ON SAY'S LAW, KEYNES'S MONEY, AND POST KEYNESIANS

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Abstract: Say's Law maintains that there can never be a superabundance of all goods (if any good were available in greater supply than needed, such as water or air, it would no longer be an economic good at all) and that if there is an excess of some items that are still goods, it will be matched with an insufficiency of others. The reputation of Keynes (1936) was made in part on the basis of a supposed refutation of Say's Law. This paper attempts to probe the irrationality of Keynes' position by examining his concept of money and its relationship to his theory.

Key words: Say's Law; Keynes; money; economic goods; animal spirits; unemployment.

JEL Category: E12.

I
INTRODUCTION

> «Men are involuntarily unemployed if, in the event of a small rise in the price of wage-goods relatively to the money-wage, both the aggregate supply of labor willing to work for the current money-wage and the aggregate demand for it [labor]

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> at that wage would be greater than the existing volume of employment»
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> KEYNES (1936, 15).

> «But the Stock exchange revalues many investments every day and the reevaluations give a frequent opportunity to the individual (though no to the community as a whole) to revise his commitments»
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> KEYNES (1936, 151)

> «Investments which are thus 'fixed' for the community are made [by the existence of a stock market] 'liquid' for the individual»
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> KEYNES (1936, 153)

> «Of the maxims of orthodox finance none, surely, is more anti-social than the fetish of liquidity…It forgets that there is no such thing as liquidity of investment for the community as a whole»
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> KEYNES (1936, 155)

The principle that has come to be known as Say's law is considered to be an essential element of classical economics. Properly understood, there are two aspects to Say's law: 1) there can never be glut of goods in general; 2) there can be a glut of some goods matched by an insufficiency of other goods. Say himself understood this principle to apply to monetary as well as barter economies. It is the case of monetary economies that is relevant for the purposes of this paper.

Say's Law applied to a monetary economy of n goods, $x_1,\ldots, x_{n-1}$, M, where M is the money good. Say (1880) maintains that there can never be a glut of the n goods combined; however, there can be a surplus of any subset of the n goods, in which case there necessarily would be a paucity of the goods in the complementary subset. More simply put, there cannot be too many goods in general, but there can be too many of some goods and not enough of others (Sowell, 1972). In such cases, there is a misallocation of resources. Producers have misjudged consumers' sentiments and produced a suboptimal mix of goods. What is required is a realignment of relative prices such that prices of those goods in excess be decreased relative to the prices of those of which there is a dearth. Of course, that is precisely the way free markets work. The producers of the «glut goods» make actual losses and the producers of «dearth goods» forego potential profits. Their response is to adjust prices altering the structure of prices and reallocating resources more in accord with the desires of consumers. And, it makes no difference if M is the sole good for which there is an insufficiency.

Keynes (1936, 26) misstates Say's Law: «Thus, Say's Law, that the aggregate demand price of output as a whole is equal to the aggregate supply price for all volumes of output, is equivalent to the proposition that there is no obstacle to full employment.»[1]

However, Keynes actually agrees with the correct version of Say's Law. What Keynes disagrees with is the adjustment process when the primary «dearth good» is money. According to Keynes, investment – expenditures on new capital goods - are in effect a crapshoot and subject to sudden and large decreases.[2] In such cases there is a rise in liquidity preference; i.e., a boost in the hoarding of money[3] or, in Quantity Theory terms, a fall in the velocity of money.[4]

In section II we discuss Keynes's theory about money and economics; here we offer the building blocks of his system. Section III is devoted to the problems with the foregoing. The

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[1] Keynes provides no cite to Say's works to support his interpretation.

[2] One hears far less of sudden and large increases from this quarter. «Animal spirits,» evidently, point in only one direction.

[3] Hoarding of money occurs when the weighted-average period between receipt and expenditure of money increases.

[4] Some authors refer to this, incorrectly, as an increase in the demand for money. This is to misuse the technical term, demand. One may refer to the stock of money at a point in time, but if one wishes to use correctly the term «demand» in reference to money, it must be in the plural form, as it is of the essence of a monetary economy that money trades against all other goods. Therefore, in a specific market, say for good X, there is a supply of good X that constitutes a demand for money and a demand for good X which constitutes a supply of money. As money has no market of its own, but rather trades in every market, there are *demands* for money and *supplies* of money, not a, or the, demand for, and supply of money.

burden of sections IV and V are to analyze the views of Lerner and Davidson, respectively, on these issues. In section VI we deal with what might be considered an anomaly: Keynes' concern with money. We conclude in section VII.

