

Where does Keynes' liquidity preference theory come from?

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Abstract

This essay questions the origin of liquidity preference theory. Usual opinion on the keynesian revolution focus on internal history of economics to explain the creation of liquidity preference theory whereas we argue that understanding the creation of liquidity preference demands to adopt a larger perspective. We recover the evolution of the meaning of the concepts liquidity, preferences and speculation to understand how Keynes was able to enhance previous analysis of the demand for money by introducing new elements inspired by writings of N. Johannsen, R. Fry, G. Selden and B. Anderson. Liquidity preference underscores Keynes' liberal political philosophy, his involvement in different activities (economics, art and finance) and his ability to connect empirical and logical viewpoints.

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It is one of the interesting and perhaps insufficiently recognized social and economic phenomena of the times that the extraordinary development of education, communication and publication tends to make all mankind think alike, hope alike, fear alike - all at once. (...) It is then the special duty of educated men to recognize this factor of mob opinion or emotion as something to be dealt with, a real factor, to be allowed for, to be weighed and considered, as something that does in fact exaggerate the swings of the pendulum, that makes booms riotous, and depression panicky, as something we may have to bow before - but we needn't agree with. (letter from R. C. Leffingwell to T. W. Lamont, 1932, cited in Pulling, 1979: 170)

1 Introduction

Liquidity preference is still a central concept in economics. From a microeconomic point of view, it is the application of the marginalist theory of choice to the demand for money (Heijdra and Van der Ploeg, 2002). Keynes explained the detention of money by the existence of three motives : the transactions-motive, the precautionary-motive and the speculative-motive (Keynes, 1936, VII: 170). Based on liquidity preference theory, the Central Bank sets the rate of interest in order to control the price of financial assets through the demand for money. The higher the rate of interest, the lower the price of assets with given expectations, and the higher is the demand for money. In post World War II Macroeconomics, liquidity preference was at the core of the relationship between money markets and asset markets. Keynes was then credited with allowing the integration of money into „classical,“ economics (Panico, 1987: 215).

Since its birth, liquidity preference has been the subject of many articles without any apparent consensus on its foundations and meaning¹. Liquidity preference has evolved like an ice-barrier constituted of various layers of ice, each contribution adding its own explanation without removing the others. In this kind of situation, we usually go back to the original text by reading what the creator of the concept has written and try to guess how it could help to provide a solution to modern analytical ambiguities. In this case, this strategy is unfruitful. Keynes presents personal ideas which matured during many years and were the result of many personal syntheses and revisions. The definition of liquidity preference in the General Theory is a good illustration of such a process.

Liquidity-preference is a potentiality or functional tendency, which fixes the quantity of money which the public will hold when the rate of interest

¹See Bibow (1998)

is given ; so that if r is the rate of interest, M the quantity of money and L the function of liquidity-preference, we have $M=L(r)$. This is where, and how, the quantity of money enters into the economic scheme. (Keynes, 1936, VII: 168)²

When Keynes was able to lay down the equation of money demand and supply, its history became largely implicit. Authors seldom explicitly state all their assumptions because either they are “common knowledge” at the time or they are unconscious. It is generally agreed amongst scholars that liquidity preference was not a concept unknown to „classical,“ economists. Eshag (1963: 64) argues that liquidity preference was a natural extension of Marshall’s theory of interest. Liquidity preference restated an older analysis developed by Thornton (1802), Giffen (1877), Lavington (1921) and Marshall (1923)³. Keynes was only credited with introducing the multiplier (Eshag, 1963: 66). Patinkin (1982) holds the same opinion about liquidity preference, and the „monetary side,“ of the *General Theory* adds nothing to the cambridgian monetary theory. Bridel (1987: 97) shares the previously cited opinions and contends that liquidity preference was already explained by Lavington and Marshall. In the nineties, new interest in the history of liquidity preference accrued, following the research done to reconcile the young Keynes dealing with the concept of probability in *A Treatise on Probability* and the Keynes of the *General Theory*. Bateman (1991) questions the existence of a missing link between these two. According to him, we face a „Das Maynard Keynes Problem,“ with a similar structure to the famous „Das Adam Smith Problem,“ which arose in the ninetieth century in Germany.

