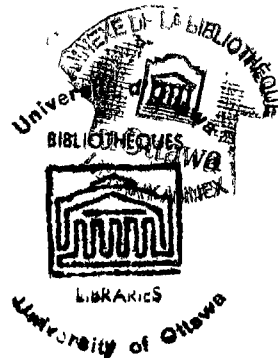


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A TREATISE ON BUSINESS CYCLES

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of Political Sciences of the
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obtention of the Master of Arts
in Economic Sciences.



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INTRODUCTION

It is apparent from the persistence with which depressions occur, from the gravity of their economic and social effects, and from the growing consciousness of that gravity, that our knowledge of the causes of depressions has not yet reached a stage at which measures can be designed to avert them. But, in recent years an exceptional advance has been made in this particular branch of economic science. Today, it may be said, two distinct questions remain to be answered. Have the Governments sufficient knowledge to enable them to avert further depressions? Or, is it that, although the truth is known and recognized, depressions are an inevitable phenomenon in our present economic structure? No one, I imagine, would reply to either of these questions with a categorical affirmative, but at least the categorical pessimism which existed in the early nineteen thirties can no longer be justified. The problem of the recurrence of these periods of economic depression and the cognate problem of acute economic or financial crisis cannot fruitfully be discussed in isolation from the major problem of which they form part, that is, the problem of the business or trade cycle, by which is meant, a wavelike movement affecting the economic system as a whole. It is, therefore, with the major problem that this study is concerned.

On the nature and causes of economic crisis, a very large volume of literature has been published each attempting to expose some new theory and/or facts concerning this phenomenon. The classification of theories on the subject has therefore become difficult. However, the Assembly of the League of Nations in 1930, requested its Director of the Financial Section and Economic Intelligence Service to summarize these different theories. This study was eventually submitted to the assembly in the Annual Report of 1936, offering a classification which it is proposed to follow in this systematic study of the theories of the business cycle.

Following this systematic analysis, it is intended to present a synthetic exposition of the nature and causes of this economic phenomenon. As a general conclusion, it is deemed appropriate to show how the present Canadian Government has through its numerous Orders-in-Council and legislation attempted to avert both an inflation and a severe depression in the early post-war years, and, at the same time, attempt to form a picture of the economic situation at the beginning of 1947.

CHAPTER I

SYSTEMATIC ANALYSIS OF THEORIES

PRELIMINARY REMARKS

Before attempting to expose the various theories of the business cycle, it may be advisable that some remarks on the general logical nature of any explanation of the cycle, and on the mutual relation between various possible explanations, be brought forward.

Such a complex phenomenon as the business cycle which embraces almost all parts of the economic system, does not easily lend itself to explanation of any one factor. Few writers have attempted to put forth only one single factor as the cause of the business cycle or of depression in particular. In fact, explanations which have been founded on the terms of one single cause have been more and more discredited. On the contrary, the majority of modern writers are careful to point out a whole set of factors, and perhaps not always the same combination of factors, contribute towards producing an alternation of prosperity and depression. Basically, the difference between the theories is a difference in the emphasis laid upon the different factors rather than a difference in the enumeration of contributing causes and conditions.

The method to be followed in this exposition is the most logical and natural one. It has been preferred to begin with the less complicated theory and proceed thereafter to the more complicated. Frequently, it happens that the latter covers all the factors on which the former lays stress, while drawing attention to others which the former have overlooked or treated as irrelevant, or put aside by means of a convenient simplifying assumption.

The various theories will be examined, as far as possible, under the following headings:

- I. General Characteristics.
- II. Explanation of the upswing or prosperity.
- III. Explanation of the upper turning-point or the crisis.
- IV. Explanation of the down-swing or the depression.
- V. Explanation of the lower turning-point or the revival.

1. The Purely Monetary Theory

G e n e r a l C h a r a c t e r i s t i c s.-- Money and credit occupy a central position in our economic life. That they play an important part in bringing about the business cycle, either as an impelling force or a conditioning factor, is almost a certainty. During the upswing of the economic cycle the physical volume of production and of transactions grow while prices rise. This means that the money value of transactions rises. During the

depression, the money volume of transactions falls. In other words, the work which money must and does perform follows the ups and downs of the business cycle.

For the Purely Monetary Theorists the trade cycle is a purely monetary phenomenon in the sense that changes in the flow of money are sufficient cause of changes in economic activity, of the alteration of prosperity and depression, of good and bad trade. When the demand for goods in terms of money grows, trade is brisk, production increases and prices go up. When demand falls off trade slackens, production decreases, prices sag.

The flow of money is determined by consumers' outlay. The consumers' outlay comprises not only expenditure on consumers' goods but also expenditure on new investment goods, i.e., that part of consumers' income which is saved and invested.¹

T h e U p s w i n g .-- The upswing of the trade cycle is brought about by an expansion of credit and lasts so long as the credit expansion goes on, or is not, at least, followed by a credit contraction. A credit expansion exists, when the banks ease the conditions under which they grant loans to the customer. Borrowing may be encouraged in various ways. The banks can lower their standard to security offered; they can increase the length of time for which they are agreeable to lend; they can be less severe in discrimination as to the purpose for which a loan is made. But the principle instrument of expansion is a reduction of the discount rate. Each of the other measures is equivalent in some way to a

1. R. G. Hawtrey, *The Art of Central Banking*, Chap. 3.

reduction in the costs of credit. This reduction in the discount rate acts as an inducement to the merchant who is thus placed in a strategic position. If the rate of interest is sufficient - and in ordinary circumstances a slight reduction is enough - merchants are induced to increase their stocks. They give larger orders to the producers and thus increase production.

Increased production leads to an enlargement of consumers' income and outlay. This means increased demands for goods in general, and traders find their stock diminishing. There result further orders to producers, a further increase in productive activity, in consumers' income and outlay, and in demand, and a further depletion of stocks. Increased activity, which is fed and propelled by a continuous expansion of credit. Productive activity cannot grow without limit. As the cumulative process carries one industry after another to the limit of productive capacity, producers begin to quote higher and higher prices.

Rising prices act as a further inducement to borrow. Profits are increased. Merchants are stimulated to hold larger stocks in order to gain from a further rise in prices. In the same way, producers are stimulated to expand production. They borrow more freely in order to finance such expansion. Thus the cumulative process of expansion is accelerated by a cumulative rise in prices.

There is an expansion of the circulating medium. But also there is an acceleration or increase in the velocity of the circulation. When prices rise and trade is brisk, merchants and producers not only

2. R. G. Hawtrey, *The Art of Central Banking*, Page 167.

borrow more, but they use up any idle balances which they may have at their disposal.

Idle balances are the inheritance of the previous depression. If they exist to a large extent, it may be that an enlargement of the consumers' income and outlay is brought about with little or no expansion of the outstanding bank credit.

Thus there is a principle of the instability of velocity of circulation, which is quite different from the principle of the instability of credit, but is very apt to aggravate its effects.³

T h e d o w n - t u r n.-- Therefore, once expansion is started, it proceeds on its own momentum without any further encouragement from the banks. Quite the opposite the banks must be careful and watchful not to let the expansion out of hand and degenerate into wild inflation. If the process of expansion gains momentum the rate of interest must be raised drastically. A discount rate which will suffice to nip the expansion in the bud, may later prove too small to stop it.

When the credit expansion is discontinued, prosperity comes to an end. Since the process of expansion has gained momentum it must be stopped by a jolt. This may cause the expansion not only to be stopped but to be reversed and be followed by a process of contraction.

When credit has definitely turned the corner, and a contraction has succeeded to an expansion, the downward tendency of prices is sufficient to maintain the process of contraction, even though the rate of interest is no longer, according to the ordinary standards, high.⁴

3. R. G. Hawtrey, The Art of Central Banking, Page 171.

4. R. G. Hawtrey, The Art of Central Banking, Page 123.

D o w n s w i n g.-- The process becomes as cumulative as that of the process of expansion. All the factors which tended to stimulate the expansion now conspire to push contraction further. The prices are falling and the merchants expect them to fall further. They reduce stock and give smaller orders, or no orders at all, to producers. Incomes decrease, demand sags and stocks accumulate further. Borrowing is further reduced. A vicious circle is set up, and in all respects, is the negative counterpart of the vicious circle of expansion.

T h e R e v i v a l.-- Loans are liquidated and gradually money flows back from circulation into the reserves of the bank. The reserve ratio, at first, becomes normal, and then, is built up over the normal. The rate of interest has fallen to an abnormally low level. But, with prices sagging and a prevalence of pessimism, even a low rate of interest will not stimulate merchants and producers to borrow. It is then that the Central Bank or the governing power must create a stimulating factor. This factor is usually the purchase of securities on the open market. This new money may be used to repay debts to the banks, so that the only result is a change in the composition of the assets of the banks. But eventually this new money will find an outlet into circulation, incomes will again begin to rise and a self-reinforcing process of expansion is again started.

The banks, and especially the leaders of the banking system, the Central banks, should not watch the reserve proportions so much as the flow of purchasing power. The demand for goods, the flow of money, is the important thing -- not the outstanding aggregate of money units. The aim of banking policy should be to keep the consumers' outlay constant, including outlay for new investment. But account should be taken of changes in the factors of production -- not merely the growth of population, but also the growth of capital -- and allowance ought to be made for the proportion of skilled labour of varying grades and for the appropriate amount of economic rent. In other words, the aim should be stabilize, not the price level of commodities, but the price level of factors of production.⁵

2. The Over-investment Theories

P r e l i m i n a r y R e m a r k s:-- This section is the systematic analysis of some closely related theories expounded by a great number of authors generically known as "over-investment theories".

The over-development of industries which produce producers' goods or capital goods as related to industries producing consumers' goods, is seemingly the central theme of all these theories. The starting point is usually the universally admitted fact that capital-goods industries are more severely affected by the business cycle than industries which produce consumers' goods. During the boom period (upward phase) of the cycle the output of producers' goods rises much more, during the downward phase recede much more, than the production of perishable goods. Durable consumers' goods such as houses, automobiles, etc., are considered as approximating that of capital goods.

For these theorists, this phenomenon is the symptom of a serious maladjustment which develops during the upswing. The

5. R. G. Hawtrey, The Art of Central Banking, Page 303.

production of capital goods as compared with the production of consumers' goods is extended more than the underlying situation can permanently tolerate. Thus, it is a maladjustment in the structure of production that causes the breakdown of the boom, and not a mere shortage of money due to an insufficiency of bank reserves. It follows that, once the boom has been allowed to develop, the setback cannot be staved off indefinitely by monetary measures.

Thus, according to these theories, the business cycle is not a purely monetary phenomenon. But that does not preclude the possibility of money playing a decisive role in bringing about the cycle and causing a serious periodical and real maladjustment. Some members consider monetary forces to be the impelling force or factor disturbing the equilibrium. Others believe that certain monetary arrangements are conditioning factors, which do not necessarily disturb the equilibrium, but rather, they are the instruments through which the active force of non-monetary nature operate. We can, therefore, distinguish two different sub-groups. There is possibly other groupings but it is felt that this arrangement is the most useful and natural.

A. The Monetary over-investment theory

G e n e r a l C h a r a c t e r i s t i c s.-- These theorists agree with the purely monetary theory of Mr. R. G. Hawtrey in assuming an elastic money supply. They argue that the circulating medium consists, under modern conditions, primarily of bank money or

deposits and that the banking system regulates the quantity of money by changing the discount rate in conducting open market transactions.

That there is a functional relationship between the interest rate, changes in the quantity of money and, the price level, has long been a recognized fact. These relationships have been expounded by Knut Wicksell in Interest and Prices, who distinguishes between the "money rate" or actual "market rate of interest" as influenced by the policy of the banks or other monetary factors on the one hand, and, the "natural rate of interest" on the other. The latter is defined as "that rate at which the demand for loan capital just equals the supply of savings" or again as "that rate which would prevail in a barter economy where loans are made in natura". Wicksell goes on to argue that, if the market rate is below the natural rate, prices will rise: if it is above, prices will tend to fall.

There is however a fallacy in this last proposition, as was explained by F. A. Hayek in Monetary Theory and The Trade Cycle. In a progressive economy, where the volume of production and transaction rises, the flow of money must be increased in order to keep the price level stable. Therefore, the rate of interest must be kept at a level low enough to induce a net inflow of money into circulation.

