

A STUDY ON THE RECENT DIRECTIONS IN MACROECONOMIC THEORY

Kyung Seop Shim*

I. Introduction

At the risk of lending credence to numerology, it would appear that the decades of seventies have consistently proven to be productive decades in the development of economic theory. Since the publication of Adam Smith's *Wealth of Nations* (1776), it has become natural to refer to the 1770's as the decade marking the establishment of the Classical school of political economy. The 1870's saw the emergence of the General Equilibrium school, founded to flourish by Walras' *Elements of Pure Economics* (1874; 1st ed.). At present, there seems to be no disagreement over the initial contributions and the theoretical foundations represented by these two monumental works. In fact, as Nikaido observes, if Smith can be called the Galileo of economic science, then Walras occupies the chair of Newton (cf. Nikaido, 1970, p. 265). The decade of the 1970's however, has been characterized by considerable debate on all aspects on macroeconomic analysis, especially in those areas generally recognized as the heritage of Smith and Walras.

Apart from the ongoing debate, there is a striking similarity between the 1870's and the 1970's. In 1876, a ceremonial dinner was held at the Political Economy Club commemorating the one-hundredth anniversary of the publication of the *Wealth of Nations*. The speaker of the event, the Chancellor of the Exchequer, opined that the theoretical foundations of economics were nearly complete. He noted, "At present (1876), as far as my humble opinion goes, I am not sanguine to any large or very startling development of political economy" (Lowe; quoted in Jevons, 1905, p. 189). One of the participants, Stanley Jevons, reports that the newspapers of the time hinted that while their theoretical work was finished, economists should be more concerned with the obsequies of their science rather than a celebration of their own accomplishments.

This charge was repeated in the 1970's by the public as well as by economists. But rather than citing the obsequies of a completed body of theory, much of this criticism alluded to the underdevelopment of macroeconomic theory and its inapplicability to the real world. We have seen articles in the *Wall Street Journal* implicitly hinting at the inadequacies of Keynesian economics; read articles with such titles as "An Obituary for Macroeconomics" (McKenna, 1979); and attended economic conferences conducted on the topic, "Is Economics a Bankrupt Science?" (Midwest Economic Association, 1980). Even a survey of a sample of economists indicate the

* He is an Assistant Professor of Economics at Dankook University. He is grateful to President Choong-sik Chang who always encourages and supports him to pursue the study of economics. Also, the author would like to thank the authority of Dankook University for financial research assistance for this study.

reservations held regarding the pertinence of macroeconomic analysis to actual events of the past decade (Kearl, et al., 1979). The apparent policy-target switch by the Federal Reserve System (the "Saturday Night Live" of 6 October 1979), (Board of Governors, 1979), and the growing popularity of the term "supply-side economics" in the policy circles evince a pervasive mistrust of the theoretical tenets and, hence, the standard policy prescriptions of the dominant trends in macroeconomic thought.

In this paper, the view is not focused on the acceptance or the repudiation of these common criticisms. Rather, it is merely maintained that the recent directions in macroeconomic analysis have exhibited smooth paths of theoretical development in the proper direction—based on observations of the real world. The full development of these recent directions, however, has yet to be achieved, for all are admittedly still in embryonic stages. Much of the work is based on past theoretical innovations, particularly those of the 1960's. Therefore, there is no "revolutionary" character to these new developments. But, of course, the soundness of holding a revolutionary view on any work is in itself a highly debatable matter. For, in fact, the recent theoretical works state explicitly that the contributions of Keynes were not those propounded by the "Keynesian Revolution" for the last forty years. Subsequently, the points of departure are "escaping" from the Keynesian IS - LM and Cross models. While being in their initial stages, ongoing research along these lines reveals that prospects are highly favorable and the results may prove highly productive. In addition, these new trends also indicate that macroeconomists are quite concerned with the real world and the relevance of macroeconomic analysis to its operation.

In spite of the fact that any survey of a wide body of works will require some measure of personal judgement, we shall attempt in this paper to group them under broad categories in order to impart their central themes. First, some brief methodological characteristics which are common to these new trends are provided. Thereafter, some selective, but representative, observations of these trends are made. Finally, two "originator" views on the applicability of the standard Keynesian models are briefly sketched.

Methodologically, recent trends in macroeconomic theory base their analyses, to various degrees, on three fundamental concepts:

(a) Denial of the basic tenets of the General Equilibrium theory, including its market system and its framework of individual exchange. This denial is substantially based on the irrelevance of the General Equilibrium's assumptions to the operation of a decentralized economy. An example of this is the problem of "search" in an imperfectly informative and non-centrally coordinated system.

(b) A microeconomic, disaggregated exploration of the character of apparently exogenous variables of standard macro analysis. Stipulations on the endogenous nature of wage and price rigidities are examples.

(c) The incorporation of what may be called "theoretical empiricism" into macroeconomic analysis. Examples of these attempts are the derivation of a microeconomic base from empirical observations and the incorporation of the historical distribution of income.

To varying degrees, all these methodological routes are common to recent macroeconomic

developments. It is also instructive to note that insofar as a common point of reference can be discerned, all these new directions in one way or another attempt to reinstate Keynes' General Theory (1936), and, in some instances, also his Treatise on Money (1930).

In general, three broad and naturally overlapping, directions may be distinguished: Micro-foundations of Macroeconomics, Disequilibrium Macrotheory, and Post-Keynesian Economics. In what follows, the central theme of each direction and their approach to macroeconomic analysis are presented.

II. Microfoundations of Macroeconomics

In recent years, fresh attempts have been made to provide microeconomic foundations for the macroeconomic analysis of Keynes. Perhaps the attempts of R. Clower (1965) and Axel Leijonhufvud (1968) are worth mentioning. After evaluating both neoclassical equilibrium economics and Keynes' disequilibrium economics, they have suggested discarding of the concept of equilibrium and using disequilibrium price theory to achieve full employment. R. Barro, in his Macroeconomics (1984), said that microeconomic foundations underlies the macroeconomic analysis of the aggregate variables in an economy.

It is now more or less agreed that the structure of the standard Keynesian models—as inferred from the General Theory—is too aggregative. For instance, as Kurihara observes, "The first limitation of Keynesian theory to be mentioned consists in the methodological inadequacy of income-expenditure aggregates" (1969, p. 55).¹ For another instance, although Ackley does not totally accept the overaggregation criticism of the standard Keynesian models, he does stipulate that "added (or substitute) variables and relationships "may improve the operational content of these models (cf. Ackley, 1961, pp. 412 and 418).

