ACKNOWLEDGMENTS

THE publication of the first edition of this book in 1932 naturally led to many new contacts with other students both amateur and professional. In addition, my work with the American Institute for Economic Research has brought an ever-widening circle of acquaintances and friends, much of whose correspondence has dealt with one aspect or another of the business cycle problem. Consequently, it is impossible to acknowledge all the contributions by others to my thought and writing on this subject. I am grateful to all who have troubled to give me their views, especially to those who have requested more thorough analyses of various aspects of the problem. They deserve the credit for much of the improvement in this edition.

My associates at the Institute have been especially helpful. They subjected themselves to an elementary course in business cycle theory based on the revised ten chapters of this book. I am sure that it is a better product because of their study and helpful criticism. Of course, they should not be blamed for any failures to achieve the perfection that all serious followers of the scientific method strive to attain, but do not expect to reach.

The preparation of a comprehensive and useful index for a book such as this requires both knowledge of the subject matter and much painstaking effort. I am particularly grateful to Helen Upton for her contribution to this part of the work.

The Cleveland Trust Company was good enough to permit reproduction of the chart showing business activity in the United States since 1790.

E. C. HARWOOD

PREFACE

THE first edition of this book was published in 1932, and many changes have been made in our money-credit system since that year. Furthermore, business cycle theory has been improved during the past few years, especially by such note-worthy contributions to the subject as Dr. Haberler's *Prosperity and Depression*, Dr. Marget's *A Theory of Prices*, and the publications of the National Bureau of Economic Research. It has therefore been necessary to rewrite much of this book in order to bring it up to date. However, the basic principles remain unchanged; and events of the past few years have strengthened the evidence that supports those principles.

This book has been written primarily for the layman whose education or practical experience provides the background for an understanding of this nontechnical exposition. However, there are certain features of it that may be of interest to professional economists because of new ideas or changed emphasis on familiar aspects of the subject. As a courtesy to the experts who are more interested in technical aspects of the latest developments in business cycle theory, I have included a special introduction. This presents the more technical parts of the argument, gives page and chapter references to new ideas or changed emphasis on older ideas, and discusses the relation of this work to the writings of others.

E. C. HARWOOD

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CAUSE AND CONTROL OF THE BUSINESS CYCLE

INTRODUCTION

THIS book is intended primarily for readers who are not familiar with the many volumes that have already been written on the subject of business cycles by both professional and amateur economists. However, there are some features that will be of interest to the experts in this field because of the new ideas presented or changed emphasis on older ideas. For the convenience of professional economists, technical features of the new ideas, the changed emphasis on older ideas, and the relation of this work to several business-cycle theories are discussed in this introductory chapter. Arranging the material in this manner has made it possible to eliminate most of the foot-notes that would otherwise be necessary and to concentrate here the more involved technical discussions that are not essential from the layman's point of view. Readers who are not interested in these aspects of the problem should immediately turn to Chapter I, THE PROBLEM, which begins on page 22.

The first feature of this book that will probably be of interest to professional economists is the title. "Cause and Control of the Business Cycle" unfortunately carries the implication that there is one primary and original cause, and that there is one all-important method of control. In spite of this drawback, the title has been continued unchanged in this fourth edition simply because I have been unable to think of a different title that would convey to most readers the general content and purpose of the book without introducing too many additional words and phrases. However, those students of the subject who have already worked in the field certainly have every right to ask what is meant by "cause" and by "control" of the business cycle.

The dictionary defines cause as "that which occasions or effects a result; the necessary antecedent of an effect," and it is no doubt in this popular sense that the word is most frequently used. However, from the scientific standpoint, this definition is unsuitable, first because it implies that a result can be considered the effect of a single preceding factor or influence, and second because it carries the im-

plication that a "cause" has some unique motivating power that enables it, without outside assistance, to produce the result. These are serious defects, because the "causes" of any given phenomenon seem to multiply as our powers of observation improve, and to select one of many necessary antecedent conditions and ascribe to it a unique capacity to produce the event, is an unscientific and inaccurate description of reality.

It should be plain, therefore, that in using the word "cause" I have intended to imply no more than one of the conditions, in the absence of which the business cycle in its extreme form as we know it today would not exist. This immediately raises the question, Why seize upon but one of many causes for a discussion of this character? The answer is that this particular condition-precedent, or cause, of the business cycle seems, of those recognizable as such, to be the one that will probably be most easily controlled or regulated. In fact, inasmuch as the particular cause here discussed involves abuse of an important part of the economic mechanism, an attempt to deal with this cause will involve *less, rather than more,* complicated regulation of our economic system.

