

LIQUIDITY PREFERENCE OF BANKS AND ECONOMIC CRISES¹

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1. Introduction

A few decades ago, Minsky raised the question whether “it” could happen again. Of course, “it”, for Minsky, meant a sequence of an adverse shock to highly fragile financial markets, a debt deflation process and a depression in productive sectors, with high unemployment and widespread idle capacity. It is not clear whether Minsky’s view should be taken as “the” model of a depression, or simply “a” model of depression. Keynes, for one, indicated that financial crises were not a necessary condition for a depression when he observed that although a financial collapse had taken place in the United States in the early 1930s, in Great Britain the depression was a result of serious balance of payments imbalances. Whether or not financial crises have to precede a depression, both authors agreed that an adverse shock to the economy serious enough to lead to a significant contraction of output and employment should cause an increase in liquidity preference that would result in the fall of prices of illiquid assets. Rising uncertainty would shift the liquidity preference schedule by pushing the precautionary demand for liquid assets upwards.

A rising demand for liquid assets should not be confined to households and non-financial firms. According to Keynes and some of his followers, similar behavior would be exhibited by banks and other financial institutions.³ In fact, changes in liquidity preferences, particularly of banks and firms, are assumed to explain the main features of the trade cycle itself.⁴

Among mainstream economists, liquidity preference is simply a fancy name for money demand (more than one critic of Keynes denounced his alleged inclination to give new

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³ Quote: Keynes, Minsky, Davidson, Kregel, Dow, Cardim de Carvalho, etc.

⁴ “The essential liquidity preference in a capitalist economy is that of bankers and businessmen, and the observable phenomena that indicate the state of liquidity preference are the trends of business and banker balance sheets.” (Minsky, 1982: 74).

names to familiar concepts). As it will be argued below, however, liquidity preference is, in fact, Keynes's theory of asset pricing, whereby assets are conceived to offer two types of return: a monetary return (either from income revenues, such as interest, profits, dividends, rents, etc, or by capital appreciation) and a liquidity premium, represented by the value of the implicit insurance an asset offers its possessor in the form of easiness of disposal. Uncertainty is assumed to explain the desire for safety and, therefore, for liquidity. Varying uncertainty is reflected therefore in changing liquidity premia and in the price of assets resulting from changes in the *value* of liquidity for wealth holders. A flight to liquidity during crises would explain the collapse of the price of illiquid assets and its consequences, such as a fall in investment.

Of particular importance is the rise of liquidity preference of banks, since, as Minsky suggested, it has a direct impact on its balance sheet choices. Since the object of banks' investments is basically debt of firms and households, a rise in banks' liquidity preferences causes a contraction of credit in the economy, aggravating any contractionary movement already in existence. If financial crises are serious enough to durably increase banks' liquidity preferences, even an improvement in the expectations of households and firms may not be enough to cause the economy to recover, for the lack of credit to resume production.

The concept of liquidity preference is complex, and its application to the banking sector raises even more problems. In what follows, some of the main issues of this debate will be discussed, from the meaning of liquidity preference as Keynes's model of asset pricing, in section 2, to the types of evidence that can be adduced to examine the validity of the concept in section 4, discussing in-between the validity of the concept as applied to banks in section 3. Section 5 summarizes the main conclusions of the paper.

2. Liquidity Preference and Asset Prices

In the decades that followed the publication of *The General Theory*, the expression liquidity preference was used to describe a demand-for-money function. The Marshallian version of the quantity theory of money stated that the demand for money was a relatively stable function of income, since money's main function was assumed

to be to serve as means of payment. Marshall had already admitted that the velocity of money could change because of factors such as interest rates or inflation. For orthodox readers, liquidity preference was little more than a formalization of the latter possibility, whereby Keynes showed that changes in velocity were correlated in a definite way with variations in interest rates, through what he called the speculative demand for money. There was also a precautionary demand for money, which could complicate the picture, but Keynes himself in *The General Theory* dramatically downplayed the importance of this demand, notwithstanding the fact that later he seemed to regret having done it.⁵ Liquidity preference, in these terms, was easily absorbed by more sophisticated versions of the quantity theory of money as in Friedman's "restated" model.

