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Liquidity Preference Theory Revisited—To Ditch or to Build on It?

by

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This paper revisits Keynes's liquidity preference theory as it evolved from the *Treatise on Money* to *The General Theory* and after, with a view of assessing the theory's ongoing relevance and applicability to issues of both monetary theory and policy. Contrary to the neoclassical "special case" interpretation, Keynes considered his liquidity preference theory of interest as a replacement for flawed saving or loanable funds theories of interest emphasizing the real forces of productivity and thrift. His point was that it is money, not saving, which is the necessary prerequisite for economic activity in monetary production economies. Accordingly, turning neoclassical wisdom on its head, it is the terms of finance as determined within the financial system that "rule the roost" to which the real economy must adapt itself. The key practical matter is how deliberate monetary control can be applied to attain acceptable real performance. In this regard, it is argued that Keynes's analysis offers insights into practical issues, such as policy credibility and expectations management, that reach well beyond both heterodox endogenous money approaches and modern Wicksellian orthodoxy, which remains trapped in the illusion of money neutrality.

Keywords: liquidity preference theory, interest rate determination, loanable funds fallacy, bank behavior, monetary policy, credibility, liquidity traps, money neutrality.

JEL Classifications: B22, B31, B41, E12, E43, E52.

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The theory of liquidity preference is probably the single most controversial of the core constituents of *The General Theory*. Keynes presents liquidity preference theory there as a "liquidity [preference] theory of interest," a theory that is supposed to fill the vacuum left by what he regarded as the flawed "classical [savings] theory of interest." In the early post-*General Theory* literature, the notion of liquidity preference quickly became a synonym for the demand for money. Together with a constant stock of money liquidity preference was the factor that determined the rate of interest in the money market of Hicks's (1937) seminal IS-LM model. The novelty of Keynes's contribution was widely seen in the speculative motive for the demand of money only. And his revolutionary claim regarding the flawed classical theory of interest that needed replacement seemed ill-founded when Hicks (1939) declared that liquidity preference and classical (loanable funds) theories were "equivalent."

Within the broader context of developments in post-war monetary and macroeconomic thought, this was but one element in weaving (or, "synthesizing") Keynes's supposedly "general" theory into the essentially unshattered neoclassical mainstream by relegating the relevance of his insights to special circumstances that could potentially arise in the short run if money wages were sticky (Modigliani 1944). Correspondingly, in policy matters, monetary policy was stylized as a short-run tool that could help stabilizing the economy by controlling the supply of money with the money neutrality postulate firmly upheld as far as the long run is concerned.

The monetarist counterrevolution did not deny the effectiveness of monetary policy. In fact, in the monetarist vision money's role is not just one of determining long-run price trends. Rather, Milton Friedman's (1960, 1968) recommendation to take deliberate monetary policy out of the hands of central bankers and install a monetary autopilot regime instead followed directly from his reading of the vast real damages caused by the Federal Reserve; whilst failing to keep prices stable too.

As regards liquidity preference, Friedman thought that Keynes's liquidity trap concerns were of little practical relevance. Especially with a steady growth in the money stock, the money demand function would be sufficiently stable to allow self-adjusting market forces staying on target. According to his vision there should be no interest-rate manipulations by central bankers—no interest rate policies—as the markets, merely anchored by steady base growth but not otherwise under any policy guidance, would grind out whatever productivity and thrift may require at any time.

Nicolas Kaldor's (1982) defense against the monetarist avalanche was as much a rejection of the view that while the money stock could be effectively controlled macro

policies could not be applied to deliberately stabilize the economy, as it was a critique of Keynes's liquidity preference theory which had inspired Friedman's monetary thought. Kaldor argued that the monetary authorities controlled the short-term rate of interest but had no control over "the" money stock, and that Keynes was wrong in *The General Theory* to give such an impression and make liquidity preference theory a building block in his attack on the classics (Kaldor 1983). Kaldor's critique of the new monetary orthodoxy has found many followers among Post-Keynesians, many of whom today regard liquidity preference theory as a cul de sac and obstacle to an alternative monetary theory.

This is a regrettable misapprehension of liquidity preference theory, as this paper sets out to show. I will argue that liquidity preference theory provides a suitable analytical framework for investigating the role of monetary policy and the financial system, offering insights that are of great relevance today, both in theory and practice. Revisiting Keynes's original liquidity preference theory will prepare the ground for a modern interpretation as well as some applications of it.

FILLING THE GAP—THE LIQUIDITY [PREFERENCE] THEORY OF INTEREST

It is crucial to remember that Keynes diagnosed the theory of interest as the fatal flaw in the (neo-)classical orthodoxy he was attacking. In *The General Theory*, he emphasized that decisions to spend or not to spend must not be confused with the separate and subsequent ~~- in~~ a sense ~~- d~~ecision to either hold wealth in the form of money or some other asset. Not denying that the rate of interest affects decisions to invest and consume, his point was that the classics got it wrong in allocating the determination of the rate of interest at the level of *spending/saving decisions*. As Luigi Pasinetti put it, the rate of interest ~~- w~~hile being one determinant of effective demand ~~- i~~s "determined *exogenously* with respect to the income generation process" (Pasinetti 1974, p. 47).

The proper place of the theory of interest was at the level of *portfolio decisions*, Keynes argued. To him it seemed a purely logical step to require that at any time interest rates must be such that the general public's desire to hold money ("liquidity *par excellence*") rather than other financial instruments ceases at the margin given the amount of liquidity the banking system decides to provide:

> "[T]he rate of interest at any time, being the reward for parting with liquidity, is a measure of the unwillingness of those who possess money to part with their liquid

> control over it. .. It is the 'price' which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash" (JMK 7: 167).[1]

Keynes argued that he was simply stating the monetary principle from which to start in order to fill the gap left by the flawed classical theory of interest:

> "To speak of the 'liquidity-preference theory' of the rate of interest is, indeed to dignify it too much. ... I am simply stating what it is, the significant theories on the subject being subsequent. And in stating what it is, I follow the books on arithmetic and accept the accuracy of what is taught in preparatory schools" (*JMK* 14: 215).

The "finance motive debate" shed some important light on the matter. In reply to his loanable funds critics, Keynes acknowledged that in *The General Theory* he had not considered that "an accumulation of unexecuted or incompletely executed investment decisions may occasion for the time being an extra special demand for cash" (*JMK*. 14: 208). As a solution to the problem of providing the *extra finance*, therefore, what is needed, according to Keynes, is a "technique to bridge this gap between the time when the *decision* to invest is taken and the time when the correlative investment and saving actually occur" (*ibid*., p. 208).

The crucial point to note here is that the finance motive is a motive for the demand for money and that the need to secure "finance" for any investment decision planned to be carried out *precedes* the actual investment and saving flows his loanable funds critics were preoccupied with. Keynes's following remark neatly depicts his critics' confusion between saving and money or the "loanable funds fallacy":[2]

> "Increased investment will always be accompanied by increased saving, but it can never be preceded by it. Dishoarding and credit expansion provides not an *alternative* to increased saving, but a necessary preparation for it. It is the parent, not the twin, of increased saving" (*JMK* 14: 281).

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[1] Significant confusion exists in the literature as to the meaning of cash and money in Keynes's theory. Being an active financial market player himself, Keynes used the term "cash" not as referring to notes and coins, but in the markets' sense as ready liquidity at hand. More generally, he explained that it "is often convenient in practice to include in *money* time-deposits with banks and, occasionally, even such instruments as (e.g.) treasury bills. As a rule; I shall, as in my *Treatise on Money*, assume that money is co-extensive with bank deposits" (*JMK* 7: 167 n1). All references to the *Collected Writings of John Maynard Keynes* will hereafter be referred to by "JMK" followed by the volume and page numbers.

[2] Keynes's following observations focus on the key point: "The investment market can become congested through shortage of cash. It can never become congested through shortage of saving. This is the most fundamental of my conclusions within this field" (*JMK* 14: 222). "It is Mr. Robertson's incorrigible confusion between the revolving fund of money in circulation and the flow of new saving which causes all his difficulties" (*JMK* 14: 232-3); "We have been all of us brought up ... in deep confusion of mind between the demand and supply of money and the demand and supply of savings; and until we rid ourselves of it, we cannot think correctly" (*JMK* 14: 285). On the loanable funds controversy and finance motive debate see: Bibow 1995, 2000a, 2001, Davidson 1965, Foley 1975, Johnson 1951-2, Kahn 1954, Kregel 1986, Leijonhufvud 1968, Terzi 1986a,b, Trevithick 1994, Tsiang 1956, Wray 1992, in particular.