It should not be supposed that I refuse to admit either the possibility of many other important causes of the business cycle, or the possibility of exercising some control by dealing with them. For example, it is possible, even if not immediately probable, that the chemists and biologists will eventually perfect a stabilizing injection of some kind that will modify the cycles of human conduct so that individuals, either singly or en masse will no longer suffer those periods of unbalance when they either optimistically hope for more than they reasonably can expect, or pessimistically fear much worse events than will probably happen. However, any suggestions for controlling the business cycle by dealing with this cause presuppose circumstances much different from those that exist today, at least in the United States.

Control over those causes related to individual saving or involving the over-all planning of new investment for business can be undertaken only by a government having far more power to interfere with the freedom of individuals than the United States Government has at this time. Such experiments are being undertaken in England and France, thus far without any degree of success that would encourage imitation. Before going farther down that road of doubtful destination, a survey of other possibilities is certainly in order, and this book discusses one of those possibilities.

The word "control" is perhaps unfortunate, in that it may convey to some readers the implication of close and precise regu-

lation; to some it may even imply complete avoidance, as in the case of the chronic inebriate who "takes the pledge," and for the time being "controls" his appetite for strong drink. Presumably, no economist and few business men would expect that the business cycle could be controlled to that extent.

It seems clear that, unless all the causes of the business cycle are closely controlled, it is idle to suppose that manipulation of any one antecedent condition can provide a degree of control that would wholly eliminate the business cycle. In order to exercise the wisdom and restraint that may control one of the causes of the business cycle, it is necessary to have a criterion for action, and it is difficult to conceive of such a criterion that does not depend, to some extent at least, on a moderate fluctuation of business activity. Fortunately, the criterion of control discussed in this book is largely independent of cyclical movements in business. However, until a degree of understanding and a perfection of statistical data not now apparent become available, it would be silly to suppose that the business cycle can be eliminated. Therefore, by control I mean some degree of control, which probably would eliminate the extreme aspects of the boom and depression stages of the business cycle, although it also seems probable that in the course of time and with continued scientific research a much closer degree of control might be obtained by the means here discussed.

New Ideas

The core or central thought of the ideas discussed in this book is an old one, dating at least as far back as John Law of Mississippi Bubble fame. It is certain that Adam Smith truly apprehended its significance. It is, in fact, a relatively simple idea, because it has been rediscovered time and time again by both professional and amateur students of monetary theory. Therefore, and of course regardless of the degree of originality in the basic idea when first developed from my personal viewpoint, it will be plain to professional economists that the main line of thought presented is not a new contribution to scientific knowledge of the field. However, there are certain changes of emphasis and perhaps one or two new ideas that professional economists will wish to consider.

The Index of Inflation offered is believed to be a new contribution to the scientific advance in this field. Based on practical experience with it during the past two decades, it seems to have unique barometric significance with respect to cyclical movements. In other words, it reflects changes in one of the important conditions precedent to the fluctuations of the business cycle. This strengthens

the belief, which I first entertained nearly 20 years ago, that this Index might be used for the purpose of controlling the business cycle; that is, controlling it in the sense of mitigating the harmful extremes. Chapter IV explains the construction of this Index, and presents its record for a period of 33 years. (More detailed information, including photostat copies of the detailed computations, can be obtained by application to American Institute for Economic Research.)

A second new idea, or at least a more complete development of an older idea, will be found in the explanation of the circumstances that made stable commodity prices possible from about 1922 to 1929. Many economists no doubt realized, during the last stages of the New Era, that commodity prices were being supported above what might have been considered their normal postwar trend by an increasing degree of inflation. A few economists who apparently failed to give any weight to this possibility made some widely-publicized and unfortunate predictions that emphasized the desirability of remembering that price movements are always relative and only sometimes absolute. The evidence that their assumptions were erroneous has been sufficiently convincing, but I have not seen elsewhere a satisfactory explanation of the precise manner in which the use of inflationary purchasing media may cause a relative but not an absolute rise in prices.[1] This explanation will be found in Chapter VII.