The problem of overaggregation, however, has not been cited to in any way discredit the theoretical contributions of the General Theory. Nevertheless, the overaggregative structure of the standard Keynesian models does not provide sufficient insight into the operation of heterogeneous macro markets and the behavioral characteristics of the groups of market participants. Accordingly, it appears a logical steps in theoretical development to approach macroeconomic analysis from a microeconomic, disaggregated point of view, while taking precautions not to lose sight of the macrostructure. Furthermore, it also becomes desirable to derive choice-theoretic macro-

1. Especially for the purpose of stability and growth analysis, Kurihara suggests the utilization of Leontief's multisectoral approach to the Keynesian theory. His proposed approach, however, has a purely general equilibrium flavor by allowing "Leontief's intermediate demand to supplement Keynes' final demand, while at the same time letting Keynes' endogenous expenditure variables serve to close Leontief's open model" (1969, p. 55). According to the disequilibrium macrotheorists, however, a general equilibrium approach may be inapplicable to the outline of the General Theory. This view is scrutinized below.

economic theorems through the micro-to-macro route of reasoning.

Microfoundations of Macroeconomics, however, go beyond mere analytical disaggregation. While this is where the more important contributions lie, certain difficulties inevitably arise. A macroeconomist often “reverses” the micro-to-macro methodological route, the usual method employed by the General Equilibrium microtheorists. It is not the primary task of a macroeconomist to first explore a typical exchange between two partners—say, Adam and Eve—and then—through the addition of more Adams and more Eves—derive theorems pertaining to the operation of a market or a whole economy.²

For macroeconomists, there exists an alternative approach: the macro-to-micro method: that is, the reverse of the General Equilibrium approach. The more interesting methodological path for the macroeconomist is to first observe certain behaviors in macro markets and then to search for a micro base by hypothesizing why these behaviors occur in the macro structure. In this approach, the macroeconomist must first allow for a large number of market participants with non-identical objective functions, realize the heterogeneity of goods and services, observe the degree of perfection of communication channels, and then attempt to provide theoretical micro-foundations for the observed macro behaviors. Without allowing for these macroeconomic interactions, the microeconomic General Equilibrium approach cannot provide a firm base. An example is provided by Phelps, who argues that, “Firms might be thought, neoclassically (and in micro sense), to require lower product wage rates to produce more while households would be unlikely to respond with a corresponding increase of labor supply if real wage rates were to fall” (1969, p. 147). Accordingly, from a macroeconomic point of view it is necessary to allow for a non-harmonious behavioral scheme and, subsequently, search for the proper micro base. Thus, as Phelps continues, “It seems clear that macroeconomics needs a microeconomic foundations” (ibid.).

Observations of the macro-to-micro methodological route lead to some interesting questions. Clear-cut responses to these questions, however, do not appear to be readily available, at least as far as the General Equilibrium is concerned. An illustrative example of some of the difficulties involved in this method is a question raised by Weintraub. How in the macro structure we may stipulate that unemployment is consistent with equilibrium, when the term “equilibrium” in microeconomics implies zero excess supply? (cf. Weintraub, 1979, p. 3). Of course, the Hicksian (or Lindahlian) “temporary-equilibrium” (Hicks, 1965), or Solow and Stiglitz’s “momentary-equilibrium” (1968), or Bent Hansen’s “quasi-equilibrium” (1970), or a variety of other equilibrium concepts may be employed in order to attempt an explanation of this apparent macro-micro inconsistency. But, in general, it seems safe to suggest that the theoretical framework has not yet achieved the necessary consistency of macroeconomics and microeconomics—in the same order—which may be speculated to “exist”.

2. Terminology of “Adam and Eve” is due to (P. Newman, 1965). For a similar approach of the general equilibrium to aggregation see also (Hildenbrand and Kirman, 1976, chs. 5 and 6).

As may be readily observed, the crux of the problem lies in the backward methodology of the "new" macroeconomics. A refined, proper, and universally applicable methodology of the Microfoundations of Macroeconomics yet remains to be written. As Weintraub has concluded in a recent work on the subject, "The question of appropriate microfoundations for macroeconomics is still an open one" (1979, p. 161).

Despite the methodological problem, Microfoundations of Macroeconomics has succeeded in providing a good deal of insight into aspects of macroeconomic analysis. Among these contributions, three topics may be briefly mentioned. It seems that we have now a clearer grasp of the topics of "wage and price rigidity, "the role of information, and the microeconomic non-tatonnement" process.

The case of wage rigidity—and, especially, its relation to the supply of labor—has been a troubling point in macroeconomic analysis of the last forty years. While confusion has persisted, this case has been used (or perhaps misused) to partly stipulate the level of "generality" and "specialty" of the dominant Keynesian and Classical doctrines. In the Keynesian models with or without a labor market, wage rigidity was necessarily accompanied by assumption of exogenous wage variable. This device left one with the suspicion that the exogenously rigid wage rate was the cause of unemployment in the Keynesian system. According to this view, it would appear that the "revolutionary" character of Keynesian-type unemployment or underemployment was subject to doubt. The "classical" economists—as Keynes referred to them—in fact did propose this theorem. On the other hand, such a stipulation is indeed perfectly consistent with the general equilibrium theory of value. Any type of price rigidity would provide an obstacle to the achievement of "equilibrium" in that market. For instance, Pigou both in his *Industrial Fluctuations* (1927) and *Theory of Unemployment* (1933) advances the proposition that unemployment would occur in the event of wage rigidity or its lack of adjustment. As Pigou writes in the latter work, "unemployment as exists at any time is due wholly to the fact that changes in demand conditions are continually taking place and that frictional resistances prevent the appropriate wage adjustments from being made instantaneously" (1933, p. 252). Furthermore, as Warren Smith also stipulated in his early *Exposition of the Complete Keynesian System*, "rigidity of money wages is, in general, a necessary condition for (a) the occurrence of an underemployment equilibrium" (1956; 1971, p. 44).