Accordingly, the vision of capitalism underlying *The General Theory* is one of finance rather than saving as the precondition for entrepreneurial investment activity. While this was equally true for his earlier *Treatise on Money* as well, it was probably due to the primary focus in the later work on the forces that "determined the level of output and employment at any time," that the monetary implications (or, requirements) of continuing *growth* in aggregate spending and economic activity were not fully spelt out. In the finance motive debate, Keynes then referred to this crucial point as the "coping-stone" of the liquidity preference theory of interest, which would buttress his proposed theory against the savings theory of interest:

> "It follows that, if the liquidity preferences of the public (as distinct from the entrepreneurial investors) and of the banks are unchanged, an excess in the finance required by current *ex ante* output (it is not necessary to write 'investment,' since the same is true of *any* output which has to be planned ahead) over the finance released by current *ex post* output will lead to a rise in the rate of interest; and a decrease will lead to a fall. I should not have previously overlooked this point, since it is the coping-stone of the liquidity theory of the rate of interest" (*JMK* 14: 220).

Whereas the finance motive debate focused on the rise-in-investment case, an earlier debate on the same matter that followed the publication of the *Treatise on Money* had focused on the case of a rise in thrift. In that earlier "buckets-in-the-well" controversy Keynes had already proved his critics wrong on their idea that a rise in thrift would *directly and immediately* depress interest rates. Turning back to the earlier version of liquidity preference theory has at least two advantages. First, the *Treatise* apparatus was designed to investigate disequilibrium processes as characterizing business cycles—and the loanable funds issue concerns the disequilibrium adjustment process of the market rate of interest in response to changes in productivity and thrift. Second, Keynes analysed the role of the banking system as provider of liquidity in far more detail than in his later book—when the whole question of monetary policy control and endogenous money hinges on bank behavior.

THE LOANABLE FUNDS FALLACY

On the first, the loanable funds question, Keynes's *Treatise* analysis pinpoints that an unforeseen rise in thrift implies a corresponding revenue shortfall on the part of the firms confronted with the rise in thrift, i.e. drop in sales. No matter whether they accumulate unplanned inventories or cut price, firms' cash-flow falls short of expectations, and exactly by the amount of the rise in thrift. Essentially, then, saving does not lead to a rise in wealth, but a redistribution in wealth. Keynes' analysis makes it clear that loanable funds theorists are

mistaken in focusing on one side of the transaction only, namely, the savers who may either hoard (hold deposits) or supply their saving in the loanable funds market. As this overlooks that by logical necessity distressed firms, too, will be in the loanable funds market to somehow cover their cash-flow shortfall experienced in the current period in which households unexpectedly saved more. Interest rates may change in either direction owing to this change-in-distribution effect, as portfolio preferences of the parties concerned do not need to match. Interest rates may actually rise though falsifying loanable funds theory!

Of course the drop in sales may well induce further adjustments in business and consumer behavior and thus influence developments in subsequent periods. For instance, firms may conclude that the rise in thrift and drop in sales was not just a one-off event but might perhaps herald worse to come, and cut production accordingly. A deflationary cumulative process may thus be set in motion. But at which point would it end? The "banana plantation parable" of the *Treatise*, in particular, shows that Keynes had not fully grasped at that time that a cumulative process of falling production, incomes, and spending that might arise from such a thrift campaign could end before the complete collapse of production and incomes. In other words, he had not yet comprehended what he later dubbed the "fundamental psychological law" that "men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income" (JMK 7: 96); which, as a practical rule, prevented the economic system from being wildly unstable and, intellectually, was a key insight in Keynes's development towards the theory of effective demand.

A related issue is that much in contrast to the prominent role of mistaken expectations in the *Treatise*, short-term expectations of producers are generally assumed to be correct in *The General Theory*. In conjunction with the principle of effective demand correct short-term expectations imply that producers can avoid the revenue shortfall associated with a *foreseen* drop in sales by a timely scale-back in production. This time round, then, it is savers' aspirations that get disappointed by being correctly anticipated: 'Saving will not even materialize; it will be frustrated if, quite independently, a corresponding demand to invest is not being exerted' (Pasinetti 1997, p. 202). Neither is any correctly anticipated drop in sales of consumption goods likely to stimulate investment; quite the opposite. Nor is any supposed increase in the supply of loanable funds going to depress interest rates so as to stimulate investment in this way, as loanable funds proponents would

have it. For the "savers" have nothing to show for their "planned savings" that got frustrated by being anticipated.[3]

Whether unanticipated, as in the *Treatise on Money*, or correctly anticipated, as in *The General Theory*, outside the classical corn economy it is simply fallacious to consider saving as a source of funds that could finance investment. Instead, in monetary production economies it is money, either existing hoards of it or as newly produced by banks (through their purchases of assets), which allows production of real things to go ahead. As Keynes put it: "Dishoarding and credit expansion provides not an *alternative* to increased saving, but a necessary preparation for it. It is the parent, not the twin, of increased saving."

THE KEYNES MECHANISM

There is one other way in which interest rates can be affected by a rise in thrift though, even if *indirectly* only, and still move in the right direction. In the context of the finance motive debate Keynes expressed the point as follows:

> "If there is no change in the liquidity position, the public can save *ex ante* and *ex post* and *ex* anything else until they are blue in the face, without alleviating the problem [i.e. the demand for *money*, not *saving*] in the least—*unless, indeed, the result of their efforts is to lower the scale of activity to what it was before"* (*JMK* 14: 222; emphasis added).

At issue here is the "Keynes mechanism," which may be triggered not by any rise in thrift as such, but by the resulting falling off in the scale of economic activity. For it depends on the (planned) scale of economic activity what degree of pressure gets exerted on the "pool of liquidity" provided by the banking system at any time.

The Keynes mechanism featured prominently in both the *Treatise on Money* and *The General Theory*; although it is perhaps better known as the "Keynes effect" (Cottrell 1994). Unfortunately, the crucial role of bank behavior in its working is generally overlooked; but of paramount importance to the endogenous money view.

In practice, the *Treatise* perspective on mistaken sales forecasts and unplanned inventory adjustments may be highly relevant. On the financial side, the corresponding adjustments are likely to feature bank loans as working capital finance. From a purely theoretical viewpoint, however, Keynes chose to abstract from any "haggling of the market" in *The General Theory* and focused on the equilibrium position as determined by the principle

[3] I may be excused here in using, for once, loanable funds terminology to illustrate the shallowness of the "planned savings" idea. Of course, Keynes did not deny that saving plans could affect portfolio decisions and hence the demand for demand today. At issue is the confusion between saving and money.

of effective demand. In this case, producers can avoid the initial run-up in inventories and recourse to working capital loans which often characterizes the onset of a slump, but may reduce their demand for working capital loans in line with falling sales right away.

Endogenous money theorists rightly stress that *loans make deposits*. According to this view, though, money moves in parallel with economic activity. If, in a recession, firms manage to adjust their indebtedness to banks roughly in line with their shrinking business, the size of the banks' balance sheets would tend to shrink *pari passu*. At least, this would occur if banks did nothing else but *passively* accommodated firms' varying working capital requirements. Money would then be *endogenous*, purely credit demand-driven.

Notice that this vision of banking describes bank behavior as purely passive. The extreme "horizontalist" position has it that banks, on the basis of pre-arranged credit lines, perfectly elastically meet any changes in credit demand. This possibility cannot be ruled out *a priori*. But how probable is this kind of business conduct? Clearly, one alternative course of action would be for banks to start to panic and claw back on their business, by enforcing tighter credit requirements and selling assets in particular. More generally, however, if banks are not overwhelmed by fears and uncertainties themselves, another course of action for them is to try to compensate for the falling off in loan demand by expanding their business in other directions. For instance, faced with weak loan demand banks might buy financial instruments such as bonds instead, especially if they expect rising bond prices; which, in turn, is not unlikely if they anticipate a monetary policy reaction to the incipient recession.