This interpretation became conventional wisdom when it was used to build the money market equilibrium as the LL function in Hicks' classic 1937 *Mr Keynes and the Classics* paper. Since only a few ever bothered to actually read Keynes's book, it went unperceived that liquidity preference theory is actually a theory of asset pricing, and is fully developed in chapter 17, not in chapters 13 to 15, as is usually considered. In chapter 17, Keynes changes the aggregative structure he used in the previous chapters. Instead of the two asset structure (money and one non-monetary asset), he considers n different assets, each of which earns a specific own-rate of interest. Own-rates of interest are constituted by two elements: expected net cash returns, either as incomes or as capital appreciation, and liquidity premia, the intangible gain represented by the easiness with which one can dispose of a given asset. Of course, money has the highest of all liquidity premia, but all other assets also have it in some degree.⁶ Taking in consideration cash returns and liquidity premia, one can determine prices (and, thus, interest rates) for all assets. The theory presented in chapters 13 to 15 only differs from the one offered in chapter 17 by the aggregative structure that is employed each time.⁷

⁵ Carvalho (2009).

⁶ Townshend (1937).

⁷ Thus, if one considers two assets, money and one non-monetary asset, if one takes money to be the numeraire, the price of money is 1, so that determining the price of the other asset means

Keynes's approach to liquidity preference can be summarized in the statement that each asset must be expected to pay cash returns high enough to compensate its relative degree of illiquidity. It can, and was, extended in many directions. Kaldor (1980: ch. 2), for instance, used it to explore arguments that Keynes originally put forward in the *Treatise on Money*, in relation to liquid capital pricing. Of more interest to the present discussion were Minsky's extension of those concepts to deal with *balance sheet* decisions, rather than just *asset* choices and the use of the model to approach bank behavior, along lines also originally put forward in the *Treatise on Money*.

Minsky's argument is, by now, well known: the decision to purchase assets, in volume and structure, depends on the nature of the liabilities that will be used to finance the operation. Ultimately, asset revenues have to be sufficient to validate the commitments made when issuing liabilities. Not only a buyer of assets must be solvent (net present value of assets at least equal to the net present value of liabilities), it is also necessary to be liquid (be able to make payments when they are due). Building illiquid positions, as it is the case of speculative and Ponzi investors, in Minsky's language, is the most important bet asset holders accept in capitalist economies. An asset buyer is exposed to insolvency risk when it leverages its investments and to illiquidity risk when it accepts maturity mismatchings in its balance sheet between assets and liabilities.

Keynes's central argument presented above is not changed by the consideration of the problems Minsky raised. If anything, the consideration of liabilities and the need to honor cash commitments when they fall due only strengthens the centrality of the concept of liquidity and of liquidity preference. Minsky, in fact, considers a larger set of assets that can satisfy liquidity preference. Cash, of course, still keeps its pride of place, but Minsky calls attention to two other set of assets that are demanded mostly for liquidity purposes. The first he called cash kickers, earning assets that offer low cash returns but can be negotiated very easily (such as T bills, for instance). The other set of assets include everything that is normally accepted as collateral in short-term loans. In both cases, liquidity is lower than in the case of cash proper, but assets that can be sold

finding out "the" interest rate. One should notice that this is neither the short- nor the long-term rate of interest. There is only one rate of interest if there is only one non-monetary asset.

easily or used to get a loan can compensate their marginal illiquidity (when compared to cash) with their money yields.

Taking explicit consideration of differing degrees of liquidity is precisely the starting point of the liquidity preference approach to banks' asset purchases offered by Keynes in the *Treatise on Money*. The argument is the same as offered in *The General Theory*: banks choose assets according to their expected cash returns and their degree of illiquidity. In contrast with orthodox models of bank behavior, Keynes clarifies his approach by considering three types of assets: call loans, investments and advances to customers, in descending order of liquidity and ascending order of cash returns. Under normal conditions, Keynes stated, banks do not keep excess reserves, they satisfy their need for liquidity by favoring liquid over illiquid (even if better-paying) assets.

A central proposition of liquidity preference theory is that when uncertainty increases wealth-holders tend to switch their portfolios toward more liquid assets, and, in particular, toward money. This means, of course, that if one traces a liquidity preference schedule in the interest rate/money demand space, the whole function is shifted upwards when uncertainty increases, but also that, among non-monetary assets demand is reduced for the less liquid assets and increased for those which are considered more liquid, changing their prices accordingly (and their rates of return).

