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SRAFFA AND KEYNES: EFFECTIVE DEMAND IN THE LONG RUN\*

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\* What follows originated as a discussants intervention. However, it was prepared without the constraints imposed by having a paper to discuss: that paper never materialized. The editors of this conference volume asked to publish my informal remarks as a paper. With this history the reader will appreciate that what follows is largely a restatement of views I had put forth at other times and places, as modified by my using Eatwell's contributions to Eatwell and Milgate ed. Keynes's Economics and the Theory of Value (New York, Oxford University Press, 1983) as, so to speak, a proxy for the paper that never was and as a "center of gravity" for my remarks.

Given (A) my interpretation of Keynes<sup>1</sup> and (B) my view of the problems that economists need to address as the 20th century draws to a close the substance of the papers in Eatwell and Milgate<sup>2</sup> and the neo-classical synthesis are: (1) equally irrelevant to the understanding of modern capitalist economies and (2) equally foreign to essential facets of Keynes's thought. It is more important for an economic theory to be relevant for an understanding of economies than for it to be true to the thought of Keynes, Sraffa, Ricardo or Marx. The only significance Keynes' thought has in this context is that it contains the beginnings of an economic theory that is especially relevant to understanding capitalist economies. This special relevance of Keynes is due to the monetary nature of Keynes's theory.

Modern capitalist economics are intensely financial. Money in these economies is endogenously determined as activity is financed, asset holdings are financed and commitments on prior contracts are fulfilled. In truth, every economic unit can create money -- this property is not restricted to banks. The main problem a "money creator" faces is getting his "money" accepted.

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1. See H.P. Minsky John Maynard Keynes, New York, Columbia University Press, 1975. Also Stabilizing an Unstable Economy, New Haven, Yale University Press, 1986.

2. Eatwell and Milgate ed. Keynes' Economics and the Theory of Value (New York, Oxford University Press, 1983.)

Almost all money creation at some date involves promises to pay the same or some other money at some later date. Therefore money creation is tied into economic processes and transactions by which debtor units acquire that which they promise to pay. Endogenous money implies both that money is destroyed when debtors pay banks and the existence of a hierarchy of monies. The obvious example of a hierarchy of monies is the relation between bank money and reserve money. In the taking over of businesses, a major activity in the United States, the liabilities used are often characterized as "funny monies."<sup>3</sup>

None of the endogenously determined variables in a modern capitalist economy are independent of monetary variables. Keynes' reply to Leontief about the "homogeneity postulate" with respect to money wages and money in neoclassical theory is especially relevant.<sup>4</sup> Keynes is important because he taught us how to approach and analyze an intensely financial capitalist economy. He gave us an investment theory of effective demand and a financial theory of investment on which we can build.

Furthermore the investment-saving relation that appears in the determination of effective demand can be used to

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3 Since the above was written the rapid development of securitization has opened the possibility of public money that does not depend upon the proximate intermediation of a bank or a central bank.

4 John Maynard Keynes, "The General Theory of Employment" Quarterly Journal of Economics 1937. The homogeneity postulate is also a characteristic of Sraffian theory.

yield the aggregate profits in the economy. In the simplest skeletal model the system of prices are such that the sum of profits over all outputs equals the investment determined aggregate profits. The price system of a capitalist economy is a mechanism that forces "a surplus" [savings] that equals financed investment.

The keys to understanding capitalist economies lie in the answers to the following questions:

- (1) How is activity, especially investment activity, financed?,
- (2) How are positions in capital assets financed?, and
- (3) What determines the price system of assets?

The title of this session, Sraffa and Keynes: Effective Demand in the Long Run, puzzles me. Sraffa says little or nothing about effective demand and Keynes's General Theory can be viewed as holding that the long run is not a fit subject for study. At the arid level of Sraffa, the Keynesian view that effective demand reflects financial and monetary variables, has no meaning, for there is no monetary or financial system in Sraffa. At the concrete level of Keynes, the technical conditions of production, which are the essential constructs of Sraffa, are dominated by profit expectations and financing conditions.

The meanings which are normally given to the long run involves some idea of an equilibrium or a center of gravity towards which the system tends or around which it oscillates. [It can be a static or a growth equilibrium or

center of gravity.] But a minimal specification of a monetary production or better an accumulating capitalist economy with a sophisticated financial system includes endogenous destabilizing relations. The ideas of Chapter 3 "Credit and Capital" of Schumpeters The Theory of Economic Development<sup>5</sup> are an essential input to an understanding of a capitalist economy: the early monetary theory of Schumpeter integrates well with Keynes.

