ON BANKS’ LIQUIDITY PREFERENCE

Fernando J. Cardim de Carvalho*

I. Introduction

Hyman Minsky once stated that “[t]he essential liquidity preference in a capitalist economy is that of bankers and businessmen ...” (Minsky, 1982, p. 74). Jan Kregel (1984/5, p.152), criticized “[s]upporters of endogenous and exogenous monetary creation” for not realizing that “banks are also profit maximizers with liquidity preferences.” In fact, Keynes himself, in 1937 pointed out that an excess demand for money could raise interest rates “if the liquidity preferences of the public (as distinct from the entrepreneurial investors) and of the banks are unchanged ...” (Keynes, 1937b, p. 667, my emphasis)

The need to take banks’ liquidity preferences in consideration seems perplexing for many. If money is the most liquid asset of an entrepreneurial economy and most of it is constituted by banks’ own liabilities, demand deposits, why should banks have a liquidity preference and how it would be expressed? What could satisfy banks’ liquidity preferences? An intuitive answer to the latter question, actually assumed in many models of the banking firm, would point to reserves created by the central bank. However, for those post Keynesians who believe that central banks freely supply reserves at a given interest rate the idea of banks being concerned with reserves to the point of actually having liquidity preferences may sound strange indeed since liquidity, in this sense, could be obtained in unlimited amounts. Under these conditions, why should any bank care whether they are short of liquidity?

* Professor of Economics, Institute of Economics, Federal University of Rio de Janeiro. This paper was prepared for the Fifth International Seminar on Post Keynesian Economics, Knoxville (TN), June 1998. The author is grateful to the participants of the Money and Financial Systems Research Project at the Institute of Economics/UFRJ. I also want to thank my friend and colleague Fernando N. Costa for raising the question that led me to write this paper. Comments by Gary Dymski, Steve Fazzari, Nina Shapiro and Philip Arestis were most welcome. Financial support from the Brazilian National Research Council (CNPq) is gratefully acknowledged. E-mail: carvalho@ie.ufrj.br
Of course, this latter view, part of the horizontalist approach to money endogeneity, although very popular among post Keynesians, is not unanimously accepted in this school of thought. Money can be endogenous in different senses and for different reasons. The banks’ liquidity preference approach suggests that banks pursue active balance sheet policies instead of passively accommodating the demand for credit. However, most of the authors who have used the concept did it in a rather suggestive manner, refraining from offering more rigorous definitions.¹

The object of this paper is to define and to explore the concept of banks’ liquidity preference. To do so, the paper is divided in four sections, besides this introduction. As the expression liquidity preference may be, perhaps, vague for many, in section 2 I try to give a precise definition of the concept that is compatible with the post Keynesian notion of a monetary economy. Section 3 briefly examines how neoclassical theories of the banking firm dealt with a similar concern and how the question was first introduced more explicitly in the post Keynesian literature by Dymski in a 1988 paper published in the JPKE. Section 4 develops a liquidity preference approach to banks’ decisions that draws on Keynes’s views in the Treatise on Money, and on works by other post Keynesian economists. Finally, a concluding section summarizes the findings and identifies some of the implications of this theme to issues such as the debate on the endogeneity of money.

2. Liquidity Preference

Liquidity preference theory, in The General Theory, consists in the statement that “the 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. (...) [The rate of interest] is the ‘price’ which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash...” (Keynes, 1964, p. 167). The reasons to have a

¹See, for instance, besides Kregel’s paper already quoted, Dow (1996), Dow and Dow (1989), Chick (1983), ch. 12. I have also used the idea in Carvalho (1992) and (1995), in both occasions suggesting the usefulness of the concept rather than working it out. Kregel (1997) goes much beyond the suggestion to consider bank balance sheet strategies but presents his argument mostly in terms of options theory rather than liquidity preference, although these may be seen as alternative ways of presenting similar views rather than opposing approaches.
preference for liquidity were discussed in chapter 15 of *The General Theory*: one needs money because one has expenditure plans to finance, or is speculating on the future path of the interest rate, or, finally, because one is uncertain about what the future may have in store so it is advisable to hold some fraction of one’s resources in the form of pure purchasing power. These motives became known as transactions-, speculative and precautionary motives to demand money. On the other hand, in the world of *The General Theory* the quantity of money in existence is one of the “ultimate independent variables ... determined by the action of the central bank” (pp. 246/7). Accordingly, most of the Keynesian literature took liquidity preference to mean demand for money and liquidity preference theory as a theory whereby the rate of interest is determined by demand and supply of money.