How does one reconcile the philosopher with the economist ? How does one reconcile the advocate of probability as „the guide for life,“ with the theorist who said that people follow conventions, not probabilities, in making decisions about the future ? How does one reconcile the early philosopher of rationality with the person who later attributed widespread irrationality to people ? (Bateman, 1991: 102)

On the path towards a solution to this puzzle, 1931 seems to be a landmark date when Keynes recognized the validity of the criticism addressed by Frank Ramsey on *A Treatise on Probability*. Keynes might have abandoned, at some time in the twenties, objective probabilities for subjective ones. Keynes shifts from the world of logic and rationality to the world of empirical configurations and social influences. The puzzle

²All references to *The Collected Writings of John Maynard Keynes* will hereafter be referred to by ‘Keynes’ followed by the date of original publication, the volume and page numbers.

³It must be noted that Eshag’s research was supervised by Robertson and Hayek, two opponents of liquidity preference.

formulated by Bateman is interesting because it suggests that the history of liquidity preference, which is connected to the issue of rationality and probability, must start around 1931. Keynes' most important publication at that time was *A Treatise on Money*, published in October 1930. The role of the *Treatise on Money* in the history of liquidity preference was implicitly acknowledged for the first time by Hicks (1937). In his famous article, Hicks supplies a synthesis between classical and Keynesian economics but he also presents Keynes' economics by way of two models (Hicks, 1937: 166-167). The first one is 'Mr Keynes' special theory' and the second one is the model of the *General Theory*, a more 'orthodox' model according to Hicks. The first model differs from the IS-LL model by its sequential structure: the money market equation is solved first, and then one can determine the level of income. Hence, Hicks asserts that 'the vital element in this model is the liquidity preference'. The significance of the *Treatise on Money* for liquidity preference had already been noticed by Keynes in the *General Theory* (Keynes, 1936, VII: 169).

Contrary to the widely held opinion about the *Treatise on Money*, the book truly belongs to the Keynesian revolution. But, as explained by Clarke, "Keynes' thinking needs to be contextualized" (Clarke, 1994: 122). Therefore, we need to dip into the intellectual context of the twenties to understand how Keynes came up to the concept of liquidity preference. This paper investigates how Keynes created his liquidity preference theory through a study of the intellectual context and the references given by Keynes in the *Treatise on Money*. The methodology of this paper consists of connecting English intellectual puzzles and American influences to reconstitute the context in which liquidity preference theory was created. This methodology reflects the underlying philosophy of *A Treatise on Money*. Keynes saw himself as a mediator between heretics and conservatives, all the while trying to give firm foundations to non-orthodox economic thought (Keynes, 1930, VI: 194). This philosophy of the *via media*, a term used by Kloppenberg (1986), is typical of the New Liberalism developed in Western Countries in the early twentieth century. For instance, it was also the position of the Liberal Party in England which stood between the Labor Party and the Conservative Party⁴. We shall argue that liquidity preference was the offspring of this philosophy in monetary economics.

Section 2 deals with the evolution of the meaning of liquidity. We trace back how Keynes changed his mind about liquidity from seeing it as a feature of commercial loans towards considering liquidity as a property of the structure of the Stock Exchange. Section 3 presents elements surrounding the concept of preferences where Keynes was able to connect Art and Finance in his analysis of financial circulation in the *Treatise on Money*. Section 4 highlights the role of B. Anderson in the analysis of the demand

⁴See Skidelsky (2003).

for money from the speculator in a context of uncertainty.

2 The Fluidity of the Concept of Liquidity

In this section, we are looking for the origin of the term liquidity and the evolution of its definition. It is an important element of the *Treatise on Money* because it explains the relationship between industrial and financial circulation. Keynes' use of the word liquidity is far from anecdotal. It originated in his earlier works on the origin of economic depressions and criticism of policies of British banks. However, in the twenties, the concept shifted from industrial to financial trades. This shift was inspired by the work of two American authors: N. Johannsen and J. Commons.