Instead of thinking about equilibrium and disequilibrating developments it may be better to think of tranquil and turbulent system behavior. The same profit seeking, product market, "factor" market and financing behavior ruled in the tranquil era of the 1950's as in the turbulent era of the 70's. The end result of market behaviors was different. Somehow the environment within which activity takes place was sufficiently different so that the overall system behavior was different.

Therefore, as economists, we have to explain:

- (1) why systems of interrelated markets, with no apparent coordinator can for substantial stretches of time, yield coherent or tranquil results,
- (2) why such tranquility gives way to turbulence and even periods of apparently incoherent behavior,
- (3) why non-market interventions seem to be necessary to contain emerging incoherence and sustain a semblance of tranquility.

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5 Harvard University Press, 1934.

An essentially Keynesian view is that whereas economists may explain the apparent coherence of the details of a decentralized market economy by constructs that ignore money, it is necessary to introduce and understand a monetary system which finances both positions in capital assets and investment in order to understand the variety of ways in which an accumulating capitalist economy behaves. Economic theory therefore must begin by specifying the essential characteristics of the monetary and financial system.

It follows that Keynesian economic theory starts with:

- (1) Chapter 17 "The Essential Properties of Interest and Money" in *The General Theory*,
- (2) Keynes' contribution "The Theory of the Rate of Interest" to *The Lessons of Monetary Experience: Essays in Honour of Irving Fisher* [pp. 101-108 in Vol. XIV of *Collected Writings*],
- (3) Keynes' rebuttal to Viner [having been an undergraduate at Chicago, I think of it as an answer to Viner] "The General Theory of Employment" [Q.J.E. 1937 or pp. 109-123 in Vol. XIV, *Collected Writings*].

Formal theorizing begins with the (q,c,l) analysis of the determination of asset prices and then goes on to examine how asset prices, output prices and financing relations determine investment and therefore output. Money is not neutral because it is an essential determinant of asset prices. A capitalist economy has two sets of prices,

those of assets and output, which are formed on quite different principles. Asset prices are a capitalization of prospective yields allowing for carrying costs and the value of liquidity whereas output prices, including those of investment goods, are means of recovering costs, mainly wage costs.

The two sets of prices reflect different parts of the economic universe and their immediate determinants are quite different. As a result they can vary with respect to one another. Capitalist economics have two price levels, the price level of capital assets,  $P_k$  and of output,  $P_o$ .

Each asset or bundle of assets has a yield  $q$ , as carrying cost  $c$  and a liquidity, premium  $l$ . "It follows that the total return expected from the ownership of an asset over a period is equal to its yield minus its carrying costs plus its liquidity premium, i.e., to  $q - c + l$ " [p. 226, General Theory]. The yield,  $q$ , of an asset, or of a collection of assets, is a cash-flow; it is most truly identified as gross capital income net of the taxes. In short hand we will call  $q$  profits. In The General Theory, Keynes identifies  $c$  with wastage (time depreciation and storage costs) but we can extend the idea of  $c$  to include the costs of financing the position in the assets that yield  $q$ . By this extension  $c$  is a cash flow -- the gross payment commitments on debts. By making  $q$  and  $c$  cash flows, they are dimensionally commensurate.



Keynes introduces the concept of the liquidity premium  
 1 in the following passage:

Finally, the power of disposal over an asset during a period may offer a potential convenience or security, which is not equal for assets of different kinds, though the assets themselves are of equal initial value. There is, so to speak, nothing to show for this at the end of the period in the shape of output; yet it is something for which people are ready to pay something. The amount (measured in terms of itself) which they are willing to pay for the potential convenience or security given by this power of disposal (exclusive of yield or carrying cost attaching to the asset), we shall call its liquidity-premium ) [General Theory, p. 226, my underlining]

The liquidity-premium / is a "potential" cash flow as an asset is sold or "incorporated" into output that is sold. The ease with which an asset can be sold or can be pledged for a loan yields a "potential convenience or security" and will therefore will carry a premium market price that varies with the "ease." This liquidity characteristic of an asset protects its owner against contingencies, it has the attributes of an insurance policy. As is well known units will willingly pay a premium over the "fair bet" value for insurance.<sup>6</sup>

Either in terms of a "potential" cash flow when the asset is disposed of or as an "in kind" premium for an insurance policy "1" is a cash flow; it is dimensionally equivalent to the q and the c even though q and c may be

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<sup>6</sup> Friedman, M and Savage, L.J. "The Utility Analysis of Choices Involving Risk" Journal of Political Economy, August, 1948, 279-304.

actual expected receipts and spending while  $l$  is the receipts equivalent of an insurance policy.

It is worth noting that this argument transforms every capital asset owning business into the equivalent of a bank. The capital assets organized into plants and owned and operated by firms are not readily marketable but yield incomes: they are equivalent to non marketable loans that a bank might own. The liabilities of businesses and banks are the interest, dividend and repayment of principle cash flows: as a result businesses as well as banks hold assets because of " $l$ " to allow for shortfall of " $q$ ".