This narrow interpretation of liquidity preference theory is debatable though. An alternative view if that it is a theory of asset choice. In fact, as Keynes emphasized in his debate with Ohlin in 1937, liquidity preference was a theory of choice between holding money idle and holding loans, being the role of the rate of interest to equalize the “attractions” of both (Keynes, 1937a, p. 250). To restrict asset choices to only two possibilities, money and interest-paying bonds, however, is not essential to the theory but results from the aggregation structure adopted in *The General Theory*. The interest rate was the reward for parting with liquidity in a model where there were only two classes of assets: short term liquid capital-risk-free assets, called *money*, and long-term illiquid assets called *bonds*. One could, however, easily extend the argument for a situation where a greater variety of classes of assets existed, or at least so thought Keynes (Keynes, 1964, p. 137fn). In fact, such an extension was actually offered in chapter 17 of *The General Theory* where a different, more detailed, aggregation structure is adopted.

In that chapter, Keynes argued that assets are characterized by four attributes: the generation of incomes to their possessor (profits, interest rates, dividends, rents, etc.), \( q \); their carrying costs, \( c \); their liquidity premia, \( l \); and the appreciation or depreciation of their...

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2Keynes later added a fourth motive to demand money, the finance motive, in anticipation of discretionary spending, like investment spending. See Keynes (1937a) and (1937b).

3A detailed examination of Keynes’s choices as to aggregate structures given in Leijonhufvud (1968).
market values, \( a \). Wealth-owners would demand each class of asset according to their own-rate of interest, given by the expression:

\[
 a + q - c + l
\]

For a given state of expectations, those assets with higher than average own-rates of interest would face heavier demand and their current market prices would rise, while the prices of those offering lower-than-average returns would fall. In equilibrium, asset prices would be such as to equalize those rates of return. In this approach, the theory presented in chapter 13 of *The General Theory* should be seen as a special case in which there are only two assets, “money” and “bonds”, and only one kind of risk is considered, the risk of capital losses on bond portfolios caused by a rise in interest rates. Liquidity preference would be reflected, in this highly aggregated model, in the terms of the tradeoff between monetary returns \((a+q-c)\) and the liquidity premium of money \((l)\). The liquidity premium was defined as the rate of monetary returns one would be willing to forego in exchange for “the power of disposal over an asset during a period [which] may offer a potential convenience or security” to its owner (p. 226). Of course, the “power of disposal” of an asset is not measured only in terms of how easily one can sell a given asset but also in terms of how large a capital risk would have to supported when contemplating this possibility. Money had a maximum liquidity premium because it could be disposed of very quickly and still be exempt of such losses in capital value. When there is uncertainty as to when a given portfolio may have to be disposed of a high degree of liquidity may be specially valuable, so asset-holders that value liquidity may be willing to pay a high premium, in the form of foregone returns, to remain liquid. Thus, a rise in perceived uncertainty, which increases the ex-ante value of being liquid, would imply, *for given stocks of each class of assets*, that liquidity preference would cause shifts of the demand schedules for the different types of assets, causing the prices of assets demanded mainly for their liquidity premium to rise compared to earning but less liquid assets. For reproducible

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4 All these attributes are measured by a rate in which the denominator is the current spot price of the asset.

5 “The power of disposal over an asset involves, in a monetary economy, the expectation of being able to exchange the asset for the medium of exchange cheaply and readily in a continuous spot market at money price which is never very different from the well-publicized spot prices of the last few transactions. For any asset which is simultaneously the medium of exchange and the store of value, the power of disposal must, by definition, be the greatest.” (Davidson, 1978, p. 62)
assets, these shifts in demand should bring about changes in available stocks, favoring those in heavier demand.

Only a few of Keynes’s followers realized what chapter 17 of *The General Theory* was about. Kaldor, in 1939, derived from the own-rates of interest model an approach to the problem of speculation, focusing on the relation between spot and forward prices of assets (Kaldor, 1980). Joan Robinson, on the other hand, was one of the first Keynesian economists to adopt the view of liquidity preference as a more general theory of asset demand. In her 1951 paper, *The Rate of Interest* (Robinson, 1979), Robinson offered a richer list of risks than that considered by Keynes in the *GT*, including inconvenience (or “illiquidity in the narrow sense”), capital uncertainty, income uncertainty, and lender’s risk (“that is, the fear of partial or total failure of the borrower”).

