THE KEYNESIAN CONCEPT OF SAVINGS

APPROVED:

[Signature]
Major Professor

[Signature]
Minor Professor

[Signature]
Director of the Department of Economics and Sociology

Dean of the Graduate School
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The problem under investigation in this study is the
determination of the usefulness of the concept of saving
set forth by John M. Keynes in his The General Theory of
Employment, Interest and Money, both as a method of pre-
diction and prevention of business cycles and as a
conceptual framework which is for use in explaining past
economic activity, particularly economic growth.

The study has a twofold purpose. The first is to
evaluate the workability of the Keynesian definitions when
applied to existing sources of economic data; to see if a
meaningful savings aggregate is a statistical possibility.
The second is to attempt to explain in terms of related
parts of the rest of Keynes' theoretical system the con-
cclusions reached under the first purpose above.

The consumption function, the obverse of the savings
function in Keynes' system, is discussed in the second
chapter. The conclusion is reached that Keynes has no
adequate basis for his behavior assumptions here, in that
they presume for the society as a whole actions based on a
nominalistic "average" man, a discarded approach to an-
alysis of social behavior. It is further held that recent
empirical investigation into consumer behavior has negated both the aggregate approach to savings behavior and the specific conclusions drawn from this methodology by Keynes.

The third chapter is concerned with the attempts to develop data using the Keynesian savings definition. Comments of statisticians and those close to this effort demonstrate, it is held, that the criticisms made in Chapter II are reflected in the data used so far, i.e., the aggregate is not homogeneous in its effect on the income stream. The need in this connection seems to be a more detailed breakdown of the data. It is also pointed out that the Keynesian definition employs a static definition in analyzing dynamic economic phenomena, a possible obstacle to resolving the above-mentioned problem of level of analysis within the existing savings concept framework. The connection between the above two difficulties and the traditional concept of money employed with the data is the final point of the chapter.

The fourth chapter is concerned with possible areas of solution of the problems created in Chapter III. The function of money as a score-keeping unit of value (power) employed by Morris Copeland is offered as useful for further investigation, and his study is further cited for its attempt to break down the savings aggregate and for the possibilities it offers for dynamic analysis.
Chapter V represents relating the money concept of saving, which Keynes emphasized and on which attention was centered in the first four chapters, to the physical concept of saving. It is held that even the physical concept of saving is a weak tool for explaining long-term trends in economic growth because of its exclusion of the human faculty and the technological results thereof from the center of analysis.

It is concluded from the study that the definition of savings employed by John M. Keynes is inadequate for the analysis of modern economic cycles because of (1) its residual definition by Keynes, (2) its level of analysis which assumes total behavior and which adversely affects predictive projection, and (3) the inherent concept of the money function which takes the whole monetary analysis out of the social and into the impersonal realm. It is held that usage of the concept in physical terms, though not as weak as the money concept, is open to further definition bringing in more central influencing factors of economic growth.
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By

David Jackson Ott, B. A.

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CHAPTER I
THE PURPOSE, BACKGROUND AND SCOPE
OF THE INVESTIGATION

The purpose of this investigation is an analysis of the concept of "saving" employed by John Maynard Keynes in his General Theory of Employment, Interest and Money, both as a statistical and theoretical tool of analysis of economic growth and business cycles.

The scope of the investigation is set forth at the end of this chapter because it is first necessary to place the Keynesian definition of saving in the context of his whole theory.

Background - The Keynesian System

Probably the most important feature of the Keynesian system is the principle of effective demand. In attempting to refute the arguments of the classical writers who contended that the level of employment depended on wage bargains between employers and workers, Keynes centered his argument around the relationship between employment and effective demand.¹ Effective demand in turn depends on the aggregate

demand schedule and the aggregate supply schedule.\textsuperscript{2} Basing his definitions of these two functions on the assumption of a business enterprise economy dominated by the profit motive, Keynes defined the former as a schedule of the proceeds expected from the sale of the output resulting from varying amounts of employment.\textsuperscript{3} He went on to define the aggregate supply schedule as the minimum amounts of proceeds needed to induce varying amounts of employment.\textsuperscript{4}

At the level of employment where the expected proceeds will just equal the proceeds needed to make employment profitable to entrepreneurs, the aggregate supply schedule (curve) intersects the aggregate demand schedule (curve). This is, to Keynes, \textit{effective demand}.\textsuperscript{5} It may be called the level of employment at which entrepreneurs maximize their profits, which, to contradict the classicists, Keynes maintained might or might not be at a level of full employment, but tended to be at some level of less than full employment.

Keynes established, with this beginning, the relationship between aggregate (total) demand and supply and, concurrently, the level of employment; the employers determine the amount of employment they will offer (and that the community will have) at that level where the aggregate supply schedule intersects the aggregate demand schedule.

\textsuperscript{2}Dudley Dillard, \textit{The Economics of John Maynard Keynes} (New York, 1936), p. 25.  
\textsuperscript{3}Ibid., pp. 30-31.  
\textsuperscript{4}Keynes, \textit{op. cit.}, p. 25.
The aggregate demand schedule is the factor around which the rest of the Keynesian structure is built. Assuming that total output produced total income, or is equal to it, and that total income is the same as aggregate demand, the level of employment will depend on total demand and it in turn depends on its components, which are expenditure for investment and expenditure for consumption.\(^6\)

With regard to consumption expenditure, Keynes says "expenditure on consumption must mean the value of goods sold to consumers during that period . . . ." and proceeds to recognize that there may be variations in the definition of what constitutes consumer-goods-purchasers and investment-goods-purchasers, but that any consistent definition of these terms is satisfactory.\(^7\) He maintains that his definition of income (see below) leads clearly to a definition of consumption:

Thus when we have defined \(A\) as the value of what one entrepreneur has purchased from another, we have implicitly settled the question. It follows that expenditure on consumption can be unambiguously defined as \(<(A-A)\), where \(A\) is the total sales made during the period and \(A\) is the total sales made by one entrepreneur to another.\(^8\)

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\(^6\)Ibid., p. 62. As the term income is used in the General Theory, it is synonymous with the value of output. The entrepreneur’s income is thus defined by Keynes as "the excess of the value of his finished output sold during the period over his prime cost." Prime cost is the sum of the factor cost—the amount paid to other factors of production in return for their services, and "user cost", i.e., the loss of value of capital or disinvestment during the period. See page 7 in the General Theory.

\(^7\)Ibid.

\(^8\)Ibid.
Having defined "unambiguously" the terms income and consumption, Keynes proceeds to define saving, which, he says, being the excess of income over consumption (or using the above definitions entrepreneurs' mutual sales less dis-investment [user cost]), necessarily follows.\(^9\)

The definition given by Keynes to current investment, "the current addition to the value of the capital equipment which has resulted from the productive activity of the period," is, as he admits, "clearly equal to what we have just defined as savings" because it is "that part of the income of the period which has not passed into consumption."\(^10\)

This confusing truism is maintained as being valid because:

It in no way depends on any subtleties or peculiarities in the definition of income given above. Provided it is agreed that income is equal to the value of current output, that current investment is equal to that part of current output which is not consumed, and that savings is equal to the excess of income over consumption—all of which is conformable to common sense and to the traditional usage of a great majority of economists—the equality of savings and investment necessarily follows. In short—

\[
\text{Income} = \text{value of output} - \text{consumption} + \text{investment} \\
\text{Saving} = \text{income} - \text{consumption} \\
\text{therefore saving} = \text{investment} \quad ^{11}
\]

At first glance this definition of savings does seem to contradict any application of common sense. The very identity of the two terms conflicts with most of the previous uses of them in economics because, if the two are

\(^9\)Ibid.  
\(^{10}\)Ibid., p. 63.
equal, how can, as so many studies have maintained, savings exceed investment? Some clarification would seem to be in order on the point before proceeding.

Basically, Keynes was attempting to distinguish between saving by an individual and saving in a closed economy, and in the end he found the two to be quite incompatible. It is conceivable, from the point of view of the individual saver, that if all the savings of groups and individuals for a certain period are added up, the two might not be equal, since there is no necessary reason why, on the individual level, saving implies a concurrent amount of investment. Hence the statement that savings equals investment by definition is totally confusing at first glance. The solution is to look at aggregate saving for the same time period in a closed economy. If, given an amount of income for the whole economy, one individual saves more, someone else must dissave, or must decrease his consumption expenditure (by definition, since $S=Y-C$), and the total saving, when dissaving is offset against the increased saving, is the same as before. Consequently, unless there is an increase in income, there can be no increase in saving. This is tantamount to saying that the income of society is spent on two types of goods, investment and consumer goods. There can be no more

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sales, in a time period, then the expenditure on sales. Hence there can be no consumer expenditure "not spent" and no investment expenditure "not spent" and the expenditure on investment goods (however the term is defined) must be equal to expenditure on investment goods—savings. In other words, savings, to use Keynes' words, is just a residual, a term applied to the funds expended for investment goods, and because of inclusion of a variable national income it cannot be more or less, after the adjustments, than that investment expenditure.  

In an attempt at clarification of this, Keynes said:

The decisions to consume and the decisions to invest between themselves determine income. Thus the act of investment itself cannot help but cause the residual or margin, which we call saving, to increase by a corresponding amount.

There are aspects of the saving aggregate which affect its usefulness as a statistical and theoretical device and which stem directly from this definitive peculiarity. They will be dwelt upon at some length in the proper chapters. The Department of Commerce national income data include an estimate of saving built around this residual definition, and in Chapter III difficulties in applying the Keynesian saving definition in the practical sphere will be mentioned.

This definition of saving is closely connected in the Keynesian system with his other aggregates composing

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14 Keynes, op. cit., p. 64.
15 Ibid.
aggregate demand. Primarily of concern here are: (1) the propensity to consume and (2) the inducement to invest.

Keynes held that there was a functional relationship between the expenditure of the public on consumption and the level of national income. In his mind this relationship was central to the problem of unemployment:

The fundamental psychological law, upon which we are entitled to depend with great confidence both a priori from our knowledge of human nature and from the detailed facts of experience, is that men are disposed, as a rule, and on the average, to increase their consumption as their income increases, but not by as much as the increases in their income.\(^\text{16}\)

and, consequently:

For a man’s habitual standard of life has usually the first claim on his income and he is apt to save the difference which discovers itself between his actual income and the expense of his habitual standard; or, if he does adjust his expenditure to changes in his income, he will, over short periods, do so imperfectly. Thus a rising income will often be accompanied by increasing saving, and a falling income by decreased saving, on a greater scale at first than subsequently.\(^\text{17}\)

Thus, Keynes was led to conclude that in a community with increasing incomes, the marginal propensity to save increases with income increases because of the “fundamental psychological law” which, through the force of factors to be discussed, motivated society, as a collective group of individuals, to save “more” as they and the community became wealthier.

This can be interpreted as both a long and short term phenomenon. It represents the integration of the saving

\(^{16}\text{Ibid.}, p. 96.\) \(^{17}\text{Ibid.}, p. 97.\)
aggregate into the Keynesian system, since saving and consumption are opposite in their relationship. The increased saving (in relative terms) would, when analyzed in relation to the factors determining the inducement to invest, cause a lower national income. In Chapter II, the Keynesian hypothesis that consumption increases but not as fast as income increases will be investigated.

This was his conclusion, again, because the absolute amount of consumption increases as the national dividend increases, but not at the rate as does savings, resulting, cumulatively, in a spread of the gap between income and consumption. This gap must be filled by a corresponding amount of investment or the attempts to save will force a diminishing of total income to the point where actual or realised saving is equal to investment. Therefore, employment can increase only pari passu with investment.\(^1\)

From this point Keynes turned to analyze the effective demand for investment, which turns out to be a slightly more complex phenomenon than effective demand for consumption. It is construed by Keynes to be tied closely to the principle of the "marginal efficiency of capital," which is the "relationship between the prospective yield of a capital-asset and its supply price or replacement cost, i.e., the relation between one more unit of that type of

\(^{16}\)Ibid., p. 96.
capital and the cost of production of that unit."19 By definition, the marginal efficiency of capital is "equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during its life just equal to the supply price."20 As another interpreter of Keynes put it, "businessmen will borrow to invest up to a point at which the expected return from new investment is equal to the cost of funds with which to carry out the investment."21 If the marginal efficiency of capital is higher than the interest rate, or in other words, if the rate of return is higher than the cost of borrowing for investment, business will be induced to invest.22 The marginal efficiency of capital, according to Keynes, is characterized by short-term instability and long-term decline.23 This, when coupled with its tendency to be generally less than the interest rate, leads to the previously-mentioned conclusion that:

We oscillate, avoiding the gravest extremes in employment and prices in both directions, round an intermediate position appreciably below full employment and appreciably above the minimum employment a decline below which would endanger life.24

Thus, under such an arrangement, progress in the sense of investment would tend to decline or possibly cease.

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19 Ibid., p. 135.  20 Ibid.  
21 Ibid., p. 39.  22 Ibid.  
23 Keynes, op. cit., p. 294.
From this brief outline of the Keynesian system, it should be evident that by using the saving aggregate as the entering point for this discussion, the whole system is brought into focus without going into the intricacies of each aggregate area. Thus this study is in a position to review his conceptual framework and methodology, through the use of this interlocking aggregate, without being too general and without attempting to be specific in every aggregate area. It proceeds by using his savings concept as a lever of analysis.

Keynes' assertion that consumption tends to increase in a period of prosperity but not at the rate that income increases was based, as indicated above, on the psychological laws obtained through his own observations of existing tendencies of human nature under capitalism. These observations on the consumption function have of late come under intensive empirical study. The first concern here will be an investigation of the usefulness of the consumption function as an analytical tool, covered first because on it, as most economists agree, the value of the Keynesian theory and its aggregate equilibrium framework depends. If the propensity to consume is not as he maintained, and is not a homogeneous aggregate of common components so as to enable prediction on the macro level, the "other side," savings, from the first loses most of
its meaning. It will be maintained that it is not a useful concept, because: (1) investigation does not yield the relationship of it to current income in either the long or short run that Keynes assumed, and (2) the term "consumption" is not one which can be at all defined when applied to specific economic phenomena.

The material in Chapter III represents the application of the Keynesian savings definition to actual collations of statistics. The Department of Commerce data on gross saving are broken down by component and by major economic sectors.

It is maintained that the usefulness of this aggregate, except in the ex-post sense, is doubtful, since by definition it represents the residual or "left over" of decisions to invest. Keynes, in the "oversavings" portion of his argument, defined saving in a residual sense while implying it theoretically as an active causal factor, and therefore, since the national income data are built and collected around the residual definitions, they offer no insight into whether "oversaving" is a causal factor or not. It will also be held that this is a result of the traditional equilibrium framework employing aggregates which impersonally "balance" and which therefore are useful only for review purposes, describing changes in the level of economic activity after they have already occurred.
The material presented in Chapter IV represents an attempt to avoid the equilibrium weaknesses defined in Chapter III. It is posited that, if the traditional conception of a "quantity" and "velocity" of money is discarded, and money is conceived of as being only the creation of value-power by economic sectors, a more plausible picture of a dynamic economy can be developed. When coupled with the equilibrium data to use in review, it might be possible to develop a far more rewarding methodology which has both predictive and descriptive value.

The final Chapter is an effort to provide a stronger theoretical basis for the integration of the above ideas. It is maintained that the basic weakness and explanation of difficulties cited in use of the saving-investment equilibrium approach of Keynes is the conception of resources on which it is based. This "natural resource" conception leads to the description of a product of social institutions in abstracted pecuniary terms which eliminate the evaluation of the intervention of the human faculty in economic phenomena. If, it is held, this weakness of the "real" aspect of saving stemming from the static nature of the whole impersonal resource concept of the Keynesian aggregate system is recognized, the proper use of the concept is obtained.
CHAPTER II

THE CONSUMPTION FUNCTION

It was pointed out in the introductory chapter that the interdependence of the consumption and savings functions makes investigation of one to the exclusion of the other impossible, since by definition they are the two parts of the whole (income). It follows from that outline that it is upon the theory involved in these two conceptions that the strength of the rest of Keynes' superstructure rests, or as Williams put it in a paper before the American Economic Association in 1948:

These two assumptions—(1) that consumption is dependent on income and (2) that there is a "regular" or "stable" or "normal" relation between them, such that the consumption function can be derived as a given datum of the system, and used as a basis of policy and prediction—constitute the essence of Keynesian economics.¹

The interest here is to examine the observations of this tool set forth by Keynes, to see if recent empirical investigation in this area has borne him out, and to evaluate the usefulness of the function as a tool of aggregate analysis. If it does not yield predictive results, it must be corrected, or if this is not feasible in view

of the faults inherent in it, some alternative tool should be developed.

Keynes develops some behavior assumptions to justify his conclusion with regard to the consumption function, and it is pertinent to investigate these vis-à-vis theory developed by others in the same behavior area. Empirical studies which will either reflect or refute the behavior assumptions will be brought in, and finally, the results will be reviewed in view of implications for the use of his methodology as a predictive device.

Of the factors which influence the propensity to consume, three are given importance by Keynes: income, the "objective factors," and the "subjective factors." He believes, upon investigation of the last two that, in the final analysis, these factors, excepting income, can be dispensed with as more or less given. As Keynes puts it:

The amount that the community spends on consumption obviously depends (i) partly on the amount of its income, (ii) partly on other objective attendant circumstances, and (iii) partly on the subjective needs and the psychological propensities of the individual composing it and the principles on which the income is divided between them (which may suffer modification as output increases).²

Under "objective attendant circumstances," Keynes mentions six factors. The first of these he calls "a change in the wage unit," primarily maintaining that

consumption standards are much more "a function of (in some sense) real income than of money-income." Let it suffice to say that in some sense the mass of consumers are probably conscious of real income, but empirical surveys have found that consumption is much more dependent on consumer expectancy with regard to future income and other general conditions rather than to any important extent the level of current real income.

The second of his objective factors Keynes refers to as "a change in the difference between income and net income," since "it is his net income a man has in mind when he is deciding his scale of consumption." As another writer has pointed out, there is some question of definition here, since Keynes earlier referred to income in the entrepreneurial sense and in another place evidently conceived of it as the income of the group as a whole. Taking his second definition, however (which is obviously what he has in mind here) it need not even then prove his point. For example, it is well known that many in the higher income groups are notable for dissipating their income before taxes are calculated, necessitating a rush of

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3Ibid., p. 91.
4This point is further emphasized in discussion of the Katona study at the end of this chapter. See pp. 33-38.
5Keynes, op. cit., p. 92.
"income-tax loans" in the spring. At any rate since this point does not bear heavily on the final conclusions as to the objective factors as a whole, it need not be labored here.

His third objective factor is "windfall changes in capital values not allowed for in calculating net income," and to Keynes, these have a much more important bearing on the level of consumption, or on modifying the propensity to consume, than the other objective factors.

Certainly this influence could not be ignored by anyone concerned with the problem, for it has long been known that changes in the money-values of the property of the wealthier classes, if sudden, can bring about serious results as to the propensity of the whole society to consume. Mitchell, Commons, and Veblen have all pointed out the tendency during prosperous periods for ownership of the productive means to be capitalized at values higher and more out of proportion to gains in the real income of both the industries under question and the society as a whole. 8

It is to be noted, however, that one of the more serious effects of such changes is the effect it has on the psychology of the banking community. As noted in Fortune of December, 1955, just two months after the record

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7 Keynes, op. cit., p. 92.
break in stock market prices which was the sharpest since 1929, the banking community was complaining. In this instance however, the complaints were not about wildness in inflating ownership values, and the need for sound retrenchment to firm up values and the market—but that in reference to curbing credit: "Maybe we should be thinking in terms of somewhat less restraint." Fortune goes on to comment how very disconcerting it is to view this change in loan policy on the part of the bankers, one which, incidentally, completely stymies the efforts of the Federal Reserve to curb credit. Perhaps the changes which have taken place in the function of money in the economy, as characterized by government insurance deposits and government paper as reserves, has greatly changed the influence of this "windfall changes in capital values" factor of Keynes. The importance of this point will be brought out in the next section under savings data and more so in the following one on money and moneyflows.

