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Uncertainty and the Uses of Money

DOUGLAS VICKERS

I

No economic phenomenon is more clearly observable and yet more elusive of theoretical explanation than the existence and use of money. Money, we are accustomed to say, exists because of certain functions it performs in overcoming the deficiencies of a barter system of economic arrangements. It bespeaks the problem of the double coincidence of wants; it establishes a unit of account and reduces the number of price ratios of exchange which need to be established in an exchange system; it facilitates the establishment of mutually consistent exchange values; and it provides a store of value. In all these respects analysis is advanced by a focus on the functions of money, its circulation and functional efficiency, rather than primarily on the forms of money; and even though the forms of money change, as is now occurring as new kinds of banking arrangements are invented, it is a commonplace that money as it is used does.

But that unfortunately is not the end of the matter. The theory of money is one of the "unsettled questions" still before us. At a time when economic analysis is not as sure of itself as it might once have been, when "new planets swim into our ken" and demand explanation, the analytical problem of money is again of paramount importance.

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The phrase is due to John Stuart Mill, Some Unsettled Questions of Political Economy (London: London School of Economics Reprint 1948), 1948.


Two considerations coalesce in the perspective that now emerges. First, the predominance of general equilibrium theory raises the question whether a place for money exists at all in the analytical schema of things, and our argu-
mement will bear heavily on that point. Second, a new understanding of the uncertainties that abound in the world, of our knowledge and the knowability of the states of affairs that exist or might exist, enter our analysis. This is the case, not only in the sense that the pervasiveness of events forces us to question the predictive competence of our science, but in the sense that new forms of analysis, which we shall call "nondistributive variable approaches" to uncertainty, demand an integration into our schemes of thought.

The notion of equilibrium and uncertainty need to be brought into clearer relationship. Money, as is now widely recognized, has no logically sustainable place in the general equilibrium analysis, and its existence and use are to be seen completely as uncertainty phenomena. Money emerges as a significant analytical problem precisely because the equilibrium theory, notwithstanding its high aspirations to the contrary in some modern expressions, cannot accommodate the residual and ineluctable uncertainties that surround us.

The conclusion of the following argument can be put briefly. What, in short, are we to understand as the "uses of money" in conditions of uncertainty? It is too short an answer to state that money exists simply because uncertainty exists, and that if there were no uncertainty there would be no need for, or use, for money. But this is, of course, the heart of the matter. We are accustomed to say that we
hold money as a store of value in the presence of perceived uncertainty, though uncertainty in that case has generally been interpreted analytically as probabilistically reducible risk and not as genuine Keynesian or Knightian uncertainty at all. But the same phenomenon and pressures of uncertainty influence our understanding of the medium of exchange function of money also. Shackle, almost alone, has recognized the point. The unifying concept in monetary theory is uncertainty. Granted that it is convenient to have on hand a store of general purchasing power to satisfy a transactions demand for money, an amount of money required "because we are not sure what we want to buy." Then "it is being kept because of uncertainty, a petty rather than a momentous kind of uncertainty, if you wish, but for purposes of theory, of the unity of theory, this characterization is important." Let it be supposed, on the other hand, that our production and exchange economy functions under conditions of certainty. We abstract, in other words, from all of the ignorance that conditions our economic existence, and in our "flight from ignorance" we have spread the ability of genuine, unidirectional, historic time to surprise us. We are certain of all magnitudes in all transactions at all times. We abolish the "future" by collapsing it into the "now." That is what the assumption of certainty means. That is characteristic which temporal and general equilibrium theories have done. In effect, certain markets exist now for all time-dated quantities; or for all time-state claims, the latter being described in some contexts by subjectively assigned probability magnitudes, and in this sense all possibility is abolished that a future may exist that is genuinely capable of surprising us. In such a condition there is no need for money even as a medium of exchange. All transactions can be settled by reference to an omnifiscient bookkeeper. Under assumptions of certainty money is abolished. There is no need for it. Money, on any point of view, is solely, purely and simply, an uncertain phenomenon.