The same view with regard to wage rigidity and unemployment was also held by Modigliani in his earlier exposition (1944). Modigliani, however, went a step further by stating a given wage rate before the attainment of full employment as a characteristic of the Keynesian system. This became the primary difference between Keynes and the Classics—in addition to the Liquidity Preference (Keynes) and the Cambridge-type equation of exchange (Crude Classical). This difference, in turn, implied that the supply of labor had more or less an inverted L-shape in the Keynesian system. Contemporaneously, the same view with regard to an L-shaped supply curve was also held

by Oscar Lange in his "Keynesian sense" interpretation (cf. 1945, p. 6, ft. 4).³ But if any one stipulated and L-shaped supply curve for labor, it is not Keynes—but Pigou! As Pigou graphically showed in a letter to Keynes (circa May 1937), the supply of labor is initially "horizontal," because he assumed that "the number of would-be wage earners is fixed independently of the stipulated wage." And, "If the stipulated wage is altered, the horizontal part of the curve moves to a lower or higher level..." (1937, p. 54). Keynes, however, objected to the Pigouvian L-shape curve on the basis that Pigou "is assuming that the wage stipulated by all wage earners is the same" (Letter to Hawtrey, 6 May 1937, p. 53).

Although Leijonhufvud argued that wage rigidity is not an integral part of the General Theory (1968 and 1969), the primary lines of research in more recent times have focused the view on attempts to show that wage rigidity is endogenous to the system. The studies done by Phelps, Alchian and others (1970) have revealed numerous reasons why one could expect wages and prices to be relatively rigid in the sense of not instantaneously responding to changes in supply and demand. These inhibitors of immediate adjustment include market imperfections, a certain degree of price-fixing and "wage-making" behavior, the discontinuous adjustment of wages and prices, the costs of adjustment—in addition to various institutional factors. But by the most illuminating of these factors is the role which information and expectations play in a decentralized system. Where wage and price rigidity is endogenous to the system, we could expect unemployment to persist even if "institutional" constraints are removed. For example, it appears that elimination of certain institutional constraints, such as the minimum wage law, would not free the system from unemployment. Wage rigidity is an operational constraint imposed by the system onto itself. We now have a superior theoretical explanation for wage and price rigidity based on choice-theoretic formulations. Given that the problems of inflation and unemployment have been at the very heart of recent events, and given that these topics may be expected to remain at the center of macroeconomic theory, these models provide additional insight into sources of these problems.

It can be readily discerned that the problem of information—broadly defined—is central to the Microfoundations of Macroeconomics. In fact, almost all the literature in this area has been in one way or another concerned with the role of information, the topic of search in macro markets, and the consequences of an imperfectly informative system. One may also include the work on pure information done by Stiglitz, Salop, Akerlof, and others in the 1970's. As yet, however, recent developments in the economics of information have not been sufficiently incorporated into the body of macroeconomic theory.

3. More precisely, in both Modigliani's and Lange's representations of the Keynesian supply curve, the initial part is horizontal but the latter part of the curve is upward sloping. In other words, this curve is first infinitely elastic and then only finitely elastic (without being infinitely inelastic). Thus, both interpretations imply a "kinked" supply curve. In Modigliani's framework, the kink itself is determined by the full employment level. But in Lange's the kink is determined by the stipulated wage rate intersects the short-run Marshallian type supply of labor.

The Microfoundations of Macroeconomics approach itself may be subject to more specific classification. Microfoundations can be further characterized as equilibrium foundations: and most of the literature on pure information falls in this sub-category. While the basic tenets of General Equilibrium theory are retained, allowance for imperfect information leads to certain amendments to and modifications of the General Equilibrium propositions. For example, the market structure of an imperfectly informative system may be better described as monopolistically competitive rather than perfectly competitive (cf., e.g., Salop, 1976). It is also true that a limited-information framework does not ensure that uniqueness of the equilibrium price in the ordinary sense of General Equilibrium theory. Equilibrium price dispersion or distribution may be expected in a system within which search is costly and/or full information is unavailable at any cost (uncertainty) (cf. Salop and Stiglitz, 1977). This non-uniqueness of equilibrium price may be regarded as a modification of Jevons' Law of Indifference or the law of "approximately" one price as stipulated by Wicksell.

The other sub-category of Microfoundations of Macroeconomics constitutes the micro structure of disequilibrium macrotheory, which will be discussed in the next section. The chief distinction of this line of research is the abandonment of the Walrasian-type equilibria and the tatonnement process. The literature focuses on short-term, temporary equilibrium and the Hicksian fix-price method. While Walrasian price-tatonnement is evidently dispensed with, it has been replaced by a sort of quantity-tatonnement. If the price system cannot distribute goods and services, then some scheme of rationing must be considered as an alternative. Rothenberg points out, however, that in such a system, "who gets what" becomes a central point of contention when suppliers do not practice price discrimination. Hahn, Kornai, Grandmont, and Dreze, among others, have further elaborated on disequilibrium microfoundations, relying heavily on the pioneering work of Hahn and Negishi (1962) and Clower's "Keynesian Counter-revolution" scheme (1965; 1970).

It is also instructive to consider the further taxonomy of Microfoundation of Macroeconomics proposed by Weintraub. He distinguishes the following four lines of research, or "pigeonholes": (1) Walrasian Equilibrium, (2) Walrasian Disequilibrium, (3) Edgeworthian Equilibrium and (4) Edgeworthian Disequilibrium. The distinction between the Walrasian and the Edgeworthian framework is that the latter focuses on pure exchange, while the former is concerned with market operations. Research on Edgeworthian Disequilibrium generalized to the macro setting appears to be rare. Grandmont, however, has voiced a suspicion that the mechanics of all disequilibrium models based on the Hicksian fix-price method appears to "involve some kind of recontracting process" (1977, p. 169).

In terms of the "disequilibrium" Microfoundations of Macroeconomics, however, it is not easy to dispense with the theoretical "auctioneer" nor to violate the basic tenets of the general equilibrium theory. In substance, it is not clear that why one cannot investigate disequilibrium theory through a general equilibrium approach. In the absence of a proper methodology of "disequilibrium economics," this route appears to be the only choice. As Holub objects to the method employed by Kornai in his well known book, *Anti-Equilibrium* (1971), (1977, p. 403):

“Anti-equilibrium models wishing to present a real alternative to the equilibrium models cannot confine themselves to replacing the equilibrium conditions that are entailed by corresponding disequilibrium conditions, while simply adopting the rest of the model. It is, rather, essential for the establishment of an anti-equilibrium model to first develop a new basic principle, which differs from the ‘general insight’ of equilibrium theory in essential points.”

However, given that disequilibrium (or anti-equilibrium) economics is in an early stage, any future development of this line of research must be based on a refined methodology. This deficiency is also related to “disequilibrium macroeconomics,” to which we now turn.