His fourth objective factor Keynes defines as "changes in the rate of time-discounting, i.e., "in the ratio of exchange between present goods and future goods," which he insists is not the same as the interest rate, since in the classical terms it was supposed that "expenditure on consumption is not negatively sensitive to changes in
the rate of interest."\textsuperscript{10} In Keynes' mind, the relationship was much more complex than this and hence could not be classified as strictly the influence of liquidity preference, or in his terms, "interest."\textsuperscript{11} He concludes with the observation that "over a long period, substantial changes in the interest rate probably tend to modify social habits considerably, thus affecting the subjective propensity to spend—though in which direction it would be hard to say, except in the light of actual experience."\textsuperscript{12} In the short run, the influence of it on the propensity to spend is "secondary and relatively unimportant."\textsuperscript{13} Indeed that seems to be the consensus of opinion among economists with regard to consumer spending, but the insistence on some magical potency in the effect of interest rates on entrepreneurs is consistently maintained by Keynes and his followers. Recently, however, the effect of the interest rate on business borrowing and spending has also come to be considered quite negligible, as the Federal Reserve is willing to admit with regard to its interest-rate "weapon," the rediscount rate. At any rate, since Keynes put no more final emphasis on this factor than he did, it need not detain the investigation here.

\textsuperscript{10} Keynes, \textit{op. cit.}, p. 95.  
\textsuperscript{11} Ibid.  
\textsuperscript{12} Ibid.  
\textsuperscript{13} Ibid.
The fifth factor is "changes in fiscal policy."\footnote{14} Here Keynes recognizes the effect of government borrowing and surpluses on consumer demand. Quite acceptably to most observers in the field of public finance, he states that:

\ldots a change-over from a policy of Government borrowing to the opposite policy of providing sinking funds (or vice versa) is capable of causing a severe contraction (or marked expansion) of effective demand.\footnote{15}

This is important with reference to the point made previously as to government entrance into the banking field both through loans and insurance of various types of private spending. It will be maintained in this study that this is one of the major factors which nullify and at the same time explain the faults in the saving-investment approach to growth and cycles adopted by Keynes. The change in the function of money, from one close to the impersonal, objective one used implicitly by Keynes to one allied closely to cultural surroundings poses some questions for the Keynesian approach and at the same time, in later chapters, offers plausible grounds for theoretical reconstruction.

At any rate, the change in this "objective factor" makes it fully important, not as a given datum of the system, or the main presumed background, but as an \textit{influencing factor} which may shift with the trends in government policy so as to necessitate constant analysis of it if the Keynesian theoretical structure is to be used.

\footnote{14}{Ibid.} \footnote{15}{Ibid.}
The last objective factor Keynes mentions is one he included for the sake of "formal completion—" "changes in expectations of the relation between present and future levels of income."\textsuperscript{16} He felt that, although this was possibly important for some individuals, for the community as a whole it would tend to average out.\textsuperscript{17} This seems to be another factor which Keynes greatly underestimated, and which can be connected with the same general error mentioned in discussion of his "fiscal policy" and "windfall changes" factors. The change in the function of money has greatly affected the levels of consumption—a change which has placed money in its usage in a different light than in the impersonal abstract entity having a functional-existence-apart-from-the-humans-using-it conception held by Keynes and his predecessors. This is so because the public itself now is engaged in activities through which they, in collaboration with the monetary institutions, actually create "purchasing power" with which their consumptive desires may be satisfied without upsetting the network of traditional power relationships in the structure of society.

A recent \textit{Fortune} magazine article testifies to the willingness of the American public to engage in this dual creation of value-power. In the "young couple" category, representing 50 per cent of all family groups, the average of fixed commitments as a percentage of disposable income

\textsuperscript{16}Ibid. \hfill \textsuperscript{17}Ibid.
has risen to almost 50 per cent as against 30 per cent in 1946.\textsuperscript{18} Fixed payments for the community as a whole took up 30 per cent as against 20 per cent in 1948.\textsuperscript{19} Commenting on the desire of the growing middle class for "discounting future productivity increases in advance," \textit{Fortune} says:

For short-term emergencies the young suburbanites expect to take shelter under personal loans. They use loans for planned purchases too, but the primary purpose why they take out personal loans is for debt consolidation and emergency medical expenditures.

Even when suburbanites have not taken out a loan, the knowledge that loans are so readily available has a pronounced effect on their budget habits. If they were to run into trouble, they are told constantly in radio, television, and newspaper advertisements, they need only stop by their friendly neighborhood bank. Why, then, deprive oneself in order to anticipate an emergency?\textsuperscript{20}

Long-term "value-creation" is also commonly taken advantage of:

American consumers, beguiled by low interest rates, negligible down payments, and income-tax deductions, are not only incurring new mortgages at a rate that cannot last, they are also borrowing money at a rate that cannot last on the values that wartime and postwar inflation have added to their old houses. The paid-up equity in houses, now slightly under $200 billion should logically be rising, for consumer incomes have been rising. Actually, however, paid-up equity in U. S. homes has declined by about $5 billion in the past three


\textsuperscript{19} Ibid.

\textsuperscript{20} William H. Whyte, Jr., "Budgetism: Opiate of the Middle Class," \textit{Fortune}, \textit{III} (May, 1956), 135.
years. In 1952, average equity per owner reached a high of $5,700; by the end of 1955, it had fallen to $7,800.21

So it seems that society has some control over its income level, in fact, that it, through an elastic ability to create income, can both go beyond present income in expenditure and at the same time enlarge the national dividend. In this atmosphere, income (scored with money-values) has no meaning apart from the attitudes and actions of society. Consumption is more closely allied to this "expectancy" element set forth by Keynes than he possibly realized, but his superficial mention of it does not make it in his hands a useful analytical tool. This area comes in for more concern in Chapters IV and V.

After discussion of these objective factors, Keynes sums up their importance by saying:

We are left, therefore, with the conclusion that in any given situation, the propensity to consume may be considered a fairly stable function, provided that we have eliminated changes in the wage-unit in terms of money. Windfall changes in capital values will be capable of changing the propensity to consume, and substantial changes in the rate of interest and fiscal policy may make some difference; but the other objective factors which might affect it, whilst they must not be overlooked, are not likely to be important in ordinary circumstances.22

Then he proceeds to catalogue the other "given" or subjective factors which might affect the propensity to consume:

21Gilbert Barck and Sanford S. Parker, "The Danger in Mortgage Debt," Fortune, LIII (April, 1956), 124.
22Keynes, op. cit., pp. 95-96.
(i) To build up a reserve against unforeseen contingencies;
(ii) To provide for an anticipated future relation between the income and the needs of the individual or his family different from that which exists in the present, as, for example, in relation to old age, family education, or the maintenance of dependents;
(iii) To enjoy interest and appreciation, because a larger real consumption at a later date is preferred to a smaller immediate consumption;
(iv) To enjoy a gradually increasing expenditure, since it gratifies a common instinct to look forward to a gradually improving standard of life rather than the contrary, even though the capacity for enjoyment may be diminishing;
(v) To enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action;
(vi) To secure a sense de manœuvre to carry out speculative or business projects;
(vii) To bequeath a fortune;
(viii) To satisfy pure miserliness, unreasonable but insistent inhibitions against acts of expenditure as such.\[25\]

Since these factors, in his mind, are the "given main background" of the society under discussion, Keynes, beyond mentioning them in the form of passing recognition, makes no attempt to investigate the degree to which his observations on these social motives correspond to the reality of the social groups he had in mind. Indeed, he disposes of this question in short order:

Now the strength of all these motives will vary enormously according to the institutions and organisation of the economic society which we presume, according to the habits formed by race, education, convention, religion, and current mores, according to the present hopes and past experience, according to the scale and technique of capital equipment, and

according to the prevailing distribution of wealth and the established standards of life. In the argument of this book, however, we shall not concern ourselves, except in occasional digressions, with the results of far-reaching social changes or with the slow effects of secular progress. We shall, that is to say, take as given the main background of the subjective motives to saving and consumption respectively.24

Hence he is led to conclude upon the basis of these behavior assumptions based on a priori observations that:

... in a given situation the propensity to consume may be considered a fairly stable function, provided we have eliminated changes in the wage-unit in terms of money.25

Furthermore, given the influence of the two most important objective factors, windfall changes in capital values and fiscal policy, the stable function may be related to the level of current aggregate income for purposes of analysis, viz.:

... the aggregate income measured in terms of the wage-unit is, as a rule the principal variable upon which the consumption constituent of the aggregate demand function will depend.26

It was this simple relationship between income and consumption which led econometricians into great difficulty after World War II, for they examined (using the data developed by the Department of Commerce) whether there was any predictive relationship between aggregate income and aggregate "consumption." Some of these difficulties will be brought out in the discussions at the end of the chapter.

24Ibid., p. 109.
25Ibid., p. 95.
26Ibid., p. 96.
but prior to presentation of investigative refutation of this Keynesian tool of theory, the question might be legitimately asked, What was there about the Keynesian assumptions which resulted in the disproving of the relationship he posited?

Keynes was guilty of what he himself so acidly castigated in referring to the "classical economists" — reasoning from individual to group behavior. It will be remembered in the discussion in Chapter I of the definition of "savings" by Keynes that he drew a sharp line between what savings meant if projected from the individual to the whole economy and if looked at from the whole economy downward. His very succinct observations on this matter led him to dispute the classical assumption that there could possibly be an inequality between savings and investment.

And yet here, in discussing the propensity to consume, he returned to the 18th century habit of arriving at the general characteristics of society by observing the propensities of an individual. His whole set of observations on motives (subjective factors) and external events (objective factors) is couched in terms implying a hypothetical "average" or "normal" member of a western community.

It was not the fault of Keynes that this occurred. He, like all classical economists, was primarily interested in individual motivation. However, if the statistical validity or reflection of these basic behavior assumptions
is nil, then another look must be taken at the behavior side in an attempt to rework the conclusion with regard to the consumption function, or else to replace it with a more sensitive tool if aggregate consumption behavior is not enough of a homogeneous phenomenon to warrant such a level of generalization. Keynes commented at one place in the General Theory in a manner which goes a long way toward explaining his rather brief and superficial treatment of the human behavior element:

But whether or not this psychological law strikes the reader as plausible a priori, it is certain that experience would be extremely different from what it is if the law did not hold. For in that case an increase in investment, however small, would set moving a cumulative increase of effective demand until a position of full employment has been reached; while a decrease of investment would set moving a cumulative decrease of effective demand until no one at all was employed.27 (Italics added)

He was in effect stating that within his system, with its emphasis on the interrelationship of the impersonal aggregates, in this case saving, there was some explanation for the behavior regardless of how it is specifically described. It is at this point that this chapter is primarily aimed. If there is no universal reason for marginal saving to increase relatively faster than marginal consumption as income increases, why does it, or does it? What does this imply for his equilibrium aggregates? Keynes was operating within a methodological framework which necessitated a

27 Ibid., p. 251.
universal behavior assumption, because any conflict or existence of multiple explanations for behavior would negate the value of both his level of generalization and the tools employed at that level. How valid is this level of generalization and the assumptions concomitant with it in the Keynesian system?

With regard to the second part of the above question, there are other observations of human behavior in this area which are as plausible as the all-embracing one set forth by Keynes. It was over thirty years prior to the writing of the General Theory that Thorstein Veblen said:

The basis upon which good repute in any highly organized industrial community ultimately rests is pecuniary strength, and so of gaining or retaining a good name are leisure and conspicuous consumption of goods. Accordingly, both of these methods are in vogue as far down the scale as it remains possible; and in the lower strata two methods are employed, both offices are in great part delegated to the wife and children of the household.28 (Italics added)

And again:

For the great body of people in any modern community, the proximate ground of expenditure in excess of what is required for physical comfort is not a conscious effort to excel in the expensiveness of their physical consumption, so much as it is a desire to live up to a conventional standard of decency in the amount and grade of goods consumed. This desire is not guided by a rigidly invariable standard, which must be lived up to, and beyond

which there is no incentive to go. The standard is flexible; and especially is it indefinitely extensible. \footnote{\textit{Ibid.}, p. 102} 

To the extent that this famous canon of Veblen's with regard to group emulation is true, the Keynesian assumptions on the subject cannot be presumed as being at all realistic. Veblen, of course, was thinking primarily of emulation by society of its "leisure class," but the principle may apply even more effectively within smaller social groups. Specific results of empirical studies seem to indicate the applicability of the principle of conspicuous consumption in this manner, and they will be offered at other appropriate points in this chapter.

This idea of conspicuous consumption is closely allied to the effect of modern advertising techniques disseminated through mass media of communication. Marquis Childs and Douglass Cater point up this effect:

One reason for the dynamic, productive quality of the American economy is modern advertising. Navy and emulation are the familiar tools of American advertising. They are employed with skill and subtlety to sell more things.\footnote{Marquis Childs and Douglass Cater, \textit{Ethics in a Business Society}, (New York, 1954), p. 166.} The proposition of Keynes' that consumptive desires are weak could be just as reasonably discarded, recognizing the above observations, as it could be assumed. As a general proposition, however, there are firmer grounds on which it can be discarded, for, as Moulton pointed out:
The first assumption, that consumptive desires are weak, is belied by the facts. Family budget studies show conclusively that consumption expands not slowly but rapidly as income increases. Before turning to more concrete empirical refutation of the Keynesian assumptions on the propensity to consume, a look should first be taken, as a background to the investigations, at the directions in which the concept was developed and applied. Keynes' ideas on the consumption function and its assumed predictable relationship to current net income were developed in two main directions.

The first to gain wide dissemination is most commonly associated with the name of Alvin Hansen and is usually referred to as the "secular stagnation thesis." It represents the long-term application of the Keynesian conclusions with regard to the consumption function, i.e., that the community would, with the propensity to consume becoming relatively less as the community becomes wealthier and wealthier, tend to save "more," and that therefore there would be an ever-widening gap between income and consumption which Hansen et al., felt that private investment would not fill. Thus the future appeared to be a dark chasm filled with increasing unemployment unless the government controlled most investment outlets and made

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investment no longer dependent on capitalistic behavior.

The idea was built around the statements of Keynes¹ that:

...the richer the community, the wider will tend to be the gap between its actual and its potential production; and therefore the more obvious and outrageous the defects of the economic system. ... Not only is the marginal propensity to consume weaker in a wealthier community, but, owing to its accumulation of capital being already larger, the opportunities for further investment are less attractive.³²

But apart from short period changes in the level of income, it is also obvious that a higher level of absolute income will tend, as a rule, to widen the gap between income and consumption.³³

It was felt that the "investment gap" would not be met by private enterprise because factors such as the decline of the frontiers, declining population, and other "extensive" factors were bringing on declining investment opportunities for the profit-minded.

This thesis has been mostly discarded among economists themselves, including Hansen. The statistical investigations of Simon Kuznets led to its disrepute even before World War II. He found that, for the period 1879-1938, while national income rose greatly, standards of living rose correspondingly, and the great bulk of the increase in income went into consumption.³⁴ Saving, as measured

³²Keynes, op. cit., p. 31. ³³Ibid., p. 97.
by real investment, remained a constant fraction of income, with an apparently modern tendency in the twenties (on which he does not insist) for consumption to increase relative to income.  

Colin Clark's data on England, according to Williams, shows about the same trends for that nation over the same period.

The effect of this conclusion of a "secular upward drift" by Eumets instead of "secular stagnation," led economists both during and after the war to emphasize more and more the short-term aspects of the consumption function. It was not long until those developing mathematical models based on this assumption (Samuelson, Tinbergen, et al.) began to find that the assumed short-run correlation of the function with current net income would not hold either.

As Williams put the state of affairs in his 1948 paper:

> It now seems to be agreed among econometricians that the "simple relation" between income and consumption, as Keynes stated it, is unstable. In searching for a more complex relation which may have some promise of greater stability, hypotheses have been introduced which contradict Keynes' own theory.

According to Williams, econometricians sought correlation between the movements of such variables as "saving out of

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35 Ibid.
37 Ibid., 284.
past income, liquid assets, capital gains, the last highest income reached in a boom, and expectations of future income.

This would seem to indicate that the criticism mentioned earlier in relation to the behavior methodology of Keynes as to consumption has implicitly, if not explicitly, been recognized. The very least that could be said is that the consumption function is not now used in its original form as this statement amply illustrates:

Saving (and thereby consumption, the opposite—DJO) is not rigidly and uniquely linked to the level of disposable income. It is now generally recognized that, far from partaking of the nature of an unvariable, natural (the term psychological has been used) law, saving is a very complex process. For from being, in the short run, uniquely related to the current level and distribution of income, the amount of savings is the result not only of the interplay of several social and economic variables, but also of numerous current and past decisions of consumers, based on their hopes, judgments, and anticipations. In a country with a high standard of living and a relatively wide distribution of assets, consumers, temporarily at least, can withhold or reduce purchases over a wide range of items. They can accelerate the repayment of debt (mortgage and consumer credit) or, conversely, spend more than they earn by going into debt. These factors determining consumer decisions on saving become more important forces making for more or less inflation.

The implicit assumption in the traditional view of Keynes of some sort of "satiation point," which is nothing

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38 Ibid.
but an implicit form of diminishing utility on the consumption side, has come under increasing fire:

The achievement of some goals leads to the establishment of others on the part of people. This is the psychological theory of the aspiration level which has been tested by experiments, some of which are recorded in the writings of Kurt Levin. There is experimental evidence that the aspiration level of people goes up with their achievement level. . . . The net result of this is a constant process of whereby "the more you get the more you want." This is a considerably better hypothesis, I think, than the hypothesis of diminishing marginal utility, except for ice cream cones or some other specific item of consumption. 40

Now the criticism has been made that Keynes generalized from the particular individual to total social behavior, and did so within the traditional classical diminishing utility framework. It was further implied that this was subject to error, since society is a composite of groups following behavior patterns widely variable. Could it be that the brute, admitted fact of the unfounded assumptions Keynes made as to consumption are traceable to this point of criticism? The previously cited writers imply the addition of group factors in revaluation of the consumption function. Raymond Goldsmith, in a massive study into saving in the United States over the past four decades, recognizes this as the most plausible explanation for the fallacy of the Keynesian conclusions with regard to a weakening propensity to consume:

The economic analysis of time-series and cross-section data on saving lead to an apparent contradiction between the increase in the saving ratio with income found in all cross-section studies and the absence of a similar relation—an increasing trend in the national saving ratio as national income rose over the past fifty years—in time series. What seems to be the most satisfactory theory, or at least one of the most promising, resolves this difficulty by assuming that a household’s saving ratio is determined primarily not by the household’s absolute level of income, but by its relative position in the national income pyramid. The hypothesis is that consumption standards are a group phenomenon, and the level of consumption of an individual family depends on its economic position within the group.\textsuperscript{41} (Italics added)

So far criticism of the Keynesian assumption of a link between consumption and income has been in the form of various similar theories of factors which explain, through application in different forms of emulation, aspiration, group standing, and advertising, the defects in the "simple" original conclusion by Keynes. There has been, however, some positive work in this area, the most complete being that of the Survey Research Center of the University of Michigan, under the direction of a German born immigrant, George Katona, who has a background both in economics and psychology.

In their surveys of consumer habits and reactions, the Katona group has worked with a set of five variables influencing the propensities to consume and save. These are:

(1) enabling conditions—the "limits" to consumer

discretion, i.e., income, assets, and access to credit; (2) precipitating circumstances—an increase or decrease in purchasing power, a change in the family status, the birth of a child, a move to a new house, wearing out or breakdown of possessions, etc.; (3) habit—set patterns of behavior that operate, for instance, in such matters as the purchase of groceries; (4) contractual obligations—rent, repayment of debt, life insurance premiums, taxes, dues, and the like, and subsequent actions resulting from earlier purchases (automobiles necessitating gas purchases etc.); (5) consumer’s psychological state—whether a rise in income or a transfer to a new locality, the breakdown of a refrigerator or any other event will result in important changes in spending—which depends on the prevailing motives and attitudes, which may or may not be conducive to consumer spending. 42

The conclusions reached by the group on the basis of completed studies are pertinent to the purposes of this study. There is no correlation, in the Keynesian sense, of consumption with current net income. Indeed, consumption is not, in many situations, restricted by income, since income can be created through the use of credit. It boils down to a situation where society, as consumers, can use the scorekeeping and value functions of a highly elastic

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money system to expand or contract their purchase of goods and services at will. It takes the willingness of both parties, i.e., the consumer and the monetary institutions, but the fact nevertheless remains that income is the product of attitudes and resulting behavior on the part of the buying public. In this sense income and consumption cannot be treated as correlated, separate entities, because one mutually conditions the other through the use of money.