II

The relevance of the equilibrium motif and its connection with uncertainty and ignorance can be noted briefly. Uncertainty lies at the heart of the General Theory and the group of its significance points to what Shackle has called "Keynesian ultimate meaning." That the "economics of Keynes" is distanced from "Keynesian economics" by the basic issue of our ignorance and the impossibility of knowing the future, has lately attracted increasing attention. In the presence of uncertainty, Keynes asked, "How do we manage in such circumstances to behave in a manner which saves our faces as rational, economic men?"


"Ibid., status in original.


Conventions exist, and conventional behavior lends a certain orderliness and quasi-stability to economic affairs. "What we may strictly term a conventional judgment" is made in given situations, we may accept "the existing state of opinion...as...correct summing up of future prospects." But all this may be a "flimsy foundation" and may be "subject to sudden and violent changes," and we rest on our more comforting conventions only "until something new and relevant comes into the picture." The problem continually with us, as Marshall recognized, that "the unexpected may happen." "Human decisions affecting the future" Keynes concluded, "cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist." Honesty and realism force us to say, in decision situations in which there is "no scientific basis on which to form any calculable probability whatever," that as to the outcomes "we simply do not know." In our decision postures we stand in what Shackle has eloquently termed the "solitary moment," locked in the "now" between a "dead yesterday" and an "unborn tomorrow." This points to the analytical inadequacy and the empirical irrelevancy of the now highly developed General Equilibrium Theory. In this connection Kregel has concluded that "the orthodox approach...has not yet succeeded in relaxing its taming assumption concerning perfect foresight and uncertainty." And E. Roy Weintraub has referred to "the inability of the Walrasian system to deal with uncertainty problems." Attempts at resolving this issue have succeeded only in taking the argument further in the direction of "intellectual experiments" and away from real world description and explanation. Of course it may be claimed, as in Hahn's defense of the theory and his review of Kornai, that "the most obvious explanation of why one studies this theory (general equilibrium), which is known to conflict with the facts, is that one is not engaged in description at all." But this is beside the point. We can acknowledge the elegance of the theory and its search for existence, uniqueness, and stability conditions and still call in question the wisdom of the wholesale capitulation to it that many aspects of monetary theory have made. Or more than that. We are entitled to question whether the general equilibrium scheme of things has any place for money at all. Hahn has summed it up correctly in his point that "the Walrasian economy...is essentially one of barter," and in his acknowledgment that in an economy described by the traditional general equilibrium theory "money can play no essential role." The equilibrium theory postposes perfect competition, perfect knowledge and foresight, perfect rationality, and perfectly consistent, simultaneously attained market equilibrium. Or if "risk" (not uncertainty) is acknowledged, the future possible outcomes are.

"Ibid., p. 214.


Fortunately this awareness need not lead to paralyzing in decision situations or to an apogee in analysis, as Shackle's criticism work on "potential surprise" functions and decision criteria has shown. See also Douglas Vickers, Financial Markers, Ch. 3 and 5.


In the General Theory, in which Keynes pressed further the task of "pushing monetary theory back to becoming a theory of output as a whole," the "fundamental proposition of monetary theory" is viewed in one of its aspects from the perspective of the demand for money: 

"... and prices necessarily change until the aggregate of the amounts of money which individuals choose to hold at the new level of incomes and prices thus brought about has come to equality with the amounts of money created by the banking system." Patinkin, whose Money, Interest, and Prices is the locus classicus of recon- structed neo-classicism, follows out the thought-form of the theory of money and finds that the existence of "a real balance effect in the commodity market is the sine qua non of monetary theory." And the demand for money is, as is well known, at the heart of Friedman's capitalistic theoretic "re-statement" of the quantity theory of money. 