Liquidity is defined as the degree of easiness with which an asset can be converted into something else. Naturally, convertibility means marketability, since a given asset has to be sold before one can buy something else. Marketability, on the other hand, can be assumed more assuredly when the asset is rare enough to allow its holder to consider, *ex ante*, that it would be sold, if needed, easily. In other words, for an asset to have a significant liquidity premium its holder or potential buyer has to believe that there will always be a reservation demand for that item, or, as it is the same thing, that the item is rare enough to maintain a high likelihood that its holder will be successful in selling it when it is so desired.⁸ For obvious reasons, money is the most liquid asset, since the first part of the transaction can be dispensed with in the case of money holdings. But, again

⁸ Of course, marketability means not only that the asset can be sold quickly but also that it can conserve its value, that the sale, therefore, can be completed without inflicting significant losses on the seller.

according to Keynes, money can perform this role because its elasticities of production and substitution are zero or negligible. The reason is that:

" ... it is unlikely that an asset, of which the supply can be easily increased or the desire for which can be easily diverted by a change in relative price, will possess the attribute of 'liquidity' in the minds of owners of wealth. Money itself rapidly loses the attribute of 'liquidity' if its future supply is expected to undergo sharp changes." (Keynes, 2007: 241, fn 1)

Liquidity preference, therefore, should be seen as a theory of asset pricing, by which it is recognized that assets can generate returns either in the form of cash revenues or in the form of insurance against unexpected (and unpredictable) adversities. The combinations of both "attributes", as Keynes called them, determines the prices of assets when money is taken as the numeraire. The particular concept of uncertainty that is proposed by Keynes makes holding money the best defense, meaning that money's liquidity premium will be the highest among all assets. So besides being the *measure* of value, money is also not only a *reserve* of value but in fact the most desired asset when one is looking for protection against unknowable-in-advance events. Minsky, on the other hand, added the argument that money is desired not just because it can give flexibility to wealth-owners to change the composition of their wealth if they so desire but also because cash and its close substitutes give the asset holder the assurance it needs that its debts can be honored and bankruptcy avoided.

3. Why Do Banks Have Liquidity Preference?

Households and firms accumulate liquid assets, including money, despite their normally low yields firstly because they recognize that their expectations as to the future returns of assets can be disappointed, but also because debts contracted to finance the purchase of those assets will have to be honored in any circumstance. Households and firms do not produce money, so to make sure their debts will be honored they have to accumulate what is accepted as means of payment in their particular economy. If, in

contrast, it was possible to pay debts with IOUs, there would be much less demand for money to keep as reserve of value.⁹

The reason for banks to exhibit liquidity preference is less obvious. After all, the largest component of the stock of means of payment available in any modern entrepreneurial economy is demand deposits at commercial banks. Bank liabilities in the form of deposits actually are money: banks can actually pay debts with their IOUs. Or can they?

Post Keynesians explain the *moneyness* of bank deposits by its closeness to legal tender. It is government debt which is the bedrock of liquidity in a capitalist economy. As Minsky put it:

“The ultimately liquid assets of an economy consist of those assets whose nominal value is independent of the functioning of the economy. For an enterprise economy, the ultimately liquid assets consist of the domestically owned government debt outside government funds, Treasury currency, and specie.” (Minsky, 1982: 9).

Bank deposits become money because of the support structures that are created to guarantee the convertibility at par between deposits and legal tender. It is these support structures that confer moneyness to deposits. The public came to accept deposits as a close (or even superior, given its convenience) substitute to legal tender because they trust those support structures. The State has shared its power to create money with the banking sector by extending to the latter's liabilities guarantees that convertibility at fixed prices is assured by the power the State has to create enough of its debts to exchange for the deposits created by banks.

The same principles are supposed to work for the banks themselves. Banks can make payments to households and firms by issuing IOUs, that is, by creating deposits, when they buy assets (such as debt contracted by households and firms). However, banks cannot pay each other or to comply with central bank regulations, like the obligation to keep compulsory reserves, with these IOUs. They need an *outside* money to do it.

⁹ Minsky: anybody can create money, the problem is to have it accepted. Under normal conditions, one can assume convertibility. But at critical junctures, when confidence is shaken, the situation changes, in particular if the access of the debt issuer to actual money is doubted.