Katona points up this divergence between his findings and the theory on the consumption function set forth by Keynes:

The economic theory of Lord Keynes, which has dominated the thinking of economists in recent decades, put great stress on the effects of changes in income on spending and saving. We have found that in a period of good business those who suffer declines in income reduce their rate of saving in order to maintain their accustomed standards of living, as the Keynesian theory predicts, provided they expect the decline to be temporary and have liquid assets. On the other hand, with an increase in income, spending often rises faster than income if the trend is upward. That is to say, an increase in income often leads people to reduce saving, contrary to the Keynes theory.43

Consumer attitudes, something like the Keynesian "expectancy" element, are prominent in Katona's analysis of buyer reactions. For example, he found that the sharp increase in the saving ratio after the outbreak of the Korean conflict was mainly the result of a sharp change in consumer attitudes toward the future; from one of "panic"

43Ibid., p. 34.
for goods immediately after the conflict broke to one of resolution to a long-term cold war when the United Nations forces were not completely victorious and the war did not turn into a third world war.\textsuperscript{44} The high debt repayment rates resulting from the initial buying spree also were a factor in the saving increase.\textsuperscript{45}

If the Katona approach to consumer habits and reactions is accepted as being more dependable than the a priori observations of Keynes, his whole "propensity to consume" concept loses analytical value. His "subjective factors," in some improved form, must be brought to the fore as an explanatory device, since Katona observes that the changes in the "given main background" are so rapid as to preclude taking them as given datum. Under this situation, the returns from usage of the consumption function are well expressed by an authority on business cycles:

When the Keynesians can supply sufficient evidence to support the stability of the consumption function, and can then show that the diminishing propensity to consume is a more strategic factor in prosperity than the factors stressed by other students, they will be entitled to the claim of having filled a "serious gap in the study of business cycles." It must be said that many objective investigators of the business cycle have not found convincing the empirical evidence thus far supplied by the Keynesians.\textsuperscript{46}

\textsuperscript{44}George Katona, "War, Cold War, and Savings, Savings in the Modern Economy, edited by Walter Heller (Minneapolis, 1953), p. 166.
\textsuperscript{45}Ibid.
Implications for methodology stemming from this failure of the Keynesian system to "impersonalize" functional relations between aggregate data in a productive sense for the student are quite staggering. For one thing, the whole idea of "consumption" becomes clumsy, since if it is thought of as group action the scope of divergent action and explanations thereof covered by the term is enough to raise the question as to whether it means anything in this sense. For instance, is the purchase of a $15,000 home on a mortgage basis likely to have the same effect as the cash payment for night-club entertainment within the consumption aggregate? One will be a thirty-year fixture in the consumption aggregate (if treated as such); a steady, relatively assured subcomponent. The other might not be repeated until New Year's eve, if then. What predictive weights will be given to the subcomponents to establish the shifts in the aggregate?

And for this study of savings, what effect does this anomaly have on the meaning of the saving aggregate? Is it definable, meaningful flow of funds or the diversion of resources for future use? Since, in the Keynesian system, the concept of "saving" is linked to the propensity to consume, the use of one necessarily involves evaluation of the other, and since the evaluation of the propensity to consume here has been that it is not methodologically
meaningful or useful, the next chapter, in considering the propensity to save, must consider the effects of these difficulties here encountered with reference to savings.
CHAPTER III

THE "MONEY" SAVINGS AGGREGATE

In the previous section, as a preliminary to the main object of this investigation, the difficulties encountered in attempts to use the propensity to consume concept of Keynes' were pointed out: it is not functionally related to income because income itself is a cultural, flexible (within limits) abstraction, the "given main background," the culture and its institutions, cannot be taken as given, and the term consumption itself is definably difficult to apply. It was held that the consumption aggregate in the Keynesian effective demand system loses much of its analytical possibilities if these factors are considered. It was also mentioned that the purpose of such a seeming digression from the main topic, savings, was due to the fact that in his system one is the obverse of the other, and any conclusions as to one affected analysis of the other.

From this beginning, the present chapter turns directly to the savings aggregate to evaluate its statistical application to income flow theory and money. Primarily, the aim is to present this data side of the Keynesian
concept of savings first so that any conclusions reached here may be reviewed in the later chapter on the "real" aspect of saving.

Definitions

It will be remembered that the statement was made earlier that the Department of Commerce, in its statistical publications, has made use of the definition given to the term savings in the Keynesian system. It is also well at this point to reassert that Keynes did no define the term saving as being the residual between income and consumption, in that the "decisions to consume and invest in themselves determine income" and "cannot help but cause the residual or margin, which we call saving".\(^1\) He did, it was stated, recognize the difficulties in defining the other contingent terms—consumption and income, which determine what will be included in the residual called saving, and after posing his own definitions stated that any consistent ones used for these terms was satisfactory.\(^2\)

In the gross national product (which may here be referred to on occasion as GNP) accounts, saving takes on the Keynesian meaning. Briefly, GNP is the sum of expenditures on goods and services in the economy in a year or for some


\(^2\)Ibid.
other time period. It includes four major categories of expenditure—(1) consumer purchases (personal consumption expenditure); (2) gross private domestic investment; (3) government purchases; and (4) net foreign investment. Gross saving is the source of funds expended on gross private domestic investment. If the net national product is used instead, making allowance for obsolescence and wear on capital equipment, the concomitant saving aggregate is, of course, not saving, representing the source of total or gross investment funds less that portion spent on replacement which does not represent a net gain in capital equipment to the economy. The data for saving and investment, whether gross or net, are always equal, just as Keynes so defined them.

If gross saving is broken down into its components, to illustrate, it contains:

1. Gross Private Saving
   Personal Saving
   Undistributed Corporate Profits
   Corporate Inventory Valuation Adjustment
   Business Depreciation Charges
   Accidental Damage to Fixed Business Capital
   Capital Outlays Charges to Current Business Expense
   Excess of Wage Accruals Over Disbursements

2. Governmental Surplus on Income and Product Transactions
   Federal
   State and Local

4. Ibid., p. 164.
This summation could be adjusted for net saving by subtraction of depreciation charges, accidental damage to fixed capital, and capital outlays charged to current expense.\(^5\)

The savings data commonly employed are the net data, i.e., with the deductions mentioned above made. However, it is well to point out that as an expert on Commerce accounting practices has stated, "as a practical matter, a meaningful measure of net capital formation and hence of net national product, cannot be calculated."\(^6\) This widely recognized fact is largely due to collection and collation difficulties involved; the fact that most of the capital consumption allowance is represented by depreciation allowance, which is impossible to satisfactorily define, collect or estimate.\(^7\) With this in mind, the study will proceed to investigate the data, but the fact cannot be too strongly emphasized that the data are bound to suffer from the above obstacle, which must be given careful, if implicit, consideration in evaluation of the statistical usefulness of the concept.

The illustrative breakdown for gross saving presented, if adjusted as indicated to obtain the customarily-employed net figure, can be, and usually is, broken down even further for purposes of discussion. Three major saving

\(^5\)Ibid., pp. 57-60.
\(^7\)Ibid., p. 31.
sectors of the economy may be distinguished and discussed separately: (1) personal saving; (2) business saving (corporate undistributed profits); (3) government saving (surplus). The categories excluded in such components are so small that they are usually ignored in most treatments and will so be handled here.

Thus the aggregate figure for net saving represents, under the above arrangement, the total obtained by balancing the saving and dis-saving of these three sectors off against one another. For instance, if the government sector dis-saving, or spends beyond its income from taxes, (say six billion dollars in a time period) this will be an offset against the saving of the other sectors. If total net saving were thirty billion dollars, the others must have had a net saving of thirty-six billion dollars before the government sector's dis-saving was offset against them.

Saving can be computed for each sector, or for all sectors with identical results if consistent data are available, using the concept of net worth rather than the income-minus-consumption definition of Keynes.\(^8\) This is to say that, in accounting terms, the balance sheet can also be used as a source of information when income statements are not available, by measuring the changes, in

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a time period, between assets and liabilities, the difference being net worth. From the income account, saving is treated as the difference between current income and current expenditures, and from the balance sheet it is calculated as the net result of changes in all types of assets and liabilities.\(^9\)

Prior to a look at the components of the components, or a further breakdown of the three sectors themselves, a point should be made as to the differences in data obtained by different groups. Such differences are mostly the result of different definitions and thereby treatment of some components, or different conceptions of the aggregate itself. The meaning of such differences, and there seem to be an abundance of them, for the savings concept is discussed at the end of this chapter, but throughout they are in each instance reconciled to the same definitive basis, or, when this is impracticable, reasons for differences of major import are mentioned if a need for the use of both sets of data warrants it.

**Personal Saving**

Personal saving, as a sector of national saving in the national income data, is a slight misnomer, in effect a "catch-all" for the flow of funds from a multitude of

\(^9\)Ibid.
diverse sources. This quite complicates its use and explanation, as will be evident from the analysis of it here.

Officially, the Commerce definition of it is:

The excess of personal income over personal consumption expenditures and personal tax and non-tax payments. It consists of the current savings of individuals (including owners of unincorporated businesses), nonprofit institutions, and private pension, health, welfare, and trust funds.10

Using the net worth concept mentioned earlier, saving is equivalent to the increase in personal or private noncorporate assets less the increase in liabilities, exclusive of the gains or losses from revaluation of assets, (since they are not included in the national [personal] income data).11

The two most widely used sources of data for the aggregate called personal saving are the series Personal Saving, published quarterly by the Department of Commerce and effecting little breakdown of the data included in the definition above, and the Securities and Exchange Commission quarterly publication Liquid Saving by Individuals. The two are slightly different, most importantly in that the SEC data includes employee contributions to social security funds and excludes the acquisition of homes.12

10 National Income Supplement, op. cit., p. 60.
The Commission's estimates of figures are blown up directly from component figures which show the estimated changes in the various items of individuals' assets and liabilities.\footnote{Irwin Friend, \textit{Individuals' Saving} (New York, 1954), p. 20.} In contrast, Commerce figures are really just the difference between two other figures of estimation, \textit{i.e.}, disposable income and consumer spending. Therefore the "blown up" characteristic of the SBC data were considerably more conducive to accuracy than the raw estimates employed by Commerce. This fact was noted by Commerce, and in 1947 the two totals were reconciled by Irwin Friend.\footnote{For a complete account of how Friend reconciled the two and for the complete reconciled tables, see Irwin Friend, \textit{Individuals' Saving}.} It was accomplished, Friend says, by "estimating and adding to the SBC data figures which are eliminated from them but included in Commerce data, \textit{viz.}, inventories, net receivables from non-individuals, and plant and equipment expenditures."\footnote{Irwin Friend, \textit{Individuals' Saving} (New York, 1954), p. 31.}

Personal saving may be classified, for purposes of closer analysis, into categories as to \textit{types of saving}, where data having similar characteristics are grouped together. This helps to distinguish those which may have different effects, as they fluctuate, on the levels of employment. Distinguishing between different groupings of
the sub-categories which make up personal saving is essential because although "saving is defined simply as the difference between income and consumption, it may take a variety of forms, including an increase in cash and securities, additional insurance, a reduction in debt, or net investment in durables and inventories." As Friend commented in a paper on this point:

Saving is not a spendable residual in the sense that it necessarily adds to the individual's liquid assets available for expenditure in the next period, since part of the income saved during a period may have been invested by the same group of persons, or placed in nonliquid assets, before the end of the period.  

So personal saving, when the very least is said, cannot be correlated as an entity with movements of the other autonomous aggregates, because it contains so many variables which affect its own fluctuations, and which must be grouped according to similar movement.

None of the possible ways to break down the personal saving aggregate seem to yield entirely satisfactory results, as any even cursory look at the wide variety of methods used clearly indicates. This seems largely due to the extremely heterogeneous nature of the aggregate, or, as it was expressed earlier, its fundamental "catch all" characteristics.


17 Ibid.
The breakdown used by George Garvy seems to be the least subject to misunderstanding, although like all the others, it poses the usual problem of "borderline" cases of classification.

**Liquid Assets**

Garvy calls one category of personal saving liquid assets. The outstanding characteristic of this type is that:

They are not normally accumulated in any fixed amount; they are held in a form which is either equivalent to cash or in securities that are readily marketable, although not necessarily at face value.\(^{18}\)

These are the "spendable residuals" which were mentioned just previously and which are often immediately (and exclusively) thought of in connection with the term "saving."

Garvy further divides this category into specific components. The first of these is "net increase in individuals' holdings of bank deposits and currency," which is available from the SEC data on liquid saving.\(^{19}\) Bank deposits under this division include demand, time and savings deposits.\(^{20}\)

It is evident that this type of personal saving will not show much of anything if used alone, since no explanation of the cause of whatever increases there may be

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\(^{18}\) Garvy, *op. cit.* p. 337.


\(^{20}\) Ibid.
in bank holdings or currency of individuals is here presented. An increase in bank deposits due to loans extended by banks would not represent a net increase in saving because under the offsetting procedure this increase in the assets of individuals would be offset by a corresponding increase in liabilities, and the result would be no overall increase in net worth. Under the Keynesian definition, the spending of these borrowed funds for (say) investment would not be saving, but the resulting increase in income would result in some type of saving, probably a net increase in holding of bank deposits and currency which would represent the saving which offsets the investment. So the liquid assets category of personal saving represents the outcome of quite variable actions by other sectors of the economy as they draw down or increase their spending.

Also included in the category of liquid saving are the securities of both the government (Federal, State and Local) sector and the private sector. These are most extensively presented in the BEC data. It is quite pertinent to note that the securities of the Federal government, which have represented the largest part of this subcategory for a number of years, are quite a paradoxical form of saving. When issued and sold to individuals they give the Federal government the power or means (value) to engage in or have
engaged in the production of goods and services, most especially, of course, war goods and services. When they are refunded, individuals receive "back" their power to purchase and yet there is no net diminution of the government's power to purchase if the debt is funded out of selling bonds to either the banking system or the Federal Reserve. There has been, in other words, a net increase in the production of goods and services to the amount of the loan, or close to it, through the creation of added value (funds) by various social groups. If this process occurs at a condition of "full employment," and does so at a rate at which creation of funds outruns the ability of the economic system to increase its physical production of goods and services, the result is inflation. This was basically the situation, or at least a major factor in it, after World War II. Then, liquid saving rose from a yearly rate of eight hundred million dollars in 1940 to eleven billion, eight hundred million dollars in 1944 mostly due to war bond purchases. The result was a backlog of individuals' saving in this form at the end of the war amounting to fifty-three billion dollars. This figure had increased by the end of 1954 to fifty-eight billion dollars mostly through the sales promotion activities of the Treasury.

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22Ibid.
23W. Nelson Peach and Walter Kranz, Basic Data of the American Economy (Chicago, 1943), p. 27.
There is a real problem here in determining how to fit in or separate out "created funds" such as are created through the incurrence of debt of various forms which become "liquid assets" to the holders. The expenditure of funds will cause some type of funds flow to increase, and under the GNP data it would have to be either investment, consumption, or government spending. Assuming that the borrowed or created money is invested, do the "savings" exist at the time of the investment (that is, are the debt funds saving?), or, as Keynes said, must the economist insist that saving only takes place when the income increase resulting from the expenditure of debt funds has occurred? More specifically, can created rather than diverted funds be classified as saving? These and connected problems are central to the theme of this study, and the exchange in the economics profession which has taken place over this very point is reviewed at the end of the chapter.

For the moment, however, the flow of funds through this channel of Federal securities can be theoretically dissected if a distinction is made between borrowing from current income and borrowing from the banking system. At any rate, the apparent indestructibility of this type of personal liquid saving and the speed with which it is always spent (since the government always borrows with definite spending commitments in mind), make it a category
which should trouble the Keynesian little if any. It is inconceivable that this flow could be inhibitory to effective demand in the Keynesian savings sense, and therefore no problem exists in providing investment outlets to "fill the gap" for this type of saving. The Keynesian would most likely consider the problem to be the increase in other types of saving resulting from the increased incomes due to the government expenditure.

The above, for all practical purposes, would hold true for State and Local borrowing, such as it might be.

Saving through corporate securities is the most difficult part of personal saving to compute. According to Friend there is no evidence of a systematic bias for the total, though the data probably overstates the saving in this form through common stock. However, the inaccuracy of this category is somewhat offset by its decline in importance since 1929, as Goldsmith commented in his study:

The distribution of personal saving among forms of saving is characterized, except for the two wars and the Great Depression, by a considerable increase in the share of saving through consumer durables, life insurance, and pension and retirement funds, and by a decline in the share of saving through corporate stocks and bonds, mortgages, and real estate.

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Emery DeVegh also comments on this aspect of trends in personal saving:

In the kind of economy we have been having in the last six years corporate savings are universally invested. We have here perhaps the most spectacular example of the shifting of decisions with respect to savings and investments from the hands of the owners to the hands of professional managers. About $30 billion of new savings have been invested in the years since the war with the quasem not having too much to say about the matter.27

The issuance of corporate stock has come almost to be a business move institutionally concomitant with immediate plans for spending, usually for some type of expansion, and does not offer much of a theoretical impediment to the continued flow of funds, especially since it has declined as a percentage of total saving. As corporations are forced to rely more and more on outside financing to meet their expansion needs, as is growing more and more the case now, sales of stock should be even more the "afterthought" of plans to spend, even though, as Fortune notes, no noticeable increase in stock issues can be foreseen:

As a result of their conservatism so far, most corporations are free to move any way they wish in their future financing. The attractions of selling stock would seem greater today than for many years. Industrial stocks are selling at an average of fifteen times earnings (compared to sixteen times earnings in 1929). The spread between industrial stock and bond yields, moreover, is less than one-third of one percent—the lowest in nearly twenty years. But industrial corporations... show very little disposition to sell stock even at

bull-market prices. Net new stock issues by industrial corporations were under $400 million last year—less than in 1951 or 1952. And net stock issues by all non-financial corporations barely totaled $1.8 billion, a figure exceeded in 1951, 1952, and 1953. This year, new stock issues can hardly be expected to rise at all. 28

So the corporate stock category of personal saving offers little relative difficulty in restriction of the flow of funds, both because of its relative decline in importance and of its connection with spending. 29

The final category of liquid saving, that of shares held in savings and loan associations, falls in the same frame of reference as did the currency and bank deposits category, with the exception that these savings institutions maintain full reserves and cannot therefore "create" additional funds as do the banks. The heavy investment of these groups in mortgage loans makes implicit mention of them more pertinent under a later category.

In general, several characteristics of liquid asset saving as a whole may be noted. First of all, it represents the most volatile or fluctuating component of

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29 This does not imply, of course, that the stock market and its related activities may not play an important role in spending patterns. The often-mentioned mutual conditioning of business psychology which is interswoven in stock trading cannot be ignored, but trading of previously-issued stock is not saving under the Keynesian definition, and is here excluded from discussion.
personal saving as a whole. Liquid asset saving is mostly concentrated in the upper income groups. As Goldsmith has observed, "It is known that upper income households account for most of the saving through corporate stocks and bonds, state and local government securities, and the equity of unincorporated business enterprises." Finally, liquid asset saving reflects a multitude of events such as increased income due to the incurrence of debt through monetary expansion and a rise in the issuance of government securities.

**Contractual Saving**

Contractual saving is a category of personal saving which is so homogeneous that it can be discussed without a detailed breakdown into sub-components. Its predominant characteristic is the fixed contractual obligation of a portion of future income.

By far the most important subcategory under contractual saving is the flow of funds through insurance (especially life insurance) companies. Their importance as a savings institution was lucidly set forth by Woodlief Thomas, Economic Advisor to the Board of Governors of the

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30 George Garvy, op. cit., p. 337.
Federal Reserve, in a paper on contractual saving given before a symposium on the subject at the University of Minnesota:

Their resources aggregate close to $70 billion and increase at the rate of about $4 billion per year, and next to commercial banks, which have special functions as creators and custodians of money, life insurance companies comprise the largest single group of institutional investors. 32

Besides these life insurance companies there are property insurance carriers, including fire, marine, and casualty companies, with total resources of more than fourteen billion dollars, and an average increase in assets, or flow of funds, of about one billion dollars annually. 33

They are not as restricted in their investment outlets as are the life insurance companies.

Another type of contractual saving which has increased tremendously since World War II is the government and private pension funds, through which individuals early in working life commit themselves to sustained, regular saving. Pension funds, public and private, have assets of over fifty billion dollars at the present time and are accumulating funds at the rate of over four billion dollars a year. 34

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33 Ibid., p. 173.
34 Ibid.
The outstanding feature of contractual saving is its stability. From a low of six hundred thousand dollars in 1933, it has steadily grown through all the minor and not-so-minor business fluctuations since that date, until, in 1951, the flow of funds into the insurance institutions and pension funds was four billion, two hundred million dollars. This represents the net figure, exclusive of debt repayment on loans made by insurance companies and other contractual saving institutions. These are credited to another category to be mentioned below.

The relatively regular flow of funds through these institutions raises questions as to the effect of these accumulations on total income flows, and leads necessarily to a brief look at the common investment outlets used for these funds.

The placement of contractual saving may be roughly lumped under (1) real estate or mortgage financing; (2) loans of a long term to businesses; and (3) loans to government.