This pinpoints a key contrast between the endogenous money view and Keynes's "constant-money-stock-assumption" (CMSA) of *The General Theory*. Clearly, for the stock of money to remain constant when the demand for working capital loans is falling off, for instance, banks must expand their business activities in other directions. In particular, they may decide to buy more bonds, thereby driving down bond yields. *The CMSA presupposes bank behavior of this sort, whether policy-controlled interest rates are adjusted or not (yet).* Textbook representations à la IS-LM feature a substitution between money held to satisfy the transactions motive (as a function of income) and money held to satisfy the speculative motive (as a function of the rate of interest). Since banks issue their liabilities by buying assets ignoring the substitution taking place on the asset side of banks' balance sheet tells at best only part of the story. It may actually miss out the true underlying driving force – featuring active bank behavior.

Analytically speaking, the Keynes mechanism is driven by the banks' profit motive; it presupposes both agile behavior on the part of banks and unchanged liquidity preference of

the general public. In essence, the Keynes mechanism describes an *indirect* interest rate channel featuring a liquidizing effect caused by a tendency on the part of banks to try to prevent a falling-off in profits due to slack business in any one particular direction by expanding their activities in alternative ones instead and *vice versa*. This should at least tend to lessen the deflationary effects of increased thriftiness. The tendency of interest rates to fall would not be due to any increased supply of saving offered on the loanable funds market though, but to an increased supply of liquidity relative to the scale of economic activity.

Of course, the logic behind the Keynes mechanism applies equally to the rise-in-thrift case analyzed here both in *Treatise* (disequilibrium) and *General Theory* (equilibrium) terms, as well as to the rise-in-investment case featuring in the finance motive debate. A rise in investment (or, in fact, any increase in the level of economic activity) may affect interest rates *indirectly*, *if* the banking system does not duly enlarge the pool of liquidity. Clearly this outcome would have nothing to do with a shortage of saving. Rather, it shows that purely *monetary* factors condition the equilibrium level of *real* activity. Keynes thus stressed that: "in general, the banking system holds the key position in the transition from a lower to a higher scale of activity" (JMK 14: 222).

While defining the rate of interest in *The General Theory* as the price which equilibrates the desire to hold wealth in the form of money with the available liquidity and focusing the analysis on the motives behind the "unwillingness of those who possess money to part with their liquid control over it" (JMK 7: 167), the finance motive debate led up to the following more symmetric statement:

> "one could regard the rate of interest as being determined by the interplay of the terms on which the public desires to become more or less liquid and those on which the banking system is ready to become more or less unliquid. This is, I think, an illuminating way of expressing the liquidity preference theory of the rate of interest; but particularly so within the field of 'finance'" (*JMK* 14: 219).

The crucial role of the banking system was thus moved back into the limelight. In fact, the finance motive brings to the forefront the importance of the behavior of the banking system and shows that liquidity preference theory is also a theory of financial intermediation. Yet, at any moment in time a certain pool of liquidity is provided by the banking system and, when taken in conjunction with the demand for liquidity by nonbanks, liquidity preference theory collapses into a theory of the rate of interest, as one of the determinants of the level of economic activity at that time.

Notice however that essentially the theory only spells out the equilibrium condition for interest rates and asset prices, namely that they must be such that all existing assets are

willingly held at current prices; including the banking system, which must be "satisfied"[4] with its balance sheet position at those rates. The theory does not explain any particular equilibrium level of interest rates and asset prices though. It neither explains why the general public's liquidity preference (or, propensity to hoard) is what it is at any time, nor why the banking system provides a certain amount of liquidity at any time, and neither more nor less.

Presumably, this is what Hicks's (1939) "bootstrap" critique referred to. What this critique overlooks is that Keynes's analysis in the *Treatise on Money* and *The General Theory* undermined productivity and thrift as the supposed real anchors of the rate of interest in neoclassical and loanable fund theories. For Keynes's analysis denied the working of the "loanable funds mechanism," while featuring the "Keynes mechanism" as one driving force behind interest rate *changes* instead. The rate of interest was thus decoupled from the real sphere, which the classics believed would uniquely determine its equilibrium level. Turning the classics' vision upside down, Keynes's analysis showed that it is the real sphere that has to accommodate itself to whatever rate of interest the financial system might come up with. This is not some unique equilibrium level of interest allowing the system to automatically adjust to its unique long-run full employment equilibrium, just *any* level of interest and asset prices which happen to satisfy views and conventions held in financial markets at any time.[5]

KEYNES'S VISION OF MONETARY POLICY AND FINANCIAL MARKETS

The neoclassical mainstream had a hard time accepting the liquidity preference part of Keynes's claimed revolution in economics—and thus the essence of the Keynesian revolution. Letting go of those real forces of productivity and thrift as unique anchors of the general equilibrium system of equations proved too hard a nut to crack for a profession under the spell of the "veil of money" doctrine. To them liquidity preference theory seemed to, at best, add some interesting practical considerations to the otherwise unscratched structures of their real analytical building.

Therefore, Keynes was at pains to point out that the primary role of liquidity preference theory was to fill the gap left by the *flawed* classical theory of interest, referring to his innovation as a piece of pure logic. In truth, however, liquidity preference theory is a lot more than that. It was Keynes the brilliant mind and theorist (pace Frank Hahn) who

[4] This includes the possibility that banks may be stuck with frozen assets and an impaired capital base but can't do any better in current market conditions.

[5] On the crucial role of liquidity preference theory within Keynes's monetary theory of production see: Bibow 1998, Chick 1983, Dow 1997, Kahn 1984, Kregel 1988, Minsky 1975, Panico 1987, Rogers 1989, 1997, Runde 1994, and Wray 1990, in particular.

diagnosed the fatal flaw in the orthodox system. But Keynes the practicing financial market player with his in-depth experience and understanding of the working of the financial system also added some flesh to the theoretical skeleton.

I emphasized above that the fundamental upshot of Keynes's analysis was the reversal of the traditional view according to which the real sphere of the economic system is providing the anchor to which the financial system accommodates itself; with all nominal values uniquely determined by some "money" that was however irrelevant to real outcomes. Instead, Keynes's analysis showed that it is the real economy that has to live with and accommodate itself to whatever terms the financial system might come up with. The terms of finance determined by the financial system in whatever ways condition the level of incomes and employment actually attained. The market adjustment mechanisms supposed to do the trick according to the classics were found either lacking (namely, the loanable funds mechanism) or impractical and risky (namely, downward wage flexibility) as far as the supposedly *automatic* attainment of macroeconomic equilibrium is concerned.

Therefore, the question was *how* economic policy should best be organized and applied to deliberately manage the economy with the aim of securing satisfactory macroeconomic performance. To Keynes this issue was not a yes or no question. For in his perception the real world was such that so-called market economies were *managed* economies anyway the laissez faire ideal of an automatically functioning free market economy was pure fiction.[6] In particular, then and now, there is no way around the fact that real world central banks conduct interest rate policies.

In Keynes's view, the failure to achieve satisfactory macroeconomic performance was generally due to inappropriate policy arrangements (the "barbarous relic," for instance) and ignorance (the "Treasury view" and loanable funds beliefs, for instance). It is most telling that Keynes's diagnosis of the conventional nature of the rate of interest features the role of the authorities:

> "It might be more accurate, perhaps, to say, that the rate of interest is a highly conventional, rather than a highly psychological, phenomenon. For its actual value is largely governed by the prevailing view as to what its value is expected to be. *Any* level of interest which is accepted with sufficient conviction as *likely* to be durable

[6] Since government interventions in the economy such as interest rate policies are simply a matter of fact, to a great extent, post-war debates about the role of economic policy were sham disputes. In his *Tract on Monetary Reform* Keynes declared that "a managed currency is inevitable" (JMK 4). In *The General Theory* he referred to the "necessity of central controls" (JMK 7: 379). In monetary policy matters the only real alternatives to deliberate management are either the abolishment of central banking (Hayek 1976) or the establishment of an "auto-pilot regime" (Friedman 1960). Neither approach achieved *any* relevance in practical affairs—whatever the fuzz in theoretical disputes (Bibow 2002b). Given the real world fact of deliberate interest rate policies, then and now, the only real issue is the degree of competence with which they are applied to achieve certain aims; and the transparency or hypocrisy surrounding policy.