III. Disequilibrium Macrotheory

The bipartite Clower – Leijonhufvud observation that the economics of Keynes is of the non-Walrasian, disequilibrium type has led to a veritable outburst of new literature in Disequilibrium Macrotheory.⁴ This line has included both theoretical and, to an even greater degree, econometric work. Despite this theoretical epidemicity, Disequilibrium Macrotheory is still a theoretically controversial issue which is far from being settled. In fact, it is only recently that Christopher Sims refers to this new direction as “the wilderness of disequilibrium economics” (1980, p. 4). Furthermore it has become a familiar line of criticism to argue that, “The general disequilibrium, quantity constrained, analysis ... ran into the dead end of ad hoc assumptions and indeterminate outcomes” (Kantor, 1979, p. 1428).

Alan Coddington (1976, pp. 1258-73) has maintained that:

“... The Clower – Leijonhufvud position being that the concept of equilibrium should be abandoned in the interests of a more thorough – going reduction of Keynesian ideas to choice logic. The thesis is that once equilibrium has been abandoned and once focuses on a process of trading at disequilibrium prices, then one has a framework that is entirely

4. Cf. (Clower, 1965; 1970), (Leijonhufvud, 1967 and 1968). Clower’s work was originally delivered in 1962 in a conference held by the International Economic Association at the Abbaye de Royaumont, France. It was published in Hahn and Brechling, ed., in 1965. It was revised in (Clower, 1970).

In some instances, Patinkin has been also credited for coinitiating the disequilibrium trend. Although his chapter 13 (1965) interprets Keynes’ work as having a disequilibrium character, his view is totally traditional. On the other hand, as Laidler puzzles, to regard Patinkin’s work” as a vital book in transmitting the true Keynesian message ... is somewhat ironic given the fact that at its first appearance book was widely regarded as an attempt to reinstate so-called classical (i.e., anti-Keynesian) economics” (1975, p. 116, ft. 2).

congenial to Keynesian ideas ... (p. 1267). "On its own terms then, the essence of the Clower-Leijonhufvud position is that in order to accomodate Keynesian ideas, we have to abandon equilibrium theorizing and address ourselves to an understanding of the process of disequilibrium trading. In any terms, however, it is not just equilibrium theorizing that has been shown to be uncongenial to Keynesian ideas, but rather equilibrium theorizing within the reductionist program" ...

"It follows, however, from my characterization of such theorizing, that there are two distinct possibilities for the accommodation of Keynesian ideas: (i) the abandonment of equilibrium and (ii) the abandonment of reductionism. Clower and Leijonhufvud consider only the former possibility (p. 1269)."

Thus even the sincere efforts of Clower and Leijonhufvud were only aimed at eliminating income as the core variable from the analysis of macroeconomic behavior and substituting it by price. Even their open promise of removing equilibrium from the microeconomic analysis and substituting it by disequilibrium is only a camouflage because though disequilibrium is the rule in actual economic situations normally prevailing, equilibrium situation as an exception, is not ruled out. All this boils down to the point that theoretically it is not possible to integrate macroeconomics into microeconomics by retaining their respective determinant core principles.

Of course, attacks on equilibrium analysis are nothing new in economics. I believe that any explicit attack on Say's Law implicitly attempts to refute the tenets of point-equilibrium analysis and its corollaries of the existence, uniqueness, stability and optimality of equilibrium. Numerous branches of a broad family tree of economic theory may be cited as evidence of this; including, of course, Malthus, Marx, and Keynes. But without exaggeration, one could cite a long list of economists in various schools of thought who in one way or another were concerned with invalidity of what we now know by the title of "Say's Law."⁵

One basic question constitutes the demarcation line between two apparently opposing economic doctrines. Do we have proof economic theory that Say's Law — in the sense of Lange's 1949 Restatement — is invalid? Most of the dissent has historically focused on the role of money in indirect-exchange economies. This includes the works of Marx, Leijonhufvud, and, to some extent, Clower. However, a sound theory which explains the distinguishing elements of a barter and a monetary economy remains to be written. This is partly related to an "identification" problem. Specifically, we have yet to identify those characteristics of money and monetary economy whose absence validates Say's Law, but whose existence invalidates it. Reviewing the history of debate over Say's Law, I would venture to say that then often implicit double-assertion that "Say's Law is valid under a barter regime but invalid under a monetary regime" is yet unproven. By this observation, there is no intention to diminish the importance of Clower's contributions.

5. It appears perfectly justified to refer to Kalecki as the first Pre-Keynesian, for his theory had a very Keynesian flavor. According to Joan Robinson, however, "with proper scholarly dignity (Kalecki) never mentioned this fact" (Robinson, 1978, p. 55).

In fact, I maintain that the pioneering work of Clower has provided a highly illuminating amendment to economic theory in terms of the transmission of market forces and behavioral decision makings in a decentralized system. But in regard to the validity of Say's Law, as Clower himself argues, "the dual-decision hypothesis does not in any way flout Say's principle" (1965; 1970, p. 289).

This apparent puzzle is subject to a simple resolution. The dual-decision hypothesis and Say's Law are both elements of the universal set of economic theory. Each hypothesis is perfectly justified in its own right, and one does not refute the other. Both are complementary theorems on the operation of a system.

I hold the same view with regard to the Walras' Law—although Clower has argued strongly against it. But it is not Clower's intention to propose that Walras' Law should be formulated as a non-equality-to-zero specification, but only that it should be specified as an inequality (cf. *ibid.*, p. 292). Similarly, I believe Leijonhufvud's "experiment" with Effective Excess Demand tables does not refute Walras' Law. At one point, Leijonhufvud observes that Walras' Law is invalid because the unemployed demand money rather than commodities (cf. 1968, p. 89-90). Once again, the role of money has obscured the view. If, according to a general equilibrium framework, money were to be specified as a "good" and included in the specification of the model, then Walras' Law need not be flouted. The unemployed demands monetary good—which he cannot purchase—by supplying his labor time—which he cannot sell. While labor time is oversupplied, the monetary good is "undersupplied." Qualitatively, Walras' Law holds.