2.1 The Issue of Liquidity in English Researches on Business Cycle

The first text written by Keynes about Business Cycle Theory was written in 1913 for a lecture given at the *Political Economy Club* in London. The theme of the lecture echoed the doctoral dissertation on Business Cycle submitted at Cambridge by D. Robertson few months prior. At that time, Keynes was looking for a theory on endogenous fluctuations which might embody some features of the British banking system. Keynes turned away from the generally used theory of business cycles that he associated with Fisher (1911). According to Keynes, Fisher explains the business cycle phenomena by assuming a myopic behavior. They increase (reduce) the volume of loans when their effective reserve ratio is higher (lower) than the expected one. Fisher assumed that the reserve ratio of banks fall when the volume of trade increases, but that the banks were not aware of this relationship (Keynes, 1913, XII : 3). Keynes blamed Fisher for confusing the origins and the consequences of business fluctuations, the dynamics of the reserve ratio being a consequence of banks' behavior and not its source. Moreover, Fisher didn't explain why banks exhibit myopic behavior. Keynes disagreed with Fisher's analysis because it was not corroborated by empirical observations and the fluctuations of the reserve ratio were not wide enough to fully explain business fluctuations. In Keynes' macroeconomic framework, banks create money to finance investment by firms and thereafter restore their liquidity by selling securities on the Stock Market. When the value of Investment is equal to the value of Saving, new issues of securities are bought by savers through the banking system. When the value of Investment is superior to the value of Saving, the difference between the two is bought by financial agents who borrow money from banks on the money market with securities as collateral. In this case, the liquidity of banks is reduced because

long term loans are substituted for short term advances in the bank,Äôs asset. Hence, banks must lessen new loans to restore their liquidity, creating a credit crunch for firms (Keynes, 1913, XII: 9). In 1913, Keynes already introduced a variable not taken into consideration in the quantitative theory of money to explain business fluctuations.

The behavior of banks in Keynes'view rests on an endogenous money approach. Since the early nineteenth century, this definition of money was promoted in England and in the United States by the Banking School tradition. As already noticed by Schumpeter (1954: 1114-1115), before the *General Theory* Keynes considered that Investment was financed by bank loans and not by prior Saving. Most of Keynes,Äôs early writings on money were motivated by observations and intuitive ideas, based on an endogeneous money approach used by English bankers. However, Keynes introduces two important elements into the Banking School tradition. First, he takes up a macroeconomic perspective to study the concept of liquidity. It relies on the difference between two macroeconomic aggregates, Investment and Saving. The second element is the analysis of bank securitization. It consists of converting short term advances (overdraft) in long term securities. New securities are usually issued in the Stock Exchange via the banking system to the public. But if the value of the issue is too large for the market, banks must buy back directly the securities or indirectly through loans to professional investors. This mechanism highlights the growing influence of investment banking both in England and in United States.

The significance of liquidity was a central element in the English bankers,Äôs community. For English bankers, liquidity was the cornerstone of their activity. This attitude had begun during the financial crisis of 1835 when the banking system discovered its dependency on the Bank of England. Since then, bankers had built a money market, the bills market, to secure liquidity without any apparent resort on the bank of England. Foxwell (1917), who was one of Keynes,Äôs colleagues at Cambridge, protested against English bankers who, according to him, were responsible for the low level of activity in England since the last decade of the nineteenth century.

The regular banks are always ready to accommodate industry with temporary loans on excellent terms. But they do not regard it as their province to concern themselves with the original equipment of large-scale enterprise, whether at home or abroad, as, for example, a great issue house would. (Foxwell, 1917: 518)

Banks were blamed for financing the short term bill market rather than long term investment of English companies. For Foxwell, this attitude of bankers towards industrial long term loans came from the low rate of reserve (and capital) of English banks, inducing them to favor short term advances. This issue arose once again in 1929 when the Labor party won the elections in England. The *Macmillan Committee* was in-

stituted to investigate the allegation that the City, with the support of the banking sector, was impeding economic growth by favoring ,Äòmoney lenders,Äô rather than ,Äòmanufacturers,Äô (Kynaston, 1999: 230).