> *will* be durable; subject, of course, in a changing society to fluctuations for all kinds of reasons round the expected normal. In particular, when M_1 is increasing faster than M, the rate of interest will rise, and *vice versa* (M is the stock of money while M_1 is that part of it which satisfies the requirements of the transactions (and precautionary) motives for the demand for money; the author). But it may fluctuate for decades about a level which is chronically too high for full employment; particularly if it is the prevailing opinion that the rate of interest is self-adjusting, so that the level established by convention is thought to be rooted in objective grounds much stronger than convention, the failure of employment to attain an optimum level being in no way associated, in the minds either of the public or of authority, with the prevalence of an inappropriate range of rates of interest" (*JMK* 7: 203-204).

A good starting point is thus to acknowledge that interest rates do not automatically attain their unique equilibrium levels by some magic market mechanism, but are rooted in whatever beliefs may guide financial market participants' behavior in conjunction with the authorities' policies (and whatever views may guide their conduct).

A common theme in all of Keynes's monetary writings from *Indian Currency and Finance* onwards focused on setting up arrangements that would allow the authorities to exercise a sufficient degree of influence and control over financial institutions and markets. Keynes's faith in the possibilities and effectiveness of monetary control probably peaked around the time of the publication of the *Treatise on Money* and the Macmillan Committee's deliberations. Later, in *The General Theory*, he showed greater concern about possible limits of monetary control. Overall, the evolution of his views on practical policy matters during the late 1930s and until his death in 1946, including his explorations in the post-war possibilities as foreseen by him, put greater emphasis on fiscal policy as well as the need for coordination between fiscal and monetary policies and debt management.

The point I wish to concentrate on in what follows concerns the interaction between monetary policy and financial market players, particularly banks, in setting the terms of finance prevailing at any time and thereby conditioning economic activity. This involves an analysis of the development of liquidity preference theory from the *Treatise of Money* to *The General Theory* and after.[7]

THE LIQUIDITY PREFERENCE THEORY OF BANK BEHAVIOR

The "excess-bearish factor" encapsulates the *Treatise* version of liquidity preference theory. It concerns the interaction between the demand for, and the supply of, money determining the "market rate of interest." The portfolio decisions not only of the general public, but also of the

[7] While focussing in what follows on monetary policy contuct, I do not wish to downplay the ongoing relevance of Keynes's views on monetary structure. Cf. Bibow 2002c, 2004a.

banks enter explicitly into the play; where both parties' portfolio decisions are seen as being based upon a balancing of "relative attractions" of the various forms in which wealth may be held (including expectations about future securities prices, which may be "bullish" or "bearish" in nature and of varying degrees). It is made explicit here that the banks may *decide* to adjust their portfolios, either in size and/or composition, both over the cycle as well as in the event of sudden changes in the "state of bearishness" of the general public, for instance. The outcome, i.e. the stock of money in existence at any time, always depends on the banks' portfolio decisions.

For instance, the banking system of the *Treatise* may facilitate a changing degree of diversity of opinion within the general public ("two views") by providing advances ("financial loans") to the "bulls" who therewith buy out the "bears," the latter being content, for the time being, with holding more savings deposits at rising securities prices. Furthermore, the banks themselves may, perhaps, disagree with the public and take a varying amount of securities off the market (at some price). In particular, only to the extent that the banking system does *not* meet the changing requirements on the part of the public will such changes affect securities prices, the "*excess*-bearish factor," which includes the possibility that the banking system not only fails to compensate for, but might even aggravate, such changes. The excess-bearish factor represents a theory of the "market rate of interest" in terms closely similar to the liquidity preference schedule of *The General Theory*, albeit featuring the general public *and* the banking system the role of which is not hidden behind the assumption of an "exogenous" quantity of money:

> "It follows that the actual price level of investments is the resultant of the sentiment of the public and the behavior of the banking system. This does not mean that there is any definite numerical relationship between the price level of investments and the additional quantity of savings deposits created. The amount by which the creation of a given quantity of deposits will raise the price of other securities above what their price would otherwise have been depends on the shape of the public's demand curve for savings deposits at different price levels of other securities" [A footnote occurs here, which reads: The rate of interest offered by the banking system on savings deposits also comes in, of course, as a factor influencing their relative attractiveness.] (JMK 5: 128).

Essentially, expressed in Wicksellian terms, monetary factors work through their impact on the "market rate of interest" a departure from the "natural rate" of which sets off saving-investment *disequilibria* and, hence, profit inflations (or deflations).[8] The authorities

[8] In the *Treatise* long-run equilibrium entrepreneurs earn "normal profits" and are thus under no motive to either increase or decrease their levels of activity; while the system is in its *unique* saving-equals-investment equilibrium.

should thus aim at making the market rate of interest match the natural rate. Yet, the monetary authorities' control over the market rate of interest is not taken for granted in the *Treatise*. Keynes not only identified the various motives for the public's demand for money by distinguishing various types of deposits provided by banks to meet these motives, but also offers an analysis of the process of supply of these deposits along liquidity preference lines: the *Treatise* features a liquidity preference theory of bank behavior.

Importantly, Keynes's vision of banking business extended well beyond the mere provision of working capital finance; itself being procyclical. One may think of Keynes's banks either as "universal banks" or consider that hedge funds, for instance, rely on banks for their leveraging too. According to Keynes, the banking system has a "dual function," including a role in the financing of fixed investment (be it directly or through underwriting the liquidity of other financial intermediaries and markets):

> "In actual fact the banking system has a dual function—the direction of the supply of resources for working capital through the loans which it makes to producers to cover their outgoings during the period of production (and no longer), and of the supply *pari passu* of the current cash required for use in the industrial circulation; and, on the other hand, the direction of the supply of resources which determines the value of securities through the investments which it purchases directly and the loans which it makes to the stock exchange and to other persons who are prepared to carry securities with borrowed money, and of the supply *pari passu* of the savings deposits required for use in the financial circulation to satisfy the bullishness or bearishness of financial sentiment, so as to prevent its reacting on the value and the volume of new investment" (JMK 6: 310-1).

One aspect stressed by Keynes is that banks are *not* driven by their depositors, as the traditional deposits-make-loans view would have it. Instead, he diagnosed an important element of inherent instability due to the interdependency of banks that leads to a "tendency towards sympathetic movement on the part of the individual elements within a banking system" (JMK 5: 23). Without any central anchor, the system's overall stance would just be whatever "average behavior" of banks (not depositors!) happens to be.

Another aspect concerns the "interchangeability of non-reserve bank assets." This aspect featured prominently in the Keynes mechanism discussed further above and represents the core of Keynes's liquidity preference theory of bank behavior. Banks are pictured as *actively* managing their balance sheets. In deciding about the form of their lending, or the division of their resources in different forms of investment available to them, they balance profitability considerations as against liquidity [i.e. market risk] considerations. In an uncertain world, moreover, this balancing job represents a "never-ceasing problem,"

since the strength of various considerations is continuously varying over time with changing circumstances:

> "Apart from the rare occasions of a deliberate change in the conventional [reserve] ratio, ... and from the possibility of the member banks being in a position to influence the amount of their own reserves ..., what bankers are ordinarily deciding is, not *how much* they will lend in the aggregate—this is mainly settled for them by the state of their reserves—but in *what forms* they will lend—in what proportions they will divide their resources between the different kinds of investment which are open to them. Broadly there are three categories to choose from—(i) bills of exchange and call loans to the money market, (ii) investments, (iii) advances to customers. As a rule, advances to customers are more profitable than investments, and investments are more profitable than bills and call loans; but this order is not invariable. On the other hand, bills and call loans are more 'liquid,' than investments, i.e. more certainly realisable at short notice without loss, and investments are more 'liquid' than advances. Accordingly bankers are faced with a never-ceasing problem of weighing one thing against another; the proportions in which their resources are divided between these three categories suffer wide fluctuations; and in deciding upon their course they are influenced by the various considerations mentioned above" (JMK 6: 59).