T h e U p s w i n g .-- The theory explains that the boom is brought about by a discrepancy between the natural and the money

rate of interest. If the money rate stands below the equilibrium rate, a credit expansion will ensue. As soon as prices begin to rise, the process has tendencies of becoming cumulative for the reason that there is a twofold causal connection between interest rates and the price level. A low interest level tends to raise prices and a high level to depress them; but, on the other hand, rising prices tend to raise interest rates and falling prices to reduce them. If prices rise and people expect them to continue to rise, they become more eager to borrow and the demand for credit becomes stronger. Falling prices would, of necessity, have the contrary effect.

The most practical way of approach to understand this rather complicated inter-relationship is to conceive of the situation in terms of the supply of, and demand for, credit. The supply is furnished by the savings of individuals and corporations, supplemented by inflationary bank credits. The ability of the banks to create credit makes the total supply more elastic than it would otherwise be.

Nevertheless, it is perfectly clear that, in order that the supply and demand for real capital should be equalized, the banks must not lend more or less than has been deposited by them as savings (and such additional amount as may have been saved or hoarded). And this means naturally that they must never allow the effective amount of money in circulation to change. At the same time, it is no less clear that, in order that the price level may remain unchanged, the amount of money in circulation must change as the volume of production increases or decreases. The banks could either keep the demand for real capital within the limits set by the supply of savings, or keep the price level steady but they cannot perform both functions at once."

6. A. F. Hayek, *Prices and Production*, Page 27.

The demand for credit is a more complex and volatile phenomenon. Let us start from a situation where the banks maintain a rate of interest at which the demand for, and the supply of, credit exceeds the supply of savings. A credit expansion ensues, prices rise, and the rise in prices raises profits. The demand for credit rises at each rate of interest, more is demanded than before. But the monetary expansion does not expand savings to the same extent, and the equilibrium rate of interest rises. Consequently, if the banks persist in maintaining the same rate of interest, the gap between the equilibrium rate and the market rate will be even wider than before, and the amount of credit expansion required even greater. Prices rise higher still, profits are raised, and the vicious spiral of inflation continues. After the movement has gathered momentum, it can only be stopped by a considerable rise in the rate of interest being enforced by the banks.

The rate of interest, according to this theory, has not only the function of regulating the quantity of money. Like every other price, it has, in an individualistic economy, the more fundamental function of serving as a guide to the allocation of the factors of production to the different branches in the production process. It is the vertical structure, more precisely, which is governed by the rate of interest. At any given moment, the available means of production are in some way apportioned between the various stages of production. The apportionment of the factors of production devoted to the production of consumers' goods and the earlier stages of production respectively can, of course, be modified and is being modified continuously. In other words, the methods of production

have become more indirect, more roundabout, and more capitalistic, in the sense that a greater amount of capital, intermediate goods such as machinery, raw materials, half-finished products, etc., is used per unit of output of consumable goods.

The money stream which the entrepreneur, representing any stage of production, receives at any given moment is always composed of net income which he may use for consumption without disturbing the existing method of production, and of parts which he must continuously re-invest. But it depends entirely upon him whether he re-distributes his total money receipts in the same proportions as before. And the main factor influencing his decisions will be the magnitude of the profits he hopes to derive from the production of his particular immediate product.⁷

The force which determines the lengthening of the process of production is, broadly speaking, the rate of saving. The signals for the entrepreneurs to elongate the process are the availability of new capital and the lowness of the rate of interest. The means of production will gradually be drawn away from the consumption goods industries. These industries will have to contract and the higher stages of production will expand.

The entrepreneurs who want to invest are provided with purchasing power by the banks and compete for capital goods and labour. Prices will rise and consumers' goods industries (the demand for the production of which has not risen, or at least, not so much as the demand for capital goods, which is swollen by the newly created purchasing power) will be unable to retain, at the enhanced price, all the factors of production which they used to

7. A. F. Hayek, Prices and Production, Page 49.

employ. They will be forced, therefore, to release factors or means of production, for their use in the higher stages of production, that is, for the production of additional capital goods.

Obviously, the necessary condition is that the demand for consumers' goods does not rise at equal pace with the creation of credit and the rise in demand for capital goods. The increment of income will not be at once available for expenditure purposes and prices will thus rise quicker than disposable income, and consumption will be curtailed.

T h e d o w n - t u r n .-- This monetary expansion and heavy investment, according to these theorists must end in a collapse. It is impossible to continue indefinitely, because, by artificial lowering of the interest rate, the economy is lured into long roundabout methods of production which cannot be maintained permanently. For some time, increasing advances by the banks enable entrepreneurs to carry on construction by the new roundabout methods. But sooner or later, it becomes clear that the newly initiated extensions of the structure of production cannot be completed, and the work on the new but incompleted roundabout processes must be discontinued. The investment boom collapses and a large part of the invested capital is lost.

The proximate cause for the breakdown of the boom is almost invariably the inability or unwillingness of the banking

system to continue the expansion. But the whole over-investment school, however, deny that the difficulty is a purely monetary one. They deny that monetary measures could avert the crisis, and contend that they would only postpone it. It is evident that no collapse would occur if the credit expansion could go on indefinitely. It follows that a crisis is equally inevitable in the case of voluntary saving if the flow of saving is suddenly reduced. It is, however, asserted that sudden changes are not likely to occur in respect of voluntary saving, while forced saving must come to an end abruptly. But the expansion of credit must stop because in a closed economy, leaving out of account purely monetary and institutional factors, the continuance of expansion will involve a progressive rise in prices. A progressive rise in prices and the danger of a complete collapse of the monetary system is the only insurmountable barrier which prevents an indefinite continuation of the expansion. It follows that the conclusion is that a relative inflation, such as can be made within the limits of a constant price level, is not sufficient to allow for the completion of the new roundabout methods of production which have been instated under the stimulus of expansion. Either the rate of expansion of credit will be sufficiently increased and prices will be driven up and the inevitable breakdown will be postponed, or the boom will collapse at once owing to an insufficiency in the capital supply.

T h e d o w n s w i n g .-- During the boom, reason the members of this school, the process of production is unduly elongated. This elongation has accordingly to be removed and the structure of production has to be shortened. Alternatively, expenditure on consumers' goods must be reduced by retrenchment of wages and other incomes which are likely to be spent wholly or mainly on consumers' goods, sufficiently to make the new structure of production possible. This entails a lengthy process of rearrangement where workers are thrown out of work in the higher stages of production.

In addition to the difficulties which must arise from the fact that the structure of production does not correspond to the flow of money, there must, of necessity, be a deflation, that is a shrinkage in the aggregate flow of money. People will spend less, they will hoard their money rather than deposit it with the banks and thus energize a cumulative process which will continue until an incentive is injected into the system that will lure the people into investment.

T h e R e v i v a l .-- When the fall of prices comes to an end and pessimism gives way to a more optimistic outlook, the current money rates, without being changed, will soon stand below the equilibrium rate. In other words, the equilibrium rate is likely to rise above the money rate. In terms of supply and demand, this can be expressed by saying that the demand curve will move to the right, or, loosely speaking, that demand will rise. At the same time, the

banks will be in a liquid position, and there is every reason to expect that they will liberally comply with the increased demand for credit. The barrier between the money market and the capital market is broken down, and the funds accumulated behind the barrier flow into the investment market. Thus a new upswing starts smoothly.

The thing which is needed to secure healthy conditions is the most speedy and complete adaptation possible of the structure of production to the proportion between the demand for consumers' goods and the demand for producers' goods as determined by voluntary saving and spending. If the proportion, as determined by voluntary decisions of individuals, is distorted by the creation of artificial demand, it must mean that part of the available resources is again led into a wrong direction and a definite and lasting adjustment is again postponed. The only way permanently to mobilize all available resources is, therefore, not to use artificial stimulants - whether during a crisis or thereafter - but to leave it to time to effect a permanent cure by the slow process of adopting the structure of production to the means available for capital purposes.

B. The Non-monetary over-investment theory

G e n e r a l C h a r a c t e r i s t i c s .-- The difference between the monetary and non-monetary over-investment theories concerns the role of money and monetary factors and institutions in bringing about the boom and the over-investment which leads to collapse and depression. The writers of this group in exposing their theory do not run in monetary terms; they mention monetary factors, but they relegate them to a relatively subordinate rule.

Professor G. Cassel emphatically asserts that the business cycle is characterized by changes in the production of capital goods,

8. F. A. Hayek, Prices and Production, Page 98.

especially of fixed capital equipment. The production of consumers' goods does not show the same regularity of change during the business cycle.

While the production of fixed capital depends essentially on trade cycles, the production of consumption goods shows no marked dependence on trade cycles. This means that the alternation between periods of boom and slump is fundamentally a variation in the production of fixed capital, but has no direct connection with the rest of production.

The Upswing.-- The authors describe the mechanism of the cumulative and self-sustaining process of expansion, which begins to work after the dead point of the depression has been overcome, in approximately the same way as the monetary over-investment theory. The revival of investment activity generates income and purchasing power. Demand rises, first for capital goods and investment materials, such as iron, steel, cements, etc., and later also for consumption goods. Prices rise, mainly prices of capital goods and investment materials. This stimulates further investment. Profits are made which swell the funds available for investment and provide an important psychological stimulus for further investment. Thus, prosperity increases rapidly as it proceeds.

However, the monetary side of this process is not closely analysed. But they do admit that credit is an indispensable means of the upswing. From G. Cassel in the Theory of Social Economy, it can be inferred that he realizes the necessity of an elastic currency supply. He seems to believe that monetary funds are

9. G. Cassel, The Theory of Social Economy, Vol. 2, Page 252.

accumulated during the depression, on which the producers can draw during the upswing to finance the expansion. It, therefore, follows that no positive steps need be taken by the banking system, at any rate during the first phases of the upswing. However, he does not deny that, after a certain point, support by the banks is required to carry on.

T h e d o w n - t u r n.-- It is in this phase of the theory of the business cycle that the non-monetary over-investment school offers its most valuable contribution. The upswing cannot go on indefinitely and their explanation of how it is brought to an end is most precise.

They reject the 'under-consumption theory (which we shall see at a later stage) which assumes that the collapse is due to a shrinkage of the demand for consumers' goods, or to its failure to rise, or to the facts of too much savings on the part of both the individuals and corporations. On the contrary, they accept that it is an actual shortage of capital that brings about the crisis. They go to great pains to point out that capital shortage does not simply mean a deficiency of monetary funds, but rather, that it is the symptom of a serious disproportion in the production of certain well-defined types of goods. Therefore, they conclude, monetary measures can never prevent the crisis. It is not over-saving but under-saving which is responsible for the collapse; it is not under-consumption but, in a sense, over-consumption which leads to a scarcity of

capital and brings about the end of the boom.

Over-production occurs regularly in the case of durable capital goods, and also in the case of durable consumption goods. This necessarily involves a decrease in demand and over-production of constructional material. This discrepancy between the demand for, and the supply of, durable goods has its causes on the supply side as well as on the side of demand. Additions to the capital equipment are paid for out of capital. Therefore, the production and marketing of durable capital goods must depend on the amount of capital which there is available for investment. But, for various reasons, as the end of the boom approaches, the formation of monetary capital tends to diminish.

More important, however, than the decrease in demand, is the increase in production and supply, a large proportion of the new capital equipment constructed during the boom is used to produce materials which are required for the further production of such new equipment. So the supply rises progressively in the face of a constant falling demand.

They go further to explain that the lack of monetary funds available for investment represents a shortage of physical goods of a certain kind. It becomes impossible to utilize the whole supply of raw material and equipment destined for the construction of more capital equipment and durable consumption goods, for the simple reason that they alone cannot do the job. They could do it only in

collaboration with labour and incidentally with means of subsistence for the labourers. A lack of investible funds simply means that these complementary goods are not available. Therefore, we may conclude (the theorists do not do so themselves) that, if the rate of saving did increase, i.e., if some people did refrain from consuming their whole income, the complementary goods would be forthcoming and the boom could continue.