Before the first World War, Keynes had left one issue unanswered. What happens when the value of savings is larger than the value of investment? Does the liquidity of banks increase? In this case, we should have automatic economic recovery as banks increase loans to firms so that Investment becomes larger than Saving. The theory propounded by Keynes could not explain sustained economic depressions as mentioned in the title of his presentation.

2.2 American influence on the *Treatise*: two monetary circulations

In his drive to built up a macroeconomic analysis of business cycles and depressions, Keynes was inspired by Johannsen,Äôs published and unpublished researches. In a footnote of the *Treatise on Money*, Keynes refers to Johannsen’s work. However, with his inimitable style, Keynes insisted more on their disagreement than on their common analysis of the business cycle (Keynes, 1930, VI: 90). Nonetheless, judging from the amount of Johannsen,Äôs material cited by Keynes, there is no doubt that Keynes did know the American economist’s analysis quite well. As described by Dorfman (1970), Keynes first encountered Johannsen in 1925, whilst the latter had submitted an article for publication in the *Economic Journal*. Johannsen contributed to two important concepts developed by Keynes: the multiplier (Johannsen, 1908: 43) and the distinction between industrial and financial circulation. We will focus here on the latter.

Like Keynes, Johannsen (1908) was looking for a mechanism that could explain the persistence of economic depression. Economic crisis originated in the consequences of overtrading during the boom, creating a shortage of money for new investment, but this cannot explain its persistence. Depression, according to Johannsen, was characterised by an accumulation of inactive money.

Can the dearth of cash funds be the cause of the depression where as a matter of fact there is no such dearth while the depression exists and where, on the contrary, we witness an excess of idle cash funds? (Johannsen, 1908: 2)

Johannsen rejected the two usual explanations of the depression: lack of money and lack of confidence from entrepreneurs. Concerning to the later, Johannsen did not consider that confidence was an independent factor in economics. It originated from the level of aggregate demand. Like Keynes, Johannsen assumed that there exists a

macroeconomic relationship between the level of investment, the level of demand and the level of activity. Depression, i.e. low levels of activity, was then the product of a lack of investment by firms. Using a similar macroeconomic framework, Johanssen then pointed out a new problem. Why was it that saving could not finance new investment?

There is a flaw in the theory. It does not sufficiently consider the question as to what becomes of the country's savings and surplus earnings if they are not invested in enterprises and in the creation of new productive capital and wealth. Why do they, in that case, fail to stimulate trade and prosperity? (Johanssen, 1908: 8)

Johanssen answered this issue by questioning the utilization of savings. Savings seemed to be absorbed somewhere in the economic system during periods of depression so that the disequilibrium between investment and saving would not bring about a change in interest rate. Johanssen listed three possible forms of savings (Johanssen, 1908: 86-87). The first one is the *hoarding* form. Savings stay within the money market as idle cash. Johanssen did not explain if this kind of savings was used to buy bank deposits or if it was transformed in central bank money and kept by individuals. The second one is the *capitalistic* form, "where savings are invested in the creation of new wealth, principally such as consists of productive capital". This form benefits the individual saver as well as the community. In this case, investment, income and employment increase. The third one is the *impairing* form (or excess savings), "where savings are invested not in the creation of new wealth but in the acquisition of property already existing". In contrast to the hoarding form, savings are invested and do not stay idle. They are invested through financial institutions and cannot be used to finance investment in the near future (Johanssen, 1908: 48). By comparison with capitalist savings, impair savings do not create additional wealth and moreover it leads to a larger reduction of wealth than the value of impair savings⁵ (through the "Multiplying Principle"). Johanssen summarizes his explanation of the persistence of depression through a diagram reproduced in figure 1.

