, 9
 and reduction of costs, 12, 153
 at the peak of the boom, 46
 increase of, in favoured production, 12
 maldistribution of, 151
- Indemnity for losses caused by abolition of tariffs, 144-5 (See also State intervention)
- Inductive reasoning, 16, 22, 27, 31, 110, 111, 152, 153
- Industrial fluctuation, see Fluctuation
- Inflation
 and value of sterling, 91
 and loans under a gold standard, 94
 causes of, 77, 78
 in the United States, 92

- Inflation (cont.):**
 possibility of, under system of paper money, 95, 97
 tends to prolong an upward phase, 120
 unsuccessful as means of putting an end to depression, 102, 156
Integration of industries, 35.
 (See also Combination)
Interest, scarcity of real savings increases rate of, 45
Investments in United States, statistical table, 103
- Jannaccone, P., 81**
Jung, the Hon., 138
- Keynes, J. M., 4, 5, 77, 99, 119, 120**
- Lagging in increase of wages and interest, 17**
- Landowners, their remuneration during periods of recovery, 9, 12**
- League of Nations, 104, 134**
Lloyds Bank Monthly Review, extract from statistics of, 105
- Loans :**
 Government, for encouragement of economy, 154
 granted in order to avert crisis, 98
 importance of a succession of, 99
 ineffective as means of remedying depression, 101
 influence of, on business fluctuation, 69, 72, 73, 78, 117
 — on general price level, 89-94
 limited by amount of reserve funds, 72-6
 contracted by Government for relief purposes, 56
 reasons for contracting, under system of paper money, 94-7
- Managed Standard, 63, 73, 138, 147**
 as it affects prices, 93
 as means of avoiding depression, 101, 137
 characteristics of, 79-83
- Markets :**
 movements of after favourable event, 37
 reorganisation of, by corporate methods, 151
- Marketing of goods, cost of, 152**
- Marshall, A., 17, 35**
Mises, L. von, 123, 128, 129
Mitchell, W. C., 8
- Monetary system, instability of, 136**
- Monetary systems enumerated, 69**
- Money :**
 circulation of, at different periods, 13
 purchasing power of, 10, 72, 79, 80, 81, 100
 rates, statistical table of, 105

Notes

- convertible into bills of exchange, 80
- into gold, 69, 75, 78, 80, 83, 85, 95, 137
- inconvertible, 95 (See also Paper money)

New York Stock Exchange, 90

Operatives

- and abolition of tariffs, 145
- remuneration of, 9, 10, 12

Optimism, 19, 40

Output

- amalgamation of enterprises leads to decrease in rate of, 28
- continually expanded or contracted, 34
- costs of final o. exceed profits, 37, 42
- far-reaching effects of curtailment of, 47, 52
- see also Supply

Paper Money :

- as medium of exchange and credit instrument, 100
- causes increase of entrepreneurs' errors, 96-9
- hoarding of, 100
- issue of, cannot save firms from collapse, 101
- reckless issue of, 98
- see also Notes, inconvertible

