

Is the Economics of J.M. Keynes Obsolete? No, Misinterpreted

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I. Introduction

Somehow in the attempt to clarify Keynes we have grossly misinterpreted the fundamental themes of *The General Theory of Employment, Interest, and Money* [26] (hereafter, the *General Theory*). Of course this is not unique problem with Keynes. The same happened to Ricardo, to Marx and even to Marshall. Great economists are almost always bowdlerized in the process of popularizing their views. “We are all Keynesians now” has become a popular cliché. Despite the apparent victory of Keynes’ idea and philosophy, a small but growing group of economists, whom we call “fundamentalists” later in this paper, have continued to warn that what passes for Keynesian economics is nothing but pre-Keynesian simplicities camouflaged with some Keynesian cosmetic terminology.

The purpose of this paper is twofold. One is to show what is original and true in the economics of Keynes. In the *General Theory* and elsewhere Keynes attacked a body of theory that he designated “classical.” In expounding his theory against the classicals Keynes applied new methods of analysis, invented

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several new concepts, and put out a decidedly new insight into the functioning of the actual capitalist economy. So the statement such as the following one by Hazlitt loses its validity in our argument:

“In spite of the incredible reputation of the book, I could not find in it a single important doctrine that is both true and original. What is original in the book is not true; and what is true is not original.” [19, p.3]

The other purpose is to trace some of the innovations that Keynes' work presented but disappeared during the “Keynesian Revolution” or have become unimportant in the current exposition of Keynes. Like the interpretation of the work of any active mind, the interpretation of Keynes' writing requires the use of selection and emphasis; it requires a view of what is central and what is merely peripheral in his writings. In this way apparent inconsistencies and obscurities may readily be solved. Keynes' *General Theory* is a monumentally great book not because of what it is but rather because of what it can become through plastic interpretation.

Following Professor Dillard, who writes:

“Just as it would be difficult, if not impossible, to understand Smith without knowing something about mercantilist theory and practice, so it is difficult to understand Keynes without knowing something about classical theory and practice.” [7, p.13]

we begin with the discussion of the economics of the classicals and neoclassicals. In contrast with Keynes, who characterizes all his predecessors and contemporaries as one group, “classical,” we examine them under two separate headings in section II because of the difference in the nature of emphasis. In each school we discuss separately the theory of output and the theory of money. In section III various aspects of the economics of Keynes are brought out. In the first four subsections of section III, some “environmental” and methodological elements of the *General Theory* are examined. The last five subsections deal with “fundamental ideas” of Keynes. Specifically, the first four subsections examine the answers to questions such as: What is the philosophical foundation of the *General*

Theory?; Why the *General Theory* was so easily accepted?; What is “general” in the *General Theory*?; What kind of methodology Keynes employed? In the next four subsections some innovative concepts of the fundamental ideas which were introduced by Keynes but neglected by his followers in further elaboration are discussed. Important concepts dealt with are “Monetary Economy,” uncertainty, investment, time, and institutions. Problems and weaknesses in Keynes’ analysis are set out in the last subsection of section III. In the section IV so-called Keynesian economics is touched briefly, with emphasis being placed on a critique of it. The paper ends with a brief conclusion in section V.

II. The Economics of the Classicals and Neoclassicals

1. Classical Economics

Classical economic theory was essentially macroeconomics. The problem of efficient allocation of given resources within a closed economy was a subsidiary theme, not the main theme. The economic problem considered paramount by the classical economists was the long-run problem of growth of the economy’s productive capacity. Their analyses played down the demand side of the growth process and focused upon the supply side. The question facing us is whether we can meaningfully extract from the long-run classical analysis a short-run theory of income determination. We could derive clues from the sources such as the wage-fund doctrine, the glut controversy, and Say’s Law of markets.

Adam Smith maintained that annual output was determined by the state of technology, which increased the productivity of the labor force, and by the allocation of the labor force among productive and unproductive activities. Ricardo and his followers argued that a general glut was impossible because savings would automatically flow into investment and supply would create its own demand via Say’s Law. However, it should be noted that the Ricardians were aware of the following types of unemployment: (a) seasonal unemploy-

ment, (b) structural unemployment caused by changes in demand, (c) wage-too-high unemployment, (d) short-of-capital unemployment, and (e) technological unemployment. Regarding Mill's position on Say's Law, opinions of interpreters have been divided. Keynes quoted the standard passage from Mill's *Principles* as evidence of his claim that Mill upheld Say's Law [26, p.18]. In contrast to Keynes' interpretation, Schumpeter has given more sympathetic discussions of Mill's treatment of Say's Law [49, pp.615-625]. Only the dissenters such as Malthus attempted to play up the role of effective demand. Keynes claimed that not until late in his life did Malthus accept the notion of the insufficiency of effective demand as a scientific explanation for unemployment [26, p.362].

The quantity theory of money, as formulated by Cantillon and Hume, was accepted by the classical economists. The quantity theory of money is a long-run view and is consistent with its real analysis of the classical school. Money is considered neutral in the long-run equilibrium, so it is quite legitimate for the classical economist to have treated money as a veil superimposed on the underlying real relationships.

2. Neoclassical Economics

Like the classical model before it, the implicit theory of output and employment of the neoclassical economists was essentially a theory of "pure choice," i.e., choice abstracting from money as a store of value. So long as we adhere to the assumption of pure choice, the conclusions of Say's Law necessarily follow.

The main body of neoclassical economics is value and distribution. There is no explicit theory of income and employment by neoclassical economists since their main concern is with the problem of efficient allocation of given resources. The English neoclassical writers and the continental Lausanne School economists assume that wage and price flexibility will automatically assure full employment. This optimistic assumption follows their marginal productivity theory of production and distribution. They believe that the short-run problem of output and employment would be settled within the confines of the labor

market. Their explanation for the absolute levels of money wages is the quantity theory of money. Here the so-called neoclassical dichotomy appears. The dichotomy is that in the neoclassical system, the real variables (output, employment, and real wage rate) are determined entirely in the real sector, and the monetary elements (absolute price level and money wage rate) are determined by the quantity of money. The neoclassical writers separated monetary theory from value theory.