It would probably be nearly impossible for any writer to offer new definitions of inflation and deflation. These concepts have been made to cover so much territory by so many different writers that it might almost be said they are spread like a vast circus tent over the entire fields of monetary and price theories and some other territories as well.

Consequently, it is believed that the refinement of these concepts offered in Chapter V may prove interesting to professional economists. The words "constriction" and "reflation" have likewise been used, and these concepts have been so defined that, together with the concepts "inflation" and "deflation," all of the possible conditions involved are clearly differentiated.

[1]Credit is due to Mr. Ralph E. Flanders and Mr. Sanford E. Thompson for this explanation. Not satisfied with my glib assurance that inflation could cause a relative, rather than an absolute, price rise, they quite properly requested a detailed demonstration of the process. It is of course impossible to prove that my explanation fits the facts as they occurred during the 1920's, but it is at least in accordance with as much of the facts as can be observed. It explains how that which apparently happened might have happened, and it therefore removes one reason for doubting the explanation given.

The question of the relationship between savings and investment has been discussed by monetary theorists for many years. However, the publication of Dr. John Maynard Keynes' fundamental equations drew the spotlight of attention to the I-S (investment minus savings) factors in the situation.

My first reaction to the Treatise was described in the 1932 edition of this book. The fundamental equations, provided the variables were so defined that they could act as true mathematical variables in an equation of this character, seemed to offer one method of throwing light on the subject. However, Dr. Keynes, in differentiating between his work and the theories of Hobson, Foster, and Catchings, et al., said ".....on my theory, it is a large volume of saving which does not lead to a correspondingly large volume of investment (not one which does) which is at the root of the trouble." In saying this, he certainly implied that the I and S (investment and savings) used in the fundamental equations were to be considered independent variables. Unfortunately, his subsequent definitions completely destroyed the independence of these alleged variables.

That his definitions were not satisfactory was apparent, but I assumed that they would be corrected, and that observation of the facts would lead Dr. Keynes to correct his assumptions regarding the failure of savings to be invested. However, such has not proved to be the case. Dr. Keynes appparently preferred to retain his definitions of investment and savings, even at the cost of nullifying whatever usefulness there may have been in his so-called fundamental equations. However, his difficulties have been so thoroughly analyzed by Dr. Marget in *A Theory of Prices* that a further discussion of them here is unnecessary.

Although the discussion in economic journals since early 1932 has conclusively demonstrated that investments and savings, as defined by Dr. Keynes, are equal, in fact, are fundamentally the same concept, it is still true that savings and investment, used in a different sense, may not be equal, and that their difference may be of economic significance. This point is well brought out by Dr. Haberler when he says, "Thus the money invested today is financed partly by savings out of income earned yesterday and becoming available today, and partly by inflation."[2] However, even he seems to have overlooked the fact that, although an excess of current monetary investment with respect to the supply of current savings

2"*Prosperity and Depression*," by Gottfried von Haberler. League of Nations. Page 198.

must be financed from inflationary sources, this is not the same thing as saying that all purchasing media from inflationary sources must be used to cause an excess of monetary investment with respect to current saving. It may be so used, but need not necessarily be so used. This point is discussed on pages 19 and 20.

Purchasing Media vs. Purchasing Power

In the first edition of this publication, the phrase "purchasing power" was used to include both currency that may be passed from hand to hand as exchanges are accomplished, and the total of demand deposits that can be drawn upon in the usual manner by check. Some economists have used the word "money" in this broad, inclusive sense also. On the other hand, one prominent group of money-credit economists restricts the use of the word "money" to the money commodity, gold, or its representative paper such as the warehouse receipts called gold certificates, formerly in circulation. At the other extreme there are some economists who use the word "money" or sometimes the phrase "purchasing power" to include time or savings deposits in addition to currency and demand deposits. Some writers would even include promissory notes and book credits, or charge accounts, as part of the purchasing-power total.

During the past few years, there has been a more common use of the phrase "purchasing power" for an even more all-inclusive concept. Individuals who have wealth in almost any form that might conceivably be sold or exchanged are said to have "purchasing power." This viewpoint greatly broadens the ordinary meaning of the phrase, and it is perhaps losing its usefulness for scientific purposes on that account.