The typical modern trade boom does not mean over-production or an over-estimate of the demands of the consumers or the needs of the community for the services of fixed capital, but an over-estimate of the supply of capital, or of the amount of savings available for taking over the real capital produced. What is really over-estimated is the capacity of the public to provide savings in sufficient quantity.¹⁰

T h e d o w n s w i n g.-- These authors lay great emphasis on the psychological reaction which is bound to come after the excess of the boom. The process of contraction has a cumulative nature. Pessimism and reluctance to invest cause a shrinkage in the volume of purchasing power. The length of the depression depends very much on whether the boom has collapsed with the great detonation of a crisis, financial panic and numerous bankruptcies, or whether it has come to an end gradually without much dislocation. But, always, money is hoarded or used to finance losses instead of being invested and spent on producers' goods. Since savings are not invested, everything that increases the rate of saving has a depressing influence. Prices fall and this intensifies the prevailing pessimism.

10. G. Cassel, *The Theory of Social Economy*, Vol. 2, Page 649.

T h e U p t u r n.-- According to G. Cassel the revival is never brought about by an increase in the demand for consumers' goods, but always through increased investment. New investments are stimulated by the lowering of construction costs of capital equipment which ensues during the depression as a result of reduction of wages, fall in the price of raw materials, reduction of interest charges, adoption of improved methods of production, etc. He also lays stress on the fall of the rate of interest as exercising an immediate and powerful influence on the value of fixed capital equipment. But on the whole, these adjustments, which are automatically made during the depression, are not of themselves sufficient to revive the spirit of enterprise and overcome the dead point of depression. Stronger incentives are required to open out the factors of new opportunities for investment and raise the prospective rate of profit. In this respect, it is generally admitted that expansion will come sooner or later, if the rate of interest is low and credit plentiful and easily available. But, of course, if a stimulus is injected in the system, such as a new invention, the opening-up of new territories, etc., the expansion will come earlier and will gather momentum more quickly.

As entrepreneurs are compelled by economic exigencies to save, they put aside, as savings, a part of their profits. The proportion of these savings to profits usually exceeds the savings from other groups of income. When the proportion of savings set aside from the profits of entrepreneurs is greater than the average rate of savings, the community's formation of capital is greater in these times, which are therefore, particularly favourable for the entrepreneurs' point of view. Such a time is the period at the beginning of a renewed trade activity.¹¹

11. G. Cassel, *The Theory of Social Economy*, Vol. 2, Page 620.

3. Under-consumption theory

G e n e r a l C h a r a c t e r i s t i c s.-- The under-consumption theory has had a long history and may be traced back as far as Malthus. However, we shall confine ourselves to more contemporary writers such as J. A. Hobson, Economics of Unemployment, and W. Catchings, The Road to Plenty.

It is difficult to summarize these theories because their scientific standard is lower than the theories of those already reviewed. They cannot be analyzed as systematically as the former theories because nowhere is the full cycle explained, except to state certain phases of the cycle in which these theories have anything original to contribute. The under-consumption theory is an explanation of the crisis and depression rather than a theory of the business cycle. Wherever the cycle as a whole is explained many features have been taken from the monetary and over-investment theories. Another reason why this theory is difficult to summarize is that under-consumption is not a clear-cut, well established concept, but covers a great variety of phenomena.

D i f f e r e n t t y p e s o f t h e o r i e s:-- All under-consumption theories are concerned with the alleged insufficiency either of money incomes or of expenditures on consumers' goods out of those incomes. There exists however, great variations between the different theories. But let us however, consider briefly the

ways in which under-consumption has been held responsible for depressions in one way or another.

The under-consumption theory in its crudest form is that, owing to technological improvements and inventions and to the accumulations of capital, there is a tendency for production to outgrow the capacity for consumption. This statement can be discarded immediately as being wholly unfounded.

Frequently, under-consumption is given a meaning approaching or even replacing that of deflation. It is used to express the process by which purchasing power is in some way lost to the economic system, and therefore, fails to become income and to appear as demand in the market for consumers' goods. Money disappears or is hoarded, and the income velocity of money diminishes. In other words, it is deflation which is a possible cause of a breakdown but, as such, it is covered by the explanation of the monetary theory of the business cycle.

Often times, the under-consumption is expressed in the following manner. There is, it is said, a secular tendency for the volume of production to grow. The population increases. Inventions and improvements raise the output of goods. Additions are made to the stock of capital. Prices of commodities must therefore fall and depression follows, unless the quantity of money is continuously increased and creates the consuming power necessary to absorb the increasing output of goods at stable prices. This is too general a statement to be accepted as an explanation of the business cycle.

The various factors which make for an increase in the volume of production must be treated separately.

The growth of population, the enlargement of the capital stock, the improvement in the technical processes of production, are all secular movements. Therefore, the proposition that the supply of money does not keep pace with the growth of production cannot, *per se*, explain a cyclical movement. It is hopeless to explain the business cycle without taking into account the cumulative nature of the processes of expansion and contraction. The considerations in question do not show why these processes are cumulative. Nor do they explain why the processes come to an end sooner or later and give rise at once to a cumulative process in the opposite direction.

In its best reasoned form the under-consumption theory uses under-consumption to mean over-saving. Depressions are caused by the fact that too small a proportion of current income is being saved and too small a proportion spent on consumers' goods. It is the process of voluntary savings by individuals and corporations which upsets the equilibrium between production and sales.

Savings may lead to a depression because they do not find an outlet in investment. There may be an excess of savings over new-investment which will be intensified by every additional act of saving, at any rate where saving extends beyond a certain limit. In other words, saving produces a deflation, because the sums saved are used to liquidate bank credit, or are accumulated or hoarded

in the shape of cash or idle deposits. During the depression, when the spirit of enterprise runs low and pessimism prevails, it is probably true to a large extent that saving engenders deflation rather than new investments, and that the slump is, to that extent, prolonged and intensified. But the breakdown of the boom can hardly be explained this way.

Savings lead, on the one hand, to a fall in the demand for consumers' goods, because the money saved is not spent on consumption. On the other hand, savings are, as a rule, invested productively. The sums saved serve to add to the capital equipment of the community. The ultimate aim of all this is to increase the production of goods for final consumption. Thus, the market for consumption goods holds the central position in the economic system, because, if the demand for consumers' goods is reduced, their supply is increased and the prices must fall.

There are many serious objections to this theory. We have already had occasion to discuss a case where a general increase in demand for consumers' goods and a consequent tendency of the consumption industries to expand production are not only not a sufficient condition of prosperity in the higher stages of production, but, on the contrary, the cause of its collapse. The monetary over-investment theory has shown the possibility that, when at the end of the boom the demand for consumers' goods rises and their production tends to increase, this upsets the equilibrium between costs and

prices in the higher stages of production, because there are then no idle factors of production, which can be drawn into employment in the higher stages, and there are not the necessary funds to retain employed factors of production against the competition of the consumption industries.

4. Psychological Theory

G e n e r a l C h a r a c t e r i s t i c s.-- To speak of psychological explanations of the trade cycle or of particular phases of it, is in a way misleading. Every economic fact has a psychological aspect. The subject-matter of economic science is human behaviour which can hardly be separated from its psychological basis. When we assume that an entrepreneur will increase his output if demand rises or cost is reduced, or that workmen will respond to changes in money wages but not so readily to changes in real wages, or that consumers will buy more of a given commodity if the price falls and less if they think it will fall more, or that people will hoard money if the value of money rises -- all these assumptions are about the human behaviour which presupposes a certain state of mind on the part of the human agents. These propositions may belong to the sphere of Applied Psychology but they figure continually, whether expressed or implicit, in the economic theories of the business cycle.

It must be pointed out that, generally, the exponents of the psychological factor in the business cycle are in agreement with other theorists in their explanation of the phenomenon. Rather, the psychological factor it is said, is supplemental to the monetary or other economic factors and not an alternative element of causation. There exists a distinction of emphasis rather than of kind.

A n a l y s i s o f t h e f a c t o r.-- The writers of reference who have laid stress on the psychological factors in the explanation of the business cycle are principally Professor A. C. Pigou in Industrial Fluctuations and Professor F. . . Taussig in Principle of Economics. We need to define more precisely the actions and reactions of the psychological factors required in the explanation of the business cycle. These factors come into consideration in economic theory in connection with anticipations and expectations. Static theory, and those theories based on the static hypothesis,^{11a} picture the entrepreneurs' decisions as to the volume, and alterations in the volume, of output and employment as being determined by a comparison of prices and costs. The prices, costs, profit margins, etc., by which the entrepreneur is guided in his decision, should be conceived as factors expected to rule in the future and not simply given factors. This is true when the entrepreneur, for example, is guided in his decision solely by the current prices. On the face, it would appear

11a. See especially A. F. Hayek, Price and Production.

that in this case, no element of expectation is present. Quite the contrary the expectation in this case is the belief and the hope that current prices will continue to prevail in the future.

But future events cannot be forecasted with absolute precision. The further they are in the future the greater the uncertainty, and the greater the possibility of unforeseen and unforeseeable disturbances. In principle, there is always an element of uncertainty in every enterprise. This element of uncertainty may vary but it is still present. Also the longer the processes in which the capital is sunk, and the more durable the instruments and equipment to be constructed, the greater is the element of uncertainty and the risk of loss. Naturally, economic actions and reactions in such cases are less rigidly determined by observable facts than in other cases. The psychological theorists here have recourse to optimism and pessimism as additional determinants. An attitude of optimism is a characteristic of the prosperity phase of the cycle; pessimism is that of the depression. The turning points of the cycle are marked by a change of optimism to pessimism and vice-versa.

Optimism and pessimism are regarded as causal factors which tend to induce the rise and fall of investment which are characteristic of the upswing and downswing respectively. It implies that the connection between a fall in the interest rate and a change in the other objective factors, on the one hand, and the decision of the entrepreneur to invest more, on the other hand, is not so

rigid as the economic theories sometimes maintain. While it is true that developments are not determined wholly by the objective factors, the introduction of these determinants make no positive contribution to the explanation of the cycle so long as the optimism and pessimism remain purely phenomena within the science of applied psychology. We cannot observe states of mind, but it is possible to make certain observations from which states of mind or changes of mind are inferred.

It follows that the factors that go to make people optimistic or pessimistic can be observed. This is the point at which this theory makes a positive contribution to the explanation of the business cycle. There is the fact that, in a period when demand and production are rising in many branches of industry, producers in branches which have not yet felt an increase are inclined to expect one. The connection between the objective factors with which the other theories are concerned and the volume of investment is, as it were, loosened. Also there is the fact that, when demand and prices have continued for a while to rise, people get into the habit of expecting a further rise of equal or approximately equal extent. That is to say, they project current experience too confidently in the future.

The theorists stress the fact that the discovery of errors of optimism gives birth to the opposite error of pessimism. Professor A. C. Pigou points out that

The extent of the revulsion towards pessimistic error, which follows when optimistic error is disclosed, depends, in part, upon the magnitude of the preceding optimistic error..... But it is also affected by what one may call the detonation which accompanies the discovery of a given amount of optimistic error. The detonation is greater or less according to the number or scale of the legal bankruptcies into which the detected error explodes.¹²

12. A. C. Pigou, *Industrial Fluctuations*, page 92.

If the entrepreneur himself is financing the enterprise, the repercussions are less serious than in the case where the enterprise is financed by borrowing, especially by borrowing from the banks.

5. Harvest Theory

G e n e r a l C h a r a c t e r i s t i c s .-- The relation between changes in the agricultural situation and industrial fluctuations is much more complicated than most people think. There exists a great number of theories on the subject and the authors are generally willing to admit that the effects of weather-induced harvest variations may be partially or totally offset by the effects of other causes, whether these be inherent or outside the economic system.

It is not necessary to assume a cyclical movement in agricultural output itself to establish a causal connection between agricultural output and business cycle. Fluctuation in crop yield, in the output of live stock, etc., may be regarded analagous to inventions, etc., which appear at irregular intervals, and set in motion cumulative processes of expansion or contraction in the industrial system, or at least, reinforce or retard expansion or contraction. Harvest fluctuations which do not appear with the turning points of the cycle will tend to disturb the periodicity of the cycle rather than determine it. This is the view taken by Professor A. C. Pigou /ⁱⁿ Industrial Fluctuations since, though he treats harvest variations as an important potential cause operating to precipitate cumulative upward and downward movement, he

attributes to these cumulative processes a life of their own with periods determined by psychological factors and others which have no relation to the periods of crop fluctuations.