Robinson argued: “These qualities of the various types of assets are differently evaluated by different individuals ... The general pattern of interest rates depends upon the distribution of wealth between owners with different tastes, relatively to the supplies of the various kinds of assets. Each type of asset of asset is a potential alternative to every other; each has, so to speak, a common frontier with every other and with money. Equilibrium in the market is attained when interest rates are such that no wealth is moving across any frontier. Prices are then such that the market is content to hold just that quantity of each type of asset that is available at the moment.”

Thus, chapter 17 shows that if the “money-rate of interest ... is nothing more than he percentage excess of a sum of money contracted for forward delivery, e.g. a year hence, over what we may call the ‘spot’ or cash price of the sum thus contracted for forward delivery[, i]t would seem ... that for every kind of capital-asset there must be an analogue of the rate of interest on money.” (Keynes, 1964, p. 222) In this context, money is special because its own-rate of interest is stated to fall more slowly than the own-rates of other assets when their availability increases, for reasons that do not directly concern us here. What does concern us, on the other hand, is the proposition that assets are differentiated

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according to the *combinations* of monetary return and liquidity premia they offer, nor because one of them is entirely liquid and others entirely illiquid. Liquidity is a matter of degree.

Post Keynesian economists, like Paul Davidson, combined both the Robinsonian and the Kaldorian strands of the “chapter 17 school” to present a model where speculation problems are treated within a model of capital accumulation (Davidson, 1978, ch. 4). Post Keynesians have, in fact, taken this analysis one step further, approaching liquidity preference as a theory of *portfolio* choice, rather than a theory of *asset* choice. Although Keynes himself had not addressed the question of how individuals financed their purchases of assets, it was not very difficult for post Keynesian authors, like Minsky, to generalize the approach focusing on the tradeoff between monetary returns and liquidity premia to portfolio decisions as a whole, involving both the evaluation of assets and the decision to issue liabilities of various forms. To do it, Minsky adapted the meaning of the own-rate of interest equation to relate to entire portfolios rather than to individual assets. In his 1975 book, Minsky redefines the asset attributes to make $q$ to mean the rate of cash inflows generated by a given portfolio, $c$ to be the mainly financial costs of carrying out that portfolio, that is the cash outflows implied in the liabilities issued to finance the holding of that portfolio, and $l$ the proportion of the assets held by the individual in the form of money or of very liquid assets (cash-kickers). Among the latter group one could also include pre-agreed lines of backup finance supplied by financial institutions and the possibility of using assets as collateral to support debt issuance.

While Keynes emphasized the value of being able to change one’s collection of assets if and when unpredicted events took place to define the attractiveness of liquidity, Minsky specialized his concept of liquidity in terms of the ability to pay one’s debts. In particular,

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7Robinson (1979), p. 143. Kahn, three years later, also took liquidity preference of interest rates to mean a more general asset pricing theory. His argument, however, was closer in form to Keynes’s, focusing margins of indifference between assets of different maturities in terms of capital risks. See Kahn (1972), p. 73.

8 As Minsky put it: “Each economic unit makes portfolio decisions. A portfolio decision has two interdependent facets. The first relates to what assets are to be held, controlled, or acquired; the second relates to how the position in these assets – i.e., their ownership or control – is to be financed.” According to Minsky, Keynes’s discussion of these decisions in chapter 17 was “flawed because he [did] not explicitly
Minsky is concerned with the differences in time profiles of cash in and outflows resulting of a given list of assets and liabilities in one’s balance sheet that may create the need to borrow or to liquidate assets in order to honor contractual commitments. Liquidity, thus, becomes the ability to honor contractually fixed cash outflow commitments. In this case, the “power of disposal” over an asset is only one of the forms through which liquidity can be provided. The possession of an asset of a given class affects the liquidity of the portfolio to an extent that depends on how certain are the cash inflows it is expected to generate, on the “power of disposal” over it, that is, its marketability, and on the possibility of becoming a collateral to debt issuance. Under these conditions, the “liquidity premium” of a given collection of assets, that is, the value recognized by the asset-holder of the power of disposal over it, depends very much on the nature of the liabilities issued to finance its purchase. Committed cash outflows pattern the needs that will have to be satisfied by earnings from or by the sale of assets. Provided liquidity is understood in this broader sense, the fundamental statement of liquidity preference theory remains the same: an asset’s expected rate of return has to be such as to compensate for its degree of illiquidity given the degree of uncertainty felt by asset-holders that determines its liquidity premium, that is, the amount of monetary returns agents are prepared to give up in exchange for that liquidity. Therefore, in equilibrium, how agents evaluate the illiquidity of a given asset is reflected in its expected rate of return⁹ and, thus, in its current market value.