Expositions of the quantity theory of money by the neoclassical economists center around three approaches: (a) the transaction-velocity approach associated primarily with Irving Fisher, (b) the cash-balance approach, whose outstanding exponent was Marshall, and (c) the income approach developed by Wicksell.

Neoclassical monetary theory is a theory of pure choice. Its hallmarks are: (a) zero interest elasticity of the demand for money and (b) constant or unitary income elasticity of the demand for money. It follows that its theory of interest is a nonmonetary one, namely, the saving-investment theory of interest, which subsequently became the main target of Keynes' attack.

III. The Economics of Keynes

1. Philosophical Foundation

Most economic doctrines are to a great extent the byproduct of the times and conditions under which they arose. They reveal the *Zeitgeist*, the spirit of the age and its environment. Most economists acquire philosophical views in a secondhand or haphazard manner. At this very beginning part of the paper I summarize the intellectual substructure of Keynes' philosophical outlook which is based on distinctly twentieth-century ways of thinking, in contrast to the general outlook of the orthodox economists based on the atomistic view of Newton, Descartes, and Leibnitz. Keynes himself wrote one philosophical book, *A Treatise on Probability*, which was enthusiastically received

by philosophers in the empiricist tradition. We will discuss this book below. The work of Dr. Gruchy is relied upon heavily in this.

Professor Gruchy summarized the major features of modern philosophical thinking in three (points):

- (1) emphasis on the importance of the whole or the totality of things—organismal, synthetic, or holistic;
- (2) emphasis on the emergent nature of things—the process or continuum, not the mechanism; and,
- (3) attempt to be realistic—no conflict between philosophical and scientific thought [13, p. 236].

The above three aspects of modern philosophical thought are reproduced in the intellectual substructure of Keynes' new economics. First in his totalistic or aggregative approach to economic studies Keynes abandons the atomic hypothesis, which underlies orthodox nineteenth-century economic thought. According to this hypothesis, the economic system is a static order composed of many essentially independent parts. In Keynes' world the whole is not equal to the sum of its parts. He points out that the community welfare is often much less than the sum of the individual private welfares. Whereas the "classical" economists are primarily interested in the theory of the individual firm, Keynes' economics deals with the economic system as a whole. In the new macrocosmic economics not only is the whole quite frequently less than the sum of its parts, but also small changes on many occasions produce large results.

Keynes is very much interested in the economic system as an emergent process. He observes the evolving characteristics of the capitalist economy of Western Europe and the U.S., comparing the monopoly capitalism of the 20th century with the competitive capitalism of the 19th century. In the current era of mature capitalism nations are no longer able to use fully their human and material resources. Dr. Gruchy maintains that:

"Keynes' fundamental thesis, stripped of all technicalities, is that we have now arrived at a stage in our economic evolution where the tendency to save on the part of the

middle and upper classes outstrips the ability of businessmen to absorb private savings through the investment process." [13, p. 239]

Keynes' emphasis on the changing nature of economic life and its great instability is closely associated with his interest in economic reform. Unlike the orthodox economists who assume that the economic system is inherently stable, Keynes sees the current era as a transient one which calls for a considerable amount of collective management aimed at removing the deficiencies of the economy.

The third way in which Keynes' economics duplicates modern philosophical thought is in its claim to be more realistic than the inherited academic economics. Throughout his writings Keynes emphasizes the fact that he is dealing with the complex real world. He strongly protests against any attempt on the part of economists to reduce their science to an oversimplified model or scheme of general relations which has little connection with the actual world of hard-and-fast facts. Keynes is especially critical of the current tendency to make economics less a social and more a mathematical science [26, pp. 297-298]. He asserts that since the basic assumptions of orthodox economics are unrealistic, its conclusions are necessarily of little help in the modern world.

2 Why So Easy Acceptance?

What accounted for the rapid acceptance and propagation of the *General Theory* among the professional economists? According to Harry G. Johnson [25, pp. 3-4], we can identify two types of elements, one relating to the objective social situation in which the new theory was produced, the other relating to the scientific characteristics of the new theory itself. As regards the objective social situation, by far the most helpful circumstance for the rapid propagation of a new and revolutionary theory is the existence of an established orthodoxy which is clearly inconsistent with the most salient facts of reality, and yet is sufficiently confident of its intellectual power to attempt to explain those facts, and in its efforts to do so exposes its incompetence in a ludicrous fashion. The "classical" theory could not give a sufficient explanation to the then pressing

problem of unemployment.

Keynes' new theory would have to possess certain characteristics if it were to win intellectual acceptance and political success. To be more specific, the revolutionary theory had to depend for its success on five main characteristics. First, it had to attack the central proposition of conservative orthodoxy (the assumed or inferred tendency of the economy to be at full employment) with a new but academically acceptable analysis that reversed the proposition. Second, the theory had to appear to be new, yet absorb as much possible of the valid or at least not readily disputable components of the existing orthodox theory. Third, the new theory had to have the appropriate degree of difficulty to understand. Fourth, the new theory had to offer the more gifted and less opportunistic scholars a new methodology more appealing than those currently available. Finally, the *General Theory* offered an important empirical relationship for the emerging tribe of econometricians to examine.

3. "Generality" of the *General Theory*

In the title of his book, *The General Theory of Employment, Interest, and Money*, Keynes' emphasis is on the word *General*. One could observe slightly different accounts for the "generality" of the *General Theory*. The equilibrium at full employment in classical economics is a special case because, in terms of Keynes' schematism, only as a matter of coincidence would the aggregate supply function and the aggregate demand function intersect at the point where the marginal utility of real wage is equal to the marginal disutility of labor.