However, J. M. Clark, in Strategic factors in the Business Cycle, denies that fluctuations in agricultural output are among the causes of the cyclical fluctuation of business.

Agriculture appears to have its own cycles, whose timing has no clear or regular relation to the cycles of general business.¹³

Agriculture, he writes further, is not an active but a passive element. The very inelasticity of agricultural supply exposes the farmer to considerable instability of income. This is a result of changes in demand arising out of trade fluctuations brought about by internal forces of the business economy.

In any case, this theory of the effect of agricultural purchasing power is somewhat discounted by the possibility that the increase in farmers' purchasing power is partly at the expense of that of other groups. This is especially probable so far as farmers' gain through increased prices of their products. Agricultural prosperity is likely, however, to increase the power of farmers to buy equipment on credit without subtracting an equal amount from the corresponding power of other groups.¹⁴

I n f l u e n c e o f f l u c t u a t i o n s.-- Professor A. C. Pigou, in Industrial Fluctuations, links up harvest variations and industrial fluctuations by arguments appropriate to an economic system without a common medium of exchange. He then proceeds to take

13. *Op. cit.* page 61.

14. *Op. cit.* page 65.

into account the modifications introduced into the relationship by the fact that economic incentives present themselves in a money form. An exceptionally good harvest leads to a larger demand on the part of farmers in terms of agricultural produce for the product of industry.

This will raise the real income of the community, will lead to an increase in the supply of new capital from savings, a downward tendency in interest rates and an increase in the demand for labour in terms of wage-goods. Suppose, however, that the general demand for agricultural products is elastic, the increase in the demand for labour in terms of wage-goods will lead to more employment for the reason that the supply schedule of labour is rigidly elastic, thanks to the rigidity of the wage rates.¹⁵

So far, the analysis has proceeded on a purely barter economy. But the additional borrowing requirements of the farmers may be satisfied by the banks. This is induced by the improved expectations of yield. The result is a monetary expansion of a cumulative nature which enhances the demand for labour and thus increases industrial output.¹⁶

6. Other aspects or factors which influence the Business Cycle.

So far in our analysis we have explained pure theories, i.e., satisfactory explanations of the business cycle which demonstrates the complete evolution of the cycle. But, there exists explanations of certain factors, which, although they do not cover the whole cycle, nevertheless play an important role in elucidating the mechanism of the business cycle.

The changes in costs of production, the horizontal maladjustments, and over-indebtedness although they do not cover the whole business cycle, nevertheless play an important part as factors which

15. *Ibid.* Page 41 and Chap. 2 and 10.

16. *Ibid.* Page 63 and Chap. 3 and 4.

sometimes have been put forward as the causes of the periodicity of the crisis and depressions.

1. Changes in cost of production.

The statement that a restriction in industrial activity is due to the fact that production cost has risen above selling prices is compatible with any explanation of the crisis and depression. It does not add much to the statement that industrial activity has been reduced. The proximate cause of the reduction in industrial output is the fact that expected prices do not cover production costs. This is true, even though a series of crop failures, monetary deflation, over-investment or anything else, is ultimately responsible for the breakdown of the boom and for the depression. All these factors must finally find their expression somewhere in a disappearance of the profit margin.

The rise and fall of production cost, and the prominent role that they play in the explanation of the cycle, are fully explained by W. C. Mitchell.

The decline in overhead cost per unit of output ceases when enterprises have once secured all the business they can handle with their standard equipment, and a slow increase of these costs begins when the expiration of the old contracts makes necessary renewals at the high rate of interests, rents and, salaries which prevail in prosperity. Meanwhile, the operating costs rise at a relatively rapid rate. Equipment which is antiquated and plants which are ill located or otherwise work at some disadvantage are again brought into operation. The price of labour rises, not only because the standard rates of wages go up, but also because of the prevalence of higher pay for overtime. Still more serious is the fact that, efficiency of labour declines, because overtime brings weariness, because of the employment of uncesirables and, because crews cannot be driven at top speed when jobs are more numerous than men to fill

them. The prices of raw materials continue to rise faster, on the average, than the selling prices of products. Finally, the numerous small wastes incident to the conduct of business enterprises creep up when managers are hurried by a press of orders demanding prompt delivery.¹⁷

Here we may bring in play the law of diminishing returns in that the cost of production in terms of labour rises because inefficient workers and undesirables must be employed and, because antiquated equipment must be brought into operation when production is expanded. This is quite natural and the supply prices rise.

This obviously limits the extent to which production expands in response to a given rise in demand; and, since the whole process takes time, it is natural that we should find expansion carried forward continuously up to a point, and then stopped.¹⁸

All this does not explain, however why expansion should be followed by a breakdown and depression.

Another point is the argument that efficiency tends to fall during the upswing, because waste crops up everywhere. The contrary is also true for the downswing. It must, however, be admitted that, theoretically, a heavy fall in efficiency, unaccompanied by a corresponding fall in money wages and not compensated by a rise in prices, may produce a general depression. But this factor, still does not explain the process of expansion and why a depression must follow the breakdown.

2. Horizontal Maladjustments.

A horizontal maladjustment is the over-development of a particular branch of industry. It can only explain a partial depression

17. W. C. Mitchell, *Business Cycle and Unemployment*, Pages 10 and 11.

18. A. C. Pigou, *Industrial Fluctuations*, Page 278.

because, if an industry is over-developed and, if the former is depressed, the latter must prosper. This partial dislocation of the productive process does not explain why the deflationary cumulative process of the depression is set in motion.

Horizontal maladjustments are usually brought about by a shift in demand and/or a shift in supply. As is common, one producer does not know what the other is doing. Consequently, if a given demand cannot be satisfied by a producer; other producers are accordingly called upon to satisfy it. This leads to competitive duplication of plant and equipment, involving errors in the estimation of future wants. The circumstances conclusive to bringing about such errors are fully explained by F. W. Taussig, in Principle of Economics, Vol. 1, Page 368 and seq. and A. G. Pigou, in Industrial Fluctuations, Chap. 6.

3. Over-indebtedness.

The existence of large debts in terms of money is certainly a most potent factor which would tend to aggravate a depression. The burden of debts becomes heavier with the fall in prices; and this leads to distress selling which depresses prices further. Thus, a liquidation of bank credits is induced, which means a shrinkage in the volume of the circulating medium and of the demand for goods in general.

Over-indebtedness, it is said, may be regarded as the normal cause of the collapse of the boom. In such cases over-indebtedness is closely connected with over-investment. To say that the cause of the

breakdown is over-investment is the same thing as saying that investments have been made which later turn out to be unprofitable. In other words, sales proceeds do not cover costs, and one important cost is interest on fixed and working capital. Irving Fisher stresses the fact that such over-investments have been made on borrowed money.

Banks, in extending credit to different sorts of borrowers, have to consider questions of liquidity and of safe margins on collateral. Credit men, accountants, lenders on real estate, brokers, government and legislators, all have some sort of over-indebtedness.¹⁹

It goes without further explanation that this margin of over-indebtedness is no other than the safe margin for over-investment. If the collateral or others are present to protect the borrowed money, this over-indebtedness as Irving Fisher calls it, becomes real investment, with the hope of obtaining higher returns than the rate of interest required to pay on this borrowed money.

Irving Fisher describes debt as follows.

Most kind of pocket money, such as bank notes, take the form debts to the bearer. Bank checks, which the depositor thinks of as representing his money in the bank, really represent a debt of the bank to the depositor, and usually the depositor obtains his checking account by going into debt to the bank.²⁰

Not being able to explain the business cycle conclusively on these assumptions, Irving Fisher establishes what he calls a "debt cycle". He explains thus:

Ultimately, of course, the over-indebtedness, whether of one individual or of a whole community, will be wiped out, with or without business failures. But sometimes the liquidation, or the psychology which accompanies it, does more than restore a normal

19. Irving Fisher, Booms and Depressions, Page 10.

20. Irving Fisher, Booms and Depressions, Page 8.

debt situation. Those debtors who have burned their fingers by over-indebtedness, and those creditors who have burned theirs by over-lending -- especially if the two groups comprise most of the community -- become over-cautious, and end in an undue reaction against borrowing. Then the pendulum may gradually swing back, caution may again be thrown to the winds, and over-indebtedness again prevail. The pendulum may even swing back beyond the point of equilibrium, where people will again go too far into debt, but presumably not so much too far as the first time. This swinging back and forth may go on indefinitely, constituting a debt cycle.²¹

This factor of over-indebtedness, as can be seen, may contribute greatly to the breakdown of a boom and even cause the downturn of the cycle. Nevertheless, it cannot explain fully and conclusively the business cycle with its cumulative expansion and contraction processes, and the fact that when one process ends the other must follow.

7. Conclusion.

With the completion of this analysis of the different theories of the business cycle, one question looms in our mind. Which of these theories explains fully the cyclical movement of business. This question would be answered categorically in the affirmative by the different theorists, in respect of the theory they have expounded. However, it can be seen easily that these theorists have tried to explain the business cycle with the firm conviction that this phenomenon is due to certain fundamental principles or factors. With this in mind, they have gone forward with their explanation, disregarding any other factor which are inherent to any business cycle,

21. Irving Fisher, Booms and Depressions, Page 12.

or at least disregarding the preponderant part or attachment that exists between these factors. Thus we have these different theories which are mainly based on assumptions that the trade cycle resolves around certain predetermined principles or factors.

While it is not the purpose to reject fully any theory on business cycles, it is however the endeavour to show that these different theories do not explain fully the general phenomenon of the trade cycle, but only part thereof. With this purpose in mind, it is now proposed to review the different theories shortly to show that they are not complete in their explanation and, as the case may be, erroneous in their statements.

1. The Purely Monetary Theory.

That money plays an important part in the business cycle is a definite accepted fact. But that the business cycle can be fully explained by the fact that money controls every other factor, which thus become dependent on the monetary factor, is definitely an error. The monetary activity in the expansion phase, and the recession in the contraction phase, run parallel with that of production and one is dependent on the other. This is explained by the fact that during the revival from a depression, monetary instruments must activate production and vice-versa. If this mutual activity were not present the process would not gain momentum, because the accidents which cause the activity cannot of themselves carry the process of expansion

further than an impulse. If this impulse were not carried by other factors it would cause the economic system to activate due to the impulse and thence return to its previous status of activity.

The theory stands in contradiction to many other related theories in that it contends that a change in the rate of interest influences the economic system, not through a direct influence on investment in fixed capital, but through the provision of working capital and particularly stocks of goods. Further the contention that the reason for the breakdown of the boom is always a monetary one and that prosperity could be prolonged and depression staved off indefinitely, if the money supply were inexhaustible, can certainly be challenged.

2. The Monetary over-investment theory.

These theorists, in similarity to the previous one, have tried to explain the business cycle on the assumption that capital is the sole major factor of the economic cycle. They have put aside production factors and have assumed an elastic supply of money. It has long been recognized that there is a complicated functional relationship between the interest rate, changes in the quantity of money and the price level. Their activity alone cannot, however, explain in full the business cycle. They have, however, brought some facts of the money system into play which had been left aside by the Purely Monetary Theorists. That, the differences in the rate of

money such as explained by the "market rate of interest" and the "natural rate of interest", or the influence of "forced savings", are determining factors in the explanation of the business cycle can be appreciated. However, to construct a business cycle around these factors is naturally an incomplete statement. It is, further, a little difficult to understand why the transition to a more roundabout process of production should be associated with prosperity and the return to a less roundabout process a synonym of depression.

However, they have contributed greatly to the explanation of the cycle in expanding the analysis of the maladjustment in the structure of production brought about by the credit expansion during the prosperity phase of the cycle, and, the explanation of the breakdown as consequent on that maladjustment.

3. The Non-Monetary Over-Investment Theory.

In the previous two theories we have seen that monetary factors were the main factors in the explanation of the cycle. Now we come to a group of theorists who put monetary factors in a subordinate role. They go on explaining their theory on the basis that changes in the production of capital goods, especially of fixed capital equipment, are the factors mainly responsible for the business cycle. It can be shown that they are compelled to assume an elastic currency or credit supply in order to prove what they wish to demonstrate.

However, as has already been stated, this theory offers its most valuable contribution to the theory of the business cycle in its explanation of the breakdown of the boom.