Pigou, A. C., 19

Plant, 19, 24

- depreciation of, 30
- enlargement of, 28-9, 111

Poland, 140

Political conditions and depression, 134

— expedients for recovery, 111

— factors among causes of depression, 136

Politics and economics, 146

Practical realities as opposed to abstract arguments, 69

Prices

downward trend of, in England, 91, and France, 92

— — how to prevent or curtail it, 53-6

— — after crisis-point, 51-2

increase of, and depreciation of currency, 138

— not uniform with that of costs, 71

progressive movements of, 3, 6, 9, 10

recession of, see Downward trend

variability of, under system of paper money, 99

variations in level of, in countries under gold standard, 72

wholesale, in United States, statistical table, 104

— and retail in England, statistical table, 104

Producers' (or instrumental) goods

and loans, 133

demand for, in relation to demand for consumers' goods, 123-8

- Producers' goods: demand for, by manufacturers of consumers' goods, 31-3
- Production
 capitalistic methods of, 19
 increased by reduction of costs, 12, 153
 intensifications of, misapprehension as to meaning, 39
 profitable expansion of, 12, 15, 16, 38
 progressive expansion of, 38
- Profits:
 movements in level of, 3, 6, 9, 10
 and final application of factors, 37, 42. (See also Output)
 maximum (graph), 11
 resulting from favourable event and their influence on incomes and prices, 15
 tendency towards equalisation of, through all stages of manufacture, 125
- Prosperity, periods of, 1, 8, 9, 12
- Protectionism, growth of, 134
- Psychological causes for business fluctuation, 5
- Psychological factors:
 during period of depression, 73
 in the increase of errors, 40, 64
- Purchasing power of money:
 and increase of costs, 10
 at home and abroad, 81
 fluctuation of, in paper money, 100
 in terms of gold and in terms of goods, 72, 80
 stabilisation of, 79
- Rationalisation of work as means of economy, 17
 — of industrial structure, 112, 150
- Raw materials ·
 fall in price, 93
 cheap substitutes for may possibly be found, 155
- Reconstruction Finance Corporation, 92
- Recession, see Prices
- Reserve, banker's
 and minimum rate of interest, 84
 corrects excess in means of payment, 78
 necessity of maintaining, 75
 and liabilities, 76-7
 strengthened by inflow of gold, 81
- Reserve Stock ·
 increased owing to error in output, 41
 — in hope of greater profit in the future, 41
 increase of visible stocks, 93, 106
 statistics of, show reckless production, 112
- Resistance (or friction), 112
- Revival, 5, 8, 9, 10
 and depreciation of currency, 139-41
 and abolition of tariffs, 144
 and favourable event, 109

- Robertson, D. H., 5
 Roosevelt, President, 138-9
- Salter, Sir Arthur, 134
- Savings ·
 real, 8
 small amount in hands of
 private individuals dur-
 ing boom, 44
 utilised for first output,
 16
 for maintenance of unem-
 ployed persons, 54
 for purchase of surplus
 goods, 55-6
- Schanzer, Carlo, 134
- Securities, Government ·
 exchanged for industrial,
 86
 as investment for banks,
 91
- Speculation
 profits of, increase the de-
 mand for goods, 88
 reckless, 41
 tends to lower prices, 64,
 and increase costs, 40
- State intervention
 and errors of defect in
 supply, 62
 in form of indemnity,
 bonuses, etc., 62, 63,
 88
- Sterling ·
 depreciation of and its
 effect on prices, 91
 revaluation of, 90
 and gold exchange system,
 80
- Stock Exchange (New York),
 collapse, 90; revival,
 87
- Surplus stock, destruction
 of, 54, 55, 116
- Tariffs, 3, 5, 82, 94, 140, 141
 abolition of, 109, 142-5
 reduction of, 154
- Taxation ·
 during recession, 56
 reduction of, 87
- Treasury Bonds, 86, 96
- Trend of prices
 changed by inadequate
 supply of goods, 21
 of long duration, 66
 irregular under paper
 money system, 99
 secular, 113
- Unemployment
 in United States during
 policy of extended
 credit, 93
 relief of, 54, 55, 88
 result of abolition of
 tariffs, 144
- United States of America
 and gold standard, 138-40
 and sterilisation of gold,
 82
 and depreciation of dollar,
 138-41
 and redistribution of gold,
 147
- Upward Phase
 caused by attempt to cor-
 rect error in supply,
 14-20
 — by increase in produc-
 tion of gold, 70-74
 cannot be brought about
 under gold standard by
 extended credit, 89-94

- Upward Phase (*cont.*) ·
 may be brought about by
 credit under system of
 paper money, 95-109
 Conditions required for,
 16
- Wages increased as result of
 increase in price of
 wheat, 10
- War ·
 its influence on costs, 10
 debts, 3, 135, 140
 political conditions result-
 ing from, 81
- Waves, industrial, see Busi-
 ness fluctuations
- Westminster Bank Review*,
 106
- Wieser, von, 123

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