Every bundle of assets has a price  $P_K$ . Money, the unit in which the  $q$ 's are earned and in which payments  $c$  are committed, always has a price of 1 -- a dollar is a dollar. As the virtue of being readily transformed into cash changes, as the likelihood of the need to fall back on the insurance changes, the price of any bundle of assets, or any particular asset which is not money, will change. Relative asset prices will change depending in the weight of  $q$ ,  $c$  and  $l$  in determining their value. "Money" in this argument is an asset whose price is determined solely by the value of  $l$ . As the price of money is always 1, the prices of assets, whose value is derived in all or in part from  $q$  and  $c$ , will change relative to the price of money as the value of  $l$  changes.

There is a price system, that of capital assets which is determined by capitalizing,  $q$ ,  $c$ , and  $l$ . This price

system reflects the subjective value placed on  $l$ . As  $l$  is an attribute of money, the greater the quantity of money the more abundant  $l$  and therefore the lower the relative price of assets which are valuable because of  $l$ . But as the price of money and near monies is always 1, the lower relative price of money means a higher nominal price of  $q$  yielding assets. There is a Keynesian quantity theory of money that is radically different from the quantity theory based upon equations of exchange.

The route from the nominal prices of  $q$  yielding assets to output, prices and money wages is through investment, aggregate demand and labor market conditions at inherited money wage rates. Changes in the money supply will affect the price level of output as mark ups per unit of output change as aggregate profits change, as market power changes with aggregate demand changes or as labor market conditions lead to changes in money wages.

If this were a fully independent paper and not derived from a discussants intervention, at this point I would introduce Section II, pp. 112-119 of Keynes's Q.J.E. of 1937 piece "The General Theory of Employment" [Vol. XIV, The Collected Works, pp. 109-123] as a basis for reasoning about the relation between uncertainty and asset values. It is in this section that Keynes remarks "why should anyone outside a lunatic asylum wish to use money as a store of value?" [pp. 115-16].

Uncertainty in the sense of matters for which "...there is no scientific basis on which to form any calculable probability whatever" (p. 114) is introduced as a basic concept for the analysis of the accumulation of wealth, which aims "...to produce results, or potential results, at a comparatively distant, and sometimes at an indefinitely distant, date." Money in this argument is valuable because it embodies protection against unfavorable contingencies which are not reducible to insurable risks. To a great extent, money is valuable because the carrying costs,  $c$ , which are largely a time series of payment commitments, are usually denominated in money.

Even so with a well functioning money market, the assets held for insurance can and do differ from demand deposits and currency as long as units assume that the money market will function so that the assets held for insurance can be cheaply exchanged or pledged for money. In complex financial markets such exchanges may at times be possible only with the support of the central bank. The Lender of Last Resort function of the central bank reflects a recognition by the political authorities that a situation can arise in which the exchange of financial assets for money may be so difficult or so expensive so that the funds which can be raised in a market without intervention falls short of the amount needed to validate payment commitments. Assets which are held because market participants are not inmates of a lunatic asylum may require the protection of

central bank which stands ready to exchange its "money" for such assets.

In Keynes uncertainty is not an imperfection of markets. It is a fundamental aspect of nature in an accumulating capitalist economy. Accumulation cannot be understood and why booms and busts accompany the process of accumulation under capitalist conditions cannot be understood without introducing uncertainty. Keynes without uncertainty is like Hamlet without the Prince, and the role of money, liability structure and various systems of intervention in a capitalist economy cannot be studied without introducing uncertainty.

If we consider "The General Theory of Employment" in the Q.J.E as offering a guide to the understanding of The General Theory, then asset prices, uncertainty, financing condition (both internal flows and external transactions), and the supply price of investment output combine to generate investment. The Keynesian theory of investment shows not only that there is a relation between investment, uncertainty and financing but it also shows why investment is given to fluctuation. In particular the fluctuation of investment is affected by the payment commitments that go under the general heading of "c", carrying costs.

Economies are systems with yesterdays, todays and tomorrows. A great American philosopher and football coach, George Allen, once said that "The future is now." The  $q$ 's are cash flows that are currently anticipated; the  $q$ 's

stretch out over time. The existing financial liabilities, the in place "c's", represent contracts which are already signed which call for payments "now" and in the future. The structure of interest rates on various instruments which can be used to finance positions in assets and investment demand reflect the value placed upon liquidity,  $l$ , because of the uncertainty that surrounds  $q$ 's and  $c$ 's, and terms on which money can be obtained by issuing instruments that promise future  $c$ 's. An economist studying capitalist accumulation needs to amend Allen by recognizing that in both capital assets and liability structures "The future, the past and now are all now."