The total stock of money is divided in two parts. The first part is the "active" money which represents the wage fund, the value of consumption and the money used to buy working capital (the red ring in the diagram). The second part represents the money available for the accumulation of capital, "surplus funds" (the black circle

⁵In the *Treatise on Money*, windfall gains are defined as the difference between investment and saving, or excess saving. If excess saving is negative (positive), entrepreneurs experience windfall profits (losses). One property of windfall losses is what Keynes named the widow's cruse: the more people save to restore profits, the less income and profits they will get (Keynes, 1930, V: 125). Keynes' widow's cruse principle is an application of Johanssen's multiplying principle in a context of depression.

Source : Johanssen (1908)

Figure 1: The Investment Chart

in the diagram). Investment is defined as the transformation of surplus funds into active money and Saving as the inverse path. Surplus funds come from savings and the creation of money by commercial banks (Johanssen, 1908: 34-35). Keynes applies Johanssen's two concepts of money in his definitions of industrial and financial circulation in the *Treatise on Money*. Industrial circulation is similar to active money in Johanssen's diagram.

By *industry*, we mean the business of maintaining the normal process of current output, distribution and exchange and paying the factors of production their incomes for the various duties which they perform from the first beginning of production to the final satisfaction of the consumer. (Keynes, 1930, V: 217)

Industrial circulation encompasses current income distribution, i.e monetary flows in a period of time. Financial circulation is similar to surplus funds in Johanssen's diagram.

By *finance*, on the other hand, we mean the business of holding and exchanging existing titles to wealth (other than exchanges resulting from the specialisation of industry), including stock exchange and money market transactions, speculation and the process of conveying current savings and profits into the hands of entrepreneurs. (Keynes, 1930, V: 217)

The distinction between the two circulations was also used by Newcomb (1886: 49) and Veblen (1904: 49) but without a similar macroeconomic perspective.

By taking into account Johanssen's work, Keynes was able to deepen his own researches on business cycle theory. Excess savings, the symptom of industrial depression, was not hoarded in the classical meaning of this term. It was absorbed in security trades through the money market. Yet, Johanssen did not treat the issue of liquidity in financial circulation. In Keynes's viewpoint the liquidity of assets is the central variable explaining macroeconomic fluctuations. Why should the liquidity of financial assets be higher than the liquidity of short term advances, and what determines the liquidity of financial assets?

2.3 Institutional Foundations of Liquidity

Liquidity, which used to be associated with industrial loans, was shifted to financial circulation in the twenties⁶. In this context, Keynes highlights two essential institutional characteristics that guaranty the existence of this property. First, there must exist an open market, i.e. a market where it is possible to buy and sell at any time. Second, liquidity needs a stock of securities which is large enough to preclude any shortage of titles as in the case of "corners", which were recurrent in the nineteenth century. These characteristics mirror two institutional features of modern capitalism: the growth of financial intermediation and the development of corporations which are created by issuing large amounts of securities. In the *Treatise on Money*, financial circulation is defined by the distribution of existing titles of wealth and speculation (mainly Stock Exchange securities), i.e. a secondary asset market. The primary market, where investment (new issues of securities) and savings (flow demand of securities) take a financial form, does not have any influence on the price of securities which are determined by trades on existing securities (Keynes, 1930, V: 222). Keynes considered Bankers as a symbol of conservative economics, promoting an archaic view of liquidity. Thanks to the existence of market makers and to the large stock of existing securities from companies, liquidity had become a property of assets in financial circulation (Keynes, 1930, VI: 310-311).