Even more important, should the public demand redemption of deposits, banks have to be prepared to honor its obligations by disposing of legal tender. As Keynes pointed out in the *Treatise on Money*, banks too have to take the likelihood of having to make these payments when they decide the composition of their asset portfolios.¹⁰

Under normal conditions, the implication of acknowledging the existence of liquidity preferences is that portfolio (or balance sheet) choices are sensitive not only to variations in the relevant interest rates but also in perceived uncertainties, precisely because they influence the demand for low-yield but liquid assets. For Keynes and Post Keynesians, this is a valid proposition both in what concerns non-financial entities, such as households and firms, *and* banks themselves.¹¹

A key factor, therefore, to determine the dynamics of such a situation is how far banks can count on the public accepting deposits as perfect substitutes for legal tender. But the confidence on the government backing of bank deposits is rooted in the actual operation of specific stabilizing institutions and it can be shaken under certain circumstances. Of course, when an economy is prosperous there may not be any reason to doubt that bank debts will be honored, because there is the expectation that banks' investments will pay. Of course, under such conditions not only bank debts but

¹⁰ Keynes (1971: 47): 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." Keynes (1971: 59): " ... what banks 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 investments, i.e. more certainly realizable at short notice without loss, and investments are more 'liquid' than advances."

¹¹ Keynes (1937: 665, 666): "In order that the entrepreneur may feel himself sufficiently liquid to embark on the transaction, someone else has to agree to become, for the time being at least, more illiquid than before. ... In a simplified schematism, designed to elucidate the essence of what is happening, but one which, in fact, substantially representative of real life, one would assume that 'finance' is wholly supplied during the interregnum by the banks; and this is the explanation of why their policy is so important in determining the pace at which new investment can proceed. Dr Herbert Bab has suggested to me that 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-theory of the rate of interest; but particularly so within the field of 'finance'."

other private agents' debts can also function as money as long as there is confidence that debts issued by them will be repaid. If there is no suspicion that these debts may not be honored, a secondary market can develop allowing these debts to become liquid. But these times are not adequate to test the importance of liquidity preference, because when the state of confidence is up, the demand for protection falls and almost anything can satisfy it.

During crises or other moments of heightened uncertainty, however, it becomes impossible to ignore that private agents' debts are exposed, first of all, to credit risks, which by itself tends to reduce its attractiveness, eliminating the most important attribute of a means of payment: the presumption of acceptability by others.

Are banks immune to these collapses of confidence? Of course, in the case of banks deposits there are many elements to support the moneyness of their deposit liabilities, not the least important of which is the explicit support that is given by the state through the action of the central bank, as a lender-of-last-resort to solvent but illiquid banks. This support, however, was created as a result of bank runs and other similar episodes of loss of confidence in the ability of banks to honor their debts. Some key support institutions, such as, notably, deposit insurance, were created in reaction to bank runs in the 1930s. Rising uncertainty related to the solidity of the banking sector in the United States caused a run to cash deposits. The public's liquidity preferences increased steeply and only the "ultimate liquid assets", government money, as Minsky put it, could satisfy them. Banks themselves, on the other hand, increased their liquidity preference to be prepared to satisfy the demands of the public.

Most analysts would agree, at least until recently, that the institutions created in reaction to the bank runs of the Great Depression had all but eliminated the problem of confidence in deposits, and, by implication, in the solidity of banks themselves. As a consequence, banks' liquidity preferences should also have been largely attenuated, perhaps to the point of irrelevance. Particularly those banks which were able to grow to the point of becoming "too big to fail" would be so safe that their liabilities (and not only deposits) should become practically perfect substitutes to government money. The public's liquidity preference should be satisfied by holding bank deposits and similar

liabilities, while banks' liquidity preferences should all but disappear as an independent determinant of banks balance sheets policies.

The financial crisis initiated in 2007 in the United States shattered these views. Bank runs of the "classic", of course, remained a rare phenomenon.¹² Although the news about problem banks were abundant, particularly in 2007 and 2008, depositors didn't seem to panic, apparently trusting in the ability of the authorities to honor the guarantees that supported deposits. In contrast, trust seemed to have collapsed *within* the financial system. The perception that the vulnerability of all classes of financial institutions, including banks themselves was much higher than imagined led to a sudden increase in liquidity preferences that not only caused a collapse of the prices of less liquid assets but also to a rationing of credit between financial institutions.