Loans on land and mortgages for housing and other construction have been a traditional part of the financial activities of the insurance companies, and they have been able, in the past, to maintain a degree of diversification of their investment portfolios so as to enable them to

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35 George Garvy, op. cit., p. 337.
weather the severe land and real estate deflations which have occurred. Of more interest here than previous financial activities in real estate by these groups is the somewhat changed picture in this area since World War II. The entrance of the government as a stimulus to activity in this area has greatly enhanced the willingness of these investors to count on the government insurance and increase this type of investment. As Thomas puts it:

The ready availability of real estate mortgage credit in the postwar period was aided by the government guarantee of such credit through the Federal Housing Administration and the Veterans Administration. The terms and conditions of real estate mortgage loans guaranteed by both F.H.A. and V.A. were more favorable from the standpoint of the borrowers than those of the conventional mortgages, the interest rate being lower and the period of amortization longer. Thus while the differential between the yields on United States government securities and government guaranteed mortgages was less attractive to institutional investors than the spread between government securities and conventional mortgages, the demands of individuals, together with the protection offered to lenders by the guarantees, were sufficient to induce large-scale purchases by financial institutions of government guaranteed mortgages.57

Thus, in Keynesian terms, the government (disregarding for the moment the explicit purposes of such programs) effected an insurance of continued high levels of investment of the steady and steadily increasing flow of contractual saving. It has stepped in and insured the insurance sector of the economy against the cultural effect of the traditional debtor-creditor relationship, to prevent this ancient

36 Thomas, op. cit., p. 177.
57 Ibid.
measuring stick of economic action from inducing possessors of investment power from withholding it from use by the general public.

So government insurance of mortgages has provided impetus to the immediate use of funds passing into the possession of the institutions which handle contractual saving. It does not provide enough of an insured outlet for all of the funds collected through contractual saving, however. Loans to businesses are becoming increasingly important as the rate of government insured mortgages drops off.38 Prediction in this area is almost fatal, in view of past borrowing tendencies on the part of big business, and especially in view of the wide divergence of attitudes among the different "pacemakers" with regard to incurring large debt. However, as Fortune reports in an article on business borrowing policies, there is at least reason to believe that this may be the opening field for disposal of much contractual saving.39 With firms such as General Electric and United States Steel, both of whom were counted as firmly against debt insurcance, going quite strongly into the debt-money market, a trend may be opening up. Indeed, as Silberman comments in the article:

38 "Business Roundup," Fortune, LIII (April, 1956), 46.
39 Silberman, op. cit., p. 132.
While stock issues languish, there are a number of indications that corporate borrowing may increase. There is no question that corporations can afford to carry substantially more debt than they now have.

Whether corporate debt begins to mount more rapidly now depends, primarily, on how quickly corporate managers lose the fear of debt acquired, with good reason, during the great depression.\textsuperscript{40}

Another inducing factor which could well be borne in mind on this point is the past war tendency of institutions to "tailor" their loans to meet the needs of potential business investors.\textsuperscript{41}

As a final avenue of investment for contractual saving funds, the government itself may tailor its issues to the investment desires of these institutions. The portion of the national debt held by insurance companies fell from 9.2 per cent in 1946 to 5.6 per cent in 1954, leaving some area here for expansion.\textsuperscript{42} However, the government's problem of meeting the higher interest rates offered by other money markets complicates use of this outlet. It is quite conceivable that only force, the fervor of war, or patriotism will induce the institutions to radically shake up their investment portfolios in favor of government bonds as they are offered. At the same time, there is a strong aversion in the Treasury, in part

\textsuperscript{40} Ibid., p. 134.
\textsuperscript{41} Thomas, op. cit., p. 178.
\textsuperscript{42} W. Nelson Peich and Walter Krause, Basic Data of the American Economy (Homewood, 1955), p. 90.
strengthened in the "hard money" era of 1932, to extensive use of long-term, high interest rate issues.

The other major characteristic effect of contractual saving usually mentioned by observers is that it cuts down the freedom of savers, and contractual saving is so common to all income groups that it could have dire effects with any appreciable drop in income. Goldsmith summed up this two-fold, cross-purpose aspect of the category when he said:

From the point of view of the users of the funds saved and the economy in general, a high proportion of contractual saving provides on the one hand a stabilizing element because certain groups of financial intermediaries, particularly life insurance companies and pension and retirement funds, are able to count on a fairly stable influx of funds and can plan their own placements accordingly. From the saver's point of view it reduces freedom of action, particularly when income declines. The choice then is between a reduction in consumption by more than would otherwise have been the case, or a concentration of the entire cut in saving on non-contractual forms.43

The crucial factor with regard to the flow of funds through contractual saving channels is the ability and desire of the intermediate institutions to maintain the rate and amount of investment necessary to prevent a back-log of savings funds from accumulating. In the past, these institutions have been notable contributors to the diminishing of the flow of savings funds (and thereby total income) in times of recession, and on the other hand, have

been major impetus-providers for boom periods and inflation. Homer Jones, in a paper before the American Economics Association meeting in 1948, cites this tendency on the part of insurance companies:

From 1925 to 1926 the insurance companies were reducing their cash and very rapidly reducing their holdings of government bonds, thus contributing to the boom of that period. In the 1926-27 period of recession the cash ratio increased and the rate of disposition of government bonds declined. From 1927 to the middle of 1929 the trend of cash ratio was downward and government securities were rapidly sold, particularly in the first half of 1929. From the middle of 1929 to the middle of 1932 the amount of cash held increased and the ratio of cash to assets moved gradually upward from 0.6 per cent to over 1 per cent. After the middle of 1932 cash holdings increased more rapidly, reaching 3 per cent in 1933, 4 per cent in 1934, and 5 per cent in early 1936. Thus they held increasing proportions of their assets in cash during this long period of underinvestment. The cash ratio reached a peak in February, 1936, thus lagging three years behind the upturn in the business cycle. In 1936-37 the absolute amount of cash and the proportion of their assets in cash decreased, thus contributing to that boom. In 1937-38 they again increased cash holdings and the proportion of their assets which they held in cash, reinforcing the collapse of that period. Thus from 1931 to the end of 1935 the insurance companies were clearly a disinvesting force. As the proportion of net assets held as cash increased from 0.5 per cent to 4 per cent they contributed to the inadequacy of investment of the period. Then they reinforced the investment boom of the first half of 1937 and the inadequacy of investment of 1938. From 1941 to 1946 there was an inflationary contribution of savings outlets as the trend was downward in proportion of assets held as cash from 3.5 per cent to less than 1.5 per cent.  

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Thus, in the past, the insurance companies who account for most of the contractual saving have accumulated funds faster than they have expanded them in times of uncertainty, and thereby, in Keynesian terms, have lowered the ability of other segments of the economy to save by lowering the national dividend. The importance of this fact is obvious when one considers the earlier mention made of the increasing proportion of personal saving which is taking this form since World War II. The problem of investment of the flow of money savings is increasingly coming to concentrate in this area. The big change in the surrounding circumstances since the days of the 1920's and 1930's is the impetus given to maintaining the rate and amount of investment in this area by the Federal government. In the field of real estate, the government has entered with the FHA and VA insurance which has stimulated the desire of consumers for low interest housing and thereby attracted the funds of the investors which have been under discussion. Mortgages, in net terms, increased, on the average, five billion, nine hundred million dollars from 1946 to 1953. In 1954 the net rise was nine billion, seven hundred million dollars and in 1955 it was no less than thirteen billion dollars.

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46 Ibid., p. 125.
increased from 1946 to 1955 from nineteen billion dollars to eighty-nine billion dollars.\textsuperscript{47} Insurance companies held 17 per cent of the increase, or in other words, they had financed that much of the debt.\textsuperscript{48} The life insurance companies now hold, on the average, about 30 per cent of their earning assets in the form of housing mortgages.\textsuperscript{49}

Recalling the three areas commonly open to investment of the contractual savings funds and taking into consideration the apparent success of the government support in the real estate field, as was previously mentioned, the problem then boils down to one of business spending of the remaining funds, which depends, in the final analysis, on technological development of new product areas and "enabling circumstances" of either income or credit sources on the part of consumers.

**Direct Saving**

The third type of personal saving, by contrast with the other two discussed, does not involve any financial intermediaries, hence, its name—direct saving. As the title implies, it is investment by the individual saver himself. Prominent among types of investment which are at the same time saving under this category include: (1) the spending of the unincorporated entrepreneur on his own business;

\textsuperscript{47}Ibid., p. 246.  \textsuperscript{48}Ibid.  \textsuperscript{49}Ibid.
(2) investment in farms and/or farm improvements; and (3) the equity increase in homes by individuals. All of these are not forms of saving, i.e., the increase in net worth.

It is in this area that the difficulty mentioned earlier with regard to the difficulty in classifying types of spending arises. Homes, for example, are treated as investment (and thereby capital) because they are "assets" rather than consumption goods, the implication being that they contribute to the productivity of the occupants.50 On the other hand, automobiles and other "consumer durables" are treated as consumer goods.51 The basis for differences is that any good which is not bought for immediate "consumption," or using up, can be plausibly treated as a capital good under the still-standard classical conception of the creation and destruction of goods—value or utility. In other words, if the economic process is considered as having a beginning (production) and an end (consumption) all types of goods must be fitted into their proper place in the process. Reconciliation of this static concept with the immediacy of a moving flow of funds and goods has caused the growth of seemingly malign problems.

Differences in allotting questionable types of commodities to either the investment or consumption categories, as Keynes himself observed, would seem to "be of little

50 Garvy, op. cit., p. 332.
51 Ibid.
moment as long as the definitions were consistently used." The difficulty is that inclusion or exclusion of some types of spending in one or the other of the categories affects quite considerably the degree of variation of the total aggregate over a time series, and thereby, of course, the degree of positiveness of correlation of this aggregate with the other Keynesian aggregates. As the table in Appendix A illustrates, and as Garvy commented in using it:

The ratio of personal saving plus gross consumer expenditure for durables (before allowance for depreciation of consumer inventories of such goods) to disposable income fluctuated considerably less than the ratio of personal saving alone.52

Which would an observer use then in plotting the behavior of the Keynesian savings aggregate over the space of several boom and depression periods, as he must do if the causal significance of the Keynesian theory is to be investigated?

Statistical difficulties in computing the allowance for depreciation of the multitude of consumer durables is the basic reason for the exclusion of them from personal saving and including them in consumption expenditure.53 Then too, the inclusion of durables in the data called saving plays havoc with the standard general doctrine that the "best way to fight inflation is with saving." In physical terms, these durables (automobiles, appliances, and also

52 Ibid., p. 333.  
53 Ibid.
homes) add nothing to immediate physical capacity (capital). In fact, they place an even greater strain upon the existing physical plant as they increase with "saving," assuming that they are included in this category. So a rise in "saving" which is physically represented by increased spending without increased addition to a fully-employed amount of capital is not at all harmonious with the "diversion of resources" traditional savings concept.

Another disconcerting influence on the behavior of the savings aggregate is the inclusion of "investment in unincorporated business enterprises." It often leads to misleading interpretations of data, especially when an increase or decrease in the inventories of these businesses causes the aggregate to increase or decrease (inventories are included in saving because they are "working capital" and therefore are represented by a monetary outlay of savings). This tendency to distort total saving was an occurrence in the 1947 and 1948 data. The six billion, two hundred million dollar increase in personal saving in 1948 over 1947 was largely the result of a net increase of four billion dollars in the assets of unincorporated businesses.\(^5^4\)

Investment in homes, the third type of direct saving mentioned above, is also a net concept, meaning that saving

\(^{54}\text{Ibid., p. 338.}\)
here is the net increase in assets (equity), or the sales of homes less the debt incurred. In most presentations of savings data, the gross expenditure on homes is given but the increase in debt is also given in another section which represents an offset category (and which is treated below in this study). As an example, the total expenditure on homes in 1950 was eight billion, nine hundred million dollars, but the mortgage debt incurred in this addition to homes was six billion, six hundred million dollars. The net saving through homes was, then, one billion, nine hundred million dollars.

**Liquidation of Debt**

The final category of personal saving, which is interrelated in actual decision-making with most of the other categories previously mentioned, is "liquidation of debt." This may be defined as the difference between debt repayment and incurrence during the common period of accounting. However, in most periods in recent years, additions to assets (the categories mentioned previously) and offset by an increase in net debt, and as a result the figures for liquidation of debt in the savings data are usually negative offsets rather than positive categories, which they would be if repayment exceeded incurrence.

55 Ibid.
The data on liquidation of debt is broken down in most data into: (1) mortgage debt on homes; (2) consumer debt; and (3) debt of unincorporated business.\footnote{55}

The effect of growth in the debt structure seems to have been quite underemphasized in economic theory, possibly because of its only recent widespread use. It might be reasonably supposed that the dominance of different brands of Keynesianism, where the debt data are couched in aggregates like the savings aggregate, has played an important role in the seeming puzzle over how to treat the mushrooming debt in analysis. In the Keynesian system, an increase in consumer debt, if financed by the banking system, is an injection of purchasing power into the economy which cannot be accounted for until the effect of the resulting expenditures, assuming the multiplier,\footnote{57}
shows up in increased national income. If there is a multiplier operating, there is no net negative effect on the level of income of the spending units since they should receive the benefits of the increase in total income in the form of wages and salaries to a degree more than enough to offset the pledges of future income at the time of debt incurrence.

It was largely due to this type of income injection (with an apparently operative multiplier), as any observers have pointed out, that the economy of the United States boomed during the 1920's. It has been largely due to the growth in both consumer and mortgage debt that the levels of employment have remained high since World War II.\textsuperscript{58}\ The next chapter of this study will be spent on an analysis of credit stimulus to our economy in conjunction with its effects on the supply of money (and income), but since it is in reference to saving, the point of how the debt shows up in the savings data should be made clear here.

\textsuperscript{58}Footnote No. 57, continued\textsuperscript{.} Thus, with a marginal propensity to save of one-tenth, that much of each successive round will "leak," leaving the total addition to income smaller and smaller each time.

Keynes did not deal with the "time-lag" problem implicit in this concept, though it has received extensive treatment since. See Richard M. Goodwin, "The Multiplier," The New Economics, edited by Sayceur Harris (New York, 1947), p. 482.
One distinguishing line must be drawn. There is some difference in the effect of credit financed from current income flows and that financed through creation of new flows. For example, the financing of a housing mortgage by an insurance company is investment from current income (saving). The payments on the mortgage by the consumer will represent future saving to be set by future investment. On the other hand, when a bank finances a mortgage, at least a portion of the loan is in the form of a created account for the (say) construction company to draw on immediately—a net increase in the flow of funds, which will be saved by its recipients down the line until a saving equal to the investment in the house is made. In either case, assuming the multiplier, the total effect will be several times the increase in flows in the national income. The difference is one of degree of effect on total spending.

The net increase in debt, the difference between repayment and new debt incurrence, is dis-saving, or if repayments exceed incurrences, the difference is additional saving. Garvy puts it this way:

So can thus consider the population as divided at any given time into two groups, savers and dissavers. The first group consists of families (and single individuals) who, on balance, add to their assets or reduce their debts (save) during the given year. Those who spend more than they save, meeting the balance by reducing their assets or by borrowing, constitute the second group. The difference between the aggregate positive savings of the first group and
dissaving of the second represents the net personal savings of the country.59

The increase in debt, although an offset against the investment expenditure accompanying it, results in an increase in the other, previously mentioned categories—demand deposits, direct saving, etc., as income rises. The saving data thus show little of the immediate effect of debt injection into the income stream, except in a delayed sense in other types of resulting flows. This is the statistical application of the Keynesian residual concept, and it would seem to necessitate a complete breakdown of the aggregate if movements are to be explained even after they have occurred.

Corporate Saving

Often in any discussion of the statistical use of the savings concept, writers in Economics and related fields refer implicitly to personal savings alone, and this is a rather separate type of saving form that of the other two major saving areas. However, it should be kept in mind that saving represents those resources (or funds, since the two are equated with funds directing the use of "resources") used in the production of capital goods, and if this is considered long enough, it becomes evident with such a definitive framework that corporations use some of

59Ibid.
their own resources to produce capital goods, or in money terms, save some of their resource-diverting funds for the purchase of capital equipment of various types.

Since this chapter is primarily concerned with the monetary measuring of savings, the treatment of corporate accounts to obtain saving, in the Commerce usage, must here be reviewed.

In its data, the Department of Commerce considers savings by incorporated businesses to be the excess of corporate income over expenses which is retained as surplus, i.e., not distributed as dividends. In gross terms this figure would include surpluses made possible by depreciation allowances, and the net saving would represent only that retained over and above the depreciation subtraction. Corporations do depend, of course, on outside sources for capital funds, but these outside placements are treated under one of the personal saving categories already mentioned.

Corporate saving is the most volatile of the three types of saving, varying with the relative rise and fall of national income and in the same direction, but always to a greater degree in both directions than national income. The corporate saving ratio to total saving averages 20 per cent for the last fifty years, according to Goldsmith, but

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there are significant variations for the various decades during this period. The ratio showed a tendency to decline from the turn of the century to the period 1906-1913; was on a higher level, averaging 40 per cent, from 1915 to 1921; was considerably lower with an average of only a little over 25 per cent during the twenties; was negative during the thirties; and, during the forties, was high once again, with an average of around 40 per cent.

In dollars, undistributed corporate profits were two billion, six hundred million dollars in 1929, sank to a low of minus five billion, nine hundred million dollars in 1932, rose slowly to six billion, one hundred million dollars in 1942, and have varied since the war within a range of eight billion dollars (1946) to thirteen billion, four hundred million dollars (1948).

The most striking aspect of corporate saving in years since the war has been the fact that it has, along with long-term loans from various external sources, been the growing method of financing new corporate investment, with a resulting squeeze, comparatively, on dividend payments. Undistributed corporate profits rose as a per cent of

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61 Ibid.
62 Ibid.
63 Ibid.
national income from 2.97 in 1929 to 5.65 in 1950. The effect on dividends has been:

The part of corporate net income received by the stockholders in the form of dividends has not maintained its relative position. It was considerably less in 1952 than the 1939 percentage of national income and no more than one-half the proportion of national income that it was in 1929. This subordinating position of dividends applied throughout both the war and postwar periods.

This tendency of increased channeling of investment through this medium places corporate saving in a more important position than previously. The matter takes on even more importance when the fact is considered that very little is known about the effect of this flow on the economy, except to realize that the funds must be expended if full employment is to be maintained. Arguments continually are heard from those contending that corporate profits are too high and from those defending the levels of profits or deploring the effect of taxation in diminishing those levels, but little with regard to the rate and timing of the spending of these savings is available. Some efforts have been made to project the levels of planned business spending as a predictive device, with some degree of success.

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64. Ibid.
65. Ibid., p. 12.
66. Cf. the monthly estimates of "Business Roundup" in Fortune.
One point can be made in this connection which ties in with the one previously with regard to personal saving. The residual nature of the available data do not offer a guide to analysis. Merely stating that corporate undistributed profits were such and such an amount in a certain period gives no insight to the rate and future of spending of corporate income which is coming in rather steadily during the time period rather than in the form of the lump sum represented in the data.

Government Saving

The unwieldy nature of the theoretical concept of saving when given practical application through the use of statistics is nowhere more glaring than when one considers the category of government saving. Since the government is treated as any other income unit, its saving is also the excess of income over consumption. The difficulty over determining what expenditures by the government represent investment and which represent consumption led, of course, to this treatment of it as a separate income-expenditure sector of the economy in the national income data. As a result, saving in the government sector is the difference

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67 Theodore Morgan, op. cit., p. 66.
between income (revenue) and expenditures, or a surplus is saving and a deficit is dissaving.

With this definition in mind and with facts drawn from the history of government finance, it at once is obvious that the government sector is a notable and fairly continuous dissaver in the economy. In Goldsmith’s study, the magnitude of federal dissaving is such that it offsets three-fifths of the other forms of saving over the period 1897–1949. If the war years and the Great Depression are excluded from the total, federal dissaving offsets only 2 per cent of the other two forms of saving.

In Keynesian terms, government dissaving, if spent on investment, results in an increase in income sufficient to cause enough saving to equal the investment, in other words an amount of saving sufficient to offset both the dissaving and the investment which take place. Hence, as has been the case when the federal government dissaved in large amounts during the two wars, a corresponding saving was effected when the bonds were sold, and the increased income was also saved in amounts to correspond to the investment.