II
ON KEYNES'S MONEY AND KEYNES'S ECONOMICS

There is no doubt as to what Einstein (1920) meant in his General Theory of Relativity. Although physicists do not accept his General Theory as the last word and are still trying to come to a better understanding of reality, yet *they are not arguing about what Einstein meant* 85 years and more after its publication. However, this is not the case with Keynes' 1936 book *The General Theory of Employment, Interest and Money* (hereinafter, GT). Ever since this treatise was published economists have disagreed as to what Keynes said. Moreover, they have also disputed whether he was essentially correct or incorrect, and as to what, if anything in this book is useful or harmful. Thus, some sixty years and more after its publication, *economists are still arguing about what Keynes «really» meant* in his GT. That is a difference between science and pseudoscience. Or, with apologies to Churchill, «The General Theory is a riddle wrapped in a mystery inside an enigma.»[5]

Consider the complete title of the GT: «The General Theory of Employment, Interest, and Money.»

What is the essence of Keynes's theory? Consider the following building blocks:

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[5] On the clarity of the GT, recall the words of future Nobel Laureate Samuelson (1946): «[Keynes' GT] is a badly written book, poorly organized; any layman who, beguiled by the author's previous reputation, bought the book was cheated of his five shillings. It is not well suited for classroom use. It is arrogant, bad tempered, polemical, and not overly generous in its acknowledgements. It abounds in mares' nests or confusions….Flashes of insight and intuition intersperse tedious algebra. An awkward definition suddenly gives way to an unforgettable cadenza. When finally mastered, its analysis is found to be obvious and at the same time new. In short, it is a work of genius.» On the quote from Churchill, see http://www.phrases.org.uk/meanings/31000.html

1. Animal spirits, not rational risk taking.

States Garrison (1989,15): «the decision to invest is based, in large part, on the groundless expectations held by the business community, or on animal spirits, to use Keynes's own terminology. Not surprisingly, booms and busts occur with the waxing and waning of business confidence.»

2. Liquidity preference.

«Social» liquidity can be changed, but only slowly over time; and thus is quite low. It consists in how quickly the real assets; i.e., the capital goods (and durable consumers' goods and, today, we would add, the human capital) of the members of society, can be transformed from their current use to more desirable alternatives. It takes into account the effects of such changes in use on the value of these goods in terms of their ability to satisfy wants directly or indirectly. «Private» liquidity consists in how quickly an individual thinks he can exchange his current stock of assets for other more desirable ones, without loss of value. This, at least in an advanced market society, is usually quite high, but subject to rapid change and thus can become very low. When speaking of individual goods, money is of course the most liquid of all. An extremely specialized good with no feasible alternative uses,[6] it is highly liquid, especially in times when there is a relative abundance of it with respect to the then current and expected future demands for its services. Alternatively, an extremely specialized good with no feasible alternative uses is highly illiquid, especially in times when there is a relative abundance of it with respect to the then current and expected future demands for its services.[7]

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[6] We speak here of fiat currency, not gold. The latter has alternative uses in jewelry, dentistry. Apart from use as wall paper, the former has none.

[7] Although this description might seem to fit money, in fact money is not highly specialized in the sense relevant here. Yes, money is specialized as a medium of exchange, but specialized here refers to a good's abilities to satisfy, directly or indirectly, an individuals' wants. Because money can be used to purchase virtually any good, it can be used to satisfy more wants than any other good. Therefore, in the relevant sense, money is not a highly specialized good.

3. A highly unstable demand for investment goods that is also very interest inelastic.

When businessman's confidence wanes, so does their demand for new capital goods. The decline in demand for new capital goods is experienced in those industries that produce them and the materials necessary to such production. Workers in these industries are laid-off. Moreover, not only do investors reduce their purchases of new capital goods, they also attempt to sell used ones. Alternatively, they may substitute share sales for this latter. This can occur either if, or because for various reasons, the decline in the value of the used goods is not registered appropriately in the stock market, or because they do not have the necessary authority to liquidate them, and those who do have it do not use it. Thus, in addition to decreased production of new capital goods and concomitant unemployment, the decrease in confidence is manifested by declines in the excess demands for existing shares of stocks; their supplies increase relative to the demands therefor, with concomitant reductions in share prices. Bond prices also fall. Investors anticipate a slowdown in the economy with decreased demand for borrowed funds and, therefore, lower interest rates. Consequently, they step up their purchases of bonds in an attempt to lock in the current rates, and in the process bid up prices and depress bond yields. One outcome of all this is a flight to «liquidity and quality.» In the age-old contest between fear and greed, fear reigns, at least temporarily. Investors turn next to short-term securities, especially those perceived as less risky; e.g., short- term Treasuries, and deposits; i.e., money. This is because money is both the most liquid of all goods and also the highest quality, in the sense of lack of default risk. That is, there is an «increase in the demand for money» or, more accurately, an increase in its hoarding.

4. Effects of a change in confidence on liquidity.

A decline in confidence makes society more liquid (in the economic sense) in that the *percentage* of total wealth held in liquid form is greater than before. This sounds impossible at the outset. Yes, everyone can *attempt* to become more liquid. But, surely, the entire economy cannot *succeed* in this goal, certainly not in the short term. This result thus comes about not by everyone suddenly producing more liquid goods, but by a reduction in the value of less-liquid preexisting goods as the marginal economic actor attempts to unload them.