The significance of the secondary market in financial circulation in Keynes's analysis, i.e. trades on existing securities, is far from fortuitous. Keynes was deeply aware of the importance of the institutional structure of markets. Among the Institutionalists authors Keynes corresponded with J. Commons and W. Mitchell. Commons (1924) had an important influence on Keynes's thought through his analysis of the history of capitalism (Keynes, 1925, XIX: 438-440). Economic development was not only synonym of quantitative growth but it meant also qualitative changes⁷. His institutionalist background matured at the same period that Keynes fought against "orthodox" and conservative economics in England. The Treasury and the Bank of England were symbols of orthodoxy because of their support for an ideal of perfect markets illustrated by the law of supply and demand (Keynes, 1925, IX: 305). His fight against the economics of the Treasury view included a different analysis of market structure. Through a remark by Keynes on a draft of an article written by Hicks on Walras one can understand why Keynes was not attracted by perfect market models like the one of Walras. Keynes noted that Walrasian and London Stock Exchange microstructures

⁶See Mitchell (1923).

⁷Commons claimed that economic dynamics involves a new approach based on three elements: a pragmatic political background, a new definition of value based on bargaining power instead of marginal utility, and a macroeconomic viewpoint which focus on relationships between social organizations like unions and corporations (Commons, 1924: 117-120).

were different. In the former there exists a specialist who precludes trades in disequilibrium. This structure is similar to "Edgeworth, 's principle of re-contract" (Keynes, 1934, cited in Hicks, 1984: 277). In lectures labeled "The Organisation of the Stock Exchange", given at Cambridge in 1910, Keynes insisted that one strength of the City was the presence of jobbers who were maintaining an "open-market," (Keynes, UA/6/3/22). The concept of liquidity depends on the institutional microstructure of financial markets. Keynes, 's analysis of liquidity was also shared by American authors. Berle and Pederson (1934), who were studying the new economic structure of American economy since the mid-twenties, established a distinction between "natural" and "artificial" liquidity. The latter was sustained by a "financial mechanism", such as the Stock Exchange, which is defined as an institution (Berle et Pederson, 1934: 3). By separating Investment and Saving, Keynes and Johanssen highlight the relative autonomy of finance from industry. The Stock Exchange no longer involved the process of financing firms, 's investment through individual, 's savings. This institution can also absorb savings without increasing the level of investment. The redefinition of liquidity outlines the influence of institutionalist analysis in economics. However, In the *Treatise on Money* Keynes criticizes Johanssen for not taking into account the influence of the monetary authorities on financial circulation. The value of financial assets depends on the behavior of the holders' saving deposits. Hence, it was necessary to supplement the concept of liquidity with an analysis of the behavior of the investors on the Stock Exchange.

3 Social Psychology Foundations of Investors, 's Preferences

The third section of this essay uses social psychology to explain the formation of asset prices in the Stock Exchange contained in the chapter 15 of the *Treatise on Money*. In this chapter, the price of assets results from the interactions between bull and bear investors. Keynes uses this framework in the second volume of the *Treatise on Money* to illustrate the instability of the Stock Market trend, a fundamental issue after October 1929, 's crash. Nonetheless, his ideas originated from earlier researches that we intend to examine in this section. Keynes enhanced the economics of speculation by incorporating some literature in finance and his discussions with R. Fry, who had studied the art market.

3.1 Speculation in the *Treatise on Money* and the Cambridge Tradition

Financial circulation plays a central role for Keynes in the existence of endogenous fluctuations. First, it broadens the disequilibrium between investment and saving in the industrial circulation. Second, at the end of the bubble period in the Stock Market, the growth of saving deposits from speculators induce a credit crunch in the industrial circulation, reducing the level of investment. When firms are reporting windfall losses, the bull market convention breaks down. Third, the breakdown of the bull trend convention signals that the economy is entering into depression. Keynes provided an analysis of financial circulation by merging personal ideas and Cambridge analysis. The main characteristic of the Stock Market stated in the *Treatise on Money* is the distinction between two types of investors : individual and professional investors. Keynes was convinced that professional investors, not the mass of individual investors, influence prices in the market.