Because the word "money," used without a train of appropriate modifiers following in its wake, has for more than a century been unsatisfactory for scientific discourse, and because the phrase "purchasing power" seems to be gradually acquiring a broader penumbra of meaning than it carried a few years ago (or perhaps because I now have a better grasp of the meaning assigned to it by various other writers) it has seemed advisable to use the phrase "purchasing media" to signify the total of hand-to-hand currency plus checking accounts available to the public. In spite of the disadvantages that must always attend the use of a less familiar phrase, "purchasing media" seems to be an especially appropriate symbol for the reference intended. It may be defined as follows:

The term "purchasing media" refers to the currency in cir-

culation plus those credit instruments that are also immediately available for use in their existing forms (from the viewpoint of purchasers), that are immediately acceptable (from the viewpoint of the sellers), and that involve no continuing obligations for a more or less protracted period after the purchase and sale has been accomplished.

The reasons for defining the concept in this particular manner will probably be of especial interest to professional economists.

It will be observed that the qualification "immediately available (from the viewpoint of the purchaser)" makes a distinction between demand deposits and time or savings deposits or other forms of wealth or claims upon wealth that can be converted either within a short or long period into a generally accepted purchasing medium. An important group of monetary economists has argued that time or savings deposits are not essentially different from demand deposits, because they can, as a general rule, be quickly converted to demand deposits or hand-to-hand currency. Therefore, the reasons for this distinction must be carefully explained.

Distinction Between Time and Demand Deposits

If time and savings deposits are not to be differentiated from demand deposits in monetary theory, it is difficult to understand why an asset such as the United States Savings bond should not likewise be included. It is certain that these bonds can be converted to a generally accepted purchasing medium, because that is part of the contract in the bond. On the other hand, this is not part of the contract involved in the bank-versus-savings-depositor relationship. On the contrary, the bank has the right (even though practical considerations may prevent its exercising this right in most instances) to delay the conversion that may be requested by the depositor for a period that varies in different localities. If the possibility that *some* time or savings deposits may be converted to demand deposits is justification for failure to differentiate between checking accounts and time deposits, then it is plain that there should likewise be no differentiation between checking accounts and United States Savings bonds. If United States Savings bonds are to be included in the total, why not also include some irreducible minimum value for all marketable securities; and if these are to be included, why not likewise include some irreducible minimum value for all wealth in whatever form it may be at any time? In other words, why not regard the total of purchasing media available to the public as being the total liquidating value of all wealth in existence?

Some economists may answer this question by asking, Well, why not consider the total purchasing media available to the public the same as the total liquidating value of all wealth and claims on wealth? To such readers I suggest more careful consideration of the phrase "liquidating value." Liquidating value, as used here, refers to the dollars obtainable by selling the article. Surely it is obvious that including with the dollars (currency and checking accounts) available for making purchases all articles that may be offered for sale inextricably confuses supply and demand, or potential supply and demand, in the market places of our economic society.

The only clear dividing line appears to be that between assets immediately available and generally acceptable as a purchasing medium, and those that are neither immediately available nor generally acceptable. If such a distinction cannot be made, both in theory and in practice, any attempt to control the volume of purchasing media must somehow attempt to regulate the holding, liquidation, and exchange of all forms of wealth. Fortunately, there are many more reasons than this one for believing that monetary theory should recognize a fundamental distinction between purchasing media as I have defined the concept, and all other wealth or claims upon wealth.

One of the facts that emphasize the value of this distinction is that purchasing media can be increased or decreased in total amount either by Government acting alone, by Government in cooperation with a banking system, or by business interests in cooperation with the banking system (or by the banking system in cooperation with business interests, depending on one's viewpoint as to the initiating factor), whereas such is usually not true of time or savings deposits, securities, wealth in general, and miscellaneous claims on wealth.

Some economists would perhaps raise a question at this point, and suggest that "a considerable proportion of the expansion of bank deposits against the government debt is represented by time and savings deposits," an assertion that came to me some time ago in a letter from one of the Nation's leading monetary economists. However, the available facts, which are nearly all-inclusive and of a high order of accuracy, appear to invalidate this theoretical assumption. During the three year period, 1934 to 1937, there was the greatest expansion of bank deposits that had ever occurred. As every student of the subject knows, this was primarily a result of the monetization of Federal deficits by the commercial banks of the country. In spite of the more than $10,000,000,000 increase

during a relatively short period, time and savings deposits did not increase as rapidly as they did during the three-year period from 1924 to 1927. It may be argued that the New Era inflation had started by 1924, and that the increase in time deposits from 1924 to 1927 may therefore substantiate the assertion made. However, reference again to the facts in the case reveals that time deposits did not increase so rapidly from 1924 to 1927 as they did from 1914 to 1917, just *prior to* the World-War I inflation. The facts suggest that the actual course of events may have been precisely the opposite to that which has been assumed by theorists who have not stopped to investigate the readily available facts.