In various ways the problem has recurred and the question has been asked why economic decision units do demand money, what purpose it serves and what function it performs, whether money in a definitive sense "neutral," meaning that the equilibrium levels of output, relative prices, and the rate of interest are independent of the amount of money in existence, or "supersus- neutral," meaning that "steady-state real vari- ables are independent of the growth rate of money," whether the analysis of the economic system can be in some sense legiti-
mately dichotomized as might earlier have been imagined, and what, in actual fact, are to be understood as the transmission channels or the adjustment mechanism by which changes in the quantity of money in the system work out their effects. 

In arguing that the theory of money must revolve around the meaning of uncertainty and ignorance we find ourselves firmly in a "post-Keynes" age. For we are setting aside the general equilibrium theoretical reconstruc-
tion of Keynes who, in the last analysis, was not interested in the concept of stable equilib-
rium at all. The General Theory, as Keynes himself signified his intentions, was "primarily a study of the forces which determgine changes..." and "a monetary economy... is essentially one in which changing views about the future" must be taken fully into account. Keynes expressly referred to a "shifting equilibrium" which was "liable to change without much warning, and sometimes substantially." It was necessary, he argued, "not to overlook the fact that it is in the transition (among, as Minsky intercludes, never-attained positions of equilibrium) that we actually have our being." It is in the context of his "theory of shifting equilibrium" that Keynes made the focal point that "the importance of money essentially flows from its being a link between the present and the future." It is true that "although the theory of shifting equilibrium must necessarily be pursued in terms of a monetary economy, it remains a theory of value and distribution and believe were prominent, no doubt with some ambivalence, in the neo-classical theory. 

If we take the theory of money that revolves around the meaning of uncertainty and ignorance we find ourselves firmly in a "post-Keynes" age. For we are setting aside the general equilibrium theoretical reconstruction of Keynes who, in the last analysis, was not interested in the concept of stable equilibrium at all. The General Theory, as Keynes himself signified his intentions, was "primarily a study of the forces which determine changes..." and "a monetary economy... is essentially one in which changing views about the future" must be taken fully into account. Keynes expressly referred to a "shifting equilibrium" which was "liable to change without much warning, and sometimes substantially." It was not necessary, he argued, "not to overlook the fact that it is in the transition (among, as Minsky interprets, never-attained positions of equilibrium) that we actually have our being." It is in the context of his "theory of shifting equilibrium" that Keynes made the focal point that "the importance of money essentially flows from its being a link between the present and the future." It is true that "although the theory of shifting equilibrium must necessarily be pursued in terms of a monetary economy, it remains a theory of value and distribution and
not a separate `theory of money.' Nevertheless, "Money in its significant attributes is, above all, a subtle device for linking the present to the future; and we cannot even begin to discuss the effect of changing expectations on current activities except in monetary terms."18

What this is saying is that there cannot be any valid dichotomization in the analysis of the economy. Value, distribution, and monetary theory are all a part of a whole. And this, of course, is consistent with Keynes's concern (or an understanding of the simultaneous variation of prices and output levels, witnessed by the fact that the statements referred to occur in the significant Chapter 21 on "The Theory of Prices," closely preceded by the important Chapter 19 on "Changes in Money-Wages."). This is a far cry from the Mollighans-Friedman assumptions that the heart of the message we should read in the General Theory has to do with rigidities, wage or price rigidities, or, on another level, interest rate rigidities.18

### III

Against this background the possibilities of further development in the theory of money may be looked at under the following six headings. First, it is necessary to bring back into clear focus the rich discussion of "technical monetary detail" which took up Keynes's early work and which, as he acknowledges, "falls into the background" in the General Theory.19 This affords a clearer grasp of the behavioral dynamics of market operations and the movement and change that Keynes was concerned with. It illuminates the way in which forces in the "real" or the "goods" sector of the economy work out their cumulative movements, depending on possible accommodating developments in the monetary sector. The latter, taking up changes in banking and financial institutional structures, points to a pragmatic realism in monetary analysis. The recent introduction of "money market certificates," which to some degree insulate the housing sector from the previously familiar effects of credit squeezes (by allowing certain savings institutions to accept deposits at an interest rate one-quarter of a percentage point above specified money market rates), is a case in point. So is the emergence of the new institution of money market mutual funds which permit higher rates of return to be earned on surplus liquidity and which, in the process, have confused the previously straightforward Federal Reserve Bank measure of the M1 money supply.