Professor Dillard gives two "general" aspects of the *General Theory*. Keynes' theory, according to Dr. Dillard [7, pp. 3-4], deals with all levels of employment in contrast with "classical" economics, which is concerned with the special case of full employment. The purpose of Keynes' *General Theory* is to explain what determines the volume of employment at any given time, whether it happens to be full employment, widespread unemployment, or some intermediate level. Another "general" aspect of the *General Theory* is that it explains

inflation as readily as it does unemployment since both are primarily a matter of the volume of effective demand. Most of the significant differences between the classical theory and Keynes' theory stem from the difference between the opinion that full employment is normal and the opinion that less than full employment is normal. The one is a theory of stationary equilibrium and the other is a theory of a shifting equilibrium.

The *General Theory* is general because it encompasses equilibria in fields of higher order than those of orthodox theory: the level of income and employment becomes determined rather than stipulated; monetary as well as productivity/thrift determinants govern interest rates.

4. Methodology

Despite the fruitful precedent set by his teacher, Marshall, Keynes does not use much graphical techniques in his writings. In all of his book there is only one diagram of an analytical nature, a diagram that R. Harrod suggested to him [26, p. 280]. He is critical in the *General Theory* of the symbolic pseudo-mathematical method of formalizing a system of economic analysis which allows the author to lose sight of the complexities and interdependencies of the real world in a maze of pretentious and unhelpful symbols [26, pp. 297-298]. It is significant that in the *General Theory*, in contrast with the *Treatise*, Keynes does not attempt to provide a formal mathematical statement of the theory of employment.

Regarding the issue of whether the *General Theory* is static or dynamic, some economists agree that Keynes' formal method of analysis is in many respects static but his theory is dynamic. Thus, the income-expenditure theory has perpetuated the form and method but lost much of the substance and theory [37, p. 36].

Keynes used the method of period analysis, a favorite tool of Marshall. The theory of the *General Theory* is constructed on the method of Marshallian short-period equilibrium. It incorporates the same assumptions of fixity of capital and increasing cost and the same vagueness as to the time-period for

which the analysis is relevant. Period analysis has both advantages and disadvantages. Sequential period analysis is simpler in that it substitutes step-functions for more complicated time-paths of the variables. It can be misleading, one characteristic danger being that propositions referring to the average rate of change of a variable over the unit period tend to be indistinguishable from propositions relating to its average value or level. His treatment of expectations in terms of states of expectation, and especially his distinction between short-term and long-term expectations, incorporate the pseudo-dynamics of the Marshallian distinction between short-period and long-period analysis.

Keynes' analytical strength does not lie in his rigor and precision. Keynes frequently fails to specify the exact nature of the assumptions that underlie his argument. The best evidence of the existence of such obscurities is the fact that forty years later disagreements continue in the literature about the role played in the *General Theory* by such crucial assumptions as wage rigidities, the liquidity trap, unemployment equilibrium and the like, to say nothing of the neglected concepts discussed in the following subsections.

5. Major Passages

In this and following three subsections we extract, integrate, and update the original conceptual framework of Keynes and examine "minority," but in our opinion, more appropriate views both in the interpretation of Keynes and in the understanding of the real world capitalist economy. The "minority" in question includes among many Dillard, Davidson, Minsky, Robinson, Shackle, and the Weintraubs (father and son). For lack of better terminology they are grouped in this paper as "fundamentalists" as Coddington called them [4, p. 1259].

For fundamentalists, what is central and essential in Keynes' writing is to be found primarily in his article "The General Theory of Employment" [27], in *QJE*, an article concisely restating the argument of the *General Theory* in response to various critics. In the *General Theory* itself they claim that the essence lies in Chapter 5, "Expectation as Determining Output and Employ-

ment"; Chapter 11, "The Marginal Efficiency of Capital"; Chapter 12, "The State of Long-term Expectation"; and Chapter 17, "The Essential Properties of Interest and Money". In addition to these, Professor Dillard [10] emphasizes the importance of two articles in *Festschrift* [28] and *New Republic* [29] as stepping stones to the *General Theory*.

In this connection it is interesting to observe how fundamentalists and Keynesians view differently the same material in their interpretation of Keynes. Professor Hansen, for instance, argues that not much would have been lost if Chapter 16 and the difficult Chapter 17 had not been written [14, pp. 155-159]. This is a sharp contrast to the following statement by Dr. Dillard.

"The neglect of Chapter 17 can be explained by the tendency of modern economists to concern themselves with the apparatus of thought rather than fundamental ideas." [8, p. 12]

Keynes' criticism of accepted economic theory consists not so much in finding logical flaws in its analysis, as in pointing out that its tacit assumptions are seldom or never satisfied, with the result that it cannot solve the economic problems of the actual world. Keynes believes the following factors can be considered as given but not necessarily constant: (1) the existing skill and quantity of labor, (2) the existing quality and quantity of productive equipment, (3) the existing techniques of production, (4) the degree of competition, (5) the tastes and habits of the consumer, and (6) the disutility of different intensities of labor and activities of supervision and organization. In addition to sharing the above factors with the "classics," Keynes accepts the "classical" analysis of the manner in which private self-interest will determine what in particular is produced, in what proportions the factors of production will be combined to produce it, and how the value of the final product will be distributed between them [26, pp. 378-379].

Of course all fundamentalists question the frequently avowed Keynesian parentage of standard Keynesian economic theory in "Keynesian Revolution." Their favorite concepts are money, uncertainty, time, financial institutions,

expectation, interest rates, impure choice in contrast to the multiplier, flexibility, equilibrium, pure choice, etc. of the Keynesians. The weight of emphasis given by fundamentalists to the above concepts is different in their writings though they are closely interrelated.

Followings are several passages from Keynes' writings which fundamentalists quote most often in expounding their interpretation.