Another factor that perhaps strengthens the argument for differentiating between demand and time deposits is the attitude of the typical depositor in each instance. It seems safe to assume that at the time of making the deposit, the individual or business that adds to its checking account expects to enter the market within the usual income period and make use of that purchasing media. On the other hand, the individual or business that increases its time deposits, in effect, says, "We do not propose to use these funds as purchasing media within the normal time of turn-over for our checking account." Furthermore, a substantial portion of demand deposits is traceable to depositors who have sought loans because they wished to use purchasing media before their normal incomes could provide an adequate supply. On the other hand, the attitude of the individual or business making a time deposit is precisely the reverse, in that he, in effect, says to the bank, "You lend or spend this money for me, because I do not wish to use it for an indefinite period."

Another important difference is found in the fact that time or savings deposits presumably will accumulate indefinitely. They are the record of savings made available for investment (part of them, at least), and therefore have grown from an insignificant proportion of bank liabilities and will probably continue to grow in relation to demand deposits until, considering all banks as a group, time or savings deposits will be by far the major portion of their liabilities. It would obviously be a serious mistake to confuse this long-term development with the changes in purchasing media that are apparently related to business cycle movements.

It should also be noted that a failure to differentiate between demand deposits and time or savings deposits leads to serious confusion analogous to that which would result from a failure to differentiate between plus and minus signs in an algebraic equation. Time or savings deposits, although they can usually be converted

to demand deposits or currency within a relatively short period of time, must be considered on the opposite side of the purchasing media equation, under those circumstances. In other words, they occupy the same position as does a share of stock, for example, which the owner places on the market for sale. Time or savings deposits, like other claims on wealth and articles of wealth itself, can become demand in the market, from the viewpoint of items available for sale, only because the owners of the deposits or other wealth involved can first exchange their holdings for cash, either in the form of checking accounts or currency. In short, time or savings deposits are merely the records of the fact that purchasing media were turned over to savings banks for investment. Except for minute quantities, insignificant in relation to the total, all such funds have been promptly invested (i.e., spent for capital goods) and thus are no longer in the possession of the banks concerned. The assets acquired in the process (bonds, mortgages, etc.) belong to the depositors, and the so-called savings deposits are merely the records of the depositors' respective shares in the assets held.

Although purchasing media, including both checking accounts and currency, make possible an effective demand for goods in the market place, it is necessary to remember that the total of purchasing media is the supply of cash or the equivalent available in the market from the viewpoint of those who have goods or other assets to liquidate. It follows that to fail to differentiate between time and demand deposits is to ignore the difference between demand and supply. It is to treat as though they had like signs items which necessarily have opposite signs in any broad equation of exchange that it is sufficiently comprehensive to set forth the pertinent facts. If for no other reason, this situation alone is sufficient to make a differentiation between demand deposits and time or savings deposits essential.

Relation to Other Cycle Theories

Students of business cycle theory will of course wish to know what relation the theory and demonstration presented in this book have to those offered by a host of earlier and contemporary writers. Of all the various cycle theories that I have examined, the synthesis offered by Dr. Gottfried von Haberler[3] most closely parallels the discussion given in this volume. There are a few significant differences, which will be discussed in subsequent paragraphs.

[3] *Prosperity and Depression*, by Gottfried von Haberler. Part II.

Of the various other theories that have been offered, two variations of the oversaving theory have held an important place in economic policies and controversies during the past few years.

During the earlier part of the great depression, the oversaving theorists who also argued that excess saving led to overinvestment were in the spotlight. A typical example of these theories was offered by Messrs. Foster and Catchings here in the United States. There were, of course, predecessor writers who adopted a similar viewpoint both here and abroad. This variant of the oversaving theory seems to have been completely discredited, and it is probably true that it never did have a respectable following among the leading monetary theorists in this country.

However, the other variant of the oversaving theory, that offered by Dr. Keynes in England and supported by Dr. Moulton's analysis for the Brookings Institution in this country, has had a longer life and has attracted many more followers among the professional economists. These theories are analyzed briefly in Chapter VIII.