Over each period of time there are cash payments  $c$  that have to be made because of maturing dated contracts and because asset holders are exercising rights to demand payment. These payment commitments are on account of both principal and interest. These commitments can be fulfilled because either the  $q$ 's being earned are large enough or borrowing to repay debt and even to pay interest takes place. I have called the commitment-receipt structure hedge, speculative and Ponzi finance, where Ponzi is a scheme in which interest payments are financed by debts. Although Ponzi was a Boston swindler, Ponzi finance can be honest and above board: the IMF has been sponsoring Ponzi financing for heavily indebted countries.

The investment activity that is financed leads to variations in effective demand that leads to profits and to

savings that are equal to investment. Financed investment activity depends upon current expectation of future profits and the new financing that is forthcoming. If the proportion of the q's that go to c's increase then the likelihood increases that new financing will not be forthcoming. In particular if a sufficient shortfall of cash payments to financial institutions (including banks) occurs financed investment will decrease. The willingness and the ability to finance and to commit financing depends upon the extent to which currently and recently due payments because of financial commitments have in fact been made. A sufficient repudiation or non-validation of commitments on liabilities will have a disastrous effect on new commitments.

The links between accumulation, the debt structure, investment and profits are the keys to an understanding of the behavior of accumulating capitalist economies. These links are nowhere examined in the Eatwell and Milgate volume that was cited.

Both the neo-classical synthesis and the substance of the content of Eatwell and Milgate are similar in that they ignore money. The first sentence in Frank Hahns Money and Inflation<sup>7</sup> is "The most serious challenge that the existence of money poses to the theorist is this: the best developed model of the economy cannot find room for it." John Eatwell

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7 MIT Press, Cambridge, Mass, 1983.

and Morris Milgate in the Introduction to Keynes's Economics wrote:

"..., the essays assembled in this volume provide the essential ingredients of a framework for demonstrating the manner in which the classical theory of value may be regarded as being congruent with Keynes's principle of effective demand.... Of course, many difficult analytical problems remain to be settled, not the least of which are to be found in the important areas of the theory of money and the theory of capitalist accumulation." [p. 16)

Both neo-classical and Sraffian theory stand mute when it comes to money and accumulation under capitalist conditions. In both frameworks the central areas of "...the theory of money and the theory of capitalist accumulation" are among "the difficult analytical problems" that "remain to be settled."

Once we integrate money into the accumulation process, we have a theory of money for a capitalist economy which, when combined with the way effective demand yields profits, tells us the total of the profits that individual productions will generate. Profits in no way are a reflection of a marginal productivity of "capital" but rather a return that reflects the financed demand for investments (along with the other determinants of profit that follow from Kalecki's structure); aggregate profits result from the scarcity of output capacity and distribution of profits reflects the structure of total demand.

In a capitalist economy, output supply prices are means of recapturing costs. The Sraffa-Leontief equation schemes can be viewed as specifying the total costs that must be



recovered for production to take place: the competition for profits by producers leads to the realized mark ups.

The neo-classical synthesis by using preferences and production functions to determine the labor market equilibrium, employment, and output both proves too much and cannot explain coherence in the price structure with excess supply. The Sraffian system is able to show that coherence of markets is possible at various levels of employment, even as the Keynesian analysis is able to show why normal market reaction to excess supplies may make things worse not better. There is a possible link between Sraffa and Keynes in which the Keynes aggregate demand is transformed into a vector of outputs that in turn leads to gross outputs and the distribution of gross output into "inputs" and "final outputs."

Such a system would not be one in which equality of the rate of profit plays any role: realized profit flows would be a distribution among outputs of the aggregate but the distribution will not be an equilibrium rate. In fact the "rate of profit" disappears from such an analysis -- as there is no well defined denominator, for the historic costs of capital assets disappear from the determination of any economic variable. All that remains from the past is the physical capabilities of the machines and the mass of financial obligations embodied in the structure of liabilities and intermediation.

This is not to dispute the insight that the relevant jiggling of the system reflects the profit drives of accumulators, of those who order investment outputs. But there is no process in Sraffian analysis to explain this phenomenon. Seeking profits through investments and controlling capital is the subject of the negotiations between bankers and businessmen. A profit flows based analysis of an accumulating capitalist economy requires that the analysis include money and banking from the very beginning. This is the meaning of Keynes and why Keynes is incompatible with neo-classical theory and only marginally compatible with Sraffian theory.

Another great American philosopher, Vincent Lombardi, who, like George Allen, was a successful football coach once said "Winning isn't everything, it is the only thing." I would like to paraphrase this sage and make the radical statement that for an analysis of capitalist economies "Money isn't everything, it is the only thing."