If one merely looks at the stock of capital goods including human capital in terms of its capability of producing goods without reference to the value thereof, liquidity appears not to have changed at all. Assume as given the size of the stocks of durable consumer goods and durable capital goods again including human capital, relative to current production thereof. Posit that they have a relatively high degree of specialization in terms of the limited range of goods to the production of which they can be reallocated at a cost that does not exceed the benefit thereof. Then, the degree of «physical liquidity» is relatively low – one might venture to say very low. And it changes very slowly over time no matter how frequently and at what terms its ownership changes, save only in the cases of wars and natural catastrophes.

However, economic liquidity is another matter, as it is concerned with the *values* of the capital goods. Those can change, not only very rapidly, but also by huge amounts, whether gains or losses. And, it is values that are important for economics. That is, a society can greatly increase its economic liquidity in a very short period of time. Unfortunately, it can do so only by becoming poorer: by devaluing its illiquid assets relatively to its liquid assets. Note that the physical liquidity changes hardly at all, which essentially means that society's capacity to produce goods in terms both of the quantity and the mix thereof is unaltered. However, the value of those goods, and the goods that produce them decrease, although by varying amounts.

5. The increased hoarding (aka an increase in the demand for money) causes a shortage of money.

Concomitant with the increase in demand for money is a decrease in demand for goods. That is, there has been a shift in demand from those goods that are less liquid to those that are more so, especially toward the most liquid of all goods, money. Then:

A. There should be a period of adjustment in which prices adjust to the shortage of money/decrease-in-demand-for-goods by increasing the value of the money (relative to goods); i.e., a general deflation, to bring the prices of goods in line with reduced monetary demands therefor.
B. Even if prices are allowed to so adjust, it takes a considerable period of time as workers resist pay cuts thereby limiting them, the more so if they are unionized; in any case they resist for reasons of «equity.» Result: increased unemployment.
C. If wages are not allowed to adjust in a downward direction either because of union power or governmental interference in the market, then, price cuts are virtually ruled out. Result: Again, increased unemployment, but in this case more severe.

6. According to Say's Law, beyond a temporary adjustment period, the shift in demand should not have any effect on the level of resource usage, including labor, but only upon the allocation of resources, including labor, to the production of different goods, with resources shifted away from those goods the demand for which has fallen and to those goods the demand for which has increased.

III
PROBLEMS

The problem with the foregoing is not in the nature of the goods experiencing a fall in demand but, rather, in the nature of those experiencing a rise. And this is where the virtually totally neglected part of Keynes (1936, 229-234) having to do with the «essential properties» of money enters.[8]

[8] The only school of economics which these properties play a role is the Post Keynesian. On this, see the addendum.

Keynes' analysis goes something like this. In general, when demand shifts from one group of goods, A, to another group, B, the market will reallocate resources from production of A to B. That is, the classical model (Say's Law) will work despite perhaps minor adjustment «inconveniences.» However, if B happens to be money, then all bets are off. The classical model doesn't work. Say's Law becomes inoperable. In any case, the labor freed-up because of the reduced production of A is not required for the manufacture of B, or even of substitutes for it in its essential function as a medium of exchange.

In the view of Keynes (1936, 230-231):

> The first characteristic which tends toward the above conclusion is the fact that money has, both in the long and in the short period, a zero, or at any rate a very small, elasticity of production, so far as the power of private enterprise is concerned, as distinct from the monetary authority; - elasticity of production[8] meaning, in this context, the response of the quantity of labour applied to producing it to a rise in the quantity of labour a unit of it will command. Money, that is to say, cannot be readily produced; - labour cannot be turned on at will by entrepreneurs to produce money in increasing quantities as its price rises in terms of the wage-unit. In the case of an inconvertible managed currency this condition is strictly satisfied. But in the case of a gold-standard currency it is also approximately so, in the sense that the maximum proportional addition to the quantity of labour which can be thus employed is very small, except indeed in a country of which gold-mining is the major industry. [Footnote text omitted.]
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> …
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> The second *differentia* of money is that it has an elasticity of substitution equal, or nearly equal, to zero; which means that as the exchange value of money rises there is no tendency to substitute some other factor for it; - except, perhaps, to some trifling extent, where the money commodity is also used in manufacture or the arts. This follows from the peculiarity of

> money that its utility is solely derived from its exchange-value, so that the two rise and fall *pari passu,* with the result that as the exchange value of money rises there is no motive or tendency, as in the case of rent-factors, to substitute some other factor for it.
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> Thus, not only is it impossible to turn more labour on to producing money when its labour-price rises, but money is a bottomless sink for purchasing power, when the demand for it increases, since there is no value for it at which demand is diverted - as in the case of other rent-factors - so as to slop over into a demand for other things.