4. Other Theories.

As concerns the other theories explained in our analysis, the fact will be appreciated that none of these have attempted to explain the theory of the business cycle. They are all based on factors which may influence the economic system to the extent of changing the status of the system at the moment of their inception. That these factors may activate the boom or the depression, is conceded. They may influence any part of the cycle to the extent of causing a crisis, accelerate the contraction process, etc. They may even be present in every cycle. But they cannot, however, explain the cumulative process of the expansion and the contraction, nor can they explain the turning points after each of these processes, etc.

As all other theories, they have based themselves on factors which may be observed in any cycle. They have contributed greatly to the theory in explaining the activity of these factors on the trade cycle. Their contribution should be kept in mind constantly in any explanation of the business cycle.

CHAPTER II

SYNTHESIS ON THE BUSINESS CYCLE

INTRODUCTION.

Before attempting to expose a synthesis on the business or trade cycle, it is well that we should arrive at a unanimous understanding of the different terms and aspects used in this study.

Throughout this synthesis reference will always be to the case of a closed economy, by which is meant, not a completely isolated country, but a country in possession of all the attributes which we shall find necessary for the full development of the trade cycle.

Depression means a state of affairs in which real income consumed or volume of consumption per head, real income produced or volume of production per head, and the rates of employment are falling or are subnormal in the sense that there are idle resources and unused capacity especially unused labour.

Prosperity, on the other hand, means a state of affairs in which the real income consumed, real income produced and the level of employment are high or rising, and there are no idle resources or unemployed workers or very few of either.

As can be seen "depression" and "Prosperity" are correlated concepts, but the negative of each other. They differ in degree rather than in kind. The question is not that of a clear line of

demarcation but rather, a scale of more or less depressed or more or less prosperous conditions. It ranges from deep depression to high prosperity and from severe unemployment to full employment of all the factors of production.

Real income consumed, real income produced, rate of employment are comparatively precise concepts and even to some extent measurable quantities. These three indices can be regarded as the criterion of the existence, and measure of the degree, of prosperity and depression and changes in the same.

we must now define business cycle. In the general sense, a business cycle may be defined as an alternation of periods of prosperity and depression, of good and bad trade. But this definition is obviously too wide for the purpose of any analysis. However, an alternation of periods of depression and prosperity is what we should normally expect. What calls for explanation, therefore, is the duration and wide amplitude of the fluctuations, on the one hand, and the peculiar nature of the fluctuations, on the other. This constitutes the problem of the cycle and is the basis of our study. Further, the economic cycle in which we are primarily interested is that of alternation of relatively prosperous and depressed times, together with all the concomitant changes in all parts of the economic system, which extends over the period of three to twelve years. This movement is called the business cycle proper.

The business cycle will be studied under the following aspects:

- I.- The upswing also called the prosperity phase, or the expansion process.
- II.- The upper turning-out, that is the change or the turn from prosperity to depression.
- III.- The downswing also known as the depression phase or the contraction process.
- IV.- The lower turning-point, that is the change or turn from depression to prosperity.

At this point, it may be of value to mention two features which can be observed probably without exception, in every business cycle. One is the fact that the cyclical ups and downs of production and employment are accompanied by a parallel movement of the money value of production and transactions. The other is the fact that the cyclical fluctuations are more marked in connection with the production of producers' goods than in connection with the production of consumers' goods. These two features are of utmost suggestive value and must be kept in mind at all times.

1. The Process of Expansion.

I n t r o d u c t i o n.-- We must assume that the process has, in one way or another, been started, and investigate by what is meant that the process is cumulative and self-reinforcing, and on what factors this cumulative quality depends. It will be impossible to avoid reference to the factors which start such a process. These factors will however be studied further in our exposition.

G e n e r a l D e s c r i p t i o n o f t h e M e c h a n i s m.--
We start our analysis of the process at the bottom of the depression.

In effect, it means a situation where there are unemployed productive resources. If there is such unemployment, the supply of labour can be satisfied at the same or only slightly higher wage. Therefore, the supply of labour is completely or almost completely elastic in the upward direction. Since there are ample stocks of raw materials, under-employed capital equipment, etc., then the supply of other means of production is also elastic.

Suppose, now, that expansion has been started for any reason whatsoever, e.g. avenues of new investment opportunities have been opened and the large sums are being invested over a period of time in the economic system, v.g. the building of a new power dam. The funds for investment are not withdrawn from other uses, but consist of money newly created by the banking system, or come out of hoards of unused purchasing power. Therefore, the aggregate demand for goods in terms of money increases. Unemployed workers are hired, raw materials, etc., are bought and ordered. There is no guarantee that all the money thus injected will remain in circulation. Quite the contrary, through numerous leakages a smaller or larger part of this new purchasing power will be sterilized and withdrawn from circulation. But a certain part of the money will go on circulating, i.e., will be spent by successive recipients. It can be readily seen how it will stimulate other branches of industry and thus the expansion will gradually spread to all parts of the economic system.

The producers of materials and implements will increase their production. The capital necessary for this will be raised by idle funds at their disposal, by borrowing from the banks (the rates of interest at this stage will be low), by floating a new issue on the market. They will hire more workers and buy the material or equipment that they require. The worker will, at least, spend part of this new money immediately. This will stimulate the production of consumers' goods due to an increased demand. This, in turn, reacts favourably on the higher stages of production. Idle monetary funds are set in motion and the demand of goods is further increased, which, in turn, generates income. Obviously, at first, the process will proceed slowly but it will gather momentum as new and increased demand continue. At first, the process may be offset by adverse influences; but, as the demand for many goods has grown for some time and the expansion movement has spread to many parts of the system, the increase in the total demand for goods in terms of money per unit of time becomes greater. At this further stage, adverse influences which tend to decrease the flow of money against goods will now only be able to decrease the rate of increase in the flow of money and to slow down the general expansion. This is what is meant when we say that the process has gained momentum: it has become strong enough to overcome obstacles of lesser magnitude or force.

There are other factors which will come into play and reinforce the expansion. A rapid and sustained increase in output due to an increase in the flow of money will certainly lead to a rise in production costs and commodity prices at various points, even if the labour supply should, for a time, remain elastic. Profits will also rise all along the line, owing to the fact that rigid overhead costs can be spread over a larger output and wages lag behind prices.

This continued rise in demand and increase in profits and prices is bound to create, in the business world, a more optimistic outlook in general, and in particular, an expectation of a further rise of prices. The entrepreneurs will be encouraged to embark on more ambitious schemes of investment in fixed capital. They will either borrow more freely from the money market or use idle funds at their disposal for the purpose. There will always be technological improvements waiting to be made, and, given the profitability at the existing price cost ratio, the investment will be undertaken only if the price and cost ratio is expected to last long enough to permit the amortization of the invested capital.

Thus, the expansion proceeds in a progressive and cumulative fashion. As it advances, restraining forces come more and more into play. This will be explained further in the chapter dealing with the upper-turning point of the crisis.

The Monetary analysis of the system.--
We have so far explained the mechanism of the expansion process on

the assumption that the monetary factor was moving automatically with the process. As was stated in our introduction, a parallel movement exists in money value of transactions and production and the ups and downs of production and employment. Therefore, any explanation of the business would not be complete without an analysis of both parallels.

After a slump, an expansion of the monetary circulation, in the sense that the money value of the volume of production and total demand for goods in term of money per unit of time increases, is a regular feature and an indispensable condition for a rapid expansion of production. If the monetary circulation could not somehow be expanded, prices of goods and productive services, especially money wages, would have to fall simultaneously with the rise of employment and production. Certainly such a fall in prices is the contrary to what actually happens during a recovery from depression.

The expansion, in a technical sense, is due to a discrepancy between the money or market rate of interest, on the one hand, and the natural or equilibrium rate of interest, on the other. If the former is below the latter, a cumulation process of expansion sets in. For exploration of this process we must have recourse to the familiar Marshallian curve. Along the horizontal axis of a system of rectangular co-ordinates we measure amounts of investible funds, and along the vertical axis the price paid for investible funds, i.e., the rate of interest. For each amount of investible fund we suppose the demand price to be determined. The demand price is of

course the rate of interest at which this amount could be taken up by entrepreneurs for investment purposes. If we join these points, we obtain the demand curve for investible funds. In general, it slopes downward from left to right and it represents the fact that at lower interest rates larger quantities are demanded and invested for productive purposes. Similarly, for each amount the supply price is determined, and by joining these points together the supply curve of investible funds is obtained. It may ^{be} horizontal for a certain range, in which case the supply is said to be elastic for that certain range. It may be vertical and the supply is then said to be inelastic. The system of these curves always refer to a point of time or a short period of time. The slope of the curve is determined by certain factors which will now be determined.

The demand curve for investible funds bears a close relationship to the curve of marginal profit rate. Marginal profit rate is that rate of profit in terms of money which an entrepreneur expects to derive from a concrete piece of investment. The supply of investible funds is derived from three sources, namely, from amortization quotas, from new savings, and, from inflation in the broad sense. The first two, which may be regarded as gross saving, leave the total demand for goods constant. Inflation implies an increase in the total demand for goods, a rise in quantity of money and/or velocity of circulation. This requires further explanation.

For the individual firm, the setting aside of amortization quotas out of total receipts and their expenditure for replacement of outworn equipment do not always coincide in time. Amortization will usually be a continuous process, whereas the replacement of durable means of production is usually discontinuous. For the economy as a whole, both processes are more continuous and run parallel. During any period of time, a number of firms use their amortization quotas to accumulate balances or to repay loans, while others draw on their balances or borrow from the market in order to replace their equipment.

By saving we mean income minus expenditure for consumption. We must distinguish between currently earned income, which is simply the money value of the net output of the economic community, and income currently available for consumption. This distinction rests upon the fact that income earned is distributed, not continuously, but periodically. The fact that incomes are earned continuously, expended continuously, and distributed periodically has the consequence of creating a time-lag between the moment when a given sum is earned and the moment when it becomes available for expenditure on consumption. This distinction between earned income and available income is of considerable importance in the description of the process of change in investment and in total demand, through time.

If in any short period chosen as a unit of time the income currently earned exceeds the income available for expenditure, the

excess must be financed out of inflationary sources. Thus, the money invested to-day is financed partly by savings out of income earned yesterday and becoming available to-day and partly by inflation. But all that is invested to-day inclusive of the part financed by inflation, become to-day's earned income and to-morrow's available income. If then, a part of the latter is saved to-morrow, it constitutes again current saving, although it is historically of inflationary origin.

We can now proceed with the analysis of the monetary side of the expansion process.

In the first instance, we have assumed that the expansion process has been started. New investment opportunities have appeared and a certain number of people are prepared accordingly to borrow new money, or to utilize their own idle reserves on a large scale. This can be expressed by saying that the demand curve for money has shifted to the right to such a degree that more than the current flow of savings is taken up and inflationary sources are being tapped. The total demand for goods in terms of money increases and the cumulative continuation of the process may be described by the statement that this increase of the demand for goods causes the demand curve for investible funds to shift further to the right. A further inflow of new money will result if, the flow of current savings does not suddenly rise to an extent sufficient to satisfy the growing demand, and if, the supply of investible funds from inflationary sources is not inelastic. This will tend to force the demand further to the right.

The supply curve is likely to shift to the right -- that is, supply is more plentiful -- because of a tendency to disboard on the part of the public and the banks. This will intensify the force of expansion. When production increases and prices rise, not only the entrepreneurs, but the lenders - banks and investing public - are likely to take a more optimistic view. This will explain the psychological factor. It is extremely important to realize that both the demand curve and the supply curve for investible funds are subject to frequent and rapid shifts. These changes are influenced not only by technological factors, but also by psychological factors, changes in demand for particular goods, etc.

Saving and its effect on the process.-- Allusion has been made to the actions of income receivers with respect to spending and saving. First, it was pointed out as an essential link in the expansion process in the sense that the increased earning of the workers caused by increased investment would in part be sent immediately. Secondly, it was mentioned as a source of investible funds. Therefore, it is important to demonstrate the probable consequences on the expansion of a change in the proportion of income saved by the public as a whole and, the factors which determine whether the proportion saved will be great or small, or whether it will rise or fall.

By the proportion of income saved, we intimate the average proportion of income not spent on consumers' goods in the income period in which it becomes available. We must, of course, keep in

mind the distinction between the period in which income is earned and that in which it becomes available for expenditure or saving.