III. Liquidity Preference of Banks: Models of Demand for Reserves

One cannot say that neoclassical theory has been oblivious to the problem discussed here. In fact, orthodox models of the banking firm have traditionally focused on the problem of a bank’s choice between a representative earning asset, loans, and a liquid asset, monetary reserves. Most commonly, these models take the amount of deposits made at the bank as given.

⁹That is the ratio between expected quasi-rents net of carrying costs and capital gains and the market price of the asset.
The standard formulation of the problem can be found in Baltensperger (1980). With its amount of deposits determined exogeneously, a bank has to choose between reserves, R, and loans, L, that are remunerated by the interest rate, r. X is the value of outflow of deposits, with probability f(X). The cost of an eventual deficiency of reserves is the penalty rate p. To avoid this penalty, the bank constitutes reserves R, at the opportunity cost of rR. If the bank decides to lend, its losses are given by

$$p(X-R)f(X)dx$$

The optimizing solution is to divide its resources between loans and reserves in the proportion that is determined by the condition

$$r = p \int f(X)dx$$

Losses are then minimized when the marginal loss on keeping reserves, given by lost interest revenues at the left side, is equal to the expected value of losses for insufficient reserves, described at the right side. The choice of R affects the probability of a reserve deficiency.

The model can be generalized for a more diversified collection of assets and for different kinds of deposits. One can also extend it in another direction considering monopolistic elements that would allow the bank to have some control of the amount of deposits and, thus, on its size. Finally, one can also work with other kinds of costs, such as operational costs. Generally solutions will consist in determining collections of assets and types of deposits that respect the condition that marginal returns are equalized for the various assets being held and are also made equal to the marginal costs involved in the financing of that position.¹⁰

A general feature of these models is that liquidity preferences are reflected in the demand for reserves (actually free reserves) to cover for possible net deposit outflows, and are

¹⁰Besides Baltensperger (1980), another useful reference if Santomero (1984), both of them being surveys of existing models to those dates.
determined by the costs of carrying insufficient reserves and by the probability of facing higher-than-average outflows.

A similar concern was introduced in the post Keynesian literature by Dymski (1988). The focus of that paper was “on banks, which are obliged to supply liquidity on demand while making new loans and funding loan contracts of length duration.” (p. 511). Dymski’s model goes beyond standard neoclassical theory of the banking firm in many respects. Deposits are no longer given but, at least in part, result from the loan decisions of banks themselves. This makes the model more realistic but does not essentially change the nature of the decision problem for banks: “[t]he more credit banks create to satisfy loan demand, the fewer funds are available for redistribution to meet depositor demands for liquidity.” (p. 516) Dymski’s approach is also more flexible in that he considers both the possibility of lending out excess reserves and of borrowing in the interbank reserves market. The explicit consideration of calendar time, however, in his model does not seem to represent any fundamental change when compared to Baltensperger’s treatment, whereas the bank faces a similar challenge as Dymski’s bank: the decision as to how much to lend in the present, given future demands for cash by depositors that cannot be presently known with certainty.

Dymski’s 1988 paper triggered a debate in the JPKE that centered, however, mainly on issues other than the banking firm itself. From the point of view being offered in this paper, however, the main limitation of that work may be its view of the choices open to banks, still focusing on two alternative assets, each endowed with exclusive attributes. A liquidity-preference-of-banks approach should, in contrast, stress choices of a different nature.

IV. Liquidity Preference of Banks: a Post Keynesian Approach

The emphasis on the dichotomy reserves versus loans seems to be an inadequate starting point for two main reasons. Empirically, the accumulation of reserves does not seem to be

\[^{11}\text{See Wray (1989) and Dimsky (1989).}\]

\[^{12}\text{Actually, Dimsky, in his paper presented to the last post Keynesian seminar, pointed out that his 1988 model could be seen as obsolete in important respects, mentioning specifically the treatment of liquidity restrictions on the behavior of banks. See Dimsky (1996).}\]
or to have been, the way in which liquidity needs are actually satisfied. Keynes, in the *Treatise on Money*, had already observed that, “save in exceptional circumstances, all banks use their reserves to the hilt; that is to say, they seldom or never maintain idle reserves in excess of what is their conventional or legal proportion for the time being.” (CWJMK, vol.6, p. 47). The 1930s seemed to have been of those “exceptional circumstances”. Morrison (1966) had shown that American banks did accumulate excess reserves during the depression, displaying that kind of behavior that Friedman called “absolute liquidity preference”. Other cases of excess reserve accumulation during periods of heightened uncertainty are known. In fact, Keynes himself had analyzed one of these situations in detail in his youth.