Most of the literature on this direction during the 1970's has not endeavored to repudiate Say's or Walras' Law — and I believe rightly so. Instead, the general focus is on Walrasian and non-Walrasian equilibria. Malinvaud's methodological approach is highly illuminating in that it represents the three regimes of Keynesian Unemployment, Classical Unemployment, and Repressed Inflation within one basic framework (1977). If one treats producers and consumers in a symmetrical manner, then a fourth regime could be also distinguished: Underconsumption (for terminology, cf. e.g., Gouieroux, Laffont and Monfort, 1980, p. 80). Accordingly, there exist four quantity-constraint cases—excluding the "boundary" cases—which may lead to the Clowerian "dual-decision" behavior. The literature often focuses the view on quantity exposition, while the specification of price clearly remains a troubling point (cf., e.g., Ito, 1980).

In brief, we exhibit these four cases below through an alternative approach relying on their pricing framework. Following the basic model often used, let there be two markets: output and labor markets. The exchange is carried out by use of a common medium of exchange, which also functions as the numeraire. Accordingly, there are two prices quoted in terms of the numeraire. Accordingly, there are two prices quoted in terms of the numeraire: p = price of output, and w = price of labor services. If the Walrasian general equilibrium rules and both markets are cleared, then the equilibrium price vector may be specified as (p^e, w^e) . This is the Walrasian magnet—the center of gravity. In four-quadrant diagram of figure, thus, this magnet represents the origin, as it is specified. The horizontal axis of this figure measures the deviation of the market price of output from the equilibrium market-clearing price $(p-p^e)$.

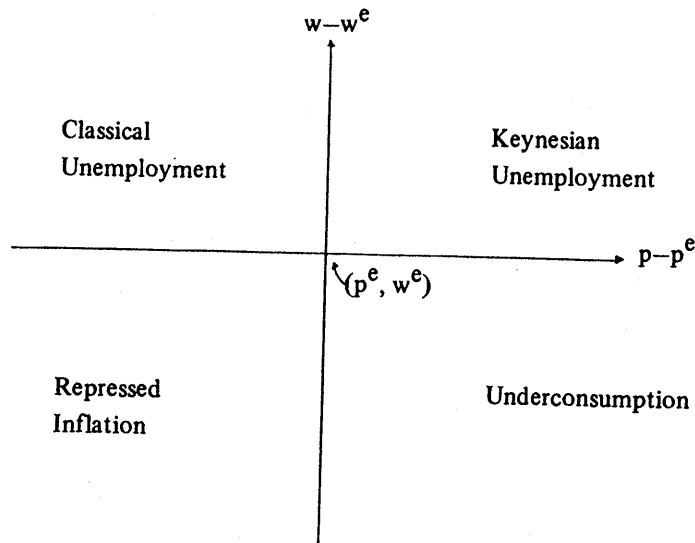


Fig. Disequilibrium Price Relationship

Accordingly, if the fix-price of output is "two high," then it must be placed to the right of the origin (+). if it is "two low," then it should be placed to the left of the origin (-). The same specification holds also for the price of labor with respect to the vertical axis ($w - w^e$). All of the following cases are exclusive of the axes and, hence, the origin. But, of course, extensions are possible by allowing these boundary points and distinguishing further cases.

(i) Classical Unemployment: consumers are constrained in both markets. Excess supply of labor coexists with excess demand for output. Consumers, as a whole, cannot sell as much labor as they offer; and cannot (effectively) purchase as much output as they would like. In the pricing framework, this case implies that the (fixprice) of output is "two low," that is $p - p^e < 0$; and price of labor is "two high," that is, $w - w^e > 0$, compared to the Walrasian general equilibrium magnet. A qualitative view of this case may be presented through the fourth (north-western) quadrant of figure. Dynamically, the general equilibrium could be achieved if wage rate declines and price of output rises. It should be mentioned, however, that disequilibrium economics has not yet achieved a proper dynamic formulation of fix-price vectors. This is a major problem faced by this line of research. Furthermore, a priori repudiation of tenets of the General Equilibrium theory has been neither easy nor helpful.

(ii) Underconsumption: producers are constrained in both markets. Now excess supply of output coincides with excess demand for labor. In substance, this case is the reverse of the first. As compared to the Walrasian price vector, the price of output is two high and price of labor is too low. Disequilibrium would be eliminated if only price-deflation and wage-inflation would occur. Accordingly, this case may be specified in the second (southeastern) quadrant of figure.

As it will be revealed later on in this work, both of these cases of Classical Unemployment and Underconsumption are consistent with Say's Law; for, qualitatively, excess demand in one market coincides with the excess demand in another market. The following remaining two cases, however, are not in their appearance consistent with Say's Law. But they could be specified to be consistent with Walras' Law.

(iii) Keynesian Unemployment: consumers are constrained in the labor market, while producers are constrained in the output market. Excess supply of labor coexists with excess supply of output. Both prices are too high. Only a general deflation could free the system from this disequilibrium state. Whether this case represents a true Keynesian type of unemployment is highly debatable. According to Keynes, "a reduction in money-wages (does not) have a direct tendency, *cet. par.*, to increase employment," for, "the volume of employment is uniquely correlated with the volume of effective demand measured in wage-units, and that the effective demand, being the sum of the expected consumption and the expected investment, cannot change, if the propensity to consume, the schedule of marginal efficiency of capital and the rate of interest are all unchanged" (1936, pp. 260-61). Accordingly, it is preferable to refer to this case as "Repressed General Deflation," rather than Keynesian Unemployment, at least as long as we have "the law of supply and demand" in mind. This case is represented in the first (northeastern) quadrant of figure.

(iv) Repressed Inflation: consumers are constrained in the output market while producers are constrained in the labor market. Now excess demand for output is associated with excess demand for labor. Both prices are too low as compared to the equilibrium price vector. Evidently, only a general inflation can free the system from this disequilibrium state. This case is represented graphically by placing it in the third (southwestern) quadrant of figure.

The two latter cases appear to be inconsistent with Say's Law, for excess demands and excess supplies occur simultaneously in both markets. But these cases are not necessarily inconsistent with Walras' Law. The problem is that disequilibrium literature does not explicitly consider the "price of money" itself. If the price of money in these two latter cases is specified as being respectively below and above its Walrasian value, then neither of these cases are inconsistent with Walras' Law and, hence, with the basic tenet of the general equilibrium theory. Accordingly, it appears that the division of economic theory into "equilibrium" and "disequilibrium" in a modern sense is neither illuminating nor relevant. This is not, of course, to say that disequilibrium approach does not provide insight into some aspects of economic theory, rather that the stipulated methodological division rests on shaky ground.