It says something about the clarity of Keynes' thought processes and the results thereof that he (Keynes, 1936, 229-230) refers to these very specific qualities as «special characteristics [of the kind of money to which we are accustomed]» and «peculiarities that commonly characterize money as we know it» in Chapter 17: The Essential Properties of Interest and Money, on pages listed in the index under «Money - its essential properties, 222-44, 293,» when only a few pages before (Keynes, 1936, 167, n.º 1) in Chapter 13: The General Theory of the Rate of Interest, he maintains that: «Without disturbance to this definition [of the rate of interest], we can draw the line between "money" and "debts" at whatever point is most convenient for handling a particular problem.»

In other words, according to Keynes, rises in the demand for money do not call forth additional labor to produce it. Moreover, this is true whether we are talking about paper money, bank money, or, even, a commodity money, save for one circumstance. That exception, and one not likely to be of import in the real world: only if the mining of the monetary commodity is a major industry of the relevant country, will there be much scope, if any at all, for additional employment opportunities.

Moreover, as the value of money increases there is no substitution of other goods to satisfy the wants for which it provided. If the price of beef goes up in consequence of increased demand therefor, people tend to substitute other goods; e.g., pork, for it. Therefore, even if there were no possibility of shifting labor to the production of beef, jobs would still open up in the hog industry. But, according to Keynes, this cannot happen with respect to money. It is impossible for other goods to substitute for it. The essence of money is that it is a generally accepted medium of exchange and means of final payment. No other goods serve these functions; had they, they would be money itself now, and before the onset of the liquidity problems. He does allow for this possibility under a gold standard, that there might be some shift of gold from non-monetary to monetary uses, but this would not entail the use of much labor.

Keynes' reasoning refering a commodity-money economy is fatally flawed. Suppose, again, that demand shifted from capital goods to liquid assets. In such an economy, even if it had no mineral deposits of the money commodity at all, there would still be no problem, apart from short-run adjustments. For resources, labor most specifically included would be shifted to the production of those goods offering the best opportunity for sale internationally. In other words, the commodity-money need not be produced domestically, it can be imported in *exchange* for other goods that can be produced domestically. Any country can take advantage of this possibility, it being of most importance to those that do not have a significant gold mining industry, or the potential for one. A country need but produce more of those goods in which it has a comparative advantage and export them. If they do so, then, Keynes very much to the contrary, they will not suffer the slings and arrows of the detriments attached to his «liquidity trap.» In fact, there will not be one.[9]

It turns out, then, that Say was correct, at least with respect to a commodity-money economy; to wit, if people's demands shift away from other things and to gold, then either the labor

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[9] Keynes (1936, 230-231) notes this opportunity: «…whereas if money could be grown like a crop or manufactured like a motor-car, depressions would be avoided or mitigated because, if the price [sic] of other assets was tending to fall in terms of money, more labour would be diverted into the production of money; - as we see to be the case in gold mining countries,» and then immediately disparages it, continuing. «though for the world as a whole the maximum diversion in this way is almost negligible.» Of course, for «the world as a whole» to be relevant, one would have to assume that the sudden, irrational, failure of nerve, that manifests itself as Keynes' fetish of liquidity, is truly massive – on an international scale.

unemployed by the shift will, after a short adjustment period, become employed either in the gold mining and processing industries, or in industries that produce for export. There would be no general glut of goods, rather a surplus of some and a shortage of others. This would be dealt with by the market process through price adjustments and consequent factor reallocations.

But what of the case of a fiat money economy? It turns out that Keynes' concept of the liquidity trap is a possibility in a world of inconvertible paper currencies and deposits backed by them. For it is precisely such monies that have the two characteristics discussed above. Therefore, a decrease in the demand for capital goods that manifested itself, inter alia, as an increase in the demand for fiat money would neither create employment to increase the supply in response thereto – it really does not take much labor to increase the quantity of such monies by any amount - nor would demand shift to other goods to be used as substitute monies for the fiat currencies. So there would be no creation of demand for labor on that account. A Keynesian type liquidity trap is then possible in a fiat currency economy. There can, then, be a general glut of goods in a fiat money economy. If demands shift away from other goods and to the fiat money causing unemployment, the supply of the currency can be increased without increasing the demand for labor. By virtually instantly and at almost zero expense (adding a few zeroes to the currency), the supply of currency can be increased to meet the demand, so that there is no shortage of money to offset the surplus of other goods.