The second, and most relevant, point was made by Keynes in the following up to that quotation above:

“The problem before a bank is not how much to lend ... *but what proportion of its loans can be safely made in the relatively less liquid forms.*” (p. 47, my emphasis)

According to Keynes:

“what bankers are ordinarily deciding is, not *how much* they will lend in the aggregate (...) 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

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13In fact, Morrison’s work was originally a Ph.D. thesis written under Milton Friedman’s supervision.
14In the second semester of 1995, a banking crisis in Brazil was generally seen as highly probable. Because of that, banks with excess reserves refused to supply interbank loans to institutions that were considered risky. As a result, “liquidity puddles” were formed and forced the Central Bank to reactivate rediscount windows that had fallen into disuse in the recent past. For a discussion of bank difficulties in that period, see Carvalho (1998).
15According to Keynes, right after the outbreak of World War I, business in the London exchange was interrupted given the international nature of most of its deals. Brokers could not honor their contractual debts, particularly with banks. The Bank of England tried to relieve the situation by injecting liquidity into the
investments, i.e. more certainly realisable at short notice without loss, and investments are more ‘liquid’ than advances.” (CWJMK vol. 6, p. 59, Keynes’s emphases)

The point being made is that, in accordance with the generalized liquidity preference approach being proposed here, one should not think of dichotomies between liquid versus illiquid assets, but of degrees of liquidity, associated to the various assets at the reach of banks. The question is not how to compensate the accumulation of earning but illiquid assets with the holding of completely liquid assets that do not pay anything to their holder. These are not the choices considered by banks (in fact, by anybody), at least under normal conditions.

Keynes argues that “bankers are faced with a never-ceasing problem of weighing one thing [profitability] against another [liquidity]”. Finally, it is important to notice that these evaluations change according to the degree of uncertainty felt by bankers: “[w]hen, for example, they [bankers] 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.” (id. pp. 59/60) The expression “liquidity preference” was still to be created, but one can hardly find a more vivid explanation of its influence on banks’ decisions.

Although Keynes clearly recognized that, for the banking system as a whole, the total amount of demand deposits were largely a result of the banks’ own decision to extend loans, the situation would be more complex when dealing with individual banks, since any given bank could not be sure that the deposits it created would not be diverted to another bank. In fact, according with the liquidity preference of banks approach, one should

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16According to Keynes, deposits are created either against the receipt of cash or a payment order from an individual depositor of when it purchases an asset paying for it by establishing a credit against itself.” In both cases the bank creates the deposit”(CWJMK vol. 5, p. 21). Keynes added that “the rate at which the bank can, with safety, actively create deposits by lending and investing has to be in a proper relation to the rate at which it is passively creating them against the receipt of liquid resources from its depositors.”(id., pp. 21/2) What is important, then, is “[e]very movement forward by an individual bank weakens it, but every such movement by one of its neighbor banks strengthens it; so that if all move forward together, no one is weakened on balance. Thus the behaviour of each bank, though it cannot afford to move more than a step in advance of others, will be governed by the average behaviour of the banks as a whole ...” (id., p. 23). This question was
expect the amount and type of liabilities to be issued by a bank to be jointly determined with the amount and type of assets being purchased. This, however, is certainly a very difficult decision to model when we cannot rely on some simple criterion like the equality between marginal revenues and marginal costs, for example.