Readers who are still not convinced that the oversaving theory of the business cycle should be considered a dead issue will find the discussions by Dr. Marget[4] and Dr. Villard[5] especially pertinent. The former has made an important contribution to money and price theories, which should do much to eliminate the confusion and divided councils that followed the publication of Dr. Keynes' *Treatise on Money.* Dr. Villard, in a series of important articles, has first demonstrated that the statistical basis for Dr. Moulton's theories is seriously in error and hopelessly inadequate, and has then followed this demonstration by a theoretical analysis of Dr. Moulton's logic, which effectively disposes of that version of the oversaving theory.

It is only to be expected that similar crude notions will rise, Phoenix-like, from the ashes of these discarded theories. As with perpetual motion schemes in the mechanical world, there are always new discoverers who breathe life into these notions whenever surface indications are propitious to their resurrection. It can safely be said, that, however much the arguments of Messrs. Foster and Catchings, Dr. Keynes, Dr. Moulton, and others have contributed to a more accurate refinement of concepts and the better development of worthwhile theory, the basic principles of the various oversaving theories of the business cycle should now be considered discarded hypotheses.

[4] *A Theory of Prices*, by Arthur W. Marget.

[5] "Dr. Moulton's Estimates of Savings and Investment," by Henry Hilgard Villard, first published in *The American Economic Reveiw*, for September, 1937.

Dr. Haberler's Synthesis

The first point of importance in Dr. Haberler's "Synthetic Exposition" is his apparent belief that an inflation which merely prevents a fall in prices will not necessarily lead to the same kind of a crisis and depression as that which usually follows an inflation involving an absolute rise in prices. In discussing Hayek's and related theories with reference to the point mentioned, he says" * * * the undertaking to prove this latter point rigorously has not been made good."[6] The necessary demonstration is attempted in Chapter VII, and unless there is an error in the logic, it should meet Dr. Haberler's criticism.

In discussing Wicksell's theories[7], Dr. Haberler says, "In a progressive economy, where the volume of production and transactions 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. The rate which stabilizes the price level is below the rate 'at which the demand for loan capital just equals the supply of savings.' " This important comment seems to imply that Dr. Haberler considers an inflationary increase of purchasing media essential in order to prevent a downward spiral of prices in the long run. (Of course, inflation is here used in the sense indicated in Chapter V.) This seems to overlook two important sources of new purchasing media. In the first place, there is the new gold produced that becomes available for monetary purposes. (It is presumably unnecessary to point out to monetary economists that, even though deposited at Fort Knox, Kentucky, this gold circulates in the form of checking accounts or paper currency.) Secondly, there is no reason why commercial loans should not increase as increased production is made possible by the growing capital facilities characteristic of a progressive economy. Unless it can be shown that these sources of purchasing media do not provide an adequate supply to maintain a satisfactory equilibrium, it is difficult to see why more purchasing media from inflationary sources should be needed.

I realize that some economists consider periodic inflation essential to a progressive economy, apparently because they believe that a long-term tendency toward stagnation would result if the stimulating effects of artificially easy money did not exist from time to time. However, this seems to be a less accurate analysis of the situation than that offered by Dr. Haberler. If the capital equipment of an economic society can be increased, it surely can

[6]Page 49, *Prosperity and Depression*, by Gottfried von Haberler.
[7]Ibid., page 33.

progress, at least in the sense in which the word "progress" is used by economists in this instance. The argument that the additional savings needed to augment the supply of capital equipment will cause a reduction of consumer spending and thereby defeat its own purpose, should be relegated to the storehouse of discarded theories with its companion-in-arms, the Foster and Catchings plan for permanent prosperity.

A third feature of Dr. Haberler's synthesis that deserves brief discussion is his apparent assumption that savings are not invested until a later time interval than that in which the spending of income used for consumption purposes occurs. Thus he says,[8] "An increase of saving we have found normally exercises a deflationary effect at the moment of its appearance." I believe that this is a questionable assumption, especially inasmuch as it cannot be said to be "found" by an examination of the facts. If increased saving is to have a deflationary effect, it must be because the funds thus made available for investment are not promptly used. This necessarily implies that during a period when savings are increasing, the cash balances held by savings banks and life insurance companies will be increasing. However, this has apparently not occurred during those periods when the increase in the rate of saving has been marked. It therefore seems reasonable to suppose that those agencies that customarily receive savings tend to keep certain minimum cash balances from which expenditures for new investments are made as rapidly as new savings are placed in the care of the agency concerned. In other words, from the available facts, it would be much more reasonable to assert that the savings-investment process is a practically instantaneous one, rather than that it involves any time lag. In spite of the plausibility of the time lag assumption, it is therefore questionable that saving does cause a postponement of demand for goods. That it may cause a demand for a different kind of good is readily comprehensible, but there appears to be no evidence to show that an absolute decrease in the demand for goods in the market place during any one period of time results from the normal functioning of the savings-investment process.[9] (It is of course readily conceivable that, after there has been

[8] Page 216, Ibid.