Government saving can have quite different effects, depending on who the payments of debt go to. If the bonds of the banking system are retired, there is a destruction

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69 Ibid.
of part of the money supply out of income—a definitely negative effect on demand and consumption. If the bonds of individuals are retired, there is simply a transfer of purchasing power, which may result in consumption. This Keynesian definition seems to be, then, quite paradoxical in its practical implications. One type of "saving" means the destruction of a portion of the money supply out of tax revenues, generally considered to be a net deterrent to maintenance of high levels of demand. Another type of "saving" implies no negative effect on the level of demand. Dis-saving, on the other hand, represents a net addition to the money supply, if it is accomplished through the banking system, and when spent, it adds to the productive record of the economy (assuming, of course, that there is no price rise and some productive capacity exists).

It does not seem very useful to employ one word, saving, to describe these diverse effects on the flow of funds and thereby on the levels of employment and output. Under this definition, to say that "saving" is needed to combat inflation is gross generalization—no guide whatever to specific government policy—since if the government paid off the right kinds of bonds, the effect, through saving, could be increased spending rather than restraint. Then

70 Unless more created funds are used for refunding.
again, under deflationary conditions, it would not necessarily be restrictive to demand, though it could be.

As Goldenweiser so aptly put it, "government saving is an absurdity." 71

Savings and Cycles

It is well known that Keynes became an influential member of that school of economics variously and sometimes arbitrarily labeled as the "underconsumption," "over-savings," or "underworld" school of economics, with the publication of the General Theory, joining such notables as Mandeville, Foster and Catchings, Malthus, and Major Douglas in disparaging the effects of saving on the level of employment. In Chapter 23, "Notes on Mercantilism," which is largely devoted to a summary of the unrewarding efforts of the aforementioned writers, he appraises their contribution and implies his sympathy:

...the brave army of heretics—with Mandeville, Malthus, Gesell and Hobson. ...following their intuitions have preferred to see the truth obscurely and imperfectly rather than to maintain error, reached indeed with clearness and consistency and by easy logic, but with hypotheses inappropriate to the facts. 72

Institutional economics, after the Keynesian revolution had made the heretical doctrine respectable, was

72Keynes, op. cit., p. 371.
not long in taking up selected portions of the Keynesian system, especially the emphasis on the effect of saving which is an upper income bracket phenomenon, as this excerpt from a paper by C. E. Ayres demonstrates:

It is my opinion that the Keynesian revolution is more revolutionary than most of its participants yet realize. In the first place, the differentiation of the heritage of improvement from the accumulation of funds will oblige us to carry the renovation of our thinking about capital much farther than it has gone yet.\(^7\)

He expressed this "theme from Keynes" in his earlier The Divine Right of Capital, in the following forceful way:

The very rich save most of their incomes, not because they are more abstentious than other people but because, with all their ingenuity and determination, and with the practiced help of more expert advisors they are still unable to stand the strain of spending more than a small part of their millions.\(^7\)

Keynes makes a statement in his concluding chapter which makes, for the point at hand, interesting comparison with that of Ayres' above:

Our argument leads towards the conclusion that in contemporary conditions the growth of wealth, so far from being dependent on the abstinence of the rich, as is commonly supposed, is more likely to be impeded by it. One of the chief social justifications of great inequality of wealth is, therefore, removed.\(^7\)

\(^7\)Keynes, op. cit., p. 371.
The argument that saving is concentrated in the upper income brackets is usually accompanied with the assumption or assertion that it represents an alternative to consumption, therefore at least a diminution of the rate of consumption, and sooner or later the rate of investment as the derivative.\textsuperscript{76} Thus, a ready explanation for business cycles is obtained by attributing them to single causation — oversavings by upper income groups.

Granted the existence of the financial power system, the participants, both large and small, in the struggle for economic power will accumulate all they can. If the funds from which such accumulations are made poured from the heavens in a never-ending stream, this exercise might have no effect on the national dividend. But such is not the case. It is the essence of the case as stated by the classical economists themselves that saving is the alternative to consumption and chiefly to the consumption of the masses; and since consumption is the sole eventual outlet for the product of industry this means that the inevitable effect of the struggle to accumulate financial power is the constriction of industrial output—the precise opposite to what has been conventionally supposed.\textsuperscript{77}

It is important for the purposes of this study to look at the usefulness and validity of such assertions, both

\textsuperscript{76} Keynes, of course, concentrated his attention on the need for investment by government to offset the decrease in investment brought on by the increase in interest rates via a via the marginal efficiency of capital. Nevertheless, the implicit causal effect of increased saving at the expense of consumption is always present in his writing. If this is recognised as one out of his multiple causal factors, he can be included in the above statement with the others.

because they represent a sizable segment of economic thinking and because, as will be demonstrated, all of them depend on the Keynesian savings concept for statistical validation.

What is the degree of correlation of the savings aggregate with the turning points in business activity? The most extensive work in this area done so far is in the study of savings over the last half-century by Raymond Goldsmith.\textsuperscript{78} Using the turning points in business activity developed by the National Bureau of Economic Research, he compares his savings data with these points.\textsuperscript{79} With total national saving (the three components here presented) the timing points are related by lead and lag to the reference points as is shown in Appendix B.\textsuperscript{80} Out of the twenty-five

\textsuperscript{78} The National Bureau of Economic Research has not as yet made an extensive study of the relation between savings and investment, although it has plans to. "The dozen monographs thus far initiated include the cyclical behavior of agriculture, mining and manufacturing production, construction work, transportation and communication, inventory, prices at wholesale and retail, wages and employment, consumer income and expenditures, formation of new business firms, money and banking, foreign commerce, and international financial relations. We hope to add, as promptly as conditions permit, monographs on public finances, incomes and expenditures of business firms, security markets, and savings and investment, and to embark on a series of historical studies of business cycles." Arthur F. Burns and Wesley C. Mitchell, Measuring Business Cycles (New York, 1947), p. 22.

\textsuperscript{79} Goldsmith includes consumer durables in his definition of saving, but notes that either way does not affect this comparison.

points, only eight fell at a different time than do the reference points for business activity. 61 Seven of these lead the reference point and only one lags behind, as the table referred to above indicates. The average lead of saving is slightly over one year for the cases in which any difference exists, and if all the turning points are averaged, not just those where timing differs, the lead or lag at troughs is negligible, while there is an average lead of one year at approximately one out of three turning points. There are only two cases where the turning point in saving and in the reference chronology differ by more than one year, 1905 and 1941, in both cases the peak saving occurring ahead of the reference point. 62 He concludes, in reference to national saving, that there is not sufficient evidence to assert the existence of a typical lead in the turning points of saving over those of the reference chronology. 63

Taking personal saving alone, Goldsmith finds essentially the same situation as was concluded with national saving, although the conformity indices indicate a closer correspondence with business cycles than does national saving as a whole. 64

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61 Ibid., p. 167.
62 Ibid., p. 169.
63 Ibid.
64 Ibid., p. 171.
Of the turning points in saving (national or personal), he suggests that eight deserve separate classification as "pronounced" turning points—those troughs of 1908, 1921, 1932, and 1938, and peaks of 1907, 1920, 1929, and 1937. In these the conformity indices are better and seven represent simultaneous turning points with the reference points.

Finally, he finds the cyclical amplitude of saving extremely high in comparison with every other measure, including those of individual industries and inventories.

In his study of personal saving alone, with slightly though not significantly different data, Friend makes a comparison of personal saving as a per cent of disposable income, presented in Appendix C (page 102 in Friend). It will be noted on observation of it that during the twenties there was no rise in the ratio of personal saving to disposable income; indeed, even a decline from 5.4 per cent in 1923 to 4.7 per cent in 1928 and 4.5 per cent in 1929; no year in between exceeded the 4.7 percentage. However, in all these comparisons, considerable discount of their accuracy can reasonably be taken, as the table comparing Commerce historical series of saving estimates with those of Rumets* demonstrates (see Appendix B).

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As the analysis above with its background reminder on the unreliability of the data used indicates, there is no statistical significance which would justify the single causation analysis employed by those mentioned, since neither the comparison with the reference points nor disposable income indicate a high degree of correlation of saving fluctuations with the turns in business activity.

Even the use by this oversavings school of the savings estimates which seem to prove their point of the concentration of saving in the upper income brackets may be questioned, if the earlier discussion of the forms that saving may take under the Keynesian definition is kept in mind. While the upper tenth of spending units have normally accounted for three-fourths of all net saving, the breakdown of the aggregate figure makes the apparent fact of concentration via financial "power" a little less of a secure statistical statement. The same upper tenth, in 1950 (when they also were credited with three-fourths of all net saving), accounted for less than half of all the units which, on balance, saved.38 If broken down by money income brackets rather than by ten equal groups of spending units, the same data show that in 1950 and in every year since the end of the war, half or more of all spending units in each of the income brackets above an annual money

38 Carver, op. cit., p. 347.
income of one thousand dollars were positive savers. This too, as Garvy pointed out, dissaving of some groups is not necessarily a sign of economic emergency, since the data include the dissaving through normal use of consumer debt to purchase cars, homes or durable goods. And the large numbers of retired persons who by nature dissave explain a large part of the dissaving of the lower income groups.

These random criticisms of uses of the saving data have been put to exemplify, by the questions they raise, the statement by Friend that:

The primary conclusions that can be drawn from these observations is the inadequacy of the available data for analyzing not only the historical series but even the recent movements in saving. This refers both to the difficulty in pinpointing the actual change in total saving and to the interpretation of such a change.

At the very least, accepting for the moment the validity of the savings concept for the purposes of statistical investigation, much more work is needed in analysis of the movements and definitions of the data as well as in improving their accuracy before claims such as those quoted previously can be justified.

Yet this is not the stopping point in a thorough investigation of the use of the money concept of saving. It

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will be remembered that it was stated that all of the more recent "oversavings" doctrinists employ the Commerce data as a subsidiary form of proof to their main argument, as this example shows:

In 1944, a wartime boom year of unprecedented prosperity, approximately 58 per cent of the wage earners in the United States were unable to accumulate any savings. These 58 per cent were in the $5000 or lower bracket and an additional 20 per cent were in the $5000 to $4000 group which were able to save only a small amount of money per capita.93

Yet there are reasonable questions as to whether pursuance of this line of statistical investigation, employing the savings concept of Keynes, is of value no matter how much the methods are improved, because there is reason to doubt the reality of the whole definition on which the statistics are based.

Two basic flaws appear in the Keynesian definition. One is that it seems to be based on a static, Marshallian, "fund" concept of the national dividend, with savings as one part and consumption the other part of the whole. In other words, this underlying assumption implies a static, existing income rather than the one which changes over the course of cyclical fluctuations. Such words in the previous quotations as "accumulation" imply piles of money

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lying around somewhere in the economy rather than being used for consumption, an implication which is rather far-fetched when thought is directed to modern financial practices. Saving is a type of flow of funds, and as was shown, the term covers increasing certain types of fund flows as well as the possible restriction of others. Saving is not necessarily the corollary of funds restriction.

In this same vein, the other basic criticism of the savings approach which can be leveled is that the equality definition of savings-investment precludes any use of the concept even if the term is applied to a measurable, constant restriction of some funds flow. It does so because the analysis through the theory and data must of necessity be after the fact if the two must always be considered equal and only the "adjustments" observed. The value of defining the two as being equal while insisting that adjustments make them so over time even though some inequality may exist at periods gives the impression, as Robertson put it:

94 The implication of an impersonal income stream and/or money supply connected by a "velocity" is implicit in this approach also, and it has the effect of leading some observers to consider income as something fixed, as did Marshall, i.e., as a static non-human "fund," and it leads others to assume that income, or purchasing power, can be injected into the hands of members of the economic unit and more spending achieved automatically, i.e., without considering the behavioral factors which will participate in the lead role. These points are discussed more in detail in Chapter IV.
I wish I could feel that it's (the equality definition) expositors were continuously aware as at times they profess themselves to be that it is completely nugatory (to so define the terms as equal) for purposes of causal analysis as distinct from statistical calculation. But they are, in my view, inclined to forget that these troublesome English words ending in -ing sometimes denote a process... and sometimes denote the process to which the object has been applied. And thus, since they are conscious that they have not perpetuated the absurdity of portraying the process of saving as identical with the process of "investing" they forget that they have so defined their terms that the aggregate amount saved is irrevocably identical with the aggregate amount invested. Hence they are enabled to close their eyes to the absurdity of even inquiring what the forces are which 'insure equality' between two magnitudes which... are but one magnitude, causing one to 'elicit' the other or the other to 'accommodate itself' to the one. To proceed thus is, I suggest, as though one were to define the elephant's trunk and its proboscis in identical terms, and then to enter upon a complicated discussion of the biological principles which ensure that the trunk is always equal to the proboscis.  

Robertson himself suggested a "time-sequence" concept of savings, which makes use of periods of income and saving, the saving of one period being invested or not invested in the following period.  

The Keynesians replied that it was merely a question of definition, since the Robertsonian idea of savings not invested was the same thing as the Keynesian description of lowered income. According to Robertson this is not the case, since under his definition the sources of capital formation financing could be traced.

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to their different sources. The problem involved, however, is in separating the proposed "periods." It leaves virtually the same problem of working within an enclosed system as do the Keynesian definitions.

Most modern textbooks and many Keynesians and neo-Keynesians, have recognized the inadequacy of the original static equilibrium definitions and have made a marriage of convenience with the saving and investment concept of the Swedish school of economists. Ohlin, Myrdal and others formulated the now quite familiar distinction between "planned" or "attempted" saving and realised saving—or ex-ante and ex-post saving. Planned, or ex-ante saving and investment need not and likely will not be equal, but the adjustments of production and income during the period will necessitate the equality of ex-post saving and investment. When combined with the Keynesian propensity to consume and save this approach offered a way out of the static dilemma and has therefore been quite popularized. This offers no statistical improvement, however, since the obstacle of accurately estimating planned saving and investment is quite formidable, not so much because the tools for plausible estimation are not available, but because the economic process is one of continuity which may be affected

97 Ibid., p. 85.
98 Ibid.
99 Ibid.
during the period of analysis by any number of factors. More knowledge of contemplated activity for a normal accounting period, a year, and the ex-post results of that activity would not in the least offer an expansion of what occurred in between to cause the final outcome vis à vis the expected results. It is merely the addition of another "instantaneous picture," and two stillshots do not make a movie.

The money concept of savings as defined by Keynes does not seem to offer useful explanations for cyclical activity, because it is not a behaviorally homogeneous statistical aggregate, and because it is defined so as to be static residual instead of a predictively useful dynamic flow of funds category.

With these quite formidable difficulties inherent in the money concept of savings outlined, the investigation will proceed in the following chapter with the relation of saving, money, and income flows, in the prospect of producing constructive rather than negative criticism on this aspect of saving before turning in the last chapter to investigate the relation between this material and the "real" savings concept.
CHAPTER IV

SAVINGS, INCOME FLOWS, AND MONEY

In the previous chapter, an investigation of the statistical application of the Keynesian savings concept, i.e., the money savings measurements, difficulties in relating the results obtained to income flows and the levels of employment were pointed out. In short, it was held that the residual definition of the term and the impersonal concept of money implied rendered usage of the tool very awkward.

Thus there has been presented, so far, the behavior assumptions underlying the savings concept (Chapter II), and the difficulties involved in applying these assumptions statistically (Chapter III). On the one hand there is the a priori behavior analysis, which cannot be investigated statistically, and then on the effect side the result of this behavior which is transposed in terms of data which disguise rather than open up the underlying behavior of the economic units, because of the residual (ex-post) definition and the impersonalness of the data itself.

This chapter continues the problem in the area it was left at the end of the preceding chapter; it explores further the problems of income flow analysis using the
Keynesian savings definitions around which the income data is built which were briefly set forth at the end of the last chapter. A solution to the problem of portraying "hidden" activities which occur in the aggregate data (credit reflection in later income), toward defining money in terms of its present use in the income flows, and toward relating the flows to the social surroundings is sought.

More specifically, it is proposed to undertake here a look at the crowning and most commonly credited achievement which Keynes accomplished—the unification in one system of the previously divergent theories of "income" and "money". It is hoped that a relation of this unification to changes in the institutional monetary behavior of western society may prove rewarding for improvement in the analysis of cyclic behavior. The chapter narrows down to a review of the development of the quantity theory of money, the development of the theory of income, and the evolution of the type of money used, and the relation of these to the problems posed by the use of the money concept of savings.

The Quantity Theory of Money

Early economic theorists, who did not have a theory of business cycles since a cycle was impossible under the classical system (excluding, of course, certain individuals—Malthus, etc.), were nevertheless much aware of the evident fluctuation of prices which consistently occurred
in connection with the "lags" and "bottlenecks" in productivity, and it was plausible that within the limits of their young scholastic discipline they should attempt to account for this phenomenon. The most prevalent and lasting explanation of price fluctuation was the quantity theory of money. First set forth explicitly by David Hume, it was believed that prices fluctuated in some proportion to the supply of money, in its most naive form, in direct proportion to the supply of money.\(^1\) Hume's analysis, that the price level was a function of the supply of money \((P=M)\) was one of the "naive" theories, and it was to dominate western thinking on the subject throughout most of the nineteenth century.\(^2\) The theory was modified after this period to take into consideration the use of money under changing monetary institutions conditions—velocity was brought in to augment mere amount or supply of money, and the analysis became reflected in the well-known and familiar equation \(P=MV/O\). Accordingly, it could not be true that \(P\) would vary in direct proportion to \(M\), although the secular relationship of \(P\) to \(M\) was retained as plausible in a fairly dependable and consistent manner.\(^3\) This conclusion, if valid, became very important for policy decisions in that it still provided the theoretical basis for


\(^2\)Ibid., p. 1-2.
dependence in eliminating wide price fluctuations, on control of the money supply by the monetary authority. This was, in fact, the policy up until the Great Depression of the 1930's. Notable in the development of the theory relating the quantity theory was the American, Irving Fisher.

Marshall made a modification in the quantity theory which assumed considerable importance in view of the historical perspective now available to us. His idea may be subsumed in the equation \( M = kY \), in which \( M \) is the quantity of money, \( Y \) the money income, and \( k \) the coefficient which brings the two sides of the equation into balance. The coefficient represented that fraction of money income which the public from decade to decade wished to hold in the form of money. Although Marshall was, as Hansen pointed out, thinking of the relation of income to money held in an earlier passage he put the matter on a broader basis and included assets among the relevant factors. He set this idea forth in his *Money, Credit, and Commerce* (1923), but it was largely ignored by his followers thereafter. Discussing the matter in terms of currency, the Marshallian thesis may be subsumed in the equation \( M = kY + k^*A \), where \( M \) is the quantity of money, \( Y \) is money income, \( k \) is the fraction of income which people desire to hold in the form of money, while \( k^* \) is the fraction of assets which people
desire to hold in money form. One of the major differences here, of course, was the establishment on the part of Marshall of some relation between income (expenditure) and the quantity of money, through the use of *k* (obverse of income velocity) rather than the *V* (transactions velocity) embodied in the earlier, simpler quantity theories.

The Theory of Income

This development up to Marshall of the quantity theory was paralleled in its later stages by an equally important, for this study, growth in the theory of income. The quantity theory up until Marshall concerned itself with prices, not with income, which was quite understandable in view of the emphasis of traditional theory on the efficiency of the factors of production as the determinate of real income, in light of which the level of money expenditures, or income, had little significance. The income theory was based on the belief in some possible effect on employment or production, or in equation terms, *P*=*Y*/*O*, in which *P* is the price level, *Y* the level of money income, and *O* the level of output or real income. Wicksell, in his Lectures on Political Economy, set forth one of the earliest forms on income theory:

\[ *P*=*Y*/*O* \]

\[ ^4\text{Ibid.} \]
A general rise in prices is only conceivable on the supposition that the general demand has become, or is expected to become, greater than the supply. ... Any theory of money worthy of the name must be able to show how and why the monetary or pecuniary demand for goods exceeds or falls short of the supply of goods in given conditions.5

Incorporated into the income approach was the differentiation between income and transaction velocity mentioned above, on the general grounds that the total transactions are many times larger than the value of the goods involved. Thus, the income approach, \( Y = PO \), can be transformed by use of the concept of income velocity into \( MV = PO \), where \( M \) is the quantity of money, \( V \) the income velocity, \( P \) the price level, and \( O \) the level of output.

Wicksell's *Geldsien und Gutspreise*, in which he first set forth the income approach was unnoticed by most economists until its publication into English under the title of *Interest and Prices* in 1936. In this work he was mainly concerned with the influence of monetary policy on the money rate of interest and whether or not it was brought in line with the natural rate of interest. On this money rate of interest vis-à-vis the natural rate, coupled with the marginal efficiency of capital, Wicksell built an analysis of aggregate demand for goods and services. The only importance of this for the present study is his concept of demand based on income (though it was solely...
investment expenditure income). This was, of course, an important part of the Keynesian synthesis.