Keynes also offered some explanations for these fluctuations in banks' portfolio proportions. In particular, these fluctuations may be due to variations in the banks' customers' *demand for advances*. But notice that he viewed banks as applying judgement to the issue of whether or not to accommodate their customers' changing requirements. Distinguishing between trade customers and "speculative movement[s]," he pointed out that banks' judgement appears to concern both microeconomic and macroeconomic issues, and that banks' own liquidity preference may change too. Most importantly, notice that even to the extent that banks accommodate the variations in their customers' demand for advances, this would at best make one component of their overall balance sheet *endogenous*. For in Keynes's view banks would try to compensate such endogenous variations in their loan business by employing their resources in alternative directions. Keynes continued:

> "When, for example, they feel that a speculative movement or a trade boom may be reaching a dangerous phase, they scrutinise more critically the security behind their less liquid assets and try to move, so far as they can, into a more liquid position. When, on the other hand, demands increase for advances from their trade customers of a kind which the banks deem to be legitimate and desirable, they do their best to meet these demands by reducing their investments and, perhaps, their bills; whilst, if the demand for advances is falling off, they employ the resources thus released by again increasing their investments" (JMK 6: 59-60).

Keynes's key question is how a central bank can best frame and use "means of establishing an unchallengeable centralised control over [the banks'] aggregate behavior" (*ibid*.: 190), and thereby over the market rate of interest. Keynes is particularly interested in methods of control that yield *direct* influence over *longer-term* rates of interest. He

distinguished between customary ways of making bank rate "effective," i.e. securing control over short-term rates, and open market operations directed at steering longer-term rates too. To some extent the latter provided an additional method of securing control over the system. But Keynes stressed that short-term and longer-term rates were related and that the term structure of interest rates was largely driven by bank behavior.

We saw above that banks' *active* management of their asset portfolios involves both a certain responsiveness to their customers' varying requirements as well as considerations of profitability and banks' own liquidity preferences. In applying his liquidity preference theory of bank behavior to the varying proportions of short-term and long-term securities in banks' portfolios and the related issue of the yield curve, Keynes referred to the driving motive behind bank behavior:

> "There are a number of financial institutions—amongst which the banks themselves are the most important ...—which vary from time to time the proportionate division of their assets between long-term and short-term securities respectively. Where short-term yields are high, the safety and liquidity of short-term securities appear extremely attractive. But when short-term yields are very low, not only does this attraction disappear, but another motive enters in, namely, a fear lest the institution may be unable to maintain its established level of income, any serious falling off in which would be injurious to its reputation. A point comes, therefore, when they hasten to move into long-dated securities; the movement itself sends up the price of the latter; and this movement seems to confirm the wisdom of those who were recommending the policy of changeover" (JMK 6: 320).

To begin with, notice the element of self-fulfilling prophecy in banks' credit creation; related to the inherent instability in banking referred to above. Furthermore, banks are depicted here as attentive to their own shareholders, with their reputation being linked to some established level of income. It is due to the banks' concern about their own profitability—and hence their capital base—that they respond to a falling-off in profitability in any particular form of lending, either due to slack demand (business cycle) and/or market yields obtainable (term structure), by looking for alternative kinds of investment. It is by playing on banks' own profit motive, then, that the central bank will normally be able to draw the banking system in the desired direction, in Keynes's view:

> "If the central bank supplies the member banks with more funds than they can lend at short term, in the first place the short-term rate of interest will decline towards zero, and in the second place the member banks will soon begin, if only to maintain their profits, to second the efforts of the central bank by themselves buying securities. This means that the price of bonds will rise unless there are many persons to be found who, as they see the prices of long-term bonds rising, prefer to sell them and hold the proceeds liquid at a very low rate of interest" (JMK 6: 333).

Notice here that this remark features the liquidity preference of the general public as satisfied by the banking system as a whole. For Keynes also addressed the possibility that the central bank may have to shoulder the task alone.

FOLLOW YOUR LEADER—OR NOT

This was in his most illuminating discussion of situations where "the normal and orthodox methods by which a central bank can use its powers for easing (or stiffening) the credit situation" fail to work. Extreme situations can develop (like an "obstinate persistence of a slump") that are characterized by increased uncertainty and depressed financial sentiment and the emergence of a "very wide and quite unusual gap between the ideas of borrowers and of lenders in the market for long-term" (JMK 6: 334), with the result that banks may refuse to second the efforts of the central bank. As alluded to in his advice, the central bank should then be under duty to take recourse to "extraordinary methods," namely carrying out open-market operations in long-term securities *à outrance*:

> "How is it possible in such circumstances ... to keep the market rate and the natural rate of long-term interest at an equality with one another, *unless we impose on the central bank the duty of purchasing bonds up to a price far beyond what it considers to be the long-period norm*" (JMK 6: 334).

Keynes did not elaborate on what the central bank might consider to be "the long-period norm" on this occasion, how it comes about, and whether it is some sort of *unique* norm. Apart from the possibility of a serious impairment of the capital base of banks (reflecting *past* asset price drops and frozen loans),[9] banks' refusal to "second the efforts of the central bank" would seem to reflect their own liquidity preference in view of *prospective* losses they perceive as likely to result if they followed suit. In particular, banks may refuse to engage themselves beyond what *they* consider the long-period norm for fear that a future reversal of positions may involve a "serious financial loss." In other words, the expectation of a renewed future rise in interest rates prevents them from expanding their holdings of long-term securities—a liquidity trap prototype. Keynes had more to say on this coordination problem between the central bank and banks in *The General Theory*.

[9] Keynes offered profound views on this possibility in his "The Consequences to the Banks of the Collapse of Money Values" of August 1931 (JMK 9), which should have forestalled any later fuzz about the "real-balance effect" (cf. Greenwald and Stiglitz 1993). Modern Japanese experience has shown that even mild goods price deflation together with impaired banks may render orthodox monetary policy tools ineffective and cause serious long-term economic wreckage.

EXPECTATIONS MANAGEMENT AND LIQUIDITY TRAPS

In fact, in *The General Theory* Keynes provided the theoretical blueprint for steering market expectations in line with policy intentions as a key part of effective monetary policy conduct; much discussed today under the headings of policy communication and credibility. This advance in practical policy matters has to be seen in the light of the breakthrough represented by the theory of effective demand and the evolution of liquidity preference theory between the two works. The former stroke of genius irreparably undermined the Wicksellian notion of the "natural rate of interest," uniquely determined by the legendary real forces of productivity and thrift. With the anchor gone, the rate of interest was left in the air. And as the market rate of interest itself attained the pivotal role as the center of gravitation, liquidity preference theory too assumed a new role: as a theory of interest. Hence money was seen as ultimately "ruling the roost" of real activity and accumulation.

While the substance of liquidity preference theory remained essentially unchanged, Keynes presented a greatly simplified (or, stripped down) version of it in *The General Theory*, particularly as far as bank behavior was concerned. Essentially, the excess-bearish factor, the element his critics had most difficulties with, was set on neutral by means of the CMSA. Yet, the part played by liquidity preference is at the same time made even clearer: The rate of interest is established at any time at that level at which the desire for extra liquidity vanishes at the margin; an *attempt* to become more liquid changes the rate of interest forthwith. Why complicate matters by making allowance for banks' discretion to respond to the public's changed liquidity preferences, for instance, which the banks may or may not use? The new truncated excess-bearish version simplifies Keynes's analysis without distracting from the essence of his theory of effective demand, namely, that it is spending, and investment spending in particular, which is driving the system.

In this regard, the CMSA helps to bring out another crucial analytical point: it makes clear that, for instance, an increase in the level of economic activity may affect interest rates *indirectly* simply due to the changing requirements of the industrial circulation (the transactions motive), *if* the banking system does not duly enlarge the pool of liquidity. This shows that purely *monetary* factors condition the equilibrium level of *real* activity. They do so not only at the new higher level of activity (perhaps prompted by a rise in the marginal efficiency of capital) that is sustainable even at higher interest rates, but also at the initial level of economic activity. By implication, there is no unique long-period equilibrium,

independent of the "banking policy." With another banking policy, the long-period equilibrium would likely be different too.