The dramatic shift in the liquidity preference schedule of financial institutions in general, and of banks in particular, seemed to have relied on four sources of uncertainty: 1. Doubts about the willingness and the capacity of central banks to operate as lender-of-last-resort in large scale, given the recent adherence of many major monetary authorities to policy regimes of the inflation-targeting type; 2. Doubts about the status of liabilities issued by so-called *shadow* banking system from the point of guarantees; 3. The cost of appealing to government support; and 4. Doubts about the ability to keep access to securitized markets as sources of finance.

The first source of uncertainty was about how far banks could count on the support of central banks in the case of a sudden need for liquidity. With the major exception of the Federal Reserve, practically all central banks design their policies nowadays within an inflation targeting regime. Until the crisis began to spread, central banks seemed to recognize no other goal than fighting inflation. The European Central Bank, in particular, was not even endowed with the necessary instruments to function as a lender-of-last-resort, something that was much emphasized by concerned analysts when that institution was created. Even more worrying, the two chairmen that have so far led the institution were adept of an extremely conservative rhetoric singling out the fight

¹² With some exceptions, easily explainable, however, by imperfections in the deposit insurance mechanism, as seemed to be the case with the run against Northern Rock in the UK.

against inflation as their only goal. How would such institutions react to a widespread and very strong demand for liquidity? Signals were ominous: from all corners came a condemnation of Alan Greenspan's policies to freely supply liquidity, causing a steep fall in interest rates during the hard times in the US at the beginning of the millennium, particularly after September 11. Would such people understand that ample liquidity at low interest rates was exactly what was needed again?

Secondly, even if the monetary authorities were willing to extend the safety net to protect the banking system, it was not obvious how this could be done, given that a large, maybe the majority, of the liabilities under threat was issued through the institutions that formed what became known as the shadow financial system. The expression identifies the set of new institutions, many of which were formed only to escape or circumvent regulatory restrictions, such as special purpose vehicles, conduits, etc, which operated alongside banks and investment banks. Much of the liabilities under threat were generated or held by these institutions, which by statute could not count on the support of central banks. Nevertheless, banks, as well as other financial entities connected to them, such as the investment and hedge funds they managed, remained connected to them, at the very least because clients had been attracted on the basis of their reputation.

The third source of uncertainty related to the costs of appealing to government authorities for help. Besides the usual aversion for raising the attention of financial supervisors to practices and innovations that banks might have preferred to maintain obscure, it was also necessary to consider how the markets and the public in general would receive news that a particular financial institutions had to seek support from the authorities. The stigma that is supposed to follow every appeal for help could be even worse in the middle of a situation already verging on panic.

Finally, in recent decades banks and other institutions had more and more resorted to the issuance of securities to replace deposits as sources of finance. Commercial papers, ABSs, and other types of securities had become increasingly important classes of liabilities for those institutions and the collapse of these markets in the aftermath of the subprime crisis threatened to close their access to liquidity precisely in the moments

it was needed most. Guarantees for these securities, however, was given by banks themselves, not by lenders of last resort.

The strong reaction to these uncertainties should not be surprising. As it happened in the bank runs of the past, the increase in liquidity preference of banks manifested itself in a sharp increase in the demand for the most liquid assets, including cash itself, and in attempts to dump illiquid assets, causing their prices to collapse and transmitting liquidity pressures to other financial institutions. Dumping illiquid assets meant, in Keynes's *Treatise on Money* language, trying to sell investments and avoiding advances to customers, that is, loans to firms and consumers.

The macroeconomic importance of liquidity preference was to be the channel through which rising uncertainty was transformed into deflationary pressures on the economy, causing a rise in unemployment and a fall in output. The increase in liquidity preference of banks would worsen the situation since a retreat from illiquid assets would be transmitted to the rest of the economy through a contraction of credit. Such a phenomenon should be self-amplifying: a fall in credit supply would hit firms and consumers immediately, leading to a further contraction in aggregate demand which should cause many agents to pass from solvency to insolvency, worsening future perspectives and strengthening liquidity preference. In the absence of effective stabilizing policy measures from the government such a situation could evolve into a depression, which seemed to be what Minsky had in mind in his view of how a depression could come about.

From this point of view, the reaction of the authorities was swift and, on balance, very effective. In fact, the most remarkable feature of the support policies adopted both in the US and in Europe was the extension of guarantees to "non-conventional" markets and instruments addressing directly the uncertainties just listed. Even if it was not possible to avoid the crisis to deepen, the sharp increase in the liquidity preferences of banks observed in 2007 and 2008 seems to have been largely reversed in 2009, as it will be shown in the next section. If this is true, it may be possible to state that the probability of the current recession developing into a full-fledged depression has diminished significantly.