An increase of saving normally exercises a deflationary effect at the moment of its appearance. The amount of dishoarding is reduced and the currently earned income rises less fast than it would otherwise have done. The consequences of this savings, if pursued in subsequent periods, will indicate that the deflationary effect is cumulated. A relative fall in demand now leads to a relative fall in investment later, this to a further fall in demand and so on. If the increase in saving is repeated in subsequent periods, it may not merely slow down the expansion but even prevent it from reaching the height it would otherwise attain, and finally turn it into a decline. On the other hand, and in accordance with the acceleration principle, the rate of investment will be greater or less according as incomes are rising more or less fast, and, since the greater the proportion saved the slower the expansion of incomes, it follows that the higher the income saved the less will the rate of investment be at any given income level. But the expansion will cease when saving catches up with investment, and the higher the proportion of income saved the lower will be the income level at which the expansion will cease. The general conclusion is that saving which is in progress during an expansion process tends to slow down the expansion. Consequently, the more people save the slower the expansion, and the less they save the faster is the expansion.

2. The down-turn or Crisis.

I n t r o d u c t i o n.-- In the preceding chapter we have shown the reasons for a cumulative expansion in the business cycle. But what needs to be explained now is why this expansion process, in the normal course of events, is brought to an end. We can distinguish between two types of disrupting or mitigating forces. Those which arise quite independently of the process of expansion which it interrupts and, those which are usually brought about by the process of expansion itself. In other words, an expansion may be interrupted on the one hand by an accident such as changes in the harvest due to weather conditions or it may itself give rise to maladjustments in the economic system which tend to check or reverse the very process by which they were brought about.

T h e p r o x i m a t e c a u s e s o f t h e d o w n - t u r n.-- An outright and deliberate contraction of the circulating medium may be the proximate cause of the down-turn. Then we have at once a decrease in the total demand for goods and it is comparatively easy to explain the further development of the contraction. It is much more difficult to explain how a disturbance which does not in itself consist of a decrease in demand and which directly affects only a part of the economic system can lead to a decline in the aggregate demand rather than to a mere shift in demand from one commodity or group of commodities to another.

A decrease in the supply of funds may be a proximate cause for the crisis. It is not difficult to find examples in the

financial history of a central bank of a country having undertaken a restrictive credit policy. The motive is usually to stop an internal drain on reserves or to restore external equilibrium. Without being forced either by the external situation or on internal drain of its cash resources, a central bank may contract credit because it fears the consequences of a prolonged expansion. The enumeration of other cases could be carried on, but what is sufficient to realize is that a tightening of the supply of funds by the monetary authorities has a depressing influence and is capable, if strong enough, of interrupting an expansion.

A disturbance in a certain branch of industry can also give rise to a general contraction. Suppose that, in an individual industry a number of firms are forced to curtail output or to cease operating altogether. A reduction in the level of output of this industry will reduce the earnings of the factors employed. The wage-bill will diminish and this will cause some decrease in the demand for wage goods. If sales go on while in the process of liquidating stocks, the proceeds or returns of such sales may be used for repaying banks and other debts instead of being reinvested in the purchase of labour, materials, etc. -- this will have a deflationary effect. A breakdown in an individual industry may very well cause at least a temporary fall in the total demand. Whether this will start a cumulative process of contraction or not, depends on the magnitude of the disturbance and the general situation.

Why must an expansion come to an end.--

We have seen that an expansion is in its first phase somewhat of precarious nature and that it is liable to be reversed by an accidental disturbance. However, if it has a chance to develop undisturbed for a while, it will gain momentum and become, to a certain extent, immune to disturbances which tend to reduce total demand.

The two most essential conditions for the smooth progress of an expansion are broadly speaking, an elastic supply of money and an elastic supply of means of production. Both conditions are essential. If either is lacking, the situation becomes precarious. Suppose that the money supply is inelastic in the upward direction. If a partial disturbance arises tending to produce a hold-up in the stream of money, we get an absolute decrease in the quantity of money and the velocity of circulation, which may easily engender a general contraction. Again, suppose that there is full employment of all factors of production. The money stream must then remain constant in the face of the forces making for expansion -- except to the extent to which the natural increase in the supply of factors and in their efficiency permits of an increase in output -- or else prices must rise and an outright inflation develops. If the latter happens, it is easy to see why the position is untenable, why the rise in prices will become progressive and will lead sooner or later to a breakdown. If, on the other hand, the money stream is kept constant, in spite of the rise in the demand for funds, equilibrium may be preserved. But the system is

is then very sensitive to deflationary shocks and, may easily be plunged by some accident into a spiral of contraction. This makes it clear that under full employment a given deflationary shock is more likely to entail a general contraction than if the supply of labour and other factors of production is elastic.

Suppose, for example, that there is a shift in demand. The demand for commodity A increases and that for B decreases. This necessitates an increase in production in commodity A. Anything that necessitates an increase of production in one industry will, under full employment, affect other industries adversely by raising their cost of production. One industry can expand production only at the expense of a contraction of output in other industries. Adversely, under conditions of elastic supply of means of production in general, any one industry can, to a certain extent, expand production without raising costs to other industries, simply by drawing on the existing reserves of unemployed labour and idle resources.

We have so far contrasted both extremes, i.e., full employment on the one hand and perfectly elastic supply of all factors on the other hand. What really exists, of course, is always an intermediate state. Even at the bottom of a severe depression, the supply of factors and of finished goods is never perfectly elastic, while at the height of the boom there is never absolutely full employment. Technically speaking, there is almost always scope for increasing total production to a certain extent by drawing into employment hitherto unemployed factors, provided all assume sufficient mobility

of the means of production. But this does not throw out our argument. Since it is sufficient to assume that, during the course of the expansion, the supply becomes less and less elastic, even if it does not go fully from one extreme to the other.

But the mere fact that, there is still much unemployment does not justify the conclusion that, an increase in the total demand for goods in terms of money will permit an increase in output and employment almost proportional to the increase in demand, coupled with a comparatively slight rise in prices in general. Therefore, the sensitiveness of the economic system will become great before complete full employment has been reached. The reason is that, the existence of a level of unemployment which might at first appear relatively high, can by no means be taken as a safe indication of great elasticity of the supply of factors of production, or of output in general. We may conclude that, during the course of an expansion which has started from the depth of a depression, the economic system becomes the more vulnerable the nearer full employment is approached.

D i s t u r b a n c e s c r e a t e d b y t h e p r o c e s s
o f e x p a n s i o n.-- There are two groups of disturbances which may be expected to arise in the economic system in the course of an expansion. (1) There may be a mechanism which works in such a way that, a monetary expansion is after a while turned into a contraction without the latter being induced by a loss, or the expectation of a loss, in any particular industry. In other words, there may be no

difficulty in any particular industry: cost may everywhere be covered by actual and expected selling price. But, suddenly, there comes a hitch in the flow of money, the total demand for goods falls off, and this gives rise to a cumulative process of contraction. (2) The other is that, as a result of the maladjustments in the structure of production, some particular industry or group of industries is forced to curtail output and employment and, thereby start a general contraction.

Under any monetary arrangement which implies a limitation of the quantity of legal tender money, there is an upper limit to the expansion of the stream of money. This explains the fact that the economic system becomes more and more sensitive to deflationary shocks. It does not, however, explain why, in the absence of such shocks, an expansion of the stream of money should immediately be followed by a contraction rather than by a period of stability. Mr. E. G. Hawtrey^{21a} has endeavoured to establish the existence of a monetary mechanism in which the mere cessation of credit expansion lead to a subsequent contraction. The theory is based on the lag of cash reserves in the banks behind the expansion of credit. The drain of cash continues after the expansion of credit has come to an end. The banks watch only the present position of their cash reserves and, do not foresee that these will shrink for a while after credit has ceased to expand. So they are led to expand too long, and later they are forced to contract in order to maintain their reserve proportions. He further implies that, all

21a. See especially the Art of Central Banking.

that is necessary to forestall the contraction, is for the central bank to furnish the commercial banks with the necessary cash to relieve them from the necessity of contracting credit. It is difficult to believe that the banks would not learn from experience, and would repeatedly make the same mistake of under-estimating the drain of cash, consequent on a given expansion of credit. The theory is not very convincing.

The other possible disturbances which may occur during an expansion, are maladjustments in the structure of production arising out of the fact that in some industries, the selling price of the products falls short of the cost of production; in other words, the demand is insufficient to meet the cost of production at remunerative prices. There is no initial decrease in the total monetary demand for goods, i.e., in the stream of money. But the flow of goods does not correspond to the flow of money and therefore, in some line of production, demand does not cover cost. This is not at all surprising when many parts of the production process has embarked on long-term investment in many lines, that new commodities are being introduced, that goods, the consumption of which so far was confined to the upper classes, are made accessible for the consumption of the masses, that new processes of production are being put into operation. These changes must and do deeply influence conditions of cost and, of demand for, any given industry. Relative prices of the various finished products and, of half-finished goods and, factors of production, are forced to change.

Many other factors have been brought forward to explain the reason why the expansion process must inevitably come to an end. Among the main of these factors we may mention (1) the effect of shortage of credit on derived demand (2) the operation of the acceleration principle (3) the effect of shortage of factors of production on derived demand, and others which will be too lengthy to develop here. But all these factors lead to the same conclusion that the process of expansion comes to an end when there is a serious breakdown in the supply of money and, the supply of means or factors of production.

3. The Process of Contraction.

G e n e r a l D e s c r i p t i o n o f t h e m e c h a n i s m.--
The process of contraction, like the process of expansion, is cumulative and self-reinforcing. Once started, there is a tendency for it to go on, even if the force that has initiated it, has in the meantime ceased to operate. The contraction may start from a state of full employment or partial employment. In both cases, the mechanism is, in principle, the same.

Deflation, in the sense of a gradual decrease in the total demand for goods in terms of money, plays an essential role in the contraction process. Once the process has got under way, a deflation or self-deflation of the economic system is an effect of the process of deflation. In money respects, and as stated previously, the contraction is the exact counterpart of the expansion process.

Suppose that contraction has been started because, a large construction scheme which was under way, has had to be interrupted owing to inability to raise the necessary funds for further financing. Demand for construction materials and implements falls off, and production in the industries which produce these things is curtailed. The demand will sag at various points, merchants will give smaller orders to producers, production will be further curtailed and workers will be released from employment. This reduces income. When incomes fall, the demand for all kinds of goods is further reduced and depression spreads to other parts of the economic system.

At first, the process will probably proceed slowly but gradually it will gain momentum. At the beginning, the process may easily be stopped or reversed by favourable influences elsewhere. Later, when the demand for a greater number of commodities has fallen for some time and contraction has spread to many parts of the economic system, expansionary influences, which in the earlier stages of the process would have been sufficient enough to outweigh the forces of contraction, will no longer be strong enough to reverse the downward movement, but will merely slow it down. This is what is meant when we say that "the process has gathered momentum".

After the process has continued for a while, intensifying factors are likely to come into play. Prices will soon begin to fall, and losses will be made everywhere, because wages and other cost items cannot readily be reduced. There will be a tendency to reduce stocks

and, to curtail orders and purchases, by more than the amount by which sales have gone down. A sustained fall in demand and prices is bound to create, in the business world, a more pessimistic outlook in general and, an expectation of a further fall in prices, whether this be justified or not. The profit rate will be reduced all along the line, and new investment or re-investment of amortization quotas will be curtailed or even stopped completely. Nobody dares to embark on ambitious schemes of investment. This will intensify the tendency to reduce commodity stock and to increase money stocks, that is to hoard. This is the counterpart of the tendency to dishoard during expansion.

It is important to note that such a contraction process can happen even in a pure cash economy with constant quantity of money. In a modern banking and credit economy, powerful intensifying factors come into play. If a large part of the circulating medium consists of bank money (demand deposits subject to withdrawal by means of cheques) and if the banking system as a whole, or a number of individual banks, get into difficulties, the banks will restrict credit. They will call in outstanding loans and, be reluctant to grant new ones. In consequence, the quantity of money will shrink. If the depositors have a run on the banks and, want to change their deposits into notes, the deflation becomes still more serious.