If, for the moment, we take demand deposits to be the only type of liabilities issued by a bank (Keynes also mentions savings deposits), its balance sheet should be as follows:

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bills of Exchange/Call Loans</td>
<td>Demand Deposits</td>
</tr>
<tr>
<td>Investments</td>
<td></td>
</tr>
<tr>
<td>Advances to Customers</td>
<td></td>
</tr>
</tbody>
</table>

Liquidity preference of banks would be reflected, in this case, in the specific basket of assets chosen by the bank. Given the nature of demand deposits, as Minsky once observed, the bank had to act as if all its liabilities had to be refinanced every day: “they are virtually refinancing their position daily by offering terms that are attractive to their depositors.” (Minsky, 1982, p. 140) Its choices as to how much liquidity it would keep, by sacrificing higher earnings, would depend on its assessment of the risks of depositors being willing to cash those liabilities. Any demand from depositors would be satisfied through one or more of the four following possibilities: the proceeds of earning assets; the sale of earning assets; the issuance of new debt; or the depletion of liquid reserves. If one excludes for the moment the creation of new debts, since it is not reasonable to assume that a bank could pay back deposits or fulfill payment orders in favor of other banks by creating new deposits, we see that there are in fact two choices to generate cash inflows: the incomes generated by the earning assets or the proceeds from the disposal of assets. If incomes inflows generated by assets are not enough to pay for the deposits being lost, some assets will have to be liquidated. It is in anticipation of this possibility that banks should be willing to partially forego profitability in favor of liquidity when choosing assets to purchase. Now, the “power of disposal” over an asset becomes its most important quality.

explored in some detail during the February 21st 1930 session of the MacMillan Committee of which Keynes took part. See CWJKM vol. 20, pp. 87 ss.

17 Keeping in mind that liquid assets include not only cash itself but also “cash-kickers”.

Therefore, the composition of the asset side of the balance sheet will depend on the expectations of bankers as to the possibilities of such contingencies taking place in which assets have to be liquidated. As already observed in section 2, the value this power of disposal over an asset assumes in the eyes of the banker depends on the nature of the bank’s liabilities. In this case, since we are only considering demand deposits, a potentially very risky kind of liability, liquidity premia associated to liquid assets should be vary high.

If uncertainty increases (that is, the degree of confidence on one’s expectations decreases), liquidity preference will rise and asset demands will be biased toward more liquid but less profitable assets. In this case, the supply of credit advanced to customers should decline, even though they are not necessarily replaced by reserves in the balance sheet. Therefore, liquidity preference of banks determines the value, that is, the market price of those assets that can be purchased by them. These market prices depend on the present value of expected monetary returns from each class of assets, on their liquidity premia and on the available stocks of each asset. One important qualification to be made is that, in the case of banks, advances to customers can be increased when their own-rates of interest are higher than those of other assets. Nevertheless, that advances to customers can be easily “reproduced” does not invalidate in the least the scheme, quite the opposite. It is the situation in which this kind of asset is in heavier demand that its value goes up, inducing the bank to purchase more of these assets, thereby extending credit.

Summing up the argument so far, for a given state of expectations, that includes the prospective returns of each class of assets, the degree of confidence on those calculations and an evaluation of the power of disposal of each type of assets, and their liquidity preferences, on one hand, and the nature of their liabilities, on the other, banks will not (“save under exceptional circumstances”) choose between idle reserves and loans, but will distribute their investments between the various kinds of assets and determine their prices. For a given state of expectations, banks’ liquidity preferences will determine the desired profile of the assets they purchase and at their prices, that is, the rate of returns each type of asset must offer to compensate for their degree of illiquidity.
Thus, we can read banks’ liquidity preferences from their balance sheets. In Keynes’s times attention was mainly given to the types of assets being purchased, given their assumed narrow choice of liabilities.

Besides the risks represented by their potential volatility, bank deposits are (or were) also usually subjected to reserve requirements that increase the costs of these liabilities to banks, particularly in periods of tight money when those requirements can be raised by the monetary authorities. In the liquidity preference approach, the same kind of concerns that explains how investments are distributed among the different categories of assets may lead to a diversification of sources of funds as well. Thus, liability management practices developed under the stimuli provided both by attempts by central banks to restrain deposit expansion in inflationary periods and by the creation of substitutes for demand deposits by competing institutions that attracted resources away from banks. In fact, liability management is as natural an element of the liquidity preference approach to the banking firm as asset management was in Keynes’s original description. Minsky’s well-known classification of investors as hedgers, speculators or Ponzi shows how holding a given collection of assets could be financed through different combinations of financial costs and risks. The central insight remains that liquidity preferences are read in the profiles of balance sheets and the values of each class of assets. Generally, if safety is a factor, the profile of debts issued by an agent has to have a crucial influence on his decision as to what combination between expected returns and risks to buy.