[9] This aspect of the matter has been discussed in an Institute Bulletin (Book Review Supplement, December 12, 1938) as follows:

"The truth of the matter apparently is that saving does not result in a postponement of demand for goods; but, on the contrary, and under normal conditions, leads to an equal or greater demand for goods and a greater demand for services, especially the services of those in the building and capital equipment trades. Savings do not cause a slower turnover of checking accounts, but a much more rapid turnover, because at least one additional transfer of funds occurs for the saved

a breakdown of normal economic relationships as the result of the collapse of a preceding inflation, the normal investment-savings relationship may no longer function smoothly. However, something which occurs after the breakdown can hardly be used to explain the cause of the drop from prosperity conditions.)

A fourth important feature that should not be overlooked is that in Dr. Haberler's synthesis, special emphasis is placed on the use of inflationary purchasing media for new investment purposes. In the light of the discussion of this subject during recent years and the facts presented in this book and elsewhere, it is simply incredible that anyone should deny the possibility of inflationary purchasing media being used as suggested. However, it is one thing to argue that *some* inflationary purchasing media may be so used,

purchasing media pertaining to any particular income. Consider, for example, the case of John Jones, who may either spend all of his current income or save part or it. If he chooses to spend it all, the dollar total of his income during any particular period, say for example one month, appears in its entirety in the market for goods. If he chooses to save part of his income, that portion is instantaneously, or practically instantaneously, transferred to others, perhaps workers in the building trade, who likewise bring it to market without any unusual delay. It follows that 100 per cent of John Jones' income still appears in the market demanding goods; and when part of it is saved, that much of it also appears as demand for labor and goods in the building trades in the so-called heavy and capital goods industries.

That the saving process does ordinarily result in an instantaneous release of funds to the market can readily be demonstrated. If this were not so, we should find, during a period when savings were increasing, that the cash balances of life insurance companies and savings banks were steadily growing larger. The fact that, in spite of ever larger receipts from policyholders and savings depositors, the cash holdings of these institutions remain more or less unchanged proves beyond a shadow of a doubt that the savings process introduces at least one additional instantaneous turnover from the funds involved. The cash holdings of various institutions such as life insurance companies and savings banks may be likened to a reservoir, from which the outflow is so regulated that it approximately equals the inflow. Therefore, and from the viewpoint of the system as a whole, it may be said that there is no time interval between the inflow of a specific quantity of water (purchasing media) and the outflow of a like quantity.

It will be seen that, if a given dollar total of incomes reaches the market for goods within a certain period, say one month, the turnover for the deposits pertaining thereto will be 12 times annually. If part of that income is saved, say 25 per cent of it, and this is detoured through the normal savings-investment process, there will usually be at least two turnovers of this amount in addition to the normal turnover, when the market place for goods is reached. That is to say, $25 saved from a $100 monthly income will not prevent the normal turnover of the $100 as it demands goods in the market place, but will add to that normal turnover two disbursements of $25 each, thereby increasing total debits to checking accounts within the one month period to $150, instead of $100. Obviously, in the record of deposit accounts turnover, this would mean a turnover of 18 times annually, rather than 12. It seems highly probable that this is the true explanation for the higher turnover of bank deposits during the early 1920's (even before there was any speculative boom); and, if this is even partly true, our difficulty is not that there is too much saving and too little investment, but that there is not enough saving, and therefore not enough investment. As to why there is not enough saving, that is of course another question; but it is probably in part a result of diminished incomes, high taxes, artificially lowered money rates, and fears of inflation. This is a problem which might well be given more serious consideration by our money managers."

and something else again to suggest or imply that such a use is the primary and perhaps the *only* means by which the injection of inflationary purchasing media may lead to the familiar business cycle phenomena.