Owing to the rigidity of a number of cost items, each decrease in the total demand for goods in terms of money is followed by a

certain shrinkage in production. Any reduction in production of finished goods tends to be transmitted with increasing violence to the preceding stages of production, which again tends to reduce the demand for finished goods. This continues into a long and painful process.

The Monetary analysis of the process.--

The monetary manifestation of the cumulative process of contraction is the prolonged fall in the total demand for goods in terms of money. If the total demand for goods in terms of money did not fall, there would be no such rapid deterioration of the economic situation, no such swift fall in production and employment, as is the fact exhibited in the course of cyclical depressions.

When the demand for goods in general falls and production shrinks, the demand for investible funds falls, in other words, the demand curve shifts to the left. Assuming that the supply curve is unchanged, and is fairly elastic over the given range, the new point of intersection will be to the left of the old one, i.e., the amount of investment is reduced. But we cannot assume that the supply of savings is as elastic as the supply of investible funds. This means that part of the supply of investible funds which is not taken up by the demand will be diverted, not into expenditure on consumption goods, but into hoards. In other words, it will be withdrawn from circulation. Therefore, the total demand for goods in terms of money falls further, prices fall still lower and production and employment are further

reduced. This provides a further discouragement to the demand for investible funds, and the demand curve is shifted further to the left.

On the other hand, the contraction process is bound to give rise to unfavourable reactions on the supply side. Losses are made everywhere: defaults and bankruptcies threaten or actually occur. The effect is to make the banks and the investing public cautious and pessimistic. The risk of lending rises and the supply of investible funds decreases. In other words, the supply curve shifts to the left. The interest rates are thereby pushed up or are prevented from falling, in spite of the falling demand, which intensifies the deflation.

For a more detailed study of the monetary aspects of the contraction process, it is necessary to start with the following consideration. The total demand for goods in terms of money shrinks: this may be due to a shrinkage in the quantity of money and/or to a decrease in its velocity of circulation. Therefore it must be possible to demonstrate that (1) a part of the monetary circulation is destroyed and/or (2) money does not change hands so frequently against goods, because it is hoarded or used for other purposes (3) it is conceivable that a deflationary influence may be exerted by another development which does not affect the flow of money, but adds to the work which money has to do: that is, an increase in the turnover of goods (4) financial transactions may immobilize a larger part of the circulating medium, and demand for goods falls.

There are a number of forms in which the monetary contractions may appear; but not all of these forms are regular or unavoidable

features of every cyclical depression. The attempt is made here to arrange them approximately in decreasing order of regularity and conspicuousness.

A restriction by the central monetary authorities of the circulation of gold coins, notes and short-term liabilities means a decrease in the flow of purchasing power. This is a deflation by the central bank. It is a straight-forward case and does not require much comment. An outright reduction of central bank money (short-term liabilities) is however not an invariable feature. At least, it is usually not pursued right through the whole course of depression. It is a common experience at the beginning of the depression, or during the financial crisis which usually marks the turning point, or in some later financial crisis in the course of the depression, to observe a short increase in note circulation accompanied by a decrease in the total demand for goods.

Hoarding of gold and bank notes by private individuals is also a clear case of deflation. Gold is sought from the banks by the public in exchange for notes so long as the latter is redeemable in gold. The circulation is thereby reduced and pressure is brought upon the bank of issue to contract further in order to improve the reserve ratio. Bank notes are hoarded, or bank deposits are turned into notes. This brings pressure upon the commercial banks to contract credit in order to preserve their cash reserves. Clearly, hoarding of gold and bank notes by the public is not a feature of every cyclical depression. It happens usually only in severe depressions or when the banking system is in a bad shape, such as was the case in the United States, in 1933.

An invariable feature of any contraction in an economy with a fairly developed banking system, is the contraction of credit by the commercial banks. Since bank deposits are a means of payment, a liquidation of bank loans and deposits is a clear case of deflation. The public, instead of holding securities directly, holds bank deposits and the banks in turn hold securities or loans backed by securities. If and when the public loses confidence in the bank deposits and desire to turn them into cash, the banks are forced to sell securities in order to find the necessary money. This precipitates a further fall in security values which, of course, raises the real rate of interest at which business can raise long-term capital. It may be objected that, if the public, which converts its deposits into cash, does not use the money to buy up securities, as fast as the banks unload them on the market, this shows that it prefers holding money to holding securities at the current price, the effect of which must be to force the price of securities down to the same extent. This is to expect the investor to be too rational. It is likely that people, who have bought securities at a high price, will hold on to them when the market is low, even where they would no longer be willing to buy the same securities at the same price. Moreover, the mere fact that banks hold securities, may lead to a contraction of commercial credit which will be even more deflationary than the effect on security prices.

Industrial and commercial enterprises tend, like the banks, to increase their liquidity during a general contraction, i.e., they endeavour to strengthen their cash reserves and, to reduce their debts with the banks. There is a twofold purpose behind this attempt to increase liquidity. First, there is the uncertainty as to the possibility of raising funds, when they are needed to meet liabilities which fall due. During a period of contraction, it is difficult to get credit from the banks, or from the suppliers of raw materials and other means of production. There is the danger that such credits may be difficult to renew. In addition, one is not sure of being paid punctually by one's own debtor. All this makes increased liquidity seem advisable. Secondly, there is the fact that, when prices fall and losses are made and, further losses are expected, the replacement of fixed or working capital, as well as new investment which may have been contemplated before the situation became too bad, is postponed or suspended for the time being. It does not pay to invest or re-invest, therefore, idle balances are accumulated, or bank loans repaid even when the banks are no longer pressing for repayment.

Whatever may be the motives for, and the form of, the pursuit of liquidity, the immediate effect is the same in all cases. Demand for goods shrinks, prices fall, production is curtailed and the general situation is aggravated. So the initial achievement of greater liquidity creates a need for further steps to maintain liquidity, and makes things worse than they were. Gradually, however,

with the fall in prices and wages and, the curtailment of production, funds are liberated and liquidity increases all around.

In the first stages of the cyclical contraction, a strong deflationary effect may be exercised by the liquidation of inter-personal and inter-business debts. This is apart from the bank debts. The debts of a bank to its customers are normally used as money. The owner treats them as cash. They constitute purchasing power and have a velocity of circulation. Therefore, the extinction of such debts through bank failures, or through a contraction of bank credit, diminishes purchasing power and demand for goods. Other debts may, of course, perform the same function. A bill may circulate as money. Its settlement has then the same effect as the liquidation of a deposit. Even if debts, other than bank debts, do not circulate as money they may be highly liquid assets. The degree of liquidity will of course depend on the standing of the debtor and the situation of the market. Such debts are used as a liquidity reserve. When during a process of general contraction, they diminish in quantity or lose their saleability, they can no longer adequately fulfill this function and, must be replaced by money, bank deposits, or central bank money. The demand for money increases, its velocity of circulation tends to fall and, the total demand shrinks according to the process previously described.

When a debtor is pressed to repay a loan, he is not always in a position to meet his obligation out of his current receipts.

Ordinarily, he will be forced to sell assets in order to raise the fund to repay his debt. These forced sales will have a depressing influence on the price of the assets, with deflationary consequences. It is argued that these transactions absorb money, temporarily at least, and withdraw it for other uses. Purchasing power, which otherwise would have been spent for new investment or for consumption, is now spent for old securities and other assets which are thrown on the market by harassed debtors. But it is clearly seen that if the price of security falls, it is equivalent to a rise in the interest rate. This will obstruct the financing of new investment through the issue of securities. Bank loans are frequently granted on securities. If the latter fall in price, this certainly will not promote the willingness and ability of the banks to lend. If the price of real goods (house, etc.) falls, the production of these goods loses its profitability and will be curtailed. Therefore, these forced sales of assets and the consequent falls in price produce or intensify deflation.

4. The Up-turn: Revival.

The proximate causes of revival.-- An expansion can always be stopped and a contraction process started by a restriction of credit by the banks. A contraction, however, cannot always be ended promptly merely by making credit cheap and plentiful. There will always be a rate of interest high enough to discourage even the most eager borrower. But, when prices and demand are falling and,

are expected to fall further, the demand for investible funds may be at so low an ebb, that there is no rate which will lead to a revival of investment and, entail an increase in the effective circulation of money, that is, in the total demand for goods in terms of money per unit of time.

We still, therefore, study the various possibilities and factors of a revival in investment as the starter of an expansion on the basis of the demand, and supply scheme for investible funds. A stimulus to investment can come either from a change on the demand side, or, if there is still a latent demand for investible funds, from a change on the supply side. Anything that has the effect of shifting the demand curve, or the supply curve to the right, tends to bring about an expansion.

If the demand for investible funds is really so inelastic over a certain range that, a change in the interest rate has no influence at all on the amount of money invested, a change on the supply side will make no difference to investment or, to the effective quantity of money. Given the state of demand for loans of various types and maturities, we may say that anything which makes supply more plentiful tends to initiate an expansion. One of the most important influences is that of the central and commercial banks, whether exercised through discount policy with a view to increasing the liquidity of the short term market or, through open market operations which affect primarily the long term market.

We may now turn to the discussion of the factors exercising a favourable influence on the demand for capital. If in an individual firm or industry output is being expanded, workers must be hired, raw materials bought, machinery and equipment ordered. If money is used for that purpose which would not be used otherwise, the money stream swells and the demand for other goods rises. It is, of course, immaterial whether new money is created by the banks or, idle funds are utilized. The upshot is that any of the expansionary factors all along the line, may act as a starter for a general process of expansion. Whether they actually do or not depends, in any given case, on the magnitude of the particular change and, on the general situation. If a process of contraction is under way, a strong expansionary impetus is required to restrain and reverse it. If the contraction has spent its force, a slight stimulus may be sufficient to start the system on the up-grade.

L i m i t a t i o n s o f t h e c o n t r a c t i o n p r o c e s s .-- It has been demonstrated that the economic system during an expansion tends to become increasingly vulnerable when it approaches full employment, first, because the supply of means of production in general, and labour in particular, becomes more and more inelastic in the upward direction and, secondly because the expansion of total monetary demand must sooner or later slow down, or else prices must rise continuously, which again cannot go on forever. We must now apply this principle to the inverse situation

as it develops during a contraction process.

There is obviously a tendency for the elasticity of supply of means of production of all kinds, of labour and producers' goods to become greater as the contraction increases. The supply of labour recovers its elasticity in the upward direction. In other words, an increased demand for labour can again be satisfied at constant, or only slightly rising, wages. Similarly, monopolistic restriction by entrepreneurs often succeeds in maintaining relatively stable prices for certain goods and services right through the contraction. In this way, elasticities are created in the supply of means of production and products at various stages of preparation. The consequence is that, it becomes easier for any one industry to expand production in response to an actual, or expected, increase in demand for its product, without thereby increasing the cost of production of other industries. In other words, the depressing consequences of certain changes are thereby mitigated, while the expansionary consequences have free play.

An elastic money and credit supply which is a second prerequisite for an easy start and smooth development of the expansion process, is eventually restored in the course of contraction. As prices fall, the value of central bank money which is at the base of the credit structure, will rise. So long as the structure itself is undamaged, each step will be based broader than before. The gold reserve will cover a larger proportion of the central bank money. The cash reserves of the banks will rise relatively to their

short term liabilities. Circulation currency and deposits in the hands of the public will rise relatively to the money income which they receive and, the capital which they possess. But this process need not be continuous. It may encounter a whole series of setbacks. The mounting debt burdens and the struggle to avoid bankruptcy itself creates a need for ready cash. Bankruptcies and the fear of good debts turning into bad ones give rise to a flight of liquidity which is not satisfied even by increased reserved proportions and rising hoards. It is, however, only a matter of time till the course of bankruptcy is arrested, and the monetary munition accumulates for a new expansion.

Logically, it is, of course, conceivable that, in the absence of an expansionary impulse, the contraction should go on and on indefinitely. But there is good reason, based on general experience of human behaviour, to suppose it will not do so. In this connection, there is one important consideration which is sometimes overlooked. A persistent shrinkage in the total monetary demand for goods, must be accompanied either by a continued destruction of money, or by a continued accumulation of money hoards. How far the process of destruction will go in a concrete case depends on the monetary organization and institutional factors of the country concerned. Nowadays, it is mainly deposit money rather than central bank money, which is exposed to destruction. To what extent the destruction of deposit money goes, depends on the organization of the banking

system and to a great extent also on factors which may vary from one depression to the other.