"I am more attached to the comparatively simple fundamental ideas which underlie my theory than to the particular forms in which I have embodied them." [27, p.211]

"The division of Economics between the Theory of Value and Distribution on the one hand and the Theory of Money on the other is, I think, a false division." [26, p.293]

"The idea that it is comparatively easy to adapt the hypothetical conclusions of a Real Wage Economics to the real world of Monetary Economics is a mistake. It is extraordinarily difficult to make the adaptation, and perhaps impossible without the aid of a developed theory of Monetary Economics." [28, p.9]

"The importance of money essentially flows from its being a link between the present and the future." [26, p.293]

"Money, it is well known, serves two principal purposes. By acting as a measure of account it facilitates exchange. In the second place it is a store of wealth—Why should anyone outside a lunatic asylum wish to use money as a store of wealth? Because, partly on reasonable and partly on instinctive grounds, our desire to hold money as a store of wealth is a barometer of the degree of our distrust of our own calculations and conventions concerning the future." [26, pp.215-216]

"The possession of actual money lulls our disquietude, and the premium with which we require to make us part with money is the measure of the degree of our disquietude. The significance of this characteristic of money has been usually over-looked. For what has attracted attention has been the quantity of money which has been hoarded. The quantity of hoards can only be altered either if the total quantity of money is changed or if the quantity of current money income is changed: whereas fluctuations in the degree of confidence are capable of having quite a different effect, namely, in modifying not the amount that is actually hoarded, but the amount of the premium which has to be offered to induce people not to hoard." [27, p.216]

"The orthodox theory assumes that we have a knowledge of the future of a kind quite different from that which we actually possess." [27, p.222]

"The orthodox theory regards the marginal efficiency of capital as setting the pace. But since the marginal efficiency of capital depends on the price of capital-assets; and since this price determines the rate of new investment, it is consistent in equilibrium with only one given level of money-income. Thus the marginal efficiency of capital is

not determined, unless the level of money-income is given. In a system [in which the level of money-income is capable of fluctuation, the orthodox theory is one equation short of what is required to give a solution.] [27, p.222]

“There is, I am convinced, a fatal flaw in that part of the orthodox reasoning that deals with the theory of what determines the level of effective demand and the volume of aggregate demand: the flaw being largely due to the failure of the classical doctrine to develop a satisfactory and realistic theory of the rate of interest.” [29, p.13]

“The rate of interest is not the “price” which brings into equilibrium demand for resources to invest with readiness to abstain from present consumption. It is the price which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash.” [26, p.167]

6. “Monetary Economy”

As a preliminary for the argument in the following subsections it is worthwhile to note what Davidson calls Keynes’ fundamental axioms:

“[I]n the real world (1) the future is uncertain (in the sense that Knight and Keynes used the term), (2) production takes time and hence if production is to occur in a specialization, monetary economy, someone must undertake contractual commitments involving performance and payment in the future, and (3) economic decisions are made in the light of an unalterable past while moving towards a perfidious future.” [5, p.xii]

Keynes was the first important economist bluntly to accuse the neoclassical view of the nature of money as foolish. In the Walrasian world unemployment is impossible. It is a world of perfect certainty, and indeed a world without money. The role of money in economic activity is analytically indistinguishable from that of any other commodity. Keynes, on the other hand, considers how an economy would behave if it were a monetary economy, operating in conditions of uncertainty, without a Walrasian auctioneer.

Professor Dillard, who has continuously argued that money is the central concept in the economics of Keynes, claims that:

“The *General Theory* integrates monetary theory into general economic analysis: more appropriately general theory is integrated into monetary theory.” [8, p.5]

Both Shackle and Dillard explicitly say that money is the cause of unemployment [52, p.2; 6, p.7]. To say this is to say that general unemployment is a

monetary phenomenon. This does not mean that it is a phenomenon of that hydraulic money discussed in various versions and elaborations of the quantity theory of money. "Monetary economy" here is defined as the one in which

"Money plays part of its own and affects motives and decisions and is, in short, one of the operative factors in the situation, so that the course of events cannot be predicted, either in the long period or in the short, without a knowledge of the behavior of money between the first state and the last." [28, p.7]

In addition to a high liquidity-premium and a low carrying cost, Keynes notes that the necessary properties of anything that will fulfil the functional definition of money are (1) a zero (or negligible) elasticity of production and (2) a zero (or negligible) elasticity of substitution [26, p.234]. Davidson in his study of the nature of money adds one more property: (3) the cost of transferring money from the medium of exchange function to the store of value function or vice versa must be zero (or negligible) [5, p.145].

The mechanism through which money affects the economic activities can be found in the following statement by Shackle:

"The reason why money destroys the full-employment nexus is that it makes possible the divergent composition of income that employers are willing to pay and the incomes that suppliers of service are willing to receive. For the employed the desired incomes in real composition contain a relatively high proportion of accretions of wealth as compared with immediately consumable goods. For the employers, such a high proportion can at times of special uncertainty be undesired, because it is they, and not their employee, who will be the actual owners of newly produced equipment which must come into existence through the giving of a particular level of employment to people who insist on saving some of their income. So employers and employees cannot talk the same language, and arrive at an equilibrium where the marginal utility of the wage, and where the marginal product of labor would make the wage just worth paying by the employers." [52, p.14]

The uniqueness of Keynes' theory of the rate of interest runs in terms of the importance of controlling quantity of money. The novel concept is liquidity preference for keeping assets in a liquid form, the form of money, and it is this desire to hoard which determines the level of interest rates.

One distinguishing feature of Keynes' theory is its emphasis on the demand for money as an asset alternative to other yield-bearing assets. This emphasis leads him to make several innovations in monetary theory. In the first place Keynes makes the income velocity of circulation dependent upon the rate of interest or bond yields. Hence, the income velocity of circulation could no longer be constant, as was assumed in neoclassical monetary theory. Secondly, Keynes separates the demand for money into two component parts: transactions demand, which is assumed to be dependent upon income; and a liquidity-preference demand, which is assumed to be dependent upon the rate of interest. Thirdly, Keynes explains the existence of a liquidity preference for money by a necessary condition: "This necessary condition is the existence of uncertainty as to the future of the rate of interest, i.e., as to the complex of rates of interest for varying maturities which will rule at future dates" [26, p. 168].