The issue of controlling bank behavior and the market rate of interest thus appeared in a different light too. With the rate of interest rooted in convention rather than anything real and unique, the question arose to what extent market conventions may be subjected to deliberate management. Again, government interventions in the market such as interest rate policies by central banks are a fact of life anyway. And bank rate policy itself was of no concern to Keynes since the "short-rate of interest is easily controlled by the monetary authority" (JMK 7: 203), both in theory and common practice. While the short rate affects bank behavior and other interest rates and asset prices, the real issue was whether monetary policy could be made more effective by using tools beyond simply setting bank rate. Keynes distinguished direct effects due to market dealings and changes in liquidity from an expectational channel.

Central to Keynes's theory of the determination of interest rates is the speculative motive for the demand for money, defined as: "the object of securing profit from knowing better than the market what the future will bring forth" (JMK 7: 170). The speculative motive is also seen as central to the working of open-market operations: "it is by playing on the speculative-motive that monetary management ... is brought to bear on the economic system" (*ibid*., p. 196). For the interest-elasticity of "the" liquidity preference schedule is largely due to the speculative motive. However, analytically speaking, "the" liquidity preference schedule is based on some given state of expectations. Expectations are seen as an integral part of monetary management, since expectations about future monetary policy feature as a chief factor in moulding "the" given state of expectations. Keynes thus argues that open-market operations actually work through two channels:

> "In dealing with the speculative-motive it is, however, important to distinguish between the changes in the rate of interest which are due to changes in the supply of money available to satisfy the speculative-motive, without there having been any change in the liquidity function, and those which are primarily due to changes in expectation affecting the liquidity function itself. Open-market operations may, indeed, influence the rate of interest through both channels; since they may not only change the volume of money, but may also give rise to changed expectations concerning the future policy of the central bank or of the government" (JMK 7: 197; cf. Chick 1983).

It is thus *not* that Keynes believed in some *stable* and *unique* liquidity preference schedule being out there. Of course, open-market operations can hardly fail immediately to affect the prices of securities dealt in to some degree. For: "in normal circumstances the banking system is in fact always able to purchase (or sell) bonds in exchange for cash by

bidding the price of bonds up (or down) in the market by a modest amount" (JMK 7: 197). But there may be rather narrow limits to playing on the speculative motive by moving interest rates away from what is considered a "fairly safe rate" ~~in~~ *some given state of expectations*.

Therefore, in order to be fully effective open-market policies directed at longer-term securities must lead to a change of the state of expectations in the desired direction. In Keynes's view, full effectiveness largely depends on the *credibility* of the actions undertaken, and the institution undertaking them; in particular, whether monetary policy "strikes public opinion as being experimental in character or easily liable to change," or whether it "appeals to public opinion as being reasonable and practicable and in the public interest, rooted in strong conviction, and promoted by an authority unlikely to be superseded" (JMK 7: 203). Again, if there is a monetary policy at all, the monetary authorities cannot help but greatly influence expectations about future policy anyway. The only question is whether they succeed in aligning market expectations with policy intentions and thus marshal the markets support of policy.

For example, in the 1930s, the task of the day was to steer the conventional view downwards. And, by and large, Keynes ventured, "precisely because the convention is not rooted in secure knowledge, it will not always be unduly resistant to a modest measure of persistence and consistency of purpose by the monetary authority" (JMK 7: 204). The British experience after the departure from the gold standard in September 1931, i.e. the relaxation of the external constraint which featured in the *Treatise,* followed by the successful War Loan conversion in 1932 seem to have encouraged this judgement. Keynes used this example to illustrate his case in *The General Theory*. "[M]odest falls" to which public opinion can be "fairly rapidly accustomed" are distinguished there from "major movements .. effected by a series of discontinuous jumps." The former would appear to be the direct result of open-market purchases, playing ~~within limits on~~ the speculative motive in a given state of expectations. The minor movements so-achieved successfully prepared the ground for the major ones, the "series of discontinuous jumps," corresponding to *shifts* in the liquidity function of the public (JMK 7: 204).

Is there a limit to such policies? Well, Keynes repeatedly refers to what may be seen as some *absolute floor* below which interest rates, seemingly, could never fall. But he believed that: "whilst this limiting case might become practically important in future, I know of no example of it hitherto" (JMK 7: 207). In fact, the point he is making about the limitations of monetary management is not at all restricted to this hypothetical absolute floor

(whatever the practical or theoretical relevance of this limiting case itself may be. The problem Keynes described exists at *any* level of interest: if open-market purchases drive up securities prices, their running yields so-reduced will compensate for *less* perceived risk of a renewed future rise in interest. Yet, in a given state of expectations, this risk *rises* the further the rate of interest deviates from what is considered a "fairly safe level" in that state of expectations. *Ceteris paribus* investors prefer to move into a more liquid position the trade-off which provides the basis for the authority's playing on the speculative motive. A limit is reached when selling pressure due to securities holders' move into cash fully offsets the upward price pressure due to open-market trades. At that point the central bank has lost effective control: the system is in *a* liquidity trap. This condition may arise at *any* level of interest. There is correspondingly a *multiplicity* of liquidity traps.

This problem would not arise, however, if the authorities managed to shift the state of expectations in the desired direction. The market participants' assessments of risk of capital losses largely depend on their expectations of future rates of interest. This risk would not rise with falling yields if participants trust that lower yields will stay low for some time. Best of all, views about the fairly safe level of interest fall together in line with market yields and a new convention as to the appropriate rate of interest gets established. Securities would then willingly be held at higher prices even without any increase in cash (at least as far as the speculative motive is concerned).

In practice, open-market purchases of securities may at the same time move market yields directly, thereby *ceteris paribus* enlarging the liquidity of the system correspondingly (liquidity channel), and successfully steer the convention itself downwards too (expectational channel). In this case, the increased liquidity so-provided would not actually be required to make good for any rise in perceived market risk, i.e. to particularly satisfy the speculative motive, but to balance the reduced spread (opportunity cost of holding cash) instead, i.e. to satisfy the demand for liquidity more generally. But Keynes's theoretical observations also include the possibility that the state of expectations may move in the wrong way. In that case the expectational channel may *counteract*, and possibly more than fully, any effect on interest rates coming through the liquidity channel. More generally, then, one may consider policy communication as the key tool directed at steering market expectations in line with policy intentions; backed up by the possibility of actually carrying out open market operations if that threat is held credible by the markets.[10]

[10] The U.S. bond market experience in 2003 provided an illuminating example, as the Fed's explicit commitment to keep short rates low for a "considerable period" underlined by pointed reminders of historical

To summarize: due to the insight that "the" long-period norm is established by *some* convention Keynes became far more alert to the complexity of influence of monetary policies on interest rates. In theory, the problem is that the convention the financial system comes up with may be wrong – and the economy gets stuck in an unemployment equilibrium as a consequence. In practice, "the" convention is moulded largely by monetary policy itself anyway, but the authority may fail to change it when needed – namely for failure of convincing the banks to follow suit (cf. Bibow 2000b).

This pinpoints the essence of Keynes's liquidity preference theory as applied to the theory of monetary policy, including the management of expectations. To shed additional light on Keynes's vision of monetary policy and financial markets I will now elaborate on the issue of interaction between the central bank and financial market players, and indicate some broader applications along the way.

A VANISHING ROLE FOR MONEY AND BANKS, AND LIQUIDITY PREFERENCE THEORY?

The pivotal role of banks as providers of liquidity is to be seen in the fact that under normal conditions the central bank, while underwriting the liquidity of the financial system, provides an ever smaller share of what is considered "liquidity *par excellence*" by the general public and its institutional investment agents (be it pension funds or hedge funds). Satisfying an enlarged liquidity preference of the general public will be no issue as long as the banks "second the efforts of the central bank," Keynes argued. Actually, this need not occur in response to policy changes but is likely to happen in anticipation of it, particularly if policy communication works properly. Two-way interaction between markets and the central bank is involved here.

I emphasized above that the Keynes mechanism – and active bank behavior more generally! – is at work at any given monetary stance. Surely banks' incentive to take more bonds off the market when their loan demand is falling off will be enhanced should they anticipate that the central bank will cut the short-term rate in reaction to a weakening economy too. In this way, as is sometimes observed, the bond market partly does the job for the central bank. In this scenario, then, the central bank seems to follow the markets; seemingly just signing off the markets' "policy."