In this connection we also confront the sometimes mystified question regarding the "rest" multiplier processes; namely, where does the money come from? Keynes has anticipated the problem in his argument that "if there is no change in the liquidity position, the public can save ex-ante and ex-post and everything-else-until they are blue in the face, without alleviating the problem in the least—unless, indeed, the result of their efforts is to lower the scale of activity to what it was before...the banks hold the key position in the transition from a lower to a higher scale of activity. If they refuse to relax, the growing congestion of the short-term loan market of the new issue market, as the case may be, will inhibit the improvement, no matter how thoroughly the public purpose to be out of their future income. On the other hand, there will always be exactly enough ex-post saving to take up the ex-post investment and so release the finance which the latter had been previously employing. The investment market can become congested through shortage of cash. It can never become congested through shortage of savings. This is the most fundamental of my conclusions within this field."20

Second, a careful and more exhaustive analysis of new money issues and newly needed reserves is needed. The need for new money supply, and more particularly changes in the money supply, are endogenous to a significant degree and not merely, completely, or even primarily, exogenous. Money, that is to say, comes into existence because it is created by the banking system in response to the requirements of the business and industrial community for increments in finance (made available by the banks against newly issued forms of indebtedness) in order to finance or accommodate higher levels of turnover (which, in turn, may become necessary, following an exogenous increase in money wage rates, to make it possible to maintain previously existing real activity levels at resulting new higher price levels). At this point the question arises whether money is a "cause" or an "effect" in the total scheme of things. 21 (Analysis here recapitulates the Pigouan point we mentioned at the beginning regarding the interconnections between the "veil" of money, or the garment, on the one hand and the real world or the body on the other.

Third, a rediscovery of Keynes's theory of the money wage rate, or more particularly his analysis of the significance of changes in the money wage rate, and the way in which it feeds through to price formation in the market sectors of the economy. This requires an understanding of the ways in which, and the reasons why, Keynes made use of the "wage unit," or "the money wage of a labour unit," and of the clear but neglected sentence with which he concluded the final substantive part of his work: "The long-run stability or instability of prices will depend on the strength of the upward trend of the wage unit (or, more precisely, of the cost-unit) compared with the rate of increase in the efficiency of the productive system."22

Fourth, perspective needs to be reorganized on the manner in which instabilities, disequilibrium situations, and volatile changes in expectations induce variations in financing methods and arrangements and, as Minsky has emphasized, possibly debt-induced cyclical instability.23 This points to interconnections between the monetary and financial aspects of investment expenditures on the one hand, and the real aspects on the other, and to the endogeneity of debt-induced variations in the economy's money supply. Investment decision criteria require a closer analysis of the sources of money capital financing and the associated costs. Relevant here is "the fall marginal cost of relaxing the firm's money capital availability constraint."24

Fifth, a new effort is required to bring into

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19 In the light of our argument in the foregoing paragraph it is of interest to raise a recent conclusion of Alton Coalding in "Keynesian Economics: The Search for New Principles," Journal of Economic Literature, December, 1976, p. 1270. "Keynes's "use of equilibrium construction was a peculiar one: He was concerned with doing other things, the insubstantiality of the underlying circumstances of his construction. This is, one of the lucid and revealing features of this study."

20 Keyes, General Theory, p. 77.

21 "Keyes, General Theory, p. 41.

22 Ibid., p. 309, paragraphs in original. See also Sidney Weintraub, Capitalism's Inflation and Unemployment Crisis (Boston: Addison-Wesley, 1978).