One more in the series of early theorists along the income-expenditure approach which deserves at least some mention was Aftalion. In 1925 (Revue d'économie politique, May–June and July–August, 1925), he made an effective statement of the income theory in the form of an equation, \( R = PQ \), where \( R \) is the money income, \( P \) the price level, and \( Q \) the total production.\(^6\) He explained that price fluctuations, depend upon the respective movements of money income in relation to the real income.\(^7\) Probably the major contribution he made besides the formal equation was his defense of the income approach as against the quantity theory on the grounds that it recognizes the behavior of men (in spending or not spending) rather than abstracting in terms of things as the quantity theory does. Outside of this quite important defense, he did not develop the income concept to application in cyclical cases, being largely concerned with price oscillations.\(^8\)

Relation of Income Theory and Quantity Theory to Keynes

The importance, for this investigation, of tracing (necessarily quite briefly) the development of these two streams of thought is that they come together in the

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\(^6\) Hansen, op. cit., pp. 93–94.
\(^7\) Ibid., p. 94.

\(^8\) Ibid.
Keynesian system and do so in such a way as to offer an "in" to both the problems of finding where the ideas of Keynes were embryologically formed and how the unworkableness of his money savings doctrine can be improved upon through explanation of its shortcomings which have previously been set forth.

The income approach was used by Keynes (Myrdal has accused him of stealing it without credit from Wicksell) and in his system was tied with the quantity theory as an equation and the equation tied to equilibrium analysis. As Williams put it:

In the General Theory, $MV=PT$ is replaced by $I=C+Y$, but one can readily see the old equation underneath. $Y$ is $PT$. Investment and consumption are the components of income through which monetary changes register their effects. Though not in the equation, the quantity of money (together with "liquidity preference") determines the interest rate, which (in relation to the expected profit rate—"the marginal efficiency of capital") determines the volume of investment. The demand for money is broken down into three strands that had been implicit in the analysis since Marshall. Velocity becomes the multiplier, command-over-consumption-units becomes the propensity to consume, and the decision to invest becomes liquidity preference. The identity equation $I=C+Y$ becomes the causal equation $I=C(Y)+Y.9$ (Italics added)

The underlined portion above constitutes the aspect of Keynes' saving concept which is to be given attention in

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this chapter. Upon it rests the basic behavior of men with regard to money which led Keynes to develop his "oversaving" argument, and upon it he rested his claim to have "pushed back the theory of money into becoming a theory of output as a whole." The study here must turn briefly to see the general integration of liquidity preference into his saving-investment analysis approach.

Marshall, it will be remembered, had tied the quantity of money to income and assets, though thinking solely in terms of currency as the money supply. The Marshallian version, $M = kY + k' A$, was a different approach than the earlier simple quantity theories, because it brought into account the desires of the public to hold money, leading to the conclusion that shifts in the desire to hold wealth in the form of money could have very serious effects on prices and income—without decrease or increase in the supply of money by the monetary authority being at all necessary. More specifically, since $k$ represents the desire for liquidity in terms of money, a sudden shift in $k$ in the direction of an increased desire for money represents a decreased desire for goods, the result in all likelihood being a lowering of prices and income.\(^\text{10}\) (Marshall, as mentioned, never elaborated on the $k'$ function and therefore it is not included in the example above of the working

\(^{10}\) Hansen, op. cit., p. 56.
of his liquidity function.) This Marshallian concept was one of the components of the Keynesian liquidity preference.

Keynes took the approach of the master and added assets and the interest rate as determinants of the volume of money (remembering again that although Marshall anticipated the asset determinancy he did not develop it). Thus the Keynesian liquidity preference becomes \( L = L(Y, i, A) \), where the quantity of money is a function of income, assets, and the interest rate.\(^{11}\) He practically eliminated the "A" function in short-run analysis on the grounds that it could not change very much.\(^{12}\) The major change in the Keynesian analysis from the previous neo-classical formulation is in his division of money into the related specific determinate functions (and motives of the holders), or as he put it:

In my Treatise on Money I studied the total demand for money under the headings of income-deposits, business deposits, and savings-deposits... Money held for each of the three purposes forms, nevertheless a single pool, which the holder is under no necessity to segregate into three water-tight compartments; for they need not be sharply divided even in his own mind, and the same sum can be held primarily for one purpose and secondarily for another.

In analyzing the motives, however, it is still convenient to calculate them under certain headings, the first classification broadly corresponds to the former class of income-deposits and business deposits, and the latter to that of savings deposits. These I have briefly introduced in Chapter 13 under the headings of the transactions-motive, which can be further classified as the income-motive.

\(^{11}\)Ibid. \(^{12}\)Ibid., p. 57.
and the business-motive, the precautionary motive and the speculative motive.\footnote{13} Keynes goes on to divide, for purposes of analysis, the amount of money into two categories corresponding to (1) an amount held primarily by those mainly motivated by the transactions and precautionary motives ($M_1$) and (2) that amount held by those mainly subject to the speculative motive ($M_2$).\footnote{14} There is developed at the same time two liquidity functions corresponding to the compartments of cash ($L_1$ and $L_2$), the first, corresponding to the (1) category above depending mainly on, or being a function of the level of income, and the second, (2) above being mainly a function of the current rate of interest and the "state of expectation."\footnote{15} The main emphasis in Keynes' General Theory is a concentration of the effect brought about via the interest rate in $L_2$ and thereby $M_2$. As he summarized it:

We can sum up the above in the proposition that in any given state of expectation there is in the minds of the public a certain potentiality towards holding cash beyond what is required by the transactions-motive or the precautionary-motive, which will realize itself in actual cash-holdings in a degree which depends on the terms on which the monetary authority is willing to create cash. It is this potentiality which is summed up in the liquidity function $L_2$.\footnote{16}

\footnote{13}{John M. Keynes, \textit{The General Theory of Employment, Interest and Money} (New York, 1936), pp. 194-195.}
\footnote{14}{Ibid., p. 199.}
\footnote{15}{Ibid.}
\footnote{16}{Ibid., p. 205.}
The connection quoted earlier from the paper by Williams between the decisions to save and the decisions to invest as embodied in the liquidity preference should be evident. It is the rate of interest which induces savers to part with liquidity for investment purposes, and it must be high enough to offset the risk of illiquidity. It is the same rate of interest which, when compared with the marginal efficiency of capital, determines investment, and it must be, in this instance, low enough to induce investment. Yet at the same time it has to be high enough to reward savers for parting with liquidity. This was the heart of the statement by Keynes that his greatest discovery was that those who save are not those who invest.

It should be noted that this liquidity preference analysis set forth by Keynes imputes causation to old monetary theory of the quantity equation, instead of using it as merely a "useless truism," as Keynes maintained it was in the old form. By treating the old concept of income velocity as a function of $M_1$, the amount of money held to satisfy the transactions-and precautionary-motives, Keynes was able to eliminate the need for explaining variations in it and assumed it constant in the short run, with as usual, the ever-present qualifications:

Its value (income velocity) will depend on the character of banking and industrial organization, on social habits, on the distribution of income between different classes and on the effective cost of holding
idle cash. Nevertheless, if we have a short period of time in view and can safely assume no material change in any of these factors, we can treat $V$ as near enough constant.\textsuperscript{17}

The effect ultimately is to refine the old quantity theory in terms of the effects of different quantities of money on the interest rate and thereby on investment and saving, thus eliminating the need for investigation of the "ceteribus paribus" qualifications mentioned above which affect the relationship between quantity and velocity of money and thereby income and expenditure. This is, of course, accomplished by concentrating on the "expectancy" characteristic of the speculative motive while attributing the amount of money needed to satisfy the other motives as due simply to "the general activity of the economic system and of the level of money-income."\textsuperscript{18} He concentrates on the speculative motive because:

The demand for money to satisfy the former motives (transactions and precautionary motives) is generally irresponsible to any influence except the actual occurrence of a change in the general economic activity and the level of incomes; whereas experience indicates that the aggregate demand for money to satisfy the speculative-motive usually shows a continuous response to gradual changes in the rate of interest, i.e., there is a continuous curve relating changes in the demand for money to satisfy the speculative motive and changes in the rate of interest as given by changes in the price of bonds and debts of various maturities.\textsuperscript{19}

\textsuperscript{17}Ibid., p. 201.
\textsuperscript{18}Ibid., p. 196.
\textsuperscript{19}Ibid., p. 197.
and this direct relationship to the rate of interest makes the $M_2$ and $L_2$ functions most important since:

It is by playing on the speculative-motive that monetary management (or in the absence of management, chance changes in the quantity of money) is brought to bear on the economic system. 20

The net result, to backtrack a moment, is that he assumes $V$, income velocity, to be constant since it is a function of $M_1$, or $L_1(Y)$, $M_1$. 21 The attention is therefore turned to analysis of changes in the liquidity preference for cash to satisfy the speculative motive, which revolves around the interest rate. This point should be kept in mind since it will be a crucial point of criticism later in the chapter.

Keynes' observations, though not collected at any one point and specifically set forth, on money in general should be reviewed also. He observes, in connection with the above point, that any increase in $M_1$ will increase income, whether, in a society using solely gold coins, or in a situation where the government controls the money supply by manipulation of the printing press. 22 The effect of this on $M_1$ is again conveniently by-passed by the simple observation that the new income level will not continue sufficiently high for the requirements of $M_1$ to absorb the whole of the increase in $M_2$ the result being an increase in $M_2$ with its above-mentioned relation to the rate of interest again assuming the major importance.

20 Ibid., p. 196.
21 Ibid., p. 201.
22 Ibid., p. 2001
In connection with his analysis of the effect of his liquidity preferences, he recognizes the obverse effect a "flattening out" of the functions may have, i.e., a flight away from liquidity in post-World War I Europe, when no one could be induced to hold cash, and the opposite effect of intense efforts at liquidity in the United States in the period 1929-33, when no one could be induced into parting with money on any terms. 23

In Chapter 21 of the General Theory, he makes, under the title of "The Theory of Prices," some other rather random observations on the relation between money and levels of employment. The point below seems to bear the most importance for this discussion:

Or, perhaps, we might make our line of division between the theory of stationary equilibrium and the theory of shifting equilibrium—meaning by the latter the theory of a system in which changing views about the future are capable of influencing the present situation. For the importance of money essentially flows from its being a link between the present and the future. We can consider what distribution of resources between different uses will be consistent with equilibrium under the influence of normal economic motives in a world in which our views concerning the future are fixed and reliable in all respects; with further division, perhaps, between an economy which is unchanging and one subject to change, but where all things are foreseen from the beginning. Or we can pass from this simplified propaedeutic to the problems of the real world in which our previous expectations are liable to disappointment and expectations concerning the future affect what we do today. It is when we make this transition that the peculiar properties of money as a link between the present and the future must enter into our calculations? 24 (Italics added)

23 Ibid., pp. 207-208.  
24 Ibid., pp. 293-294.
Following this, he proceeds to demonstrate that an increase in the quantity of money will not raise prices at a level of less than full employment, but in rather consonant with an increase in employment combined with gradually rising prices, dependent upon the use the created money is put to—whether it finances productive activities and accrues as income or represents an increase in or enlargement of bank credit involving a non-wage transaction.\(^{25}\) Taking the first case as typical Keynes concludes that the increase in income will not be sufficient for transactions balances to absorb the entire increase into the money supply, there will be an increase in the speculative balances whose effect on effective demand (whether spent rapidly, slowly, or not at all) depends, in turn, via the interest rate, on (1) the liquidity preference schedule, (2) the schedule of the marginal efficiency of capital, and (3) the investment multiplier determined by the schedule of marginal propensity to consume.\(^{26}\) The previous point with regard to the extent of his emphasis on the effect of the speculative-active should by this time be fairly obvious.

With this theoretical maneuvering, Keynes succeeded in working the old quantity theory of money into his consumption-income-effective demand analysis. By dividing up


\(^{26}\) Keynes, op. cit., p. 232.
the money supply so that the income velocity of a portion of it is stable, except for the long run, and the income velocity of the variable rest of the total supply is zero, he solved the dilemma of explaining variations in \( V \) which had haunted the pre-Keynesians. Mainly this was done through concentrating attention to the speculative balances and thereby to changes in the rate of interest and from this to the ultimate effect on the marginal efficiency of capital and around the circle again through effective demand. At the same time, by assuming the institutional surroundings, the question of the reciprocal relationship between money and production was circumvented. The propensity to consume and save postulated the behavior (of the population corresponding roughly to \( M_1 \)), the liquidity preference served to explain the reactions of the saving and investing groups to behavior thus postulated.

It was held previously in this investigation that there is room for serious question of the propensities assumptions (Chapter II); the multitudinous actions (and thereby motives) couched in the terms "consumption" and "saving" and the resulting statistical difficulties encountered were pointed out as well as the conceptual obstacle of the residual definitions employed (Chapter III). In this Chapter attention will be turned to this monetary element which as the major "expectancy" element in Keynes, constitutes the behavior assumptions with regard to the
business segment of the economy. If people do not want less and less (relatively) economic goods as the wealth of a nation increases (Chapter II) either in the long or short run but if the flow of goods (and enabling funds) is or has been contracted in the past, what is the explanation? More importantly for theory, what is the function of money to be recognized in economic analysis of income flows and employment?

Keynes took care of this puzzling dilemma with his liquidity preference working though the interest rate, as mentioned. For the purposes at hand, the interest rate aspect of his analysis may be disposed with, justified both by time limitations and its wane as accepted analysis. Samuelson summed up this point in saying:

According to recent trends of thought, the interest rate is less important than Keynes himself believed; therefore liquidity preference...cannot be of such crucial significance. As for expectations, the General Theory is brilliant in calling attention to their importance and in suggesting many of the central features of uncertainty and speculation. It paves the way for a theory of expectations but it hardly provides one. 27

But if this is so, it puts the analysis squarely back once again to an analysis of the institutional factors involved. If the interest rate approach is disregarded, this puts his analysis of investment levels in a state of indeterminacy.

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since this is determined by the interest rate via the marginal efficiency of capital.

And perhaps this is the significant contribution made by Keynes. If the institutional presuppositions which he used in his monetary analysis are reviewed and improved, it might be possible to explain the interaction of men and money which affects the level of production. That is to say that the point made by Samuelson with regard to "expectancy theory" may be the avenue of exploration which Keynes opened up by tearing down the old classical system in such traditional terms.

Money and Income Flows

It is a well-known fact that the supply and income velocity of money increase together in a period of recession. Goldenweiser delineates the over-emphasis of various observers on either one of the two at the expense of the other:

Some interpreters tend to attach exaggerated significance to the volume of money as such. In this wise, they have asserted, contrary to the record, that monetary velocity changes but little. There are others who have been discouraged at times by the obvious fact that the economy fares badly even though the money supply is more than adequate and that prosperity may be achieved without a change in the amount of money. Monetary skeptics are prone to say that money will take care of itself, provided other elements in the economy are properly managed. Monetary enthusiasts are likely to exaggerate the economic potency of the money supply.
After the 1929 crash, when the money supply had contracted radically concurrent with the development of a deep depression, many thought that if we would only increase the supply of money, the economy would recover. The money supply increased rapidly after 1933, but this did not bring recovery. Disillusioned by this experience, many believers in the importance of the supply of money abandoned their belief and turned for remedies first to government spending and later to government controls.28

It is well-known that an expanding economy needs an expanding supply of money with which to carry on its activity. Hansen points out the slow, fairly consistent growth in the quantity of money over the past 150 years:

The record does reveal a remarkably constant long-run upward trend in the total money supply—deposits and currency—increasing at the compound rate of around 5 to 6 per cent per annum for the entire period (the range being from 5 per cent to 5½ in the first half, to 6½ per cent in the last half). Disregarding cyclical fluctuations... the money supply has increased at a remarkably stable rate.29

And yet the money supply has increased without direction and indeed subject to the periodic strain of oversupply and undersupply:

That the monetary system was able to keep on producing larger sums of money during all these decades was due to several lucky accidents which came along just in time to rescue the Gold and Bank Credit standard.

The gold discoveries in 1849 in California rescued the system at that time. By 1849, prices were less than half what they had been during the War of 1812. Except for an upturn in 1834-1837, the trend was almost continuously downward during those decades.

28 Emanuel A. Goldenweiser, Monetary Management (New York, 1949), pp. 5-6.
29 Hansen, op. cit., pp. 3-4.
The Greenbacks gave some monetary stimulus during the 1860's—too much, indeed, for three years. Then the country "grew up" to them; and prices declined until 1896, when Bryan first ran for President.

Bryan probably would have been elected in 1900, but the gold system had been rescued by then by a combination of events: (1) the gold discoveries in the Klondike and South Africa; and (2) the development of the cyanide precipitation process, which enabled the profitable extraction of gold from low-grade ores. The world's gold production nearly doubled during those years, and prices stopped falling and started to rise. 30

The characteristic of modern finance was the development of a banking system which afforded a route for expansion of the money supply during periods of prosperity, and which brought with it the plague of bank failures and rush for liquidity accompanying contraction.

In a very interesting book on the development of a "promissory" monetary system, Scherman traces the development of this elastic money. 31 The merchants of England in the seventeenth century case, as trade (and the gold supply) expanded, to place their stocks of the metallic money in the safe-keeping of the goldsmiths. 32 Then the practice of using written orders to the Goldsmith to pay a creditor came into practice—the first checks. 33 Slowly the goldsmiths themselves found that they could issue

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32 Ibid., pp. 326-329.
paper warrants against their gold stocks which would be ac-
cepted as money, and the idea spread through the use of
the practice by the goldsmiths to lend freely. Soon there
was a considerable portion of the money supply circulating
in the form of paper promises by the lending goldsmiths,
which was never cashed in for gold because of the incon-
venience of carrying the metal and because the goldsmiths
were trusted. Their Waterloo proved to be (as it was to
be for bankers centuries afterward) when the holders of the
paper wanted "real" money for their warrants. In this in-
stance it was when the goldsmiths loaned large amounts to
Charles II, and when he refused to pay, they had to default
on their other promises.

From this point on "promised money" was widely used
throughout the Western world. In England, as the banking
system grew, bank notes were issued against gold reserves
(either existant or not-so-existant) as in the time of the
goldsmiths. The famous "wildcat" banking era in the
United States from the time of the revolution until just
before the civil war was a good example of the use of pro-
mise money which was harmless until some factor caused
mistrust and the rush for liquidity to set in. The idea of
fractional bank reserves came to be commonly accepted
banking practice. The principles of convertibility and

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34 Ibid.  35 Ibid., p. 330.  36 Ibid.
restriction of the government's right to coin money was thought to provide an "automatic" regulation of the supply of money.

It was Harold F. Moulton who first developed the thesis that an expanding economy necessitated, and indeed possessed a route to expand productive capacity beyond the limits of current income sources, through the use of commercial bank credit. His argument, first developed in a series of papers in The Journal of Political Economy in 1918, was more fully integrated in The Formation of Capital published as a part of the Brookings Institute study in 1934 of the causes of the Great Depression. As he put it:

The development of the banking system, with its ability to manufacture credit, has served to render funds immediately available for the purposes of capital creation without the necessity of waiting upon the slower processes of accumulating funds from individual savings. The result is to sustain productivity at a higher level and to facilitate the growth of new capital at a more rapid rate than would have otherwise occurred.37

The devious reflection of this credit creation in data based on the Keynesian definitions has previously been discussed. It is not saving until disbursed by the borrower as income and directed into certain "saving" channels by the individual or business saver; or in another sense, the "saving follows the creation of capital."

There is another aspect to this, however, which bears more attention. The point was made previously that Keynes' main claim to fame was, in his own mind, the integration of the theory of money into equilibrium analysis. This serves to explain why it was essential for him to consider the effect of bank credit, or "created money" only in a submerged sense (i.e., through the saving, interest rate, and investment schedules). And yet more than any outstanding economist of his time, Keynes was aware of and concerned with the banking system, and especially with the availability of credit.

In contrast with the optimistic tone of The Times, Keynes took the gloomy view that a return to the gold standard would compel the Bank of England to act in a manner inimical to industrial prosperity. The rules of the gold standard under the circumstances then existing in Great Britain necessitated a high bank rate and a consequent restriction of credit to business. The inevitable result, Keynes predicted, would be the discouragement of industrial enterprise and intensification of unemployment.\(^{36}\)

He recognized the disastrous effect of a flexible money supply based on an inelastic metallic base:

> It is interesting to note that the characteristic which has been traditionally supposed to render gold especially suitable for use as the standard of value, namely, its inelasticity of supply, turns out to be precisely the characteristic which is at the bottom of the trouble.\(^{39}\)

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\(^{39}\) Keynes, op. cit., p. 236.
Nevertheless, he interpreted fluctuations in the supply and quantity of money solely in terms of the interest rate and saving and investment schedules. The basic conclusion reached was that it was oversaving which, when not met by investment, caused the restriction of output and the resulting restriction of bank money creation.