For the value of a security is determined, not by the terms on which one could expect to purchase the whole block of the outstanding interest, but by the small fringe which is the subject of actual dealing (,Ä¶). Now this fringe is largely dealt in by professional financiers ,Ä¸ speculators you may call them ,Ä¸ who have no intention of holding the securities long enough for the influence of distant events to have its effect ; their object is to re-sell to the mob after a few weeks or at most a few months. (Keynes, 1930, VI: 323-324)

Professional investors, or speculators, have a very important influence in the Stock Exchange because they are the most active buyers and sellers of securities. Their influence lies in their capacity to borrow money with securities as loan collateral or by trading in future markets. Tacitly, it means that for Keynes professional investors are not acting like long term investors influenced by the fundamental values of shares nor like individual investors who hold extrapolative expectations (Keynes, 1931, XII: 17-18). On the contrary, speculators are interested in the future evolution of the market. Speculator,Ä¸s preferences for securities instead of money (saving deposits) are not given and rest on expectations of capital gains. However, the group of speculators is not homogenous. Keynes, using established terminology in the *milieu*, distinguished two sub-groups of speculators : bulls and bears (Keynes, 1930, V: 224). Bull speculators expect the value of securities to grow and then take a long position, i.e they borrow money to buy stocks in order to sell them at a higher price later. Bear speculators anticipate a decline of the market price and sell short securities, i.e they borrow stocks to sell them and wait for a decline of the market to buy back the securities. The

two sub-groups of professional investors do not have fixed weights in the market. The magnitude of each group depends on security price's forecasts which are influenced by the interest rate on money (Keynes, 1930, V: 127-128).

Keynes thought that speculators' expectations were determined by psychological elements. (Keynes, 1930, VI: 322). These elements were not influenced by the mathematical computations of monetary gains. Already in his early lectures on the Stock Market at Cambridge, Keynes had noticed this property of the financial circulation (Keynes, UA/6/18/10). Understanding speculators' behavior comes from the existence of uncertainty about future events.

How far the motives which I have been attributing above to the market are strictly rational, I leave it to others to judge. They are best regarded, I think, as an example of how sensitive, or over-sensitive if you like, to the near future, about which we may think that we know a little, even the best informed must be, because in truth, we know almost nothing about the remote future. (Keynes, 1930, VI: 322)

The consequences of uncertainty for theory of demand for money will be explained in the next section but we can notice that the *Treatise on Money* already embodies one of the core elements of the Keynesian revolution.

The influence of social psychology on Keynes' writings was in accordance with those English economists who had argued for a long time that speculators were often guided by instinctive impulses, i.e. irrational behavior. Marshall's analysis of the Stock Exchange follows a path already used by Mill (1836) or Giffen (1877). In his own personal style, Marshall starts by approving the existence of the Stock Exchange before underlining the numerous dangers of speculating for untrained people. Marshall considers that financial trades are in the interest of the whole economy provided that investors hold good moral values (Marshall, 1923: 91). But if the Stock Exchange can improve welfare, it can also lead to speculation. Among three forms of speculation distinguished by Marshall, one of them consists of discovering the expectations of other investors.

It may indeed be said that shrewd, far-seeing speculators sometimes govern their own action, not so much by forecasts of the distant future, as by forecasts of the inaccuracy of the forecasts of that future. (Marshall, 1923: 91)

This explains why price does not always mirror the real value of investment and that the market may experience endogenous cycles derived from the investors' psychology. The volatility of asset prices lies in the alternation of bull and bear trend, without long term investors playing any role in the short term fluctuations of prices (Marshall, 1923 : 258). The risk is too high for the unskilled investor to speculate.

Lavington, in an article published in 1913, shared a similar view. The volatility of asset price is explained by two main features in the Stock Market. The first one is the low elasticity of the securities supply which, associated with the existence of future markets, increases the risk of excessive volatility (Lavington, 1913: 47). The second characteristic is the risk of mimetic behavior.

Finally, the income from securities is often far less definite and certain than from produce ; they are held in vast quantities by a public very imperfectly informed, and therefore highly susceptible to suggestion ; that is to say, the public demand curve for securities is not independent of price, but may be influenced by its fluctuations. (Lavington, 1913: 47)

It is in this intellectual atmosphere that Keynes was developing his own analysis of the Stock Market. Nonetheless, Cambridgian economists did not develop a truly logical coherent theory of speculation. What were the motivations of speculators? What could explain their behavior as bulls or bears? How did they form their expectations? Roger Fry influenced Keynes with his analysis of the art market.