Fourthly, Keynes formulates his theory of interest explicitly in "stock" terms. This is in contrast to the traditional loanable-funds theory of interest which was formulated in "flow" terms. Lastly, Keynes employs the Marshallian short-run analysis as a substitute for dynamic analysis. Hence in his analysis, both the accumulation of real capital and the accumulation of debt are excluded from explicit consideration. In Keynes' system, money is neutral in two situations. The first is the situation of full employment in which the quantity theory of money comes of age, and the second is the special case of the liquidity trap. Money is non-neutral in the intermediate situation between these two limiting cases. In the real world Keynes believes money is a disturbing force in the economy. Keynes' theory is about how we manage money to compensate for the disturbing forces. *Money holds a key to explaining unemployment but it does not play a key role in its prescription for the remedy of unemployment.*

7. Uncertainty

In Chapter 8 of *A Treatise on Probability* [30] Keynes rejects the relative frequency theory, since if we allow it to hold the field, we must admit that

probability is not the guide to life, and in allowing it we are not acting according to reason. Instead Keynes suggests that probability is related, not to the balance between the favorable and unfavorable evidence, but to the balance between the absolute amounts of relevant knowledge and of relevant ignorance. Keynes' argument, then, is that to use probability to guide choice in matters of fundamental uncertainty one needs to discuss not only the probability but also the confidence one holds in that probability. A high probability does not entail more certainty than a low one since uncertainty is primarily characterized by a lack of confidence in probabilities high or low. Keynes argues that in traditional theory situations involving uncertainty have been handled by probability tools appropriate for dealing with risk. Traditional theory assumes that one can maximize expected payoffs, even though expected values can not be confidently calculated. And yet the individual must act today. All economic activity undertaken at one time has intertemporal consequences. Economic man must base decisions on something: that something is (1) the recent past and (2) what others are doing.

Economists often construct models that assume away uncertainty. These models are often justified on the grounds that (1) they eliminate subjective factors, (2) they ease mathematical and verbal exposition, and (3) a world of disappointed expectations results in a level of turbulence beyond the skill of model builders to analyze. Uncertainty, it is often implied, merely "muddies the waters" without altering the essential conclusions. A world of perfect certainty, provides a manageable model for drawing conclusions about the real world.

The assignment of known (even if subjective) probabilities to all eventualities about future events and the manipulation of such probability distributions via the mathematical laws of probability reduces uncertainty to the same calculable status as that of certainty itself. If an economic model limits itself to mathematical statements about the numerical values of the theoretical probabilities which may be computed for an idealized set of events, then the model is *not* discussing a decision process under uncertainty. The model is simply demonstr-

rating the validity of purely logical propositions which were derived from specific axioms, and the model is completely dependent on these axioms. Such a model can provide a useful benchmark for the understanding of certain economic behavior under idealized circumstances. This probabilistic view of the future is, for Keynes, particularly misleading when one is analyzing wealth, for it is a contradiction in terms to discuss the holding and accumulation of wealth and the laws of probability at the same time.

In the real world uncertainty is significant in its effects on all economic activity. Many of the institutions of our modern economy would have no function in a world of certainty. There would be no need for stock market speculation, for forward commodity and foreign exchange markets, for pecuniary contracts. In a certain world there would be no reason for holding money, nor would there be involuntary unemployment. Uncertainty plays a vital role in the determination of employment, investment, growth, pricing, and income distribution in our world where the future is enigmatic and full of potential surprise. "The very essence of Keynes' problem was uncertainty," says Mrs. Robinson in her AEA meeting lecture [46, p. 4].

All discussions of macroeconomic problems involving investment, economic growth, employment, and production and money must involve an analysis of decision making under conditions of uncertainty if these discussions are to be relevant to social policy. To assert that money matters in a world of complete predictability is to be logically inconsistent, for money's special properties as a store of wealth is due to its ability to postpone the undertaking of rigid and far reaching resource commitments. Money only matters in a world of uncertainty.

Uncertainty, as it impinges primarily on the investment decision, is the culprit in involuntary unemployment. A collapse in expectations could lead to a fall in investment which, via the multiplier, would amplify the initial disturbance to reduce output and, thus employment. For the investment decision, it is long-term rather than short-term expectations which are relevant. These

long-term expectations involve the entrepreneur in estimating the shape of the future income stream that can be expected from additions to his capital stock. Long-term expectations, by their very nature, are not readily checked in short periods by observing realized results. Accordingly, the growth of capital in a monetary, market-oriented economy depends in a large measure upon entrepreneurial expectations about points of effective demand for a large number of future periods. These long-term expectations cannot be eliminated or replaced by recent realized results. The distant future is never clearly foreseen and this is especially true when entrepreneurial decisions are made by a large number of private entrepreneurs whose decisions are uncoordinated. Long-term expectations are subject to sudden revisions.

It is often safe to omit express reference to short-term expectations, in view of the fact that in practice the process of revision of short-term expectation is a gradual and continuous one, carried on largely in the light of realized results, so that expected and realized results run into and overlap one another in their influence. For, although output and employment are determined by the producer's short-term expectations and not by past results, the most recent results usually play a predominant part in determining what these expectations are. In any short-run production period, the original expectations which led firms to build up current stock of capital may only be of slight relevance in determining this period of employment and supply price. In the context of short-period analysis of employment, erroneous expectations may not be important, particularly if one assumes, as Keynes does, that the difference between short-period expectations and realizations are very small.

The emphasis by the fundamentalists on uncertainty has not gone unchallenged by Keynesians. Hart, for example, discusses critically Keynes' contribution in expectation and underlines the weakness of Keynes' theory of expectations [17, p. 419]. Patinkin, in his study on the development of Keynes' monetary thought, concludes that "In neither the *General Theory* nor the 1937 article in *QJE*, does Keynes develop a theory of economic behavior under uncertainty"

[45, p. 141].

After examining comparatively the methodology of Keynesians and fundamentalists in the analysis of uncertainty, Kregel demonstrates both how Keynesian theory can be seen as a legitimate extension of the basic methodology employed by Keynes in the *General Theory* and that the nature and use of the concept of equilibrium in Keynesian theory is unmistakably different from the orthodox nature and use of the concept. Kregel's argument is that the methodology that Keynes chooses in confronting the analysis of an uncertain world is in terms of alternative specifications concerning the effects of uncertainty and disappointment and not in terms of their existence or absence. His procedure can be characterized in terms of three models of equilibrium, a static, a stationary, and a shifting equilibrium model, each depicting different assumptions about the effect of uncertainty and disappointment. This procedure produces an alternative approach to the concept of equilibrium which is, in addition, incompatible with the concepts ex-ante and ex-post [34, p. 222].