This seems to fit well with the factual data available from studies of past business cycles by the National Bureau of Economic Research. It was found, in the 1929 slump that:

...statistics on total bank loans, both under the Federal Reserve and National Banking Systems, do not indicate a decline until stage 6-7. The sharpest rise in bank loans occurs in the stage of expansion and continues, although at a lesser rate, in stage 5-6, the first stage of contraction. In other words, the theory that the depression is brought on by a restriction in bank credit is not supported by the data on bank loans.40

As a result there has been little investigation of the wisdom of hiding changes in bank credit data in saving and investment definitions.

But, if the word of Samuelson is taken, and the significance of the interest rate as a determining factor of investment is dismissed, what explanation is there for the destruction of created money through decreased total spending? What contracts the flow of funds and causes a lowering of total national income and thereby the levels of

production and employment? Keynes attributed this to the effect of savings coupled with the speculative balances and the interest rate, but it was pointed out in the last chapter that saving was not necessarily concomitant with restriction of a certain flow or of total income flow, since, depending on certain factors and on the type of saving, the concept applied only to certain varied channels of income flow.

Perhaps the implicit assumption of Keynes with regard to the function of money which has been mentioned previously but not elaborated on exte nively is a major source of the conceptual trouble in applying the Keynesian methodology to income flow analysis. Keynes conceived of money as something objective, not subjective; something, which, although variable, existed in a "supply," as did all those mentioned who took part in the development of the quantity theory. Taken as given for a limited period, the "supply" of money performed, through the nebulous abstraction of income "velocity," the function of being "used" to circulate and pile up income, in Keynes' analysis by two clearly different groups, the masses and the speculators. His liquidity preference was only a further refinement of the old velocity concepts of one form or another, determining the supply of money needed and, in his analysis, the interest rate.
Within such an implicit framework, even if Keynes' conclusions are rejected, the problem of how to relate the "supply" of money and income flows is not solved, for further splitting up of the economic sectors and their reaction to money does not eliminate the need for explanation and measurement of the effect of the monetary actions of each sector on total "income."

The well-accepted fact of money flexibility has already been pointed out, i.e. it can be "created" or "destroyed" through the banking system operations. Keynes treats this fact, which he was one of the first to recognize, as something within his system, as a phenomenon to analyze through "effective demand" and "income," wherein as mentioned, he eliminated all but the impersonal relationship of the aggregates (in money terms), ignoring the institutional factors as something "given."

Morris Copeland, in an intricate work under the aegis of the National Bureau of Economic Research, has developed a theory and methodology of flow analysis which seems to surmount, or at least offer possibilities for surmounting, the difficulties under discussion. These are: the generalization of the level of analysis in the savings aggregate; its ex-post residual nature; and the implicit impersonal conceptions of money and income. In his work, A Study of Moneyflows in the United States, Copeland
attempts to get under the broad level of aggregates in-
herent in the savings-investment framework of Keynes' (and
in the GNP data based on his definitions) because:

A serious drawback of the accrual perspective is
that the market facts do not stand out. Dealings
between transactors are scrambled in the social
accounts with the intrasector entities (accrual
and imputation items). 41

The Keynesian approach to income analysis (and that
employed in the GNP accounts) although it involves a two-
sector circuit of income (expenditure) flow, has not been
customarily called a circuit because the word product
(and the equilibrium-period approach) implies finality.
Such an approach analyzes the intermediate and ultimate
sectors, or in other words, is based on a conception of an
economy made up of producers and consumers. It accounts
only for intersector flows—(a) flows from the ultimate
sector to the intermediate on account of final product
purchases and (b) flows of distributive shares and related
flows from the intermediates to the ultimate sector, with
the first being a use and the second a source of funds for
the ultimate sector.

Comparing the two, Copeland says, regarding his own
method, that:

A somewhat similar situation prevails in the
money circuit, but here we have more sectors and no
one of them is thought of as ultimate or final.

41 Morris A. Copeland, A Study of Moneyflows in the
Also we have more flows. Still total inflows (sources of money) and total outflows (dispositions of money) for each sector are synchronous and equal, and here too there may be a time lag or some sector debit subtotal behind some credit subtotal for the sector, or vice versa.\footnote{42}

In the GNP approach "all transactions between firms cancel out, when all firms are taken together, as they have to be for the social income or output,"\footnote{43} and this results in "the cancellation process excludes from the gross national product account all financial flows, nearly all transfer flows, and the very large volume of enterprise transactions that arise out of commodity flows."\footnote{44} In the moneyflow circuit analysis, "substantially the whole spectrum of moneyflows transactions from red to violet is revealed."\footnote{45} The difference in the theoretical use of both approaches is very well summed up in his statement that:

Because the GNP account singles out the transactions at the beginnings and the ends of channels of trade, it gives us a measure of national accomplishment, i.e., of production, and of what labor and property have received for their participation in the production process. Thus it tells us something about how well our economy works. Money flow accounts serve to portray the impacts of various types of transaction on one another—they help us to understand how our economy works. For this purpose we need to see how the economy looks when financial transactions and transfer payments are not canceled out.\footnote{46}

The relation of this to the "level of analysis" criticism made in this study of the GNP accounts is obvious—it seeks

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\begin{itemize}
  \item \footnote{42}{Ibid.}
  \item \footnote{43}{Ibid.}
  \item \footnote{44}{Ibid.}
  \item \footnote{45}{Ibid., p. 61.}
  \item \footnote{46}{Ibid.}
\end{itemize}
}
to break down the aggregates and look at the transactions below them before they cancel out and produce a somewhat anomalous total.

The implications of Copeland's method are even greater than this, however. He seeks to break down the moneyflows by sectors much more detailed than is the case in the simple four-sector approach in the GNP account. He divides up his analysis into types of transactions and types of transactors. The moneyflows are broken down into fourteen types (by transaction) and the economy is divided into eleven sectors (by transactors). The reasoning behind this is just that difference and diversity in institutional surroundings among groups which were made so much of earlier. He proposes to show each sector's inflows and outflows for fourteen types of transactions, on the assumption that differences in both the actions of the transactors and the types of transactions they undertake are substantial for different groups. The fourteen types of transactions he lists are:

1. Gross Cash Pay
2. Cash Interest
3. Cash Dividends
4. Net Owner Takeouts
5. Installments to Contractors
6. Customer Moneyflows
7. Gross Rents
8. Net Payments for Real Estate Transfers
9. Taxes Collected
10. Tax Refunds
11. Insurance Benefits
12. Insurance Premiums
13. Public Purpose Payments
14. Net Money Obtained or Advanced

The eleven transaction groups are:

1. Households
2. Farms
3. Industrial Corporations
4. Business Proprietors and Partnerships et. al.
5. The Federal Government
6. State and Local Governments
7. Banks and U. S. Monetary Funds
8. Life Insurance Companies
9. Other Insurance Companies
10. Security and Real Estate Firms et. al.
11. The Rest of the World

With each of the transaction groups conceived of as entering into most of the types of transactions, through accounting methods a sources-and-uses-of-funds account may be constructed for each group. The transactions entered into by each group are, for purposes of theory, divided into broad types of flows, (1) those arising from transactions that directly help to organize production, (2) moneyflows through financial channels, (3) moneyflows that are transfers from one group to another, and (4) those that are final and those that are not (i.e., those which ex-post show up in the final GNP totals). It is argued that through analysis of each of these areas of moneyflows, using the sector groups, the initiative or passiveness of each group in expanding or contracting the moneyflows during a period

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47 Ibid., p. 100.
48 Ibid., p. 60.
49 Ibid., p. 47.
may be ascertained. Copeland maintains, for reasons too involved to explore here, that the main type of moneyflow which is subject to this "initiative" theory is the GNP account, or final product expenditures.\textsuperscript{50}

The most interesting aspect of Copeland's methodology is the conception of money which he employs (and sets forth specifically) in his theoretical construction. In his opinion, money in the modern sense ("promissory" money) is nothing more concrete (objective, as Keynes used the concept) than a unit with which a given society keeps its score of economic value.\textsuperscript{51} With the change in the common types of money from an existent commodity (such as animals, shells, metals etc.) to an institutional phenomenon subject to the social attitudes and power relationships characteristic of modern social organization, money becomes something used by the different sectors to establish claims on goods and services—value—power which is ex-pansible and yet limited through and because of the behavior patterns connected with it and its use by each group. Copeland develops this conception into a theory of business cycles employing the data of moneyflows. In his theory, groups and sectors use the money, with its value function, as a "cushion" against variations, the size

\textsuperscript{50} Ibid., pp. 48-52.

\textsuperscript{51} This conception of the money—function is developed by Copeland in Chapters 11 and 12, Ibid.
of the "cushion" and its composition depending on which transactor group "owns" it and who actually controls it (for instance, some passive transactors intrust the use or control of their cushion to the banking system and its administrators).

The essential difference in methodology between this approach and that of Keynes is best portrayed by the analogy usually used to portray each. Most graphic presentations of the quantity theory (Keynesian) approach involve a hydraulic system with the liquid in the "pipes" representing the funds (income). The logical result of this abstraction in which, as was shown, Keynes became entangled (to the resulting confusion of those who sought to develop data for his savings theory) was the harassing problem of dissecting the total flow into separate flows with differing importance according to their "velocity." Copeland proposes an analogy based on his definition of the money function, with the system represented by an electric circuit, i.e., with nothing in the "pipes." Each transactor group can expand or contract its contribution to the total circuit, the total at any one moment being portrayed by a "voltmeter."

In the Copeland approach, the ability of each sector to expand its outgo of funds is conditioned by a number of factors, and Copeland admits his enumeration of them to be,
at such an infant stage of development of this type of analysis, very partial. Mainly he concentrates his attention on the conditioning influence of the transactor groups' "batteries," the loan fund balances "owned" by each. The balance of any transactor group is conditioned by and in turn conditions the action of other sectors, with the result that:

In the moneyflows perspective, when we have a number of sectors, we can show for each: its expenditure on gross national product; its receipts and its nonfinal expenditures in connection with product transactions; its transfer receipts and expenditures; and the money it has advanced, obtained or returned through financial channels. The moneyflows perspective brings out the way in which each sector's operations impinge on other sectors; the somewhat less than global level of aggregateness we have adopted enables us to relate product transactions to changes in cash balances and in the debt and credit structure of the economy. 52

Such a combination of transactor groups, sectors, and institutional money functions as Copeland uses has close ties with this study and its problems. In connection with the money problem, the identity of money and goods, the equal finality of the GNP data, is circumvented, and some plausible relation other than the already-discarded interest rate-speculative balances theory of Keynes' between money and income (value) is established. The "supply" of money will be expanded according to whether the affecting

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52 Ibid., p. 253.
transactor groups prefer to rely on existing monoflow intake or expend their outgo through the mutual use of the "batteries" of value, the loan fund balances which are subject to traditional institutional behavior under different situations. The constriction of monoflows would be easier to spot than under the GDP or savings approach, and could be related to the institutional situation. Fundsflow behavior patterns, which varied so widely under the anomalous savings aggregate, could be more specifically read with the more detailed breakdown of sectors and transactor groups.

Copeland proceeds with his own theory that is based on the different behavior patterns of the sector groups; 

"although all transactors are, in a significant sense, on a par with respect to their status in the money circuit, we should not forget that they exhibit different behavior pattern."

Some transactors are, he feels relatively passive in the money circuit, others are active. The possibilities of activity with relation to the money circuit of the groups he lists as: (1) active hoarding—stinting plus hoarding, (2) passive dishoarding—that accompanying a decrease in receipts and a slower increase in expenditures, and (4) active dishoarding—dihosoarding plus

53 Ibid., p. 257.
increased spending. He then proceeds to classify the parties to the drama:

To explore the implications of these distinctions (above) it is convenient to think of transactors in terms of a three-party system. Bulls are transactors who disband to increase their spending. They are active disborders. Bears are those who stint and hoard. They are active hoarders. All other transactors are sheep. Ordinarily sheep will be increasing their expenditures as slowly that they disband when the volume of moneyflows is contracting. They are passive hoarders and passive disborders. A transactor may change his party affiliation as often as he likes, but we suspect that most transactors will be sheep most of the time.

An example of this idea lies in his point that banks do not "create" money and thereby make a net addition to the financial flows. He means this in the sense that creation is not a one-way transaction as the hydraulic analogy implies—that it takes customers to buy the loans and reserves to enable them to be undertaken. He puts it:

The double entry view requires us to bear in mind that there are two equal and opposing flows. Playing down one and focusing attention on the other by calling it money 'creation' (when non-bank cash balances expand) or 'destruction' (when they contract) may not logically require one to picture an increment in non-bank cash balances as new liquid flowing into the conduits of the circuit and adding to the volume of the flow. But it is surely conducive to this way of conceiving the origination of moneyflows, and to regard expenditures financed by money 'creation' as much more inflationary than expenditures financed by borrowing directly from non-bank transactors. The social accounting view requires us to deny that an increase in the dollar volume of ordinary transactions can be originated by a change in the composition of loan fund balances alone.

54 Ibid., p. 258.
55 Ibid., p. 259.
In this same vein, he argues that it is incorrect to state that the Federal government has control over the "creation" and "destruction" of money. The two-way aspect of credit extension means that the banking and non-bank transactors are mutually conditioning in their ability to expand or contract the moneyflows volume.\(^5^7\) The discretion over loan fund balances (active) by the banking sector is, however, extended to include those of some of the passive "sheep" which is to say in another way, that the banking sector has the power to increase the volume of moneyflows via this control. He sums up the major aspect of the role played by the banking system in moneyflows volume:

\[\ldots\text{our consideration of the channels of influence of banks and U. S. monetary funds upon the moneyflows of other transactors has pictured banks and U. S. monetary funds as financial intermediaries between two classes of non-bank transactors, the loans and securities class and the cash balances class—between those whose obligations the banking sector holds and those who hold the currency and deposit liabilities of the banking sector. When bank credit is expanding there is a financial moneyflow from those who are mainly holders of cash balances through banks and U. S. monetary funds to those who are mainly obligors of the banking sector. When bank credit is contracting there is a financial flow in the other direction.}\(^5^8\]

Banks can, under his analysis, play an active role in contraction by refusing credit to those who are bad risks. They can expand even more rapidly the volume of moneyflows

\(^{57}\text{Ibid., p. 271.}\)
\(^{58}\text{Ibid., p. 297.}\)
in a period of expansion. Through the use of their negative balances (which are money in the sense as are the cash balances of the non-bank transactors) they exercise discretion over to what extent the moneyflows volume will be expanded. The part played in this flow by the non-bank transactors should again be emphasized to make certain that such expansion is conceived as being mutually conditioning.

A basic improvement of the Copeland approach over the savings-investment analysis is that it does not require the institutional surroundings to be held constant throughout analysis of the data, thereby avoiding the necessity of restricting use of the tool to review of past economic activity. This, of course, was a basic criticism made here of the Keynesian residual definition of savings, i.e., that a causal factor could not be predictably useful if defined in the residual sense, for, as Kuznets points out:

... as long as static theory remains a system (as distinct from a set of descriptive chapters) centered in the concept of equilibrium, with individual activity as the unit, it will necessarily remain a distorted picture of changing reality. It can be made more plausible but it will always be a scheme of social philosophy or of evaluation of disturbances in a system assumed to be persistent and timeless. The realistic diversity of social groups and of types of conditions is hardly compatible with the rigidity and analytic value of an equilibrium scheme.59

The money concept of savings, then, with its level of aggregateness, its static residual basis not subject to predictive uses, and its outdated conception of non-social money, suffers in comparison with the statistical theory employed by Copeland. He seems to succeed in laying the foundation for analysis of data which is on a more detailed level, and is open to predictive correlation with the "state of the institutions" influencing the transactor groups, through the redefinition of the relation between "income" and money and the resulting flows affecting production.

With this picture presented for the money aspect of the savings concept, the study will turn in the following chapter to evaluate the basic "real" concept of savings for its analytical usefulness.
CHAPTER V

THE CONCEPT OF "REAL" SAVINGS

This study has proceeded so far to investigate the money concept of saving, where a portion of the national income of a nation (income via the "velocity" of money circulation) is conceived of as being allotted to employing that amount of physical resources equal to the money value of savings in producing more production facilities, i.e., "capital." The difficulties which are inherent in applying such a concept to a moving national income with an institutional money function were pointed up, and it was held that there is little value in attempting to refine the attempts at measurement because of the very fact that there is no homogeneous flow of funds which can be dissected out as having a specific influence on the levels of employment and therefore called "saving." It was suggested that a more profitable employment of work hours of statisticians would be on the Copeland method which goes down to a more detailed level and considers the effect of moneyflow contraction and expansion by each sector and transactor group.

Obviously there must be a basic, underlying impetus to the attempts to devise a measurement of money savings.
considering the obstacles which have been pointed out in this area of statistical effort so far. One writer well expresses the disgust with the results obtained from current attempts to devise money savings measurements, and at the same time probably gives the reason behind continuance of such efforts:

In physical terms the definition of savings has not changed from classical terms. Saving means the withdrawal of sufficient resources from the production of consumption goods and services to have enough for maintenance, expansion, and improvement of plant. Without such savings the economy could not only not progress but would stagnate. I am afraid that ever since Wesley Mitchell's Business Cycles there has been a tendency to concentrate too much on the monetary expression of economic developments, and it has become reactionary to think in physical terms. But I think some relating of the monexflow, which is the general solvent, to the physical facts behind it may save us from some of the errors into which pure monetary contemplation has led us in the past. Because the physical facts are basic, the monetary expressions of them should in the end be made to fit these physical facts.1

(italics added)

It is held here that this physical or real definition or aspect of the savings concept, due to its sacredness position in economic theory, is the basic impetus to the continuing attempts to define the concept in money terms. More importantly, it is held that the last sentence in the above quote accurately states the requirements for theory in Economics. More specifically, it fits needs with regard to the savings concept, but the difficulty in fitting

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the money concept of savings to the physical concept of savings lies in the fact that the physical concept itself is not the most lucid possible explanation of the economic process, if fact, one not clear enough upon which to base a statistical construction.

This investigation will proceed on the premise that the definition of physical saving given in the above quote is substantially correct. In light of this, two areas which together serve to define the concept of physical saving will here be under investigation: "resources" and "capital." The latter concept was not mentioned in the quote definition, but "maintenance and/or expansion of plant and equipment" is, of course, the same as addition to "capital." Reasons for the connecting links between these two concepts and real saving will become clear as the discussion proceeds.

There are some related ideas which are implicit both in the use of the resource and capital concepts in Keynesian theory, and these bear quite some importance to the present study, necessitating a brief discussion into their development and integration. In the main, they are the theories of diminishing returns and the nature of resources.
Diminishing Returns and the Nature of Resources

Without delving deeply into numerous references for substantiation, since the fact is commonly recognized in economics, the point can be made that economics early developed a trend toward pessimism in its analysis, leading to its being called "the dismal science." This pessimism was built around the previous definition of the "factors of production," at the hand of Adam Smith, and the injection of the dynamic Malthusian theory and the static Ricardian theory of rent, or diminishing returns (which was closely tied, of course, to the development and spread of the concept in physical science).

Smith took the factors of land and labor which had been used by the Physiocrats and added capital to form the famous triumvirate of resources, or "factors of production," as the common name for them is. Smith conceived that these factors, excepting labor, could grow only according to the law of accumulation.\(^2\) The balancing force in his law was the inverse relationship between capital and labor, i.e., as capital grew and wages increased, the working force would expand, driving down wages, until once again a balance was achieved.\(^3\) Thus, in the long run, the endless mechanism of compensation would allow the accumulation of capital to

\(^3\)Ibid.
continue, thus the future "wealth of the nation." The factors of production, including labor, would continue to grow.

Malthus and Ricardo splotched this happy prophecy, the first with his population theory and the second with the law of diminishing returns. Malthus disputed the idea inherent in Smith that it was possible for continued growth in the population, since the food supply would not grow rapidly enough to support such growth.