Of course, new investments may be so defined as to include not only net additions to capital equipment, building, etc., but net additions to inventories as well. Surely, in view of the 1920 boom and subsequent collapse, the phenomenon of a business cycle exaggerated by an inventory speculation financed through inflation should be familiar to all.

It is also necessary to remember that inflationary purchasing media may be used directly for the purchase of consumer's goods. For example, the purchase of new automobiles on the installment plan, unless there are current savings available for the banks to loan to the finance companies involved, will probably require the use of inflationary purchasing media. (See also Chapter VII.) These will be brought into existence by the commercial banking system's credit extensions to the finance companies. Other examples of consumption purchases augmented by the availability of inflationary purchasing media are many and varied.

It is probably true that, when a large proportion of the inflationary purchasing media emitted during a period of prosperity is used for new investment in plants and equipment, the depression that follows is long and extraordinarily difficult. Excess inventories in the hands of wholesalers and retailers, and even the forward purchasing by consumers aided by installment credit plans, apparently have not, in the past at least, anticipated future requirements for as long a period ahead as have some of the investments in plant and equipment that have been financed by inflationary purchasing media. Therefore, an inflationary boom during which new investment greatly exceeds the current rate of saving probably will be followed by a long-drawn-out and painful liquidating process. For that reason alone, it no doubt deserves more careful scrutiny, and more effort to avoid it is justified. However, it would be a serious mistake to overlook the other possibilities.

In pointing out that inflationary purchasing media need not automatically be used for overinvestment in plant and equipment (although part probably will be so used when it becomes windfall profits to business, if not earlier) I do not imply that this lessens the value of the Index of Inflation discussed in this book. On the contrary, the excess of investment-type assets owned by the commercial banking system with respect to the savings-type liabilities, or at least marked changes in the relationship during a short period,

are definitely and closely related to the degree of inflation. I am simply pointing out that the man who obtains inflationary credit by means of, say, a real estate mortgage loan that is greater than the supply of current savings available to the bank involved, may conceivably use the proceeds of his loan to buy a new car, a new home, a fur coat, or any of a hundred other things rather than new plant and equipment for his business.

Before turning from this aspect of the discussion, mention should be made of the "acceleration" principle and the phenomenon called "derived demand." These have been well explained by Dr. Haberler and by other writers, as most monetary economists know. In general, I concur with Dr. Haberler's exposition of this aspect of the problem, and fully agree that it has an important place in a technically complete explanation of the business cycle. However, it has hardly seemed of sufficient importance to warrant extended discussion in this book. Every business man would recognize it, because he is continually basing his calculations on that principle, and to anyone who has had contact with the physical sciences, so called, certain relationships are automatically assumed in any problem involving acceleration or deceleration. In short, to those who live in the business world and to those who are familiar with natural relationships, the phenomenon of derived demand is too commonplace to require elucidation.

There are at least three other groups of economists who have developed theories similar to the synthesis offered by Dr. Haberler and the basic principles discussed in this book. One of the most noteworthy of these contributions is *Managing the People's Money*, by Dr. Joseph Ernest Goodbar. This scholarly contribution (which, by the way, provides a brief analysis of Keynes' fundamental equations in an appendix) includes an excellent discussion of Bank of England policy.

The analysis by C. A. Phillips and others[10] parallels the discussion or at least applies the same basic principles that are applied in this book. However, it presents a much more comprehensive exposition of banking relationships than I have attemped to offer here. Economists are presumably familiar with this work, but it is not too technical to be read with profit by most businessmen.

The disciples of the late H. Parker Willis, especially Dr. Ralph West Robey, have in general reached conclusions similar to those presented here. Their approach is somewhat different, inasmuch

[10] *Banking and the Business Cycle*, by C. A. Phillips, Ph.D., I. F. McManus, Ph.D. and R. W. Nelson, Ph.D.

as they think primarily in terms of the proper utilization of demand deposits. In other words, they regard commercial self-liquidating loans and cash as the proper assets to balance the demand deposits of a commercial bank. It is apparent, however, that an excess of investment-type assets in a banking system with respect to the total of savings-type liabilities provides precisely the same answer to the problem. This is so because total assets of course equal total liabilities, and therefore the difference between investment-type assets and savings-type liabilities must be exactly the same dollar amount as the difference between automatically self-liquidating assets plus cash and demand-type liabilities (with minor exceptions which do not affect the basic principle.)