In this case, we could consider a richer balance sheet structure, as in the following example:

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Demand Deposits</td>
</tr>
<tr>
<td>Treasury Bills</td>
<td>Time Deposits</td>
</tr>
<tr>
<td>Bills of exchange/call loans</td>
<td>Interbank Borrowing</td>
</tr>
<tr>
<td>Interbank Loans</td>
<td></td>
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<tr>
<td>Longer-term securities</td>
<td></td>
</tr>
<tr>
<td>Loans to customers</td>
<td></td>
</tr>
</tbody>
</table>

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18But Minsky reminded us that a “commercial bank cannot be a hedge-financing unit” (Minsky, 1986, p. 207).
The most important difference between this balance sheet and that presented before is the variety of liabilities types in this case. From the liquidity preference standpoint, we have a similar choice to what we have defined before, with signs reversed. We can still think of a tradeoff between interest rates and safety. Now, however, interest rates measure directly how much the bank is willing to pay to reduce the possibility of being surprised by an untimely demand for payment from its lenders, including depositors.

The liquidity preference approach would naturally explain the balance sheet strategy, rather than choices of individual assets or liabilities, according to the perception of risks and profit opportunities by banks. As in the preceding example, above, the supply of bank credit, in this approach, is not passively determined by borrowers. It would rather depend on each bank’s assessments not only of the specific credit risks each borrower represented, but also on the nature of the liabilities issued by the bank, the need to be ready to meet the contractual cash outflows even under adverse conditions and the own-rates of interest of the other classes of assets.\footnote{As Dow (1996) stated, the decision to supply credit may depend on the “mood” of the financial institutions when deciding whether or not collaterals are acceptable. Dow and Dow (1989) had already stressed that the choice between advances to customers and liquid assets influenced the supply of credit.} Assets have to be evaluated not only by their expected returns, but also by their liquidity premia, the latter meaning, now, both its marketability and its potential use as collateral in debt-issuance by the bank.\footnote{This latter meaning of liquidity is particularly important with the growth of repurchase operations in recent times.} One should notice, in any case, that having dated liabilities in its balance sheet reduces the uncertainty for the bank as to cash outflows, reducing the value of liquidity as attribute of assets. In this case, one should expect that banks would invest more in profitable assets and less on those assets whose main quality is liquidity.

Finally, it is important to notice that the “power of disposal” over a given asset can vary not only because of expected changes in market conditions but also because of “structural”, permanent, factors. As Kaldor (1980) and Davidson (1978) have shown, an asset’s liquidity is largely determined by the permanent characteristics of its markets. Liquidity is not a natural quality but results from the creation of specific market institutions. The creation of
a market is costly and viable markets are those sufficiently dense to allow those costs to be shared by those who operate in it. Density of markets depends on features of the commodity that is being transacted. In particular, standardization is a crucial requirement because it makes all items close, if not necessarily perfect, substitutes for one another. Standardization, thus, allows markets to be created increasing the liquidity premium of that commodity and altering its value in the eyes of the investor. If, for some reason, expected returns from a given class of assets begins to fall, it is possible to keep it attractive to investors if its liquidity characteristics are also altered. The success of securitization, that is now reaching bank loans, is an example of this kind of change. In fact, securitization changes the nature of the operation performed by the bank. Its liabilities are reduced so the risks the bank is subjected to are lowered. It is all made possible because the loan that is securitized becomes very liquid; in fact it becomes so liquid that the bank can simply sell it right away. Again, balance sheet profiles should reflect these structural changes in liquidity premia.

Among the recent structural changes that have affected banks’ choices as to liquidity and expected return perhaps the more important is the rapid development of derivatives markets that is in fact still going on. To a large extent, derivatives markets satisfy a similar demand as secondary markets. They are devices that allow a reduction of the risks associated with any specific asset position. Since any portfolio decision implies a specific bet on expected returns and identifiable risks any bank balance sheet strategy can be portrayed and analyzed according to options theory, including, when it happens, the accumulation of reserves, as Kregel (1997) has shown. Options theory, still beginning to be accepted in larger circles is amply compatible with the liquidity preference approach presented here.21

V. Conclusions and Implications

The banking industry has been undergoing a process of deep transformation. The classical type of institution that limited itself to create demand deposits demand deposits and made short-term loans to finance working capital seems to be either disappearing or being

21 The increasing complexity of ways and means to satisfy liquidity preferences of banks is described in Federal Reserve Bank of New York (1990).
gradually confined to a marginal and secondary role in the financial industry. The traditional approach to the banking firm that phrased its decision problem in terms of deposits, loans and reserves is disappearing with it, if it was ever entirely adequate.