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examples of open market purchases at the long end proved sufficient to marshal the markets' support. A related issue here is the discussion whether the advent of electronic money might not turn the central bank into an army with only a signal corps, a view which is less than compelling from a Cartalist perspective (cf. Goodhart 2000).

Actually, however, the bonds markets will only do so without bank support if the liquidity preference schedule smoothly adjusts accordingly, which, in turn, depends on the expectation management and credibility of the central bank. Markets strive for profits, but the markets can only properly do the central bank's job if it is fairly safe to anticipate the central bank's moves; which is equally true for the banks insofar as the system requires enhanced liquidity provision in moving to lower interest rates. Notice that the role of banks includes the possibility that the banks themselves may be key drivers in markets, enhancing the general public's demand for liquidity by driving up securities prices.

By contrast, as indicated above, the burden of liquidity provision would rest on the central bank's balance sheet alone if the banks declined to second its efforts; a refusal which may either be due to an impaired capital base or from the perceived riskiness of following suit. For one thing, an impaired capital base may be the legacy of erroneously following suit in a monetary policy course that turned out ill-guided. For another, the perceived riskiness of following the central bank depends on whether market expectations are aligned with policy intentions – whether the anticipated course of policy is perceived sustainable by the markets.

Markets are forward-looking and all the time on the watch to anticipate policy anyhow. So there is always the risk that the markets may either misread policy if the central bank fails to get its message across. Or the markets may disapprove of it, anticipating that some particular policy course will turn out unsustainable, particularly if the markets went along with it. If a policy is perceived unsustainable (and a reversal thus seems likely), seconding the efforts of the leader would not be in the banks' best interest. In fact, betting against the central bank may seem more profitable instead. This, once again, underlines that from the central bank's perspective managing market expectations is key to policy effectiveness. For causing market confusion or even provoking widespread market opposition may seriously disrupt the implementation of policy. Essentially, liquidity traps represent *communication failures* between the central bank and her clients, banks. A liquidity trap arises when the monetary authority – for lack of power and/or credibility – fails to communicate convincingly with the markets. Importantly, such potential complications are not restricted to the bond market.

In expounding his liquidity preference theory of interest in *The General Theory*, Keynes focused on debt markets, describing the central bank as a "dealer in money and debts" (JMK 7: 205). Compared to the *Treatise* where Keynes referred more broadly to "securities" as an alternative to bank deposits, he now emphasized that equities – as distinct from debts – were more closely related to the marginal efficiency of capital and "animal spirits" too. This

clarified that "investment depends on a comparison between the marginal efficiency of capital and the rate of interest" (JMK 7: 151, fn 1), and it rightly denied any unique and stable relationship between debt and equity markets. Nonetheless, Keynes's thoughtful account of "spot-the-convention-type" of asset-market play in chapter 12 is clearly relevant to securities and derivative markets in general, also including foreign exchange and property markets, etc. Furthermore, as is clear from chapter 17 in particular, liquidity preference theory is a theory of asset prices more generally too.

Keynes argued there that it is the rate of interest on money which "rules the roost" by setting "the standard to which the marginal efficiency of a capital-asset must attain if it is to be newly produced" (JMK 7: 222). As regards his key concern in the book, he observed that "unemployment develops…because people want the moon; men cannot be employed when the object of desire (i.e. money) is something which cannot be produced and the demand for which cannot be readily choked off. There is no remedy but to persuade the public that green cheese is practically the same thing and to have a green cheese factory (i.e. a central bank) under public control" (JMK 7: 235). The point is that while controlling the short-term rate of interest is an easy thing to do in both theory and practice, the problem of monetary control does not end with the endogenous supply of reserves at that rate.

Short-term interest rates as directly controlled by the central bank affect asset prices in the economy both via arbitrage as well as market expectations; the latter channel being more complex and far less easily controlled. As one example, the fact that the U.S. Federal Reserve has managed to keep bond yields way below nominal GDP growth rates since the 2001 global downturn may be compared to the ECB's performance of keeping bond yields way above the eurozone's persistently depressed level of nominal GDP growth. As another example, the "time-inconsistency hypothesis" (Bibow 2002a) of the euro's plunge of 1999-2000 features a liquidity-trap scenario in which growth-enthusiastic markets were scared by a central bank showing off its blatant disrespect for growth with the currency taking the hit. Furthermore, this issue also pertains to the ongoing debate about the role of monetary policy in creating asset price bubbles and preventing damage when bubbles burst.

These unfolding events in a constantly changing competitive environment of financial innovation and re-regulation are just some examples. Liquidity preference theory offers a conceptual framework that allows proper assessment of the profound role of the financial system in monetary production economies. Its role being that of providing liquidity and finance rather than saving, and on terms decided in a complex two-way interaction

between markets and the authorities; terms to which the real economy must adapt itself—possibly with unacceptable macroeconomic outcomes.

If Keynes's vision needs updating, it is in the area of consumer finance and consumption spending. Keynes focused on entrepreneurs and investment as prime movers behind capitalism. Today, debt-financed consumer spending has become another key mover too.[11] This neither diminishes the relevance of the theory of effective demand and analytical framework of *The General Theory* nor the applicability of liquidity preference theory though. Quite the opposite.

SOME CONCLUDING OBSERVATIONS ON HORIZONTALIST HETERODOXY, MODERN TAYLOR-RULE ORTHODOXY, AND MONEY NEUTRALITY

Post-Keynesian endogenous money proponents deserve high credit for stressing that "loans make deposits" (rather than the other way round) and that real world central banks control short-term interest rates (rather than monetary aggregates). Regrettably, starting from these sound observations, followers have often drawn conclusions which are true only under special conditions. In particular, the whole story about monetary policy and all that would seem to end with setting the short-term rate of interest. Banks passively meet any credit demand, money is endogenous, and money demand non-existent. Liquidity preference theory is worse than useless as it prevents reaching these insights; or so it may have seemed.[12]

Yet, pushing endogenous money in this corner represents a gross trivialization of monetary policy, banking, and finance. From a liquidity preference theoretical perspective this describes no more than a primitive special case that does not yield any insights of interest beyond those profound propositions started out from. The point is: endogenous money is not the end of the story, it is just the starting point. Kaldor was right in stressing the

[11] This is not to say that Keynes had nothing to say on this issue at all. For instance, he observed that "windfall changes in capital-values" represented a "major factor capable of causing short-period changes in the propensity to consume" (JMK 7: 92-3). Particularly, as regards "a severe decline in the market value of stock exchange equities," he ventured that: "on the class who take an active interest in their stock exchange investments, especially if they are employing borrowed funds, this naturally exerts a very depressing influence. These people are, perhaps, even more influenced in their readiness to spend by rises and falls in the value of their investments than by the state of their incomes. With a 'stock-minded' public as in the United States today, a rising stock-market may be an almost essential condition of a satisfactory propensity to consume; and this circumstance, generally overlooked until lately, obviously serves to aggravate still further the depressing effect of a decline in the marginal efficiency of capital" (JMK 7: 319). In today's context, adding property prices and mortgage finance does not diminish the importance of such concerns, but enhances them.

[12] On the endogenous money issue see: Arestis and Howells 1996, Bibow 2000b, Chick 1993, Dow 1996, 1997, Dymski 1988, Goodhart 1989, Lavoie 1996, Moore 1988, 1991, Rymes 1998, Tobin 1963, and Wray 1992, in particular.

role of financial innovation, but he failed to see how this relates to the behavior of banks and other financial market players in liquidity preference theory.

Another Cambridge economist, Richard Kahn, clearly understood the role of bank behavior in liquidity preference theory:

> "Other things equal, a larger quantity of money means lower interest rates, because it means that the banking system is taking a larger quantity of securities off the market, is assisting in greater measure in financing the holding of securities, and is reducing the extent to which securities have to be issued on the market in order to secure finance. … If the quantity of money is increased, this means that the banks have increased their assets, and in doing so they will have bid up the prices of securities, i.e. lowered rates of interest" (Kahn [1958] 1972, p. 146-7).