23 H. Minsky, op. cit.

focus Keynes's viewpoints on the meaning of uncertainty. This renders quite irrelevant and inapplicable for most branches of economic analysis the familiar and comfortable thought forms of the probability calculus. For the nature of the world is such, and the nature of the decision maker's stance in the unidirectional flow of time is such, that, as Shackle in particular has explained, the conditions necessary to enable any application of the probability calculus to be made in human affairs seldom exist. "The orthodox theory assumes" Keynes argued, "that we have a knowledge of the future of a kind quite different from that which we actually possess... At any given time facts and expectations were assumed to be given in a definite and calculable form; and risks... were supposed to be capable of an exact actuarial computation. The calculus of probability... was supposed to be capable of reducing uncertainty to the same calculable status as that of certainty itself." But this did not accord with the conditions in which Keynes lived and about which he wrote.

Sixth, these propositions require the development of a framework of decision analysis which, in the light of residual uncertainties, does not rest on the assumption that decision variables are random in the sense that they can be correlated into subjectively assigned probability distributions. We have therefore proposed in another place a line of analysis based on probability at all, but on possibility, and on the "potential surprise" with which, at the decision points in time, decision makers contemplate the different possible outcomes that could occur. The approach to decisions is accordingly a "nondistributional variable" approach, and the recognition of uncertainty, with its correlative of ignorance, or the antithesis of knowledge, echoes the implicit assumption of knowledge which the assumption of probability involves.16

Here, then, is a six point agenda for a "Post-Keynes" theory of money. It raises a concern, to summarize the points broadly, for (i) a theory of the structure and functioning of the banking and financial intermediaries system; (ii) a theory of the supply of money, taking account of appropriate degrees of endogeneity; (iii) a theory of money wage changes, price formation, and relevant inflationary disturbances; (iv) the interconnections between the "monetary" and the "real" in endogenously induced as well as exogenously introduced instabilities; (v) an understanding of residual uncertainty as opposed to probabilistically reducible risks in the system; and (vi) the erection of decision criteria adequate to account for the uncertainties and the kaleidoscopic changes that occur. The agenda could, of course, be extended. Questions of growth and of income distribution need to be made explicit. But I am concerned here with what may be seen as minimum post-Keynesian differences, and with the monetary theoretical implications of them.

IV

While the issues we have raised have not been neglected completely in the literature, what we have identified as the heart of the matter, issues of disequilibrium, ignorance, and uncertainty have been accorded only peripheral attention. C.A.E. Goodhart's recent work on Money, Information and Uncertainty, for example, appears to start our argument off on the right foot. He speaks of "the fundamental insights into the working of the real economy which Keynes expressed so vividly. These are, shortly, that the world is filled with uncertainty, that actions are based on insecure expectations, that accurate information is at a premium, and that mistakes are constantly being made, so that our system lurches from one short-term period of disequilibrium to another. But in the handling of uncertainty the analysis stumbles into the all-too-familiar utility-portfolio-equilibrium-theoretic arguments, and uncertainty turns out after all to be only what we have already set aside as probabilistically reducible risk. In the final analysis this perception of risk sits uncomfortably with the intention to disclaim the "construction of general equilibrium systems à la Walras,"22 though it is rightly recognized that in such systems no need for such distinctions exists at all.23

In tatonnement systems, where false trading with its endowment-redistribution effects and expectations-inducing effects are assumed away, there is no need for money because no trades are effected until an equilibrium price vector is announced, and then goods exchange for goods. Such an arrangement is the negation of the meaning of a monetary system in which, as Clower puts it, "money buys goods and goods buy money, but goods do not buy goods. This restriction is... the central theme of the theory of a money economy."24 The Walrasian model requires that future dated magnitudes be known with certainty, or as certainty-equivalents in a probabilistic sense, and in a world of certainty all future market time paths are determined. There can be no "surprise" in the residual sense, and therefore no need for money to tide one over a difficult and unprepared for period of time. Patinkin, it is true, does attempt to find a place for the demand for money under conditions of uncertainty, by introducing the notion of a special kind of "uncertainty," namely that relating to "the timing of payments."25 But in his analysis all uncertainty is eliminated again by the assumption that all market participants are able to know with certainty what the outcomes of their trading and asset demands will be at the end of the trading week. When genuine uncertainty exists, however, the demand for money is legitimized, for economic outcomes are then capable of surprising market participants in a genuine sense, and the holding of money can function the important function of allowing decision makers to defer decisions as to economic commitments and take refuge in liquidity or purchasing-power reserves.