We entertained these notions only arguendo. We now explicitly reject the key assumption that drives Keynes' analysis of this scenario. Keynes' reasoning is correct with respect to the effects a significant shift in demand from capital goods to liquid assets would have in a paper- and/or banknotes-money economy. The flaw, and it applies to commodity-money economy with the same strength, is his assumption about the initial cause of the problem: Keynes assumes that in a free market economy of profit seeking entrepreneurs/investors/businessmen investment demand is volatile because «the decision to invest is based, in large part, on the groundless expectations held by the business community, or on animal spirits, to use Keynes's own terminology» (Garrison, 1989, 15).[10]

However, the fact that an economy does not have commodity money logically implies that it is not entirely a free market economy (Rothbard, 2005; Block, 1999).[11] Should the government, or the government in conjunction with the banks, increase the supply of money, this could cause a false boom, crisis, and bust (Rothbard, 1963. Mises, 1998; Garrison, 2001). But in that case the cause and course of the bust would be very different from that theorized by Keynes. And, *a fortiori*, policy implications would be very different from those proposed by Keynes and his followers.

We have been employing the arguendo method in a second sense, all throughout this paper. Implicitly we have been assuming the Keynesian collapse of confidence scenario, unless new jobs can be found somewhere to offset those that a gold mining industry

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[10] To quote Keynes directly: ... it is probable that the actual average results of investments ... have disappointed the hopes that prompted them ... If human nature felt no need temptation to take a chance, no satisfaction (profit apart) in constructing a factory, a railway, a mine, or a farm, there might not be much investment as the result of cold calculation. (Keynes, 1936, 150)

> Even apart from the instability due to speculation, there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than mathematical expectations, whether moral or hedonistic or economic. Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as the result of animal spirits - a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities (Keynes, 1936, 161-162)

> ... human decisions affecting the future, whether personal or political or economic, cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist ... it is our innate urge to activity that makes the wheel go around ... (Keynes, 1936, 162)

[11] It cannot be denied that there are some «free banking» Austrian economists who think that fractional reserve banking could and would exist in a fully laissez faire system, and that it would not be fraudulent under the proper institutional arrangements. For example Selgin, 1988; Selgin and White, 1996; White, 1989. However, in our view this is mistaken. See on this Block and Garschina, 1995; Callahan, 2003; Cochran and Call, 1998; Hoppe, et. al. 1998; Hoppe, 1994; Hulsmann, 2002a, 2002b; Rothbard, 1962; Sechrest, 1988, 1993; Shah, 1997; de Soto, 1995, 2001, 2006.

would offer, then unemployment is the inevitable result. But to do so would be to ignore that lesson that Hazlitt (1979) offered us: employment can always take care of itself in the free market.[12] What we want as a society are not jobs, per se, but, rather, the goods and services created though labor. Keynes, in other words, looks at this matter wrong side out. And how does the marketplace create this «miracle» of no involuntary unemployment? Simple. Through adjustments in various wage rates, both with respect to other wage rates and especially with respect to prices. For even if given or specific wage-rates are in their proper relationship with other wage rates, if they are too high relative to prices, unemployment will ensue.[13] If they are «sticky» in a downward direction on a permanent basis, then we have left the realm of economic freedom. But then it is this lacuna, not anything unique about money, that is responsible for our economic plight.

IV
LERNER

Lerner (1952, 184) analyzes Keynes' essential properties of money as follows: «Section III [of Chapter 17 of GT] considers three reasons why *money* may be the culprit.» The culprit, in this context is «any asset (e.g., money) whose 'rate of interest' refuses to fall enough, [such that] we will find ourselves without the investment on which prosperity depends» (Lerner, 1952, 182, footnote omitted).

Lerner (1952, 184, reference omitted) continues:

> The marginal efficiency of money refuses to fall because:
> i) Its elasticity of production is negligible, i.e., it cannot be 'grown

[12] Free should be taken, here, to mean in every way, save for the use of a fiat currency.

[13] If wage rates are too low relative to prices, unemployment will also ensue. However, competition among employers in a free market economy will quickly eliminate such a situation as they would bid up wage rates in order to acquire more employees.

> like a crop or manufactured like a motor car.' … This has two consequences. In the first place there is no *direct* increase in investment when there is an increase in demand for money, and in the second place there are no increases in its stock to lower the marginal efficiency of holding it.
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> Money is not the only asset that is thus fixed in supply (apart from government action) …»

But, this is exactly the point we deal with in the text. Yes, if we are considering a fiat money economy, the elasticity of production of money is zero, and increases in demands for it will not call forth additional labor to produce more of it. Moreover, if such an economy is also characterized by interventionism such that wages, prices, and interest rates are not free to adjust to changes in supplies and demands, then significant unemployment, in terms both of the numbers of people unemployed and the lengths of their periods of unemployment can come into existence. Indeed, these interventions, *not* the zero elasticity of money production with regard to employment, are responsible for the joblessness. However, as we saw above, even with a fiat money; i.e., one with a zero elasticity of production, significant unemployment will not result without interventionism. Moreover, except in the case of a fiat money; i.e., in cases of commodity monies, the elasticity of production will *not* be zero. At least, it will not be zero if we allow for «indirect production.» Lerner, supra, says: «there is no *direct* increase in investment.» But, for employment and unemployment; i.e., to employers and employees, as a group, it is irrelevant if an increase in investment is direct or indirect.[14] Lerner, then is talking of a fiat money economy; «fixed in supply (apart from government action).» But, in a commodity money economy, the elasticity of production is *not* zero. This holds directly, if there is a significant gold industry,

[14] This, of course, is not to deny the existence, importantly, of distribution effects; i.e., who benefits more relatively, form a direct v. an indirect increase in investment. But, in terms of the economy as a whole, it is irrelevant.

or indirectly, through production of goods for export in exchange for gold.[15]

Unemployment for Lerner, and according to him, Keynes, then, results from a liquidity trap. But liquidity traps are in turn dependent upon money fiat money.