After the destruction of money has come to an end, the continuance of the contraction must be accompanied by a growing accumulation of money hoards in various shapes. The magnitude of these hoards will increase in terms of monetary units at the expense of money in circulation. It increases still faster owing to a fall in prices, in terms of real purchasing power. These hoards will grow in relation to real income, as well as, in relation to real wealth. In other words, people will hold an increasing proportion of their real income and wealth in the liquid form of money. It should be noted that so long as people are adding to their hoards, the rate of interest on investible funds will be kept relatively high in spite of the fact that, the demand of producers for money for investment purposes, is at a low ebb. Under unfavourable circumstances, such a situation may last a long time. But, as it implies that money hoards are growing all the time in magnitude, we are probably justified in assuming that there will be a limit to such hoarding. After liquid resources have reached a certain high proportion of wealth, the need for liquidity will eventually become satisfied and people will stop adding to their hoards. If the rate of interest remains high, because there is still a demand for credit for purposes of real investment, hoarders will be tempted to put their funds on the capital market sooner than, if the rate of

interest has already fallen to a low level. But, even if the rate of interest is low, there will come a point where hoards reach such a high proportion of income and wealth that there is no point in increasing them. One or both of two things will happen. Either more money will be lent out on the capital market, with the result that interest rates will be forced down and investment will be revived, or, if the demand of producers for credit is absolutely inelastic, people will become less disposed to save, and the demand for consumers' goods will cease to fall, or may even rise. The conclusion is that, on very general grounds, there is a strong probability that there is a limit to the fall in the total monetary demand for goods, even in the absence of any special stimulus for expansion.

Natural forces of readjustment.--

The economic system is capable by itself of putting an end to a contraction and turning it into an expansion. There are expansionary impulses which can be relied upon with a fair degree of certainty to occur automatically sooner or later, and to turn contraction into expansion. These automatic expansionary impulses are primarily in the shape of factors which directly stimulates producers' spending. It is, therefore, convenient to distinguish between changes on the side of the supply of, and demand for, investible funds.

Beginning with changes on the supply side, we assume that the demand for investible funds has not completely vanished. In other words, there is a latent demand at a positive rate of interest which cannot be satisfied, because the prevailing rate of interest is too high owing to the supply situation. This being so, the cessation of the hoarding process will not only halt the contraction in the monetary demand for goods, but it will also lead, in the course of time, to expansion. When the banks, industrial firms, and private individuals, have on the whole reached the conclusion that their cash reserves are large enough, the rate of interest will fall, because of a certain amount of money which will be put on the capital market instead of going into hoards. Investment will pick up a little. This will stabilize the monetary demand as well as the aggregate demand for goods. It will also bring about a stabilization of employment and production. If no new business failures and other shocks disturb this comparative stability for a while, confidence will return and people will be tempted to reduce their hoards. When prices have ceased falling, or when they are expected to remain stable or to rise, there is a strong inducement to dishoard, because hoarding means the sacrifice of the profits of investments. On the other hand, during the contraction, the debt burden of industry will have been reduced in various ways. Thus, the basis for a revival of financing increased production by loans, or other means, will have been restored.

Turning now to the demand side, we find that, during a contraction, the demand for investible funds may have reached almost the vanishing point; so that a fall in the supply price, or the market rate of interest, even to a very low level, may have very little influence. Nobody dares to invest. The reason is not that the accumulation of real wealth has gone so far, that physically there are no investment possibilities left. Rather, it is the fear that prices will fall and a lack of confidence, a feeling of uncertainty about the future in general. When total demand and prices have once again settled down at some level or other, the demand for investible funds will rise automatically with the mere lapse of time. The fear that prices will fall further will gradually disappear and, certain investments which would have been possible and profitable but, have not been undertaken, because of the fear that demand and prices would fall further, will begin to be made.

It is very likely that during the contraction, when investment was at a standstill, new inventions may have been made which, in spite of the fact that they would reduce the cost of production, have not been put into application because they necessitated more or less heavy investments, which the entrepreneur was not willing to make when he expected a fall in demand and prices. Thus a stock of investment opportunities is accumulated, which is likely to induce investment expenditure as soon as the general fall in prices has been stopped. The way in which, after a long spell of depression,

the ice is broken by some enterprising spirits, who have the courage to try something new in some line of production, and the way in which the example they set is followed by others in the same or other branches of industry, are recurrences which can easily be traced in the history of every business cycle.

CHAPTER III

GENERAL OUTLOOK OF CANADIAN BUSINESS FOR 1947.

With the advent of war on 3rd September, 1939, Canada, economically was recovering of the depression of 1937. Although Canada was early in declaring war, it was not, however, early in realizing the effects, economically or otherwise, which this conflict was to bring upon this world and especially this country. It was expected and realized that Canada would have to furnish manpower, both on the battlefield abroad and, in the production field at home. Canada, for moral reasons, had to be an active participant of the conflict, but also, in its role as provider and producer of war machinery acquired in the war 1914-18, it had to retain some of its manpower at home in production. The first Canadian contingent arrived in England in February, 1940, but also, at that time, producers of both producers' goods and consumers' goods had, in part, converted their production establishment to the production of war materials as required by the Government. Further, the Government itself, hurriedly drew plans for expansion of production of war materials in an effort to meet the requirements, first of Great Britain, and later, in participation with the United States, of the Allies.

Therefore, in a short period of time, Canada is changed from a position of low employment to that of full employment; from a situation of partial production, to that of full production; from low earnings to excessive earnings; from a low amount of investible funds, to a high capacity of investible funds; from poor purchasing power for its population, to that of high purchasing power. All

this is the outcome of our participation in the war and, our strategic position as a provider and producer of war materials. The funds or monies necessary for this production must be provided by the Government who has become the sole customer whose demand is limitless and, in excess of the Canadian productive capacity.

In order to obtain the necessary money, the Government must have recourse to its own people. This is achieved by the imposition of taxes on incomes and various commodities. Further, the Administration encourages the population to lend its money in the form of war bonds, refundable portion of Income tax, excess profits tax and War Savings Certificates. But in order to suppress a wild inflation in this rapid process of expansion, the Government must inject setbacks or measures to retard or withhold this process, without curtailing full employment and production. This is achieved by various controls on active factors of production (labour, wages, bonuses, expansion of production stages, etc.) and controls of the commodities and necessities which affect the cost of living. Thus, we see the Government declare all labour strikes illegal and the wages frozen, bonuses cancelled or forbidden, production, except for that of the strict necessities of the population and the requirements of the war effort, curtailed and banned, control of prices of commodities, rents, etc., initiated and established. In order to enforce these controls, especially that of production for the requirements of the population, the Government subsidizes a certain branch of industry.

In others, it acts as the provider of raw materials which are bought abroad at a high price and sold to the producer at a price at which production of the finished article can be made, with a profit, at the established control price. On the whole it may be said that during wartime, Canada has a closed and controlled economy with a great accumulation of investible funds turned into forced savings at the disposal only of the Government.

The victory for the Allies comes in 1945. We find all major industries of Canada still producing excessively for the war effort. Full employment and high wages still reign. Suddenly this production comes to an end. The ever-demanding customer has now obtained all it requires, and the road to reconversion to peacetime production is now what lays ahead for all industries. However, this reconversion must proceed in such a way, as not to cause disruptive actions in the economic system, i.e., inflation is opposed and depression is shunned. Therefore, the Government continues all of its controls because full employment will continue, the demand for consumers' goods is still excessive, and raw materials are still very scarce. Thus, with a great amount of investible funds still in the hands of the public, and the demand for consumers' goods still high, the Government must lend a hand to the economic structure by restricting or withholding factors which, if permitted to activate the economic system, will lead to a wild inflation. That is, the reason why the Government continues all controls well into 1946.

However, for the period under study -- the beginning of 1947 -- the Government has released a few controls. The wages are unfrozen to permit the workers to bargain with the producers, and thus, bring about a comparative level between wages and prices. Those workers who were progressively employed when the imposition of wage control was imposed, had found themselves forced to remain in their same position, but the prospect of increase of wages had disappeared, even in the face of the increasing cost of living. This was a serious maladjustment which the Government could no longer permit. Also the demand for consumers' goods is ever increasing and to have an economic stability of duration, prices and wages must find their true levels -- levels which must permit the producer his just profit, and the workers their just remuneration in accordance with the cost of living.

The economic situation at the beginning of 1947 may be said to be a favourable one for Canada. Canadian economy is very close to that of the United States, and therefore, any analysis of Canada's economy must be made in conjunction with that of the United States. The reasons why the economy of Canada is so closely related to that of the United States are obvious and need not be mentioned here. But, facts and conditions in the United States which are bound to affect Canada's economy will, perforce, be examined.

The question which looms in the mind of Canadians for 1947 is: What is in the future for business and for my job? To consumers,

war-tired and impatient, the goal is more and better merchandise, at lower but not higher prices, if possible. To labour, the goal is another round of wage increases before the business curve flattens out. To producers and entrepreneurs, the goal is high and more efficient production to meet current and required demand and, a prompt halt to the spiral of prices, whose continued upward whirling will so positively lead to disaster.

There is nothing on the cards for 1947 resembling a depression. There is, however, a recession which is necessary to add to future security. It is an adjustment in the rate of change of business which is required and not a change in the pace of business. Those sudden and violent upward and downward pitching of the economy bring trouble. Therefore, we must keep the chart lines of business activity and prices reasonably flat or sloping only slightly, and avoid the dangerous pattern of high peaks and deep valleys. Purchasing power still remains strong. Full employment, savings, deferred demands, insatiable demands for sales abroad, wider distribution of purchasing power through national fiscal policy and social security measures, all strengthen the purchasing power. It is admitted that a lot of this strength is being lost rapidly. But, employment remains very high, and despite the widespread nakedness of the white collar group in respect to savings, the fact for the community as a whole is that personal savings are still considerable.

The biggest single factor in this complex business picture is the course of wages and prices in the United States. In the past, the traditional pattern was to see American conditions reflected in the Canadian business scene about six months after the United States event. But wartime controls and planning may have changed this interdependence. What remains uncertain is the extent to which our considerable degree of wartime independence can be continued in 1947 as Canada goes on unraveling price and other controls. The basic planning by the Government for 1947 is based on the belief that, price control machinery should try to keep the Canadian umbrella over the consumers' heads long enough to outline the effects of further price spiralling in the United States. Rising prices are the most serious and damaging factor in purchasing power. It is apparent that in the United States, and possibly in Canada, the demand for goods is not being supported by adequate additions to income, relative to rising prices. Some goods, it may be said, are pricing themselves out of their markets. The cost of living has risen. The increase in food prices indicates that most people will have less money to spend on furniture, radios, etc. It also provides a very good reason by labour for higher wage rates. Both, in Canada and the United States, the labour union leaders are now undertaking drives for another round of wages increases.

The central credit control, through the bank of Canada, has kept the rate of interest low. It is hardly to be expected that an

increase in the rate will take place when it is recession that is apprehended. The wages of capital may be too low, but the stiffening of money rates now would jolt the whole of the economic system and possibly bring disaster. There are no signs that the rate of interest will be changed in the near future.

It is apparent, however, that there needs to be a re-adjustment between prices and wages during the coming year. These factors are the only ones which are not in accordance with the others in the economic system. Let us see what is being said generally by industrialists on this subject. The Financial Post of January 4, 1947, states editorially:

If labour and management can work together, 1947 can be a year of significant progress. That is the unanimous opinion of the leaders in business, industry and finance. The biggest single problem in the year ahead, they agree, is permanent solution for the strikes and labour friction which to get down production in 1946. If we can solve that, we can get production really rolling, then all other troubles, including those that may invade us from outside our borders, will be comparatively unimportant.

George W. Spinney, President, Bank of Montreal, in his address at the annual meeting of the Bank of Montreal states:

At the present time, there is still prevalent the idea that purchasing power rather than production is the mainspring of employment, income and material well-being. Actually, the problem of purchasing power now, is one of excess rather than scarcity, and one of the immediate and urgent tasks confronting this nation is to put a sound foundation of production under the purchasing power already in existence.²²

22. Financial Times, December 6, 1946, Page 4.

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