It is true to say with Weitzman that "the sine qua non of money" is that it "function(s) as the medium of income payments and input purchase."26 And there is every importance in Davidson's emphasis on Keynes' "finance motive" in the demand for money, noting that the demand for money to finance transactions depends at a point in time on the anticipatory formulation of spending plans at that time, as well as on the level of expenditures currently calling for finance.27 But it is equally, even banally, true to say that "we cannot have transaction money unless money is held between transactions."

Focusing, then, on

17Ibid., p. vii.
18C. W. Jaffé, "Walras' Theory of Tatonnement: A Critique of Recent Interpretation." Journal of Political Economy, 1967, p. 4. See also A. L. Leijonhufvud, On Keynesian Economics and the Economics of Keynes, p. 796. "The current status of "pure" monetary theory is a confused one. The preferred analytical tool of many of its most distinguished practitioners is the general equilibrium model. But money cannot be "important" in theories which delete attention only to equilibrium situations..."
20"Demand for Money. In the Real World," Ch. 7.
the demand for money to hold, for transaction purposes or for whatever purposes, the thing that legitimizes money is again uncertainty; uncertainty as to when a command over perfectly transferable purchasing power will be required—the idea of a less than perfect meshing of money income and expenditure flows; uncertainty as to whether and when unsuspected opportunities for favorable economic action may arise; and uncertainty as to the outcomes of investment policies, making desirable in given circumstances the actual deferring of decisions and the taking of refuge in the possession of deferred purchasing power.

Keynes has made the point by saying that "Money, it is well known, serves two principal purposes... it facilitates exchanges... In the second place, it is a store of wealth... But in the world of the classical economy, what an insane use to which to put it! For it is a recognized characteristic of money as a store of wealth that it is rare... Why should anyone outside a lunatic asylum wish to use money as a store of wealth...?" and he goes on to observe that "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... the possession of actual money pulls our disquietude..." The holding of money is then our speculation against our own lack of knowledge, precipitating a demand for liquidity as "a substitute for knowledge." The demand for money rests largely on the significance of what has been called the precautionary demand, and the holding of money for so-called speculative purposes in no sense exhausts the asset holder's motivation at all. Keynes emphasized, moreover, the inherent instability of the demand for money function. The latter could not be exhaustively described by a stable, smooth, downward sloping curve in a money-interest rate plane. "If... our knowledge of the future was calculable and not subject to sudden changes" Keynes observed, "it might be justifiable to assume that the liquidity preference curve was stable." But this would be the precise opposite of the real conditions he was concerned to describe.

The structure of the monetary process is such that a demand for money arises also in other ways. Money, Keynes saw, was a "veil," not entirely in the sense of Pigou but in a sense related to the "money's detail" he referred to. "There is a multitude of real assets... which constitute our capital wealth... The nominal owners of these assets, however, have not infrequently borrowed money in order to become possessed of them. To a corresponding extent the actual owners of wealth have claims, not on real assets, but on money. A considerable part of this financing takes place through the banking system, which imposes its guarantee between its depositors who lend it money and its borrowing customers to whom it loans money... The interposition of this veil of money between the real asset and the wealth owner is a specially marked characteristic of the modern world..."