One might ask why Lerner is included in this article. The reason is, he seems to be the first major economist to focus on Keynes' view on the essential properties of money. It is the position of the present authors that although not a Post Keynesian himself, Lerner was interested in, though critical of, some of the same ideas of Keynes that are central to the Post Keynesians.

V
DAVIDSON

More directly on point is Paul Davidson, undoubtedly the leader of the Post Keynesian movement in the U.S., if not globally.

> In a recent article Davidson (1998, 824, emphasis added, reference omitted) states:
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> Keynes … recognized the *need* to 'throw over' these classical axioms. The resulting unemployment model [of Keynes in the GT] has four *fundamental* attributes that are missing from classical models but are relevant to money-using, market oriented economies:
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> The fourth *fundamental* attribute (Davidson, 1998, 827-828) is:
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> 4. *Money provides liquidity because it possesses two essential elasticity properties* (Keynes, 1936a [The GT], ch. 17, see especially p. 241,

[15] It would be entirely possible to have significant unemployment in a commodity money economy if it had no gold industry and if there were intervention in export markets such that because of tariffs, etc., they were prevented from exporting, or using their export earnings to import gold. Indeed, this would be by far the most likely outcome.

> n.º 1). First, its elasticity of production is (approximately) zero, i.e., *money does not grow on trees.* Readily producible goods (i.e., things with high elasticities of production), therefore can never fill the liquidity role played by money.»

For Keynes (1936, 230, footnote omitted), «elasticity of production mean[s] in this context, the response of the quantity of labour applied to producing it to a rise in the quantity of labour which a unit of it will command.»

We include, here, the footnote of Keynes' that Davidson especially wants us to consider; to wit:

> «The attribute of liquidity» is by no means independent of the presence of these two characteristics. For it is unlikely that an asset, of which the supply can be easily increased or the desire for which can be easily diverted by a change in relative price, will possess the attribute of «liquidity» in the minds of owners of wealth. Money itself rapidly loses the attribute of «liquidity» if its future supply is expected to undergo sharp changes.

Before going any further, it is interesting to note that these fundamental attributes and the central role they play in Keynes' system are found in chapter 17 of the GT, about which Hansen, perhaps the leading American Keynesian (but by no means a Post Keynesian) of his generation, had this to say (Hansen, 1953, 159): «Immediately after the appearance of the *General Theory* there was a certain fascination about Chap. 17, due party no doubt, to its obscurity. Digging in this area, however, soon ceased after it was found that the chapter contained no gold mines.»[16] Immediately thereafter, he damns it with faint praise: «Still the discussion (though it certainly could be improved) is not altogether without merit, and some interesting bits can be extracted from it; *yet, in general, not much would have been lost had it never been written.*» So says Hansen, about the chapter in which Keynes explicates his two essential properties of money, which, taken together, Davidson

[16] This is a particularly inelegant metaphor, given the attitudes of Keynesians of all stripes and varieties, toward the yellow metal.

maintains are one of the four fundamental attributes «missing from classical models but [which] are relevant to money-using, market-oriented economies.»

Davidson (1998, 827-828) then goes on to discuss Keynes' second essential property of money. This, along with the first, constitutes the fourth fundamental attribute:

> Second the elasticity of substitution between all liquid assets (including money) and the *products of industry* is (approximately) zero. The private sector will not reallocate labor from producing goods to harvesting money from the money tree if people decide to spend less of their income on the products of industry and plan to use the resulting saving to become more liquid; i.e.; by storing the saving in the form of money or other liquid assets and thereby raise the price of nonproducibles [sic] liquid assets relative to producibles. Hahn (1977, p.39) implicitly utilises these elasticity properties when he demonstrates that the existence of any 'nonreproducible asset [i.e., a durable that has a zero elasticity of production] allows for a choice between employment inducing and non-employment inducing demand. But, of course in a monetary economy money is an important nonreproducible asset'. The only necessary condition for the existence of involuntary unemployment equilibrium is that there are 'resting places for saving [in] other than reproducible assets' (Hahn, 1977, p. 31), i.e., producibles are not substitutes for money (or liquid assets) for storing value (saving) and therefore the gross substitution axiom is not applicable.