4. Evidence in favor of the Liquidity Preference of Banks' Hypothesis

In The General Theory Keynes assumed the supply of money to be given, set by the central bank. Under these conditions, variations in liquidity preference would be manifested entirely in changes in the prices of assets (and their interest rates). If one admits that stocks of assets, including money, may exhibit some changes even in the short term, evidences of liquidity preference should be sought not only in prices of assets but also in their amounts held by private agents (including banks). Accordingly, in this paper we will try to present four types of data for examination, related to liquidity preference of banks: 1. Accumulation of excess reserves; 2. Prices of reserves obtained both with the central bank and in the interbank markets; 3. Shifts in bank portfolios; and 4. Prices of liquid and illiquid assets.

It is still too soon to have solid information as to the behavior of financial markets during the current crisis. Nevertheless, some tentative remarks can be advanced based on the already available information. Thus, data collected by the IIF show that by the end of 2008, banks in Europe and the United States sharply increased their excess reserves from a level a little above zero to more than US\$ 600 billion in the US and a little under € 300 billion in Europe. While the reserves of European banks oscillated since then, American banks have kept the same high level of excess reserves at least until August 2009 (IIF 2009: 10, graph 2). The preference for the safety of cash reserves has led banks to forego gains in the interbank markets in both areas (IIF 2009: 10, graphs 3 and 4).¹³

Indicators of the value of liquidity are also exhibiting behavior compatible with a sharp increase in liquidity preference. For instance, the spread between the three-month Libor/Euribor and the overnight swap rate opened in September 2008 almost 400 basis points before it fell down again to pre-crisis levels by mid-2009 (IIF 2009: 9, graph 1). Spreads on corporate bonds in the United States reached almost 700 basis points by the end of 2008 both for investment grade and high yield bonds, which were very close, again an indication that liquidity preference was moving the market rather than considerations of credit risk. Similar behavior was observed in Europe, where the spread

¹³ On the accumulation of excess reserves, Morrison (1966).

between investment grade and high yield bonds was practically zeroed. (IIF 2009: 11, graphs 1 and 2).

Finally, as proposed above, the increase in banks' liquidity preference should impact negatively the supply of credit, the less liquid of financial assets. Bank lending to households and firms in the United States was still contracting in early 2009 (IIF 2009: 3, graph 4) and surveys of credit standards were still pointing to a tightening in 2009, although at better levels than in late 2008 (IIF 2009: 8, graph 1). Credit standards were also tightening in Europe and loans to businesses were contracting in the UK (IIF 2009: 8, graphs 5 and 3, respectively).

Naturally, these data cannot give more than an impressionistic view of the situation, although it is one in wide agreement with all the qualitative evidence that became available since the beginning of the crisis. The data also show a recent improvement in financial conditions, which is compatible with the hypothesis that an increased level of uncertainty had caused the liquidity preference schedule to shift upwards in 2008 but that the forceful intervention of monetary authorities had contributed strongly to reduce those uncertainties allowing some degree of normalization of financial markets. More information, quantitative and qualitative, has to be accumulated, however, before any judgment can be passed on the validity of the arguments raised in this paper.

5. Conclusion

This paper proposes to use the concept of liquidity preference of banks to study the behavior of financial markets since the crisis began in the United States and to identify its implications. The theoretical approach adopted starts with Keynes's theory of liquidity preference, whereby assets are demanded both for the expected cash returns they offer and their liquidity premia, that is, the likelihood of being resaleable easily and without significant losses if their holder needs or wants. In times of heightened uncertainty, the value of liquidity increases and less liquid assets have their prices diminished as a result of lower demand for them. In *The General Theory* this behavior is attributed to households and businesses, but in the *Treatise on Money* Keynes had already suggested it would be typical of banks too. Building on the extensions of this

approach by Minsky and others, the paper presents a more thorough discussion of the concept of liquidity preference of banks.

An important implication of liquidity preference theory was to identify the deflationary pressures generated by the demand for liquid assets. Applied to banks, this means that when uncertainty is increased and banks shift to liquid and fully liquid assets, credit to households and businesses, the less liquid of banks' assets, can be reduced, transmitting deflationary pressures to the rest of the economy.

Although available data is still very limited in scope and detail, the paper uses them to give preliminary support to the hypothesis it advances.