It is not necessary to argue at length that this "intermediation" demand for money is crucially wrapped up with considerations of uncertainty. It follows from the facts of the economic process as it unfolds in historic or calendar time. Decision makers stand in uniquely determined environments and in economic inheritances that delimit their knowledge. "Knowledge cannot be gained before its time." Production takes time and monetary commitments have to be made by producers before, and in anticipation of, the sales proceeds of what it is that production arrangements will produce. Penumbral of uncertainty surround the very possibility of sales proceeds subsequently coming to hand. Real investment is necessarily surrounded by a distrust of the future. The fixity of production process and costs raises the possibility that corporate cash flow streams might not, in the actual event, be adequate to provide the hoped-for rate of return on invested capital and preserve solvency in the firm. The manner in which, and the extent to which, the uncertainties in these processes can be handled and tamed, to give decision makers the repose of mind necessary to permit them to undertake monetary commitments, determine the demands for money we have referred to. Variations in confidence (animal spirits, we might say), as well as in actual recorded profit outcomes, influence the demands for funds, the requests for, and the availability of, new money capital issues, whether in the form of debt or ownership equity. Varying levels of debt liabilities are imposed on the system as a result, with the implied dangers of exaggerated loss experiences should a downturn in economic results occur.

It is not in that the foregoing the demands for money capital, debt, credit, or financial accommodation are lumped together and confused with what should be kept separate as a demand for money as such, as an asset, the holding of which permits the consumption of transactions or the provision of a liquidity refuge. The argument is concerned to make simply the twofold point that the demand for money in a monetary economy is necessarily a derived demand, derived from the structure and the functioning of the market forms and economic processes we have adumbrated; and the manner in which these derived demands are expressed are what they are because of the penumbral of uncertainty in which the real world process are enmeshed.

V

There remains for much briefer comment a final matter. It has to do with the way in which, as noted earlier, appropriate decision criteria might be erected, and a viable framework of decision making established to deal with the uncertainties we have emphasized. Here analysis opens suddenly into new and still relatively untrod paths. Cultivating the leads laid down most thoroughly by Shackle, a decision framework can be constructed which replaces earlier notions of the probabilities attached to conceivable outcomes by that of the "potential surprise" with which the decision maker contemplates the possibility of specific outcomes occurring. Probability, which is based on varying and describable degrees of belief, is thus replaced by possibility and the associated notion of disbeliefs. It is possible to show, I have suggested elsewhere, that the degree of potential surprise associated with possible outcomes will determine the extent and the degree to which those contemplated events have a power to arrest or command of focus the decision maker's attention. They thereby lead to the notion of the "focus values" which describe the decision opportunity, and schema can be established to rank and distinguish between the attractiveness of alternative lines of action. It is sufficient to say for the present...
An Anthropogenic Approach to Labor Economics

ALFRED S. EICHNER

The usual approach, in economic modeling, is to treat something called "labor" as simply another commodity, subject to any commodity to the forces of supply and demand, with the balance between the two equalized through a market. The human capital concept which has come to dominate discussions of "labor" supply in recent years merely builds on this standard approach, the refinement being to take into account time-related costs of and benefits from education and other forms of "investment" in human beings. The purpose of this paper is to outline an alternative approach, which because it focuses on the cumulative acquisition of competences over time rather than on commodity-type transactions, can be termed the "human developmental" or "anthropogenic" model. The use of a somewhat different terminology is necessary and deliberate. The reason is that the usual commodity approach to the human factor in economic activity succeeds in explaining only certain facets of the role played by human beings in providing for their material needs. The commodity approach is not wrong in the sense of being unsupportable by empirical evidence. It is, however, limited in the types of problems on which it can throw light. To avoid the limitations of the language, and thus of the concepts employed in the conventional commodity approach, a somewhat different set of theoretical constructs, reflecting the broader perspective of the anthropogenic model, is required.

It should be pointed out that what is meant by the "conventional commodity" approach to labor economics is the implicit conceptualization which permeates economic theory in general and which serves as the analytical skeleton around which more detailed discussions of labor economics, emphasizing institutional factors and other complications, are organized. Thus the fact that the commodity approach is seldom found in its purest form within the specialized literature is beside the point. It still dominates more general discussions bearing on labor matters.

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