"Although Ricardo and Malthus disagreed about almost everything else, they did not disagree about what Malthus had to say about population," and the reason is obvious. Ricardo, in his theory of differential and extensive rents, made the statement that the land produced less and less (relatively) as cultivation was intensified, or, in other words, there was a limit to the benefits obtained through application of other factors to this limited factor. This meant that there was a limit to the use of capital to increase productivity, and labor as well. Society had reached the point of diminishing progress as it became caught under the squeeze of population growth and diminishing returns. These physical explanations of the factors of production were interwoven and given force by the usual

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4Tid., pp. 30-31.
practice of identification of the monetary and physical aspects of productivity, the unique ability of "double vision" possessed by economists, as Ayres calls it. It was believed, in one form or another, by all the classicalists, that the growth of the factors, especially capital, would result at some future time in the decline of profits and the interest rate, with the incentive for accumulation ceasing and a static state setting in.

As a result of these developments, economics in the nineteenth century was in the position of having no theory of production or resources to explain the growth which was obvious in all of the advanced western nations. As Mitchell points out, emphasis shifted from the supply, or production side, to the distribution, or demand side, of theory. (It could well have been through disappointment with the previous efforts of the classicalists to explain production.) Under this trend, most discussion of the three factors used then primarily as the distributive shares of the national income or dividend. In line with this shift in emphasis, analysis came to concentrate on the short-run aspects, i.e., distribution.

6Wesley C. Mitchell, Lectures on Types of Economic Theory (Unpublished notes of classroom lectures), Vol. II., P. 246.
7Hence the attention devoted to measurement of money savings, a distributive share of national income.
In summary, economics, up until Keynesian system development, had not offered a clear theory of production and economic growth. The analysis it did offer emphasized the law of diminishing returns, limited “natural” resources, and resources, or “factors of production which were existent, measurable physical entities. In addition, most analysis embodying these concepts was limited to certain time periods.

Resources and John Maynard Keynes

Keynes attempted to reconcile the previous division of analysis into long-run (production) phenomena and short-run (distributive) phenomena which had become standard procedure under the influence of Alfred Marshall. His attempts to do this through his “expectancy” factor can be classed as unsuccessful, since the injection of one dynamic factor does not make a whole system dynamic:

Furthermore, he confined his model—though not always his argument—to the range of short-run phenomena. * * * It does not seem to be realized sufficiently how very strictly short-run his model is, and how important this fact is for the whole structure and all the results of the General Theory.*

The extent to which Keynes keeps his system static, despite his “expectancy” element is aptly illustrated by

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*Joseph A. Schumpeter, "Keynes, the Economist (2)," The New Economics, edited by Seymour Harris (New York, 1947), p. 93."
this passage where he sets forth the "constants" in his model:

We take as given the existing skill and quantity of available labor, the existing quantity and quality of available equipment, the existing technique, the degree of competition, the tastes and habits of the consumer, the disutility of different intensities of labor and of the activities of supervision and organization, as well as the social structure, including the forces, other than our variables set forth below, which determine the distribution of national income. This does not mean that we assume these factors to be constant; but merely that, in this place and context, we are not considering or taking into account the effects or consequences of changes in them.9

In his analysis, Keynes also makes use of the classical form of "natural resources" production explanation:

I sympathise... with the pre-classical doctrine that everything is produced by labor, aided by what used to be called art and is now called technique, by natural resources which are free or cost a rent according to their scarcity or abundance, and by the results of past labor, embodied in assets, which also command a price according to their scarcity or abundance. It is preferable to regard labor, including, of course, the personal service of the entrepreneur, and his assistants, as the sole factor of production, operating in a given environment of technique, natural resources, capital equipment, and effective demand. This partly explains which we have to take the unit of labor as the sole physical unit which we require in our economic system, apart from units of money and time.10 (Italics added)

Keynes, then, progressed little, if any, from the static classical conception of production, couching his brief mention of it, as he did, in the same static natural

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9 Keynes, op. cit., p. 245.
10 Ibid., p. 215.
resource terms. As a result, as this investigation has so far served to illustrate, Keynes emphasizes mostly the distributive or money aspect of his savings concept.

Yet Keynes and his followers must assure themselves of the worthiness of maintaining the savings approach to production if the distributive side of it is to have any meaning. After all, is not the money idea of savings, i.e., a functionally, causally related flow of the national income, built on the basis of a homogeneous diversion of "natural resources" to the production of capital goods? Are not the money savings supposed to represent, via the identity of money and goods, the amount of physical resources (land, labor, capital) set aside for a generally similar economic purpose? Then it would be reasonable, safely assuming the answers to these questions in all cases to be "yes," that if the production analysis framework Keynes acquired from his predecessors was proved unrealistic the money concept of the term would have no physical basis.

Resources and Savings

The factors to be weighed in examining the usefulness for analysis of the traditional (and Keynesian) method of explaining production are just those factors whose
background was sketched in previously: diminishing returns cannot be considered outside of the limited-time framework in which it has come to be placed. As was mentioned previously, when economics found itself faced with growth it could not explain, a solution of sorts was found by dividing analysis up into categories of "long-term" and "short-term" with diminishing returns being employed in the latter category of analysis. A present day text sums up this division which was essential to the continued use of the idea:

The fact that we now have, in most fields of production, better machines and methods of production than formerly does not keep the law (diminishing returns) from operating in the present state of the arts of production. The operation of the law requires that production methods and technology be fixed at any given time but it does not require that they be fixed through time.\(^{11}\)

Now the idea of diminishing returns applying in the long-run period is accepted by few:

Since the last acquisition of new territory (in the United States—250) the absolute number of square miles has not increased, and the natural deposits have certainly been diminished, while the population has been multiplying. Technology... has continuously found new ways of increasing the efficiency of scarce natural resources or has found substitutes for them. Aside from the cases where restrictive monopoly or narrowly limited resources can operate, people are not pinched in by scarcities.\(^{12}\)


Yet, the idea for some reason, is kept in short-run, or cyclical analysis. It is to be presumed that, under this rule, all analysis of cyclical behavior of an economic system must be carried on in the vacuum of a static society in which all change in technology or productive potential is non-existent. It would seem to be quite an immense feat of the imagination to picture such a society as representative of, at least, the western powers, but by all existing standards, it must be done.

When the connection between this rule of analysis and the "natural" conception of resources is established, however, the at first puzzling state of affairs set forth above is somewhat more readily explained in terms of a "scientific compulsive." It is simply due to the fact that discarding the law of diminishing returns and the instantaneous time period ruins the whole "natural resource" approach to economic growth and production, as well as, more importantly, the approach to even cyclical economic fluctuations.

Any application of the "factors of production" approach to production involves the assumption of a stable state of the arts. Keynes, in seeking, as he said, to limit the scope of productive factors to "units" of labor, money and time, held all the institutional surroundings,
the arts, the productive capacity, and the natural surroundings ceteris paribus. Such attempts at eliminating the effect of technology has the ultimate influence of eliminating also any effect of man himself, except, of course, as so many units of "labor." It is, as Ayres says, a strange social science which bases its whole analysis on a framework which eliminated all "non-objective" factors:

This contradiction has become so obviously apparent in recent years that many economists have felt themselves compelled to take cognizance of it to the extent of declaring that although the development of science and technology must be acknowledged to condition the whole industrial process, it does so in a "non-economic" way and must therefore be excluded from economic analysis; but such an excursion in effect brushes aside the basic issue of fact by which the validity of economic analysis must eventually be determined.13

And as Zimmerman points out:

Nothing is more fatal to a realistic and usable understanding of resources than the failure to differentiate between the constants of natural science and the relates of social science, between the totality of the universe or of the planet earth, legitimate domain of the natural scientist, and that small part of these totalities which constitutes the ever-changing resources of a given group of people at a given time and place, the bailiwick of the social scientist.14

It might possibly be that economics has done this so as to preserve, out of some traditional sense of primacy and of "objective scrutiny," its separation from the methodology

14Erich Zimmerman, World Resources and Industries (New York, 1951), p. 11.
of the "other" social sciences. If forced to consider technology, and thereby human behavior, in its analysis, it descends to the level of the social sciences which do not have the mass of impersonal data to correlate and compare so ponderously.

The fact remains, however, that such head-in-sand "objectivity" is not an accurate approach to the economic process, for as Zimmerman points out:

At this advanced stage of human history so much culture has been added and worked into nature that it is well nigh impossible to segregate the "natural" resources from the cultural. 15

If such is the case, then the traditional approach to physical production is not very illuminating a picture, since, by not considering human behavior (and thereby technology) a part of the economic process, the economist is only explaining the surface result of far deeper causal forces. Stating that, for instance, so much "labor," "land," or "capital" produced so many goods and services this year ignores the forces of human intelligence and behavioristic use of same which had previously developed, through technology, uses of these three factors to such a point that the level of production noted was actually achieved. The application of so many units of the "factors" fifty years

ago would not have produced the same productive results as
the application of them would today because of the changes
in the types of factors used—a change accomplished through
technology, which is the product of human intelligence.

The functional approach to resources, as opposed to
the "natural," takes into prime consideration the active
part played by man in the use and creation of resources:

The environment must therefore be viewed as
consisting of at least two distinct elements: the
natural and the cultural. Since culture is a social
product, that is, an achievement of group cooperation,
we may refer to cultural environments as social en-
vironments or social heritage. Man shares the natural
environment with all animals, but man alone possesses
the capacity to create cultural or social environments.
Through culture he has softened the rigors of nature.
By superimposing the structure of the social en-
vironments on nature, he has continuously expanded
the habitable area of the globe until today even the
arctic and antarctic regions must accustom themselves
to his sight.16

Under such an approach, resources are not things ex-
istent always in their natural state, but are created by
man, through the accumulation of his knowledge.17 Resource,
in this sense, is the product of the interaction of nature
and culture, and is therefore ever-expanding as man
creates further uses for the "gray matter" which nature
offers him.

16bid., pp. 111-112.
Under the traditional approach, growth is achieved through the expansion of "capital," through, as was mentioned, the physical saving, or diversion of some units of production to producing more "capital." The similarity to the functional resource approach of this traditional explanation is obvious, especially in light of the changes which have been read into the meaning of the term "capital" in the last few years. For example, one well-known international economist refers to capital as "sometimes used to cover human as well as material capital: it can be made to include investment in skills, education, and health—a very important form of investment." 18 Myrdal, in a work in the area of international economics, refers to several types of "capital," one of which (education) he calls "personal capital." 19 Setting the pace, perhaps, Alfred Marshall included in the term "capital" such things as "knowledge and organization," 20 "human faculties," 21 "the education of middle-class children," and wages to laborers. 22 He includes these as a form of savings because they add to the productiveness of the next generation. 23

21 Ibid., p. 229.
22 Ibid., p. 229.
But like Keynes and all the others, Marshall went on to use the term as the existing units of physical plant and productive goods, or as money, "capital funds," representing the same. The result is, in all cases, the extraneous recognition, as Ayres recognized in an earlier quotation, of the cultural (institutional) and technological forces in the economic process.

This is exactly the point crucial to this analysis of real savings. Granting that the term and the corollaries, capital and resources, have been modified to recognize the influence of the human faculty through technology, is not the savings-investment-capital approach now adequate for economic analysis? Is not then the Keynesian savings aggregate, with these modifications added, an accurate reflection of the economic growth process, or could it not be so with some added refinement?

It would seem that a reasonable case could be made for an affirmative answer to the above questions, with one important, very important, qualification—a distinction between cause and effect, or more specifically, between prediction and review analysis. It is here held that the affirmative could be true and maybe justified in the case of effect or review necessities.
The "real" concept of saving, i.e., addition to capital goods, is a valuable statistical tool which can be used to chart economic growth through a time series. It cannot, however, in itself explain why such growth occurred when and where it did. This can only be fully accomplished with the use of additional material relating to the anthropological, sociological, and political factors prevailing in the area under observation. Without pursuing the point deeply (since the attention here is primarily on Keynes' use of the savings tool for short-run, i.e., cyclical, analysis), it would seem that as long as inclusion of these crucial explanatory factors is only accomplished in the present extraneous manner, the explanation of economic growth must suffer from unrealistic abstraction. 24

Even assuming, however, that the review use of the savings-investment-capital approach in the "real" sense is a valid representation of the economic process, this does

24 Cf. Gunnar Myrdal, An International Economy (New York, 1956). In this well-documented survey of the problem of economic growth, Myrdal uses the "extraneous approach." As a result he appears to have some difficulty at times in integrating the cultural factors with the economic results. The lack of a conceptual framework seems to confuse an otherwise extraordinary job of recognizing the cultural (human intelligence-technology) factors, the exclusion of which Myrdal clearly sees as a weakness in most previous approaches to the problem.
not substantiate the basis for use of the money concept in analyzing short-run, cyclical, economic behavior. This money-aggregate was shown in Chapter III to not represent a homogeneous flow of funds because of the multiple patterns of human behavior revealed in the component flows. It was also pointed out that the money definition was static, not dynamic, and with the primary objective of short-run analysis being predictive results, a residual definition cannot suffice for a statistical framework. It was mentioned also that any money approach to savings must first be preceded, if it is to be useful, by further work in defining the function of money.

In short, the "real" concept of saving (factor analysis) is weak in long-run, review usage; impossible in short-run usage without inclusion of human behavior prediction (which prevents use of an aggregate if there is no aggregate savings behavior, therefore rules out use of the concept even if behavior is brought in, since a more detailed breakdown will be required).

The Keynesian money concept of saving, because of its level of analysis, its static definition, and the implicit assumption of an impersonal money function, must be read completely out of cyclical analysis even if the real concept is retained with some modifications.
### TABLE 1

**Personal Saving, Durable Goods Purchases, and Liquid Saving by Individuals**

<table>
<thead>
<tr>
<th>Year</th>
<th>Personal Saving</th>
<th>Personal Saving and Purchases of Durable Goods by Consumers</th>
<th>Liquid Saving by Individuals*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I In Millions of Dollars</td>
<td>In Percentage of Disposable Income</td>
<td>In Millions of Dollars</td>
</tr>
<tr>
<td>1929</td>
<td>$3.7</td>
<td>4.5</td>
<td>$13.1</td>
</tr>
<tr>
<td>1930</td>
<td>2.9</td>
<td>3.9</td>
<td>10.2</td>
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<tr>
<td>1931</td>
<td>1.8</td>
<td>2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>1932</td>
<td>-1.4**</td>
<td>-2.9**</td>
<td>2.3</td>
</tr>
<tr>
<td>1933</td>
<td>-1.2**</td>
<td>-2.7**</td>
<td>2.5</td>
</tr>
<tr>
<td>1934</td>
<td>-0.2**</td>
<td>-0.4**</td>
<td>3.1</td>
</tr>
<tr>
<td>1935</td>
<td>1.8</td>
<td>3.1</td>
<td>7.0</td>
</tr>
<tr>
<td>1936</td>
<td>3.6</td>
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<td>10.0</td>
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<td>3.9</td>
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<td>10.9</td>
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<td>9.4</td>
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<td>11.6</td>
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<td>1940</td>
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<td>10.7</td>
<td>19.6</td>
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<tr>
<td>1941</td>
<td>9.8</td>
<td>10.7</td>
<td>19.6</td>
</tr>
<tr>
<td>Year</td>
<td>Real</td>
<td>Nominal</td>
<td>Aftertax</td>
</tr>
<tr>
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<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>1942</td>
<td>25.6</td>
<td>21.9</td>
<td>32.7</td>
</tr>
<tr>
<td>1943</td>
<td>30.2</td>
<td>22.8</td>
<td>37.0</td>
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<tr>
<td>1944</td>
<td>35.4</td>
<td>24.1</td>
<td>36.5</td>
</tr>
<tr>
<td>1945</td>
<td>28.0</td>
<td>18.5</td>
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<tr>
<td>1946</td>
<td>12.0</td>
<td>7.6</td>
<td>28.6</td>
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<td>5.9</td>
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<td>25.3</td>
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<td>1948</td>
<td>10.5</td>
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<td>1949</td>
<td>6.7</td>
<td>5.6</td>
<td>30.5</td>
</tr>
<tr>
<td>1950</td>
<td>11.2</td>
<td>5.5</td>
<td>40.4</td>
</tr>
<tr>
<td>1951</td>
<td>17.0</td>
<td>7.6</td>
<td>44.1</td>
</tr>
<tr>
<td>1952</td>
<td>18.0</td>
<td>7.7</td>
<td>43.8</td>
</tr>
</tbody>
</table>


*This excludes government insurance throughout and Armed Forces Leave Bonds, 1946-52.

**Negative figures indicate dissaving.

***These figures are estimated.


APPENDIX II

**TABLE 2**

TURNING POINTS IN NATIONAL AND PERSONAL SAVING DIFFERING IN TIMING FROM REFERENCE DATES OF NATIONAL BUREAU OF ECONOMIC RESEARCH 1897 to 1949

<table>
<thead>
<tr>
<th></th>
<th>National Bureau reference dates</th>
<th>Saving*</th>
<th>Lead (-) or lag (+) of saving (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual</td>
<td>Monthly</td>
<td>Annual</td>
</tr>
<tr>
<td>I. National Saving</td>
<td></td>
<td></td>
<td>dates</td>
</tr>
<tr>
<td>Peak</td>
<td>1903 Sept.</td>
<td>1902</td>
<td>1902</td>
</tr>
<tr>
<td>Peak</td>
<td>1907 May</td>
<td>1907</td>
<td>1905</td>
</tr>
<tr>
<td>Peak</td>
<td>1913 Jan.</td>
<td>1913</td>
<td>1912</td>
</tr>
<tr>
<td>Peak</td>
<td>1918 Aug.</td>
<td>1918</td>
<td>1917</td>
</tr>
<tr>
<td>Trough</td>
<td>1919 Apr.</td>
<td>1919</td>
<td>1918</td>
</tr>
<tr>
<td>Trough</td>
<td>1927 Nov.</td>
<td>1927</td>
<td>1928</td>
</tr>
<tr>
<td>Peak</td>
<td>1944 Feb.</td>
<td>1945</td>
<td>1941</td>
</tr>
<tr>
<td>Trough</td>
<td>1946 Oct.</td>
<td>1945</td>
<td>1945</td>
</tr>
</tbody>
</table>

II. Personal Saving

|                  |                                |         | Annual                                  | Monthly                               |
|------------------|                                |         | dates                                  | dates**                               |
| Peak             | 1903 Sept.                     | 1902    | 1902                                   | -1                                    | -0.3                                  |
| Peak             | 1907 May                       | 1907    | 1905                                   | -2                                    | -1.9                                  |
| Peak             | 1913 Jan.                      | 1913    | 1912                                   | -1                                    | -0.6                                  |
| Trough           | 1919 Apr.                      | 1919    | missed                                 | **                                   | ****                                  |
| Peak             | 1920 Jan.                      | 1920    | missed                                 | **                                   | ****                                  |
| Trough           | 1926 Oct.                      | 1926    | 1925                                   | -1                                    | -1.3                                  |
| Trough           | 1927 Nov.                      | 1927    | 1928                                   | +1                                    | +0.7                                  |
| Trough           | 1932 May                       | 1933    | 1933                                   | +1                                    | +0.3                                  |
| Trough           | 1946 Oct.                      | 1945    | 1947                                   | +1                                    | +1.8                                  |

*Standard social accounting concept. From Table T-1, cols. 1 and 2.
**Locating all turning points in saving at midyear.
## APPENDIX C

### TABLE 3

**PERSONAL SAVING AS A PERCENTAGE OF DISPOSABLE INCOME**

**1923–1952**

<table>
<thead>
<tr>
<th>Year</th>
<th>Disposable Income (Billions of Dollars)</th>
<th>Ratio of Personal Saving to Income (Per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>63.9</td>
<td>5.4</td>
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<tr>
<td>1924</td>
<td>69.9</td>
<td>4.3</td>
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<tr>
<td>1936</td>
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<td>5.4</td>
</tr>
<tr>
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*Source: Income and saving figures for 1929–53 are official estimates of the Department of Commerce. Figures for 1923–28 were developed by the staff of the Department of Commerce in connection with analyses appearing in the Survey of Current Business.*
APPENDIX D

TABLE 4

INDIVIDUALS' SAVING, LONGER-TERM SERIES
1919-1938
(Billions of Dollars)*

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<th>Individuals' Saving***</th>
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<td>(Commerce, Extrapolated)</td>
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*Source: Individuals' Saving by Irwin Friend, p. 97.
**Personal saving: These estimates from 1923-28 were developed by the staff of the Department of Commerce in connection with analyses appearing in the Survey of Current Business. However, the figures are admittedly rough and are not official estimates. They were obtained as residuals from backward extrapolations of the Department's official series on personal income, taxes, and consumption expenditures for the years following this period.
***Individuals' saving: From Table 39, National Income and Its Composition, by Simon Kuznets. Includes entrepreneurs.
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