Controversy on the uncertainty theory per se will continue for the time being because, as Patinkin rightly pointed out, Keynes himself did not develop the theory of uncertainty fully, and the tools to analyze uncertainty are not likely to come in the near future. However, it cannot be overemphasized that what is important in the analysis of economic activities is not the methodology of uncertainty but the implication and effect of uncertainty on the economic behavior of the consumer and producer.

The shift of ground from the relationship between uncertainty and investment to the relationship between interest rates and investment leads all Keynesians to misinterpret and misunderstand Keynes' notion of uncertainty. Emphasizing the uncertainties of the distant future, Keynes largely explains the instability of the marginal efficiency of capital and large swings in investment which are so devastating in their effect on the economy.

The following statement by Shackle, though not directly related to our main argument here, is a rather hard blow to the methodology and theory building

of the Keynesians and the modern neoclassicals.

“The greatest paradox which the idea of knowledge brings into economic theory is that of knowledge as a commodity. Economics is the study of how men seek to cope with two of the great, basic, and inescapable conditions of life: scarcity, or lack of means; uncertainty, or lack of knowledge. But economic theory cannot bring lack of knowledge under the same sort of analysis as lack of material means. The possession or the non-possession of knowledge alters everything. An equilibrium analysis of the role of knowledge as a commodity is a contradiction in terms. Equilibrium copes with scarcity on the assumption that the problem of knowledge is solved.” [50, p. 15]

8. Time, Institution, and Investment

The Keynes' revolution in economics is based on an analysis which is the polar opposite of the neoclassical timeless equilibrium view of the world. Keynes recognizes that time normally elapses between the point when decisions are made and the ultimate outcome of these decisions. The facts (1) that capital assets are long-lived, (2) that a desire to hold money is a measure of our distrust of the future, and (3) that production takes time are all facts which pertain to a world in which time is essential. Time and uncertainty are intermingled. The existence of the former entails the latter. Time is said to be a device to prevent everything from happening at once. The existence of durable goods, money, financial assets, and contracts link the economic future to the present. The inherited stock of durables, contractual obligations, and the existing stock of money provide a continuity between irrevocable past economic behavior and the current environment, while the existence of durable goods, contracts and money provide the essential link between an perfidious uncertain future and present economic activity.

Keynes' economics is institutional in that it takes account of institutional factors explaining high rates of interest, inadequate supply of money, over-saving, cumulative errors, uncertainties, rigidities, etc. Useful theory, in his view, must take account of these institutional factors.

In an uncertain world, the monetary system is associated with at least two and usually three institutions, namely, contracts, enforcement, and clearing.

The things which become the money commodity will have two properties, a zero (or negligible) elasticity of production and a zero (or negligible) elasticity of substitution between it and any other good which has a high elasticity of production. Many able economists fail to comprehend the importance of these three institutions and two properties which are peculiar to money in a monetary economy [5, pp. 145-146]. The industrial circulation depends primarily on the length of the contractual payments period, the aggregate planned demand for producible goods, the money rates of remuneration of the factors of production employed, and the degree of industrial integration.

In the absence of organized spot markets for placements and/or other non-reproducible assets, money would be the sole durable that could be used as a vehicle for deferring decisions on the current commitment of resource claims, and liquidity preference due to the precautionary motive would be greatly increased. The existence of organized spot securities markets permits each decision-making unit to vary widely the quantity of money they hold as a vehicle for transferring purchasing power over time as uncertainty about the future spot price of placements affects money holding while the total portfolio of money plus securities which are used as vehicles for the transfer of general command over time is related to wealth-holders' inability to know the date of all their economic needs at each date in the future. These financial intermediaries can affect financial flows and hence market demands.

The *General Theory* devotes a whole section to the "Inducement to Invest." Since we have mentioned some other aspects of investment in the previous subsections, we discuss here the role of investment in the determination of the volume of employment and the factors affecting investment. The apparatus is the multiplier and the confrontation with each other of the marginal efficiency of capital and the rate of interest.

The volume of employment is determined by the propensity to consume and the inducement to invest. Since the propensity to consume is relatively stable, fluctuations in employment depend primarily on the inducement to in-

vest. The two determinants of the inducement to invest are the rate of interest and the marginal efficiency of capital. Since the rate of interest is relatively sticky, fluctuations in the inducement to invest depend primarily upon changes in the marginal efficiency of capital. The two determinants of the marginal efficiency of capital are the supply price or cost and the prospective yield or return. It is the prospective yield which gives the marginal efficiency of capital its most important characteristics, its instability. Hence a great part of the instability of economic life under capitalism is attributable to the unstable character of prospective yields from capital assets.

9. Problems and Weaknesses in Keynes

Keynes, as an economic theorist is not without fault: he is not immune to logical inconsistencies and, error apart, he has certain irritating habits of analysis and presentation that have not been at all helpful to later students. These are facts which cannot be denied. Still the problem is to keep his faults in the right perspective.

One difficulty with Keynes is his clumsy and misleading way of presenting what is essentially a general equilibrium model as a system of unidirectional causation.

Keynes inverts Say's Law by placing the focal point of his analysis on the determinants of aggregate demand. Many writers—including Patinkin, Schlesinger, Weintraub and Davidson—have found Keynes' treatment of supply considerations relatively inadequate. Another important criticism of the *General Theory* concerns the principle of aggregate demand itself. Keynes' theory of consumption assigns a far too passive role to industrial consumers, and his theory of investment exaggerates the disposition to hoard and gratuitously assumes that the economy possesses only a meager capacity to discover or to create investment opportunities.