Where to begin? There is enough error in the preceding page and one-half almost to-warrant an entire monograph. Consider, first the issue of the elasticity of production. Davidson says money's elasticity of production is zero or «*approximately*» so [our emphasis]. In Keynes' (1936, 230) view money has a «zero, or at any rate a very small, elasticity of production.» Moreover, Keynes (136, 241) states that: «For it is unlikely that an asset of which the supply can *easily* be increased or the desire for which can be *easily* diverted by a change in relative price [sic] will possess the attribute of 'liquidity'…» But liquidity is an essential quality of money for Keynes. And, Davidson quotes Hahn: «But in a monetary economy money is an important nonreproducible asset,» and then in an aside tells us that a nonreproducible asset «has a zero elasticity of production.» It would appear that all of this is an attempt to have your cake and eat it, too.

They maintain that assets are either nonreproducible; i.e., have a: zero [Davidson], or «*approximately*» zero elasticity [Davidson], or «*very small*» [Keynes] elasticity of production, or for which resources cannot be «*easily*» diverted; i.e., a very small [Keynes, again] elasticity of production, or else, by implication it is very large. That is, the implication is that assets are either nonreproducible with a zero elasticity of substitution or they are reproducible with a very high elasticity of production; they seem to rule out the possibility of reproducible assets having an elasticity of production that is neither very small nor very large, but rather of in an intermediate range. However, goods with high elasticities will not do for money for Keynes (1936, 241, n.º 1): «For, it is unlikely that an asset, of which the supply can be easily increased or the desire for which can be easily diverted by a change in relative price, will possess the attribute of 'liquidity.'» But liquidity is an essential quality of money.

So there you have it: either an asset is «nonreproducible» or nearly so, in which case it can serve as money; or it is readily or easily reproducible, in which case it cannot. And what of a commodity like gold, that is reproducible but not readily or easily? Could it serve as money? Well, according to Keynes, «Yes, but…» Its elasticity of production is so low, save in a country of which it is an important industry, that it is very similar to fiat money in that it cannot be much counted upon to increase the need for employment. If, then, the difference between gold and fiat money is truly negligible (apart from gold producing countries such as Russia and South Africa), then why rely on the barbarous metal for money? Instead, it seems more sensible to use paper and conserve the gold for important uses such as jewelry, etc.

The idea of the zero elasticity of production is to focus our attention on fiat money. The last thing Keynesians of any sect want to be money, or a monetary standard, is gold[17] (that barbarous relic). No, they want the media of exchange to be under the policy control of government - they are, essentially, socialists. But the elasticity of production of gold money is neither zero (nor even approximately so) like fiat money nor is it very high. Rather, it occupies an intermediate range, one that Keynes and Davidson want to ignore into nonexistence. That is, if the elasticity of production of gold, (directly, or indirectly via production for export markets) is neither so low as to be a sinkhole for liquidity demand nor so high as to make it unsuitable for liquidity purposes, then gold is a viable alternative to fiat money; in fact, because fiat money *is* a sinkhole for liquidity demand, and gold money is not, the latter is the money par excellence.

But there is more to the story. Davidson engages in a non sequitur when he states that: «the elasticity of production of money is (approximately) zero, i.e., *money does not grow on trees*.» But, this is exactly backward, or at least it is if the phrase «money does not grow on trees» has its usual meaning. The ordinary language connotation is that if «money grows on trees,» it is free; i.e., it is not costly to acquire (in this context, produce) money; if in contrast it «does *not* grow on trees,» then it is costly to acquire (produce). But, for money to have a zero elasticity of production, «money must grow on trees;» i.e., it must be able to be produced costlessly; i.e., without employing labor. Davidson's misuse of a metaphor confuses the issue.

And then there is Hahn's: «producibles are not substitutes for money.» This runs counter to correct theory; i.e., a good which is producible can be used as money, but will not be if it is so

[17] This is more than passing curious, given that Post Keynesians are hard and fast advocates of fixed exchange rates (Davidson, 1998, 818-821), and the gold standard is the ultimate in fixed exchange rates. In fact, with a true gold money, in contradistinction to a gold standard, exchange rates do not even exist, and, therefore, the issue of fixed exchange rates is moot. Moreover, because gold money eliminates exchange rates, it eliminates any and all uncertainty that arises when they exist. And because it is precisely for the reason that they wish to eliminate uncertainty arising from exchange rate fluctuations that Post Keynesians advocate fixed exchange rates, one would expect that gold would be the ne plus ultra money for them.

easily producible as to not have much value per unit of weight and/or bulk; i.e., if it is not easily portable.[18] Then there is Hahn's statement: «the only necessary condition for the existence of involuntary unemployment equilibrium is that there are 'resting places for saving [in] other than reproducible assets.» But this too is incorrect. Old Masters, rare stamps, etc., as well as paper money and bank deposits are *potential* «resting places for saving;» however, in an economy that also has gold money, their mere existence is not sufficient for the existence of involuntary unemployment; rather, what is required is interventionism, such that wages, prices, and interest rates are not free to adjust to changes in freely offered demands and supplies of goods, including money.