Banks, however, are changing, not disappearing (Kregel, 1997). Liquidity preference theory, as a theory of balance sheet determination, allows us not only to portray banks’ decision problems in a more precise way but also to understand the nature of the changes that are taking place in this industry. Its starting point is that every asset offers a mix of expected monetary returns and a liquidity premium in opposition to the traditional approach in which an asset gives only monetary returns and the other only liquidity. On the other hand, each mix of liabilities implies a different combination of costs of servicing debts and of risks of being unable to rolling them over if needed. Liquidity preference determines which mix of assets and liabilities is acceptable to each individual agent, be it a person or an institution, like a bank. Therefore, liquidity preferences will be shown in the collection of assets an agent chooses, their market values and his/her collection of liabilities. So a bank’s decision problem is how to distribute the resources they create or collect among these different items that offer specific combinations of expected monetary returns and liquidity premia, instead of just choosing between reserves and loans or of passively supplying whatever amount of credit is demanded. Banks’ liquidity preferences describe their balance sheet strategies, not their demand for money, not even their demand for outside money. On the other hand, banks with liquidity preferences will not accommodate passively the demand for credit but will compare expected returns and liquidity premia of all purchasable assets.

There many important implications to be drawn from this approach. Two of them will be mentioned in this concluding section. Firstly, it offers a possible explanation for the cyclical turning points that transform an expansion into a contraction of the economy. A booming economy requires a growing concentration of a bank’s investment on “advance to customers”, to use Keynes’s language. This is made easier by the fact that until the last moments of a boom safety is not a good in heavy demand, neither by borrowers nor by banks, since in a rapidly growing economy practically any project seems to be potentially successful. On the other hand, its lower liquidity, when compared to more liquid
investments, such as call loans, bills, etc, is compensated by its higher profitability. As Minsky and Keynes show, this implies a growing exposure of banks to illiquidity risks. Even if the monetary authorities do not take any measures to force banks to reduce their exposure, a limit will be reached when more liquid assets become so rare in banks’ balance sheets that they will try to redress the balance between returns and liquidity. A turning point in the economy will result from the reduction or deceleration in the growth rate of credit resulting from the reshuffling of assets in the balance sheets of banks. A financial crisis ensues when banks try to retreat to more liquid positions.22

A second area where this approach has some important implications is, as Kregel suggested in his 1984/5 paper, the question of the endogeneity of money. A large part, perhaps most, of the literature about the endogeneity of money focus their argument on the power of the central bank to resist banks’ demand for reserves to validate the latter’s previous creation of deposits. In particular, the contenders take the debate to be defined in terms of what instruments, if any, are really under the control of the monetary authority, the monetary base (for the “verticalists”) or the interest rate (for the “horizontalists”). To consider the liquidity preference of banks allows us to discuss whether or not money is endogenous independently of the different question of which variable is controllable by the central bank. Endogenous variables are those whose values are determined in the solution of a model. A liquidity preference approach to banks’ decisions has money, that is, deposits determined in the model, thus an endogenous variable, because money is created as a result of private decisions of banks, independently of whether the central bank controls the monetary base or the interest rate. In fact, this approach allows us not only to consider money as largely endogenous (which does not mean a “horizontalist” view) but also to follow the impact of banks’ decisions on the economy. Using again Keynes’s language, when banks decide to make call loans or to buy bills or other securities (what Keynes meant by “investment”), they are directing the deposits they create or control to the financial circulation. When making “advances to customers” they are pouring deposits into the industrial circulation. Only the latter is directly related to the demand for goods. The

22 As in the classical discussion by Keynes (Keynes, 1963), part II, chapter 7, “The consequences to the banks of the collapse of money values”.
first two categories direct money to the circulation of assets that have no definite relation to the demand of goods.\(^{23}\) Thus, to consider banks’ liquidity preferences allows us to go further than the mere discussion of how much money is created to discuss what proportion of it is directed to support income-generating activities, which is a dichotomy that the endogenous/exogenous money debate seems to have unfortunately ignored. A fuller exploration of this point, of course, is not possible in the limits of this paper.

**REFERENCES**


\(^{23}\)The deflationary influence of a diversion of deposits from the industrial circulation to the financial circulation is mentioned many times in the Treatise on Money. See, for instance, chapters 23 and 37. (CWJMK, vol. 6, chs. 23 and 37).