One of the worst things about Keynes' doctrine is the impression he gives that liquidity preference is wholly, and always, bad. It was right when he was writing, but it is far from being always right. Excess of liquidity preference

is indeed bad. But hyperinflation, in which there is no liquid asset, and hence no opportunity for liquidity preference, is also bad. The trouble lies deep in his version of short-run macroeconomics, in which one form of investment appears as good as another. Only investment expenditure is taken into account, the productivity of investment is neglected. The social function of liquidity is that it gives time to think. The *General Theory* has also been criticized for confusing the stock and flow analysis. Professor Harrod criticizes Keynes for neglecting flow variables [39, p. 140]. Keynes' neglect of flow variables in his theory of the determination of the rate of interest probably stems from his rejection of the concept of a natural rate. The doctrine that the rate of interest is nothing more than the price for surrendering liquidity is in error.

His theory of the demand for money is misleadingly presented, very confused, and seriously incomplete: misleading in that Keynes' presentation of a general equilibrium system as one of unidirection causation creates the false impression that holding securities is the only relevant alternative to holding money, and that the classical alternatives play no part in determining the demand for money and the rate of interest; confusing in that he does not identify speculative and precautionary motive clearly; and, incomplete in that Keynes deals only cursorily with transactions demand.

The vagueness of the time-period is an especially serious weakness in the *General Theory*, which attempts to bring markets with widely different speeds of adjustment—the goods market, the money market, and the labor market—into one short-period equilibrium analysis. Much of the subsequent criticism of the *General Theory* is essentially an iteration of the inadequacies of Marshallian short-period equilibrium as a technique of aggregative dynamic analysis. If one seeks a single peg on which to hang a discussion of both the criticism and the elaboration of this and other aspects of Keynes' theory, one can find it in the inadequate attention paid in the *General Theory* to the problems of capital theory. This lack or inadequacy of a theory of capital in the *General Theory* was pointed out by Dillard [9, p. 26] and Johnson [24, p. 4].

The *General Theory* left several gaps that post-Keynesian writers have sought to fill: (a) the respective role of the public sector and foreign trade in the determination of the level of income, (b) analysis of the aggregate supply function, (c) the wealth effect, (d) analysis of the determinants of investment other than the rate of interest, and (e) types of unemployment other than demand induced.

Keynes, like his English predecessors, has nothing to say about the impact of technology on the economic system. Part of the explanation for the reason why a theory in which money is important has turned into a theory where money is unimportant lies in certain feature of the *General Theory* itself that diverted attention from influence of money and of price expectation on spending.

IV. Keynesian Economics

1. Standard Interpretation

To distinguish the contributions by the Keynesians from those of Keynes and to summarize all would be a Herculean task. First of all, we should clarify what we mean by Keynesians. The whole trouble arises from the fact that there is a spectral continuum of economists in their view on theory and policy. Paul Davidson gives a table of political economy schools of thought, in which he classifies economists into five categories: Socialist-Radical, Neo-Keynesian, Keynes, Neoclassical-Bastard Keynesian, and Monetarist-Neoclassical [5, p. 4]. Let Keynesians be synonymous with the majority school economists whose main works have evolved out of the debates triggered by Keynes' *General Theory*. They correspond to Neoclassical-Bastard Keynesians in Davidson's table and to Hydraulic Keynesians in Coddington's language [4], whose main apparatus is the IS-LM curve. Keynesians have contributed much to the elaboration and extension of Keynes' idea. A simple IS-LM analysis, theory of economic growth, econometric research on the relationship among the macro variables, and

general equilibrium analysis are only a few major ones among the many works that Keynesians have produced.

The paragraph in the *General Theory* which give the basis for IS-LM formulation is the one which runs from the bottom of p.246 to the top of p.247:

“Thus we can sometimes regard our ultimate independent variables as consisting of (1) the three fundamental psychological factors, namely, the psychological propensity to consume, the psychological attitude to liquidity and the psychological expectation of future yield from capital-assets, (2) the wage-unit as determined by the bargains reached between employers and employed, and (3) the quantity of money as determined by the action of the central bank: so that, if we take as given the factors specified above, these variables determine the national income (or dividend) and the quantity of employment.”

Keynesians have found another justification for their simplification of complicated Keynes' ideas from the comment which Keynes wrote to Hicks after reading Hicks' well-known article “Mr. Keynes and the Classics: A Suggested Interpretation.” In the beginning of the letter (dated 31 March 1937) Keynes wrote:

“I found it very interesting and really have next to nothing to say by way of criticism.” [31, p. 37]

The usual argument of the standard model or IS-LM apparatus is familiar. Given wage and price flexibility, the equations of the labor market determine a market-clearing real wage rate at full employment of labor. Since the historically given capital stock is thrown on to the market in perfectly inelastic supply, the production function determines the maximum obtainable level of output. Given output, the equilibrium condition in the market for commodities simultaneously determines the rate of interest and the proportion of income which the community wishes to consume currently, and the proportion which it wishes to use to add to the man-made means of production with real income and the rate of interest determined, the equilibrium condition in the money market determines the price level for a given stock of money. If one assumes that one

price, the money price of labor is rigid because workers are organized in trade unions and/or suffer from money illusion, then it follows trivially that for a given stock of money the model no longer necessarily yields a unique full-employment solution.

From a different perspective but in the same vein Klein gives a following summary of Keynesian views:

“The Keynesian system is

1. A theory of the determination of total income
2. A theoretical explanation of the possibility of under-employment equilibrium.
3. A group of doctrine in public policy about how to control the economy at desired levels of economic activity.
4. A long-run view on the historical trend of capitalism.” [33, p. 191]

Klein looks upon the Keynesian theory as essentially a system of equations.

Keynesian economics, although many factions in it emphasize different aspects, has two propositions: (1) the model which Keynes called his “general theory” is but a special case of the “classical” theory, obtained by imposing certain restrictive assumptions on the latter; (2) the Keynesian special case is nonetheless important because, as it happens, it is more relevant to the real world than the general equilibrium theory. In the standard Keynesian theory neither relative values nor monetary phenomena are important.