Thus, we see that the Post Keynesians, the only group to take Keynes at his word, both that money is important and what are the essential properties thereof, get it wrong. For that matter, this assessment applies to Keynes, himself.

It also behooves us not to fall into the trap of thinking that if gold were but available in most or all countries (and we could ignore the beneficial effects of international trade which obviate this need in the first place), then its advantage would be that it would create jobs when the demand for money increased. As long as government does not place any obstacles to a fall in prices and wages, additional jobs are by no means needed in gold, or, indeed, in any other single industry. Very much to the contrary, Say (1880) was entirely in the right and Keynes (1936) completely in the wrong. Whenever there is unemployment in an industry, wages fall relatively to those in others. And when they do, ceteris paribus, more employment slots open up. If there is still joblessness at any given time, this indicates, only, that wages have not decreased sufficiently. And this phenomenon is totally divorced from the type of money (gold, fiat, whatever) in circulation at the time.

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[18] And then there is the exception, even to this, of the stone money of Yap. Of course, this is irrelevant to our discussion.

VI
KEYNES ON MONEY?

The very concept, «Keynes' money,» sounds awkward to the modern (economic) ear. After all, it was followers of Keynes who denigrated the public policy implications of money («pushing on a string»)[19] while it was the erstwhile *opponents* of Keynes, the members of the Chicago School, who insisted that «money matters.»[20] There are several fallacies and infelicities locked up in these claims; that is, the majority of the economics profession has a tin ear in this regard.

First of all, the word «money» appears in the very title of Keynes (1936). Moreover, several of the chapter headings in this book feature the «m» word. Say what you will about Keynes, and his critics (Hazlitt, 1959, 1960) have had much to say on this score, no one has accused him, let alone made it stick, that he would so grievously and almost fraudulently choose such a misleading title for his work. No, Keynes was interested in money, and thought it important.[21]

Secondly, the Chicago School is by no means an opponent of Keynesianism. Very much to the contrary, at least if one of its leaders, Milton Friedman can be believed, who stated «we are all Keynesians now.» Money may indeed «matter» for them, but that cannot gainsay this claim.[22]

It cannot be denied that there is a *difference* between the «monetarist» and non monetarist wings of the Keynesian movement in terms of the importance of money. For the Chicago school Keynesians, «money matters» means that monetary policy is the favored tool of interventionist choice.[23] Money matters, also, for the non Chicago New Keynesians; however, rather than the

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[19] Hoey, 2001; North, 2001, 2004; Piger, 2003.

[20] Bordo and Schwartz, 2003; Friedman and Schwartz, 1963; Kudlow, 2002; Salerno, 2004.

[21] If evidence of this contention other than Keynes' 1936 work is required, his publications of 1913, 1923, 1930a, 1930b will suffice.

[22] See on this Block (1999, fn. 16), Gillis (2003), Samuelson (1967, 210, 1970, 193), Skousen (2001).

[23] For a critique of interventionism, of whatever stripe or variety, see Ikeda, 1997; Lavoie, 1982; Mises, 1969; Rothbard, 1970; 1982.

passive, (quantity) rule based policies of the Monetarists, they favor discretionary monetary policies. The Post Keynesians, are also concerned about money, but in a different, or negative way. Production of additional amounts of it cannot be relied upon to solve unemployment in the face of weakened «animal spirits» on the part of entrepreneurs.

Thus, it is a bit over the top for the monetarist Keynesians to claim that the non Chicago Keynesians have no interest in monetary theory, or think money unimportant. For example, it is a staple of their writings that Friedman has «reminded Keynesians that 'money matters.'»[24] While we of course hold no brief for either wing of the Keynesian movement, we must protest.

VII
CONCLUSION

The problem of Keynes' we discuss in this paper regards hoarding. If entrepreneurs increase their demand to hold money (reduce their rate of investment) to a greater degree than Keynes thinks warranted, he maintains this will lead to unemployment. If people decrease their purchases of an «ordinary» good, and shift their demand to some other similar item, employment losses in the first case will be offset by gains in the second. However, there is one exception for Keynes. When the shift is toward money, it does not enhance employment. Extra zeroes can be added to the currency with very little effort, and analogous steps may be taken in an electronic age, again without requiring any more than trivial extra labor services. Keynes makes an exception for gold mining countries, but rules out the possibility of international trade into his analysis.[25] When this option is taken into account, we realize that a country entirely without a gold mining industry can still increase its employment merely by trading for gold with its own domestic products.

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[24] See http://cepa.newschool.edu/het/profiles/friedman.htm; http://www.cooperativeindividualism.org/friedmanbio.html; http://www.webenetics.com/hungary/nobel.htm. Search for «reminding Keynesians.»

[25] On this point, see footnote 10, supra.

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