A related problem, which is not confined only to this line of research, is the level of aggregation in macromodels. This becomes more critical for disequilibrium models because of their concern with "spillover" effects. Of course, in the context of the current approach, further disaggregation may lead to trivial formulations. In explaining unemployment, a three-good model may apparently suffice.

It should be realized that spillovers are not unidirectional in nature, nor are they them-

selves limited by market boundaries or temporal constraints. Furthermore, spillovers are not specific to a single source or use. It is clear that more markets should be incorporated and more dynamic analysis developed lest the view of inter-market relations be blocked.

For instance, consider an extension of an example provided originally by Clower (1965). Suppose an appetite for champagne has just been created. If the worker becomes partially constrained in the labor market—say, he is only able to get a part-time job—then the worker would be expected to demand less champagne than he had originally planned. According to this view, as Clower makes clear, current income is endogenous to the decision-making process of the worker.

However, it may be also argued that in an in-time economy, not only current income but past or accumulated income (or wealth) may also play its role in the transmission of the effective demand. It is conceivable that the worker who is constrained in the labor market may not reduce his *ex ante* demand for champagne by constraining himself (in source) in another market—call that a “future” market—by drawing upon his accumulated income. Although it may be argued that accumulated income is exogenous in the sense of being predetermined, in the macro context one individual’s exogenous variable cannot be exogenous to the entire system. I am convinced that the recent slowdown in savings growth in the face of rising prices is a clear evidence of this type of spillover in terms of “sources”, as current income is supported.

Some contributions to this line of thought has included real balances, equity and government bonds (Barro/Grossman, 1976), and the market for loanable funds (Korliras, 1975). One may expect that the consideration of these factors has a great deal of bearing on policy implications. In general, however, as Korliras and Thorn have argued in 1979, “[T]o see what the policy implications of disequilibrium macroeconomics are remains a challenge for ongoing and research” (p. 287).

IV. Post-Keynesian Economics

Chronologically speaking, if we are not all Keynesians, it has been suggested that we are all “Post-Keynesians”. Since the 1970’s the term Post-Keynesian has come to refer to a large heterogeneous set of theories, making the classification somewhat confusing. The dominant theory in this body, however, is that formally proposed and popularized by Eichner and Kregel in 1975. The tenets of Post-Keynesian economics in terms of an economic ideology and analytical framework may be easily inferred from the following observation.

Post-Keynesian economics is based on the analysis of Keynes in his *General Theory* (1936) and the *Treatise on Money* (1930), as well as on the work of some of his contemporaries and collaborators. Of these, three outstanding economists may be cited: Michael Kalecki, a Polish Marxist; Piero Sraffa, whose extensive study of Ricardo is wellknown; and Joan Robinson, one of the original contributors to the modern theory of imperfect competition. Sraffa and Robinson

were also members of the so-called Cambridge "circus" (including Richard Kahn and James Meade) in 1931. It has been suggested that criticism of the *Treatise on Money* by the Circus was a primary factor contributing to Keynes' revision of thought which eventually led to the publication of the *General Theory* (cf. Robinson, 1978, Chapter 1), (Moggridge, 1976, pp. 88-89), and (JMK, Vol. XIII, pp. 202-207 and 337-343).

Thus, it is clear that Post-Keynesian economics represents an extensive body of thoughts and theories which exhibit characteristics of Richardian economics, Marxian economics, and imperfect competition analysis. In the 1970's numerous economists have contributed to this body of thought in all aspects of macroeconomic analysis (cf., Eichner, 1978). One may also include the monetary analysis of Paul Davidson and Hyman Minsky under the rubric of Post-Keynesian economics (Davidson, 1978a), (Minsky, 1975).

Some of the distinguishing elements of Post-Keynesian economics may be recognized from an examination of the criticism of neoclassical theory and synthesis by the editors of the *Journal of Post-Keynesian Economics* (JPKE), which began publication in Fall, 1978. In "A Statement of the Purpose," the editors write, "We regard as suspect those neoclassical models which: (1) assume automatic full employment; (2) ignore the vital presence of the public sector; (3) postulate perfect certainty; and (4) provide only long-run steady-state solutions" (vol. 1, pp. 3-4). In addition, they present the usual charge that Keynes has been mistread (p. 4).

In accordance with other theoretical developments in the 1970's Post-Keynesian economics is also concerned with the microfoundations and disequilibrium analyses. It may be slightly distinguished, however, in that it emphasizes the "distributional" and "institutional" aspects of modern economies to a greater degree.

As Keynes was explicitly concerned with distribution in his theory and policy prescriptions, Post-Keynesian economists rightly maintain that the theory of distribution and modern macroeconomics stand too far apart. In the concluding notes of the *General Theory*, Keynes states that system often suffers from unemployment and some degree of arbitrary income and wealth distribution (1936, p. 372). Post-Keynesian economists attempt to reformulate distribution analysis as well as macrodynamics according to the structure of the *General Theory*. They endeavor to depart from neoclassical growth theory primarily by abandoning its usual assumptions and qualifications. Although Post-Keynesian economics has a distinctly Marxian flavor, it attempts to modify the basic Marxian assumptions according to observations of the operation of modern economies. For example, Post-Keynesian economics allows for a non-zero marginal propensity to save by the wage-earning class (cf. Eichner and Kregel, 1975).

The tenets of Post-Keynesian macrodynamics may best be evaluated by comparison and contrast with standard neoclassical growth theory. While some of these elements have already been sufficiently treated in the standard Keynesian interpretations, the following characteristics of Post-Keynesian economics may be distinguished (*ibid.*), and (Eichner, 1978):

(i) In terms of the dynamics of macro indicators, while neoclassical theory assumes a steady-state expansion with neither temporary nor persistent deviation from the long-term trend, Post-Keynesian assumes a pronounced cyclical pattern imposed on top of the secular growth path.

(ii) In explaining the distribution of income, the neoclassical theory relies heavily on equilibrium—state factor inputs and marginal productivities, often assuming the exhaustion of product relation. Post-Keynesian, on the other hand, proposes that the “historical” division of income between wage-earners and the non-wage-earning class is determined by institutional factors. In turn, change in income shares both influence and are influenced by the growth path.

(iii) Neoclassical theory assumes foresight, while Post-Keynesian proposes (after Keynes) that only the past is known and that the future is uncertain, in the Knightian-Keynesian sense of the existence of no probability distribution.