Other Post Keynesians in this tradition on the European side include Vicky Chick and Sheila Dow, in particular. On the U.S. side, it is Hyman Minsky's work which offers a most sophisticated interpretation of the role of finance and macroeconomic policies along liquidity preference theoretical lines.

It is thus of interest that the mainstream has recently shown some serious interest in financial market phenomena and instabilities that are hard to square with the "efficient market" view, broadly under the heading of "behavioral finance." It is of no less interest that the mainstream has meanwhile largely converted to endogenous money, with monetary policy and macroeconomic modelling being recast in terms of interest-rate reaction functions à la Taylor's rule. Without wishing to repeat our above critique, this approach too assumes that financial market expectations are automatically fully aligned with the intended course of policy so that the short-term rate is a good measure of the central bank's control over the financial system and the economy. Moreover, issues such as monetary and fiscal policy interaction, exchange rate developments, and the state of the financial system are only taken into account indirectly through their effects on inflation and the output gap.

And yet, one cannot fail to acknowledge that the modern mainstream theory of monetary policy has made some important progress towards Keynes's vision. Recall that Taylor's rule (as a generic form of inflation targeting) prescribes that the central bank should set its policy instrument (i.e. short-term interest rate) according to:

$$i^T = r^e + \pi^* + \gamma_1(\pi_t - \pi^*) + \gamma_2(y_t) \qquad (1)$$

In this i^T refers to the central bank's (nominal) target rate of interest. The three factors supposed to be considered when setting the "Taylor rate" are: first, the equilibrium real rate of interest, r^e, second, an equilibrium or target rate of inflation, π^*, and, third, deviations from the target inflation rate and capacity output; where y_t is an output gap measure and γ_1 and γ_2

are feedback parameters measuring the strength of policy response to inflation and output, respectively.

To begin with, Taylor's "rule" is *not* a Friedman-style non-reactive rule for an autopilot monetary arrangement. Instead, it follows the reaction function approach, requiring continuous adjustments in the policy instrument aimed at keeping the system in equilibrium through deliberate management. Furthermore, the rule would seem to at least partly incorporate the wisdom of three giants of monetary theory: First, Irving Fisher's hypothesis concerning nominal and real interest rates, second, Knut Wicksell's fundamental insight that it is not the absolute level of interest which matters, but the relative level (or, "spread") compared to some equilibrium rate of interest and, third, Keynes's key result that monetary policy is of real importance to the level of employment too (output gap).

But this still leaves plenty of room for interpreting this approach either along Wicksellian or Keynesian lines with the mainstream opting mainly for the former (see Woodford 2001). Importantly, there is no substantial disagreement on the role of price stability in all this.[13] Disagreement mainly arises when it comes to employment. Critical issues concern the equilibrium real interest rate and the output gap measure, neither of which are directly observable, but estimates for both of which are crucial to policy assessments by means of Taylor's rule. Keynes observed on this matter:

> "I my *Treatise on Money* I defined what purported to be a unique rate of interest, which I called the *natural rate* of interest … I believed this to be a development and clarification of Wicksell's 'natural rate of interest'…
>
> I had, however, overlooked the fact that in any given society there is, on this definition, a *different* natural rate of interest for each hypothetical level of employment. And, similarly, for every rate of interest there is a level of employment for which that rate is the 'natural' rate, in the sense that the system will be in equilibrium with that rate of interest and that level of employment. Thus it was a mistake to speak of *the* natural rate of interest or to suggest that the above definition would yield a unique value for the rate of interest irrespective of the level of employment. I had not then understood that, in certain conditions, the system could be in equilibrium with less than full employment.
>
> I am no longer of the opinion that the concept of a 'natural' rate of interest, which previously seemed to me a most promising idea, has anything very useful or significant to contribute to our analysis. It is merely the rate of interest which will preserve the *status quo*; and, in general we have no predominant interest in the *status quo* as such.
>
> If there is any such rate of interest, which is unique and significant, it must be the rate which we might term the *neutral* rate of interest, namely, the natural rate in the above sense which is consistent with *full* employment, given the other parameters of the system; though this rate might be better described, perhaps, as the *optimum* rate.

[13] One practical issue concerns the "Tooke effect," or interest rates as a policy-driven cost-push factor (among others). See Hannsgen 2004.

> The neutral rate of interest can be more strictly defined as the rate of interest which prevails in equilibrium when output and employment are such that the elasticity of employment as a whole is zero" (JMK 7: 242-3).

The issue here is that the neutral rate is not only changing over time, but also, at any time, partly a legacy of past monetary policies. For instance, if a central bank successfully steered an economy around some predetermined "natural rate of unemployment," ex post measurement by standard statistical tools will show that "the" natural rate of employment was exactly that while "the" equilibrium real rate of interest appearing in Taylor's rule may correspondingly be estimated as the historical average over that period of time. The point is: All of this is based on the *postulate* of money neutrality – and the statistical tools conveniently "prove" the postulate by assumption. The same kind of proof could have been provided if monetary policy had been different, with unemployment fluctuating around some other "natural" level. In fact, whichever course monetary policy adopts, the particular monetary policy adopted will shape the course of output and prices and, hence, tomorrow's policy environment too. And whatever course of policy and history may unfold, a reasonably good fit for *some* Taylor rule – including *some* average real interest rate! – can then be found to perhaps "prove" that money was neutral; even though it wasn't.

As any serious economist knows, monetary policy's *long-run* real effects mainly arise from its impact on the capital stock. Kahn ([1958], 1972: 139) aptly warned against fighting inflation by causing unemployment:

> "The economic waste involved in such a policy is particularly great if demand is regulated by restricting productive investment, as will be the main result of relying on monetary policy. Not only is there the loss of potential investment. But the growth of productivity is thereby curtailed, thus narrowing the limit on the permissible rate of rise in wages and increasing the amount of unemployment required to secure observance of the limit."

Building on these fundamental insights Bibow (2004b, 2005) showed that the consequences of ill-guided monetary policy of this kind are especially detrimental as well as counterproductive if pursued in conjunction with fiscal policies as required by the so-called Stability and Growth Pact. For a fiscal squeeze may not only force a decline in public investment and create a rising spread between production and consumption wages (as the rising burden of unemployment prompts rising tax and contribution rates). In their desperate but vain attempt at balancing the budget, finance ministers may also resort to hikes in indirect taxes and administered prices, distorting headline inflation upwards by "tax-push inflation."

Surprisingly, when it comes to monetary policy in practice, central bankers who seemingly all share the conventional money neutrality conviction may still view the real world through rather different lenses—and act correspondingly different too. For instance, Federal Reserve Governor Ben Bernanke (2002) argued against the idea of preemptive tightening in 1997, as this "would have throttled a great deal of technological progress and sustainable growth in productivity and output." By contrast, the ECB's chief economist Otmar Issing does not miss any opportunity to assert that an exclusive focus on price stability is the best contribution monetary policy can possibly make to long-run economic growth too. After four years of domestic demand stagnation, Mr. Issing simply declared that the eurozone's potential growth trend should be adjusted downwards (hint: so as to match actual dismal performance and "measure away" the looming negative output gap for which the ECB routinely rejects any responsibility). Both central banks use standard statistical tools and follow conventional standards of economic "science." Money is neutral in either world of thought, it seems—but never in the real world, for sure!

No other than Milton Friedman lectured Mr. Issing on the relevance of the money neutrality postulate in this world by declaring himself baffled by Mr. Issing's suggestion that standard monetary neutrality propositions would be among the few results a prudent central banker can get comfort from. No such luck for central bank politicians, Friedman (2002) explained in such memorable words that we may leave it to *two* giants of monetary theory to conclude the whole matter, and this paper too:

> "Taken seriously, monetary neutrality means that central bankers are irrelevant: real magnitudes—which are what ultimately matter to people—go their own way, independently of what the central banker does. Central bankers are important insofar as money is not neutral and does have real effects. Neutrality propositions give little if any guide to effective central bank behavior under such circumstances. Perhaps they offer comfort to central bankers by implying that all mistakes will average out in that mythical long run in which Keynes assured us 'we are all dead.' Keynes [Tract on Monetary Reform, 1923] went on, 'Economists [central bankers] set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again.' "

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