2. Criticism of Keynesian Economics

Most of the early discussions about the *General Theory* concerned the formalization of Keynes' system and also the formalization of the neoclassical system for comparative purposes. The difficulty in such a program was immediately apparent: while Keynes was on the record, there was no canonical “traditional” model to be found. Models constructed by Keynesians with no full appreciation of the message of Keynes are so un-Keynesian that they cannot claim that they are true Keynesians now. Keynes may not have been more logical than his adversaries but what he has tried to say is more relevant to the actual functioning of the capitalist economy. The Keynesians seized on the simplest

and most striking version of the Keynesian system—autonomous investment and the multiplier—as the essence of it, ignoring monetary analysis as an irrelevant complication.

The major mystery that the development of Keynesianism poses is why a theory in which money is important should have turned into a theory where money is unimportant. The clue to this mystery may be in the fact that the Keynesians are unduly mechanistic. The crucial importance of money is not shown by the fact that the Keynesian income-expenditure model integrates the goods and money market in the IS-LM analysis. Keynesians justify this integration by asking “What is the key cause of unemployment in the Keynesian model?” and by answering that unemployment occurs if aggregate demand is less than aggregate supply.

As both Hines and Davidson have pointed out, the basic fault of the IS-LM curve model is the misspecification of the transactions demand for money. In the usual analysis, the transactions demand for money is made a function of actual income. However, a correct specification of the transactions demand for money would make it a function of total planned expenditures, aggregate demand.

It is for the neglect of money by the Keynesians that Keynesian theory has proved a poor guide to the dominant postwar problem of inflation and Keynesian approach has tended to degenerate into a confused and obstructive eclecticism. A bias against money and monetary policy was not characteristic of Keynes' work as a theorist. Whereas Keynes had an exceedingly broad conception of liquidity preference, in the Keynesian literature the term has acquired the narrow meaning of demand for money, and this demand is usually discussed in terms of the choice between means of payment and one of the close substitutes which Keynes included in his own definition of money. Modern monetarists have come to take an increasingly dim view of his speculative demand, primarily on the grounds that the underlying assumption of inelastic expectation represents a special case.

The Keynesians have exaggerated faith in the uses of the short-run equilibrium model of the *General Theory* for the purpose of quantitative precision, particularly as to the magnitude of public spending required for a high level of output and employment. Keynesians exaggerate both the magnitude of necessary public spending and scope of direct controls, as distinguished from the indirect, global, monetary and fiscal controls. The issue of direct-versus-indirect controls find little explicit emphasis in the *General Theory*. His interest in this connection is organization of investment, not the control of investment [26, p. 164].

The aggregate production function makes the standard Keynesian model an one-commodity model. The price of capital goods in terms of consumer goods is fixed. In Keynes' two-commodity model, the current price of non-money assets (capital goods) is determined by expectations with regard to the stream of prospective annuities and by the rate at which these anticipated future receipts are discounted.

It is interesting to observe that Hicks, the originator of the IS-IM framework, in a revision of Keynesian economics in the light of recent experience does not adopt his own IS-LM apparatus to explain the last 30 years experience of demand management. Rather he provides an alternative framework in which the possibility of an expansion of output depends crucially on the structure of inventories at the outset of the process, or the ample foreign exchange reserves [22, pp. 8-30].

Keynes explicitly states that workers combine to resist money wage cuts which could cause them to suffer relative to other groups of workers, but do not resist limited increases in the general price level which leave relative wage unchanged [26, p. 14]. But nowhere in the *General Theory* does Keynes assume that money wages are rigid, as shown in most macroeconomic textbooks of Keynesians. The Keynesians have, in fact, reverted to explaining unemployment in a manner Keynes was quite critical of, namely by blaming depressions on monopolies, labor unions, minimum wage laws, and the like. Reliance on such

institutional constraints on the utility-maximizing behavior of individual transactors carries with it the suggestion that, if competition could only be restored, automatic forces would take care of the employment problem.

General equilibrium theorists, particularly Patinkin, have demonstrated quite convincingly that Keynesian macroeconomics cannot be derived from any simple Walrasian micro system. Some serious macro theorists argue against income policies on the grounds that they distort the price signals that enable a Walrasian multi-market system to function efficiently. But their argument is incorrect because it relies on Walras' Law and on a form of budget constraint which is inappropriate to the analysis of disequilibrium situations in a money economy. Keynes feels that his *General Theory* unites value theory and monetary theory. To Keynes, the separate mental compartments of "classical" authors were a mistake.

V. Conclusion

The development of the Keynesian tradition has not been one of expanding, clarifying, and improving on Keynes. Rather than building upon Keynes' achievement, it appears that the Keynesian standard model has gradually abandoned several of its chief elements.

Forty-five years after the start of the Keynesian Revolution we are farther away from, not closer to, achieving a theoretical synthesis than at the time Keynes was writing. Instead of a two-way split between the theories of value and of money that he deplored, we have to live with a three-way split, income expenditure theory, general equilibrium theory, and the new quantity theory.

The present predominance of the income-expenditure approach of the Keynesians should prove to be a transitional stage in the analysis of economic behavior. The *General Theory* is now in danger of falling into the classic that is defined as a book which no one reads. Keynesian theory has been no more successful than orthodox theory in throwing off the strait jacket of equilibrium

analysis in conditions of perfect certainty and full information.

In building any model of a monetary, market-oriented economy which attempts to provide insights about the real world it is essential to recognize that monetary rules and institutions are ultimate and integral part of the real economy. Any model which ignores the peculiar role of money and/or any model which assumes that the monetary sector always passively accommodates the real variables is simply a myth. Keynes realizes that the major fault of modern capitalism—unemployment and an arbitrary and inequitable distribution of income (income distribution is not discussed in the paper)—is due to the existence of uncertainty and the resulting operations of monetary institutions. Keynes constructs his analytical models under the assumption that suggestions for improving the existing situation are more likely to provide real progress if they are carried out with a clear understanding of the actual nature and tendencies of the system. In the analysis of fluctuations money cannot be left out because the conditions for neutral money are the very ones which assure that the economy will never fluctuate.

Some of the new concepts in the *General Theory* are beyond the reach of exact analysis and determinate results. Understanding of fundamental ideas is always better than elaboration of unimportant ideas.

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