(iv) The Neoclassical theory primarily employs the equilibrium condition by equating supply and demand in all markets. Post-Keynesian economics, however, relies on the equilibrium condition in another way. Post-Keynesian equilibrium is the equality of “discretionary income” and “discretionary expenditure”—or in more familiar terms, the equality of savings and investment.

(v) Neoclassical theory relies on perfectly competitive market structure, while Post-Keynesian economics is concerned with imperfect competition and significant monopolistic elements.

(vi) While Neoclassical theory relies on equilibrium methodology in the growth structure, Post-Keynesian economists attempt to employ disequilibrium analysis under the assumption that the terminal-equilibrium state is only possible outcome.

Eichner and Kregel have observed the goal of the Post-Keynesian economist is to explain the real world empirically. Unlike the Neoclassical theory, they claim that Post-Keynesian economics is not concerned with demonstrating the social optimality of the observed behavior when the real world happens to coincide with the specifications of the model. Hence, we may refer to Post-Keynesian economics as the method of “theretical empiricism”.

On the basis of this observation, we may discuss pricing in relation to the behavior of the firm. Great significance is attached to the behavior of corporations in imperfectly competitive markets. Their pricing behavior, according to Post-Keynesian, is related to the available investment opportunities as well as their dividend and retention-rate policies. The analysis explicitly states that prices may be expected to rise if more capital spending became desirable (Kenyon, 1978). In terms of a general monetary framework, suggestions have been made to incorporate financial and contractual analysis into the body of Post-Keynesian economics (cf. Minsky, 1975) and (Davidson, 1978b). In a temporal framework, such suggestions are perfectly sound. Finally, Post-Keynesian economics emphasizes the role of the state in income and distributional policies in addition to the formulation of monetary and fiscal policies.

V. A Preliminary Remark

Without overstating the case, all of the recent developments in macroeconomic analysis testify that Keynes is still alive and well. In spite of Weintraub's recent observation that, “Unfortunately, there is today no accepted view of what Keynes actually accomplished” (1979, p. 38), it

would appear that Keynes maintains his place at the top of the family tree of macroeconomic theory.

However, one may also add that Walras and the General Equilibrium theory are also alive and well. In fact, I believe that while the recent work in macroeconomics is proceeding in the right direction, the methodological division of economics into equilibrium and disequilibrium stands on rather shaky ground. Both approaches may be viewed as elements of a universal set, the complement of which is "empty". Contrary to what Leijonhufvud has argued (1976), I am convinced that equilibrium and disequilibrium economics do in fact "mix". One cannot reject the General Equilibrium theory merely on the basis that it deals only with equilibrium economics, for it is possible to derive disequilibrium theorems through the General Equilibrium approach. For example, Walras' Law and Say's Law (in the sense of Lange's Restatement) are both disequilibrium theorems in the true sense of the term. Further disequilibrium theorems may be derived if one concentrates on the operation of the Walrasian auctioneer and the tâtonnement process during the adjustment of trial-and-error phase. It is neither easy nor advisable to reject equilibrium analysis on the basis of the inapplicability of its terminal-state specifications. As Thomas Schelling has recently observed, "There are many things wrong with equilibrium analysis ... But nobody should resist [it] for fear that, if he acknowledged that something is all right. The body of a hanged man is in equilibrium when it finally stops swinging, but nobody is going to insist that the man is all right" (1978, pp. 26-27).

One of the major economic questions raised in the 1970's, is whether we should bury the standard IS-LM and Keynesian Cross models. Although it may be argued that these models do still provide a convenient method for undergraduate teaching in the absence of simple alternatives, recent development in macro analysis call for their interment. Joan Robinson now reminds us that the IS-LM model represents the case of "Bastard Keynesianism."

It is not only recent developments which call for the abandoning of the traditional Keynesian models, but also two of the "originators." Sir John Hicks himself. First, he argues that "it reduces the General Theory to equilibrium economics; it is not really in time" (1976, p. 141); second, that the standard models depict only "one element in what Keynes said. But it is not enough; it is again a relapse into statics" (1977, p. viii).

It is instructive to observe that while Keynes never formally responded to "Mr. Keynes and the 'Classics'", "he did provide a few suggestions to Hicks in a personal letter. When the assumption of a constant wage rate is removed, Keynes argued, "it is no longer safe, I suggest, to regard savings as a function of income." Also, Keynes felt that the Hicksian approach "over-emphasizes current income. In the case of the inducement to invest, expected income for the period of the investment is the relevant variable" (ibid., p. 145). But in general, Keynes regarded Hicks' work as "very interesting," stating that he had "really next to nothing to say by way of criticism" (ibid., p. 144).

Another originator who questions the usefulness of the standard models is Joseph McKenna, who wrote the first systematic textbook on standard Keynesianism as he "received the true gospel from Prophet Alvin Hansen" (p. 1). In 1979, McKenna argued in "An obituary for Macro-

economics" that the standard interpretations must now be turied. He observes that there is no need for a new macroeconomic paradigm. Rather, "We must go back to dealing with economic phenomena in traditional economic terms, like markets, prices, quantities, costs, and production functions" (p. 7).

In reviewing these and related criticisms, I believe that the recent directions of macroeconomic analysis are on the right track. Despite the popular debates, such as the "specialty" and "generality" of various theories, I am optimistic about these new developments. Both Hicks' call for disequilibrium analysis and McKenna's call for microfoundations are primary lines of research. Equally important, furthermore, is the mphasis on distributional aspects provided by Post-Keynesian economics. But, again, all of these developments have yet to achieve a satisfactory state of maturity. In this work we are primarily concerned with the first two lines of research: Microfoundations of Macroeconomics and Disequilibrium Macrotheory.

BIBLIOGRAPHY

1. Acklay, Gardner (1961). *Macroeconomic Theory*, Macmillan.
2. Barro, Robert J., and Grossman, Herschel I. (1971). "A General Disequilibrium Model of Income and Employment," *American Economic Review* 61, pp. 82-93.
3. Barro, Robert J. (1976). *Money, Employment, and Inflation*, Cambridge University Press.
4. Board of Governors of the Federal Reserve System (1979). "Monetary Policy Actions. Federal Reseve Bulletin 65. pp. 830-32.
5. Clower, Robert W. (1965; 1970). "The Keynesian Counter-Revolution: A Theoretical Appraisal." In *monetary Theory*, ed. by Clower, Penguin Books.
6. Clower, Robert W. (1977). "The Anatomy of Monetary Theory." *American Economic Review Papers & Proceedings* 67. pp. 206-12.
7. Davidson, Paul (1978a). *Money and the Real World*, Macmillan.
8. _____ (1979b). "Why Money Matters: Lessons from a Half-Century of Monetary Theory. " *Journal of Post-Keynesian Economics* 1. pp. 46-70.
9. Eichner, ed. (1978). *A Guide to Post-Keynesian Economics*, Sharpe.
10. Elliott, Jan Walter (1983-84). *Lectures on Advanced Macroeconomics I and II and Advanced Monetary Economics I and III*. Personal notes. University of Wisconsin.
11. Gourieroux, C.; Laffont, J.; and Monfort, A. (1980). "Disequilibrium Econometrics in Simultaneous Equations System." *Econometrica* 48. pp. 75-96.
12. Hahn, F.H., and Negishi, T. (1962). "A Theorem on Non-Tatonnement Stability." *Econometrica* 30. pp. 463-69.
13. Hansen, Bent (1970). *A Survey of General Equilibrium System*, McGraw-Hill.
14. Hicks, John R. (1965). *Capital and Growth*, Clarendon.

15. _____ (1976). "Some Questions of Time in Economics, ed. by A.M. Tang et al. Lexington Books.
16. _____ (1977). *Economic Perspectives: Further Essays on Money and Growth*, Clarendon.
17. Holub, H.W. (1977). "Anti-Equilibrium Theory vs. Equilibrium Theory." *De Economist* 125. pp. 393-403.
18. Hoover, Kevin D. (1984). "Two Types of Monetarism," *Journal of Economic Literature*, 22. pp. 58-76.
19. Kerl, J.R.; Pope, Clayne L.; Whiting, Gordon C.; and Wimmer, Larry T. (1979). "A confusion of Economists?" *American Economic Review Papers & Proceedings* 69. pp. 28-37.
20. Kantor, Brian (1979). "Rational Expectations and Economic Thought," *Journal of Economic Literature* 17. pp. 422-41.
21. Kenyon, Peter (1978). "Pricing" In Eichner, ed. pp. 34-45.
22. Keynes, John M. (1930; 1971). *A Treatise on Money*. vols. 1 and 2: *The Pure Theory of Money and The Applied Theory of Money*. As Reprinted in *The Collected Writings of John M. Keynes*, vols. 5 and 6, Macmillan.
23. _____ (1936). *The General Theory of Employment, Interest, and Money*, Harcourt.
24. Korliras, Panayotis G. (1975). "A Disequilibrium Macroeconomic Model." *Quarterly Journal of Economics* 89. pp. 56-80.
25. Korliras, Panayotis G., and Thorn, Richard S. (1979). *Modern Macroeconomics: Major Contributions to Contemporary Thought*, Harper & Row.
26. Kornai, James (1971). *Anti-Equilibrium: On Economic Systems Theory and the Tasks of Research*, North-Holland.
27. Kurihara, Kenneth K. (1969; 1974). "Contributions and Limitations of Keynesian Theory." Reprinted in *Essays in Macrodynamics Economics*. State University New York Press.
28. Lange, Oscar (1942). "Say's Law: A Restatement and Criticism." In *Studies in Mathematical Economics and Econometrics*, ed. by O. Lange et al., University of Chicago Press.
29. Leijonhufvud, Axel (1967), "Keynes and the Keynesians: A Suggested Interpretation," *American Economic Review Papers & Proceedings* 57. pp. 401-410.
30. _____ (1968). *On Keynesian Economics and the Economics of Keynes*, Oxford University Press.
31. _____ (1969). *Keynes and the Classics: Two Lectures on Keynes' Contribution to Economic Theory*, Institute of Economic Affairs.
32. _____ (1976). "Schools, Revolutions and Research Programms in Economic Theory" In Latsis, ed., pp. 65-108.
33. Malinvaud, E. (1977). *The Theory of Unemployment Reconsidered*, Yrjö Jahnsson Lectures. Blackwell.
34. Minsky, Hyman (1975). *John M. Keynes*, Columbia University Press.
35. Moggridge, D. E. (1976). *John Maynard Keynes*, Penguin.

A Study on the Recent Directions in Macroeconomic Theory

36. Nikaido, H (1970). Introduction to Sets and Mapping in Modern Economics, Translated by K. Sato. North-Holland.
37. Pesek, Boris P. (1981-84). Lectures on Macroeconomics and Monetary Economics, Personal Notes. University of Wisconsin.
38. Phelps, Edmund s. (1969). "The Emerging Microeconomics in Employment and Inflation" American Economic Review 59. 147-60.
39. _____ (1970). Microeconomic Foundations of Employment and Inflation. Norton.
40. Pigou, Arthur C. (1927; 1967). Industrial Fluctuations, Cass.
41. _____ (1933). The Theory of Unemployment. Kelly.
42. _____ (1937). "Letter to Keynes". Dated circa May. Reprinted in Keynes, 1924-39, p. 54.
43. Robinson Joan (1978). Contributions to Modern Economics. Academic Press.
44. Salop, Steve (1976). "Information and Monopolistic competition." American Economic Review Papers & Proceedings 66. pp. 240-45
45. Salop, Steve, and Stiglitz, Joseph. E. (1977)", Bargains and Ripoffs: A Model of Monoploistically Competitive Price Dispersion." Review of Economic Studies 44. pp. 493-510.
46. Schelling, Thomas C. (1978). Micromotives and Macrobehavior, Norton.
47. Sims, Christopher A. (1980). "Macroeconomics and Reality." Econometrica 48. pp. 1-48
48. Smith, Adam (1776; 1976). An Inquiry into the Nature and Causes of the Wealth of Nations, Reprints (2 vols in 1). Ed. by Edwin Cannan University of Chicago Press.
49. Smith, Warren L. (1956; 1971). "A Graphical Exposition of the Coplete Keynesian System." Reprinted in Readings in Macroeconomics, ed. by M. G. Muller, Holt, Rinehart, and Winston.
50. Taiang, S. C. (1966). Walras' Law, Say's Law and Liquidity Preference in General Equilibrium Analysis. "International Economic Review 7. 329-345
51. Weintraub, E. Roy (1979). Microfoundations: The Compatibility of Microeconomics and Macroeconomics, Cambridge University Press.
52. Weintraub, Sidney (1957). "The Micro-Foundations of Aggregate Demand and Supply. "Economic Journal 67. pp. 455-70