3.2 The Sociological Study of the Market for Art

In the twenties, Roger Fry was highly involved in studying the role of social psychology in market demand. He was less interested in the Stock Exchange than in the art market, but Keynes seemed to be aware of a possible analogy between the two. Roger Fry was an art historian who had studied natural science at Cambridge. Keynes and Fry were members of the Apostles, a secret society at the University of Cambridge, and belonged to the Bloomsbury group, a gathering of intellectuals and artists.

According to Fry, the supply of art products depends on an aesthetic impulse based on an equilibrium between intellect and instinct. This impulse was inspired by Veblen, "the instinct of workmanship" (Goodwin, 1998: 16). The demand for art is sociologically determined, i.e. it depends more on social and historical elements than on utility. Fry developed a history of demand, focusing on the social class who was responsible for the development of art. The first period of this development saw the Church being the main group of demand. The second period was dominated by the Aristocracy. The last period was ruled by the bourgeoisie. In the last period, the middle class became the main financial support for art⁸ (Goodwin, 1998: 23).

Market demand for art is constituted by three groups: the working class, the middle class and the State (Goodwin, 1998: 25-30). The first group is labeled "the

⁸This methodology is not without affinity with Keynes' own description of the stages of capitalism published in 1925. Keynes distinguished three stages : the period of scarcity, the period of abundance and the period of stabilization (Keynes, 1925, CW, XIX: 438-439).

barians, "Philistines," "the herd" or the "crowd." In Keynes's analysis of demand for securities, it is the group of individual or unskilled investors. The behavior of this type of investors is erratic, without any structure. The second group in the market for art is the middle class, the most important one. This group is divided in three sub-groups: "snobbists," "men of culture" and "true aesthetes." Snobbists try to buy fashionable art in the near future. In other words, they try to forecast the future popular art products. Their behavior is more determined by what they estimate others would favor than by their own preferences. The analogy with Keynes's beauty contest in the General Theory is immediate (Keynes, 1936, VII:156). Snobbists' behavior is similar to that of a professional speculator who favors "credit cycling."

I can only say that I was the principal inventor of credit cycle investment and have seen it tried by five different parties acting in detail on distinctly different lines over a period of nearly 20 years, and I have not seen a single case of success being made of it. Credit cycling means in practice selling market leaders on a falling market and buying them in a rising one, and after allowing for expenses and loss of interest, it needs phenomenal skill to make much out of it. (Keynes, 1938, XII: 100).

As with snobbists in an art market, making money comes from forecasting market turning points. This strategy was favored by Keynes during the twenties, until he started to lose money in speculation on commodities in 1927⁹. Nonetheless, Keynes considered this kind of behavior as the ideal-type of the speculator. The second sub-group in the middle class is the "men of culture". They favored past art not for aesthetic emotions but to own certified art created by old masters who represent true art in other people's eyes. This type of behavior has its pendant in finance. It is the conservative investor who favors only blue-chips or securities with high past dividends. The conservative investor possesses securities with a long term view. Thus, he represents a factor of stability in the market. However, he may be responsible for the underdevelopment of promising young industries without great liquidity or high past dividends. Bankers and insurance companies could be catalogued as conservative investors¹⁰. The third sub-group is true aesthetes, "one who appreciates art for its emotional impact and not for the prestige it may bring" (Goodwin, 1998: 28). The counterpart of Fry's category in Keynes's writings is investors who favor enterprise over speculation, enterprise consisting in "forecasting the prospective yield of assets over their whole life" (Keynes, 1936: 158). In opposition to the conservative investor,

⁹See Lawlor (1997).

¹⁰Keynes was highly surprised to note that the Mutual Life Insurance Company held conservative policy before his arrival in the company. See Davenport (1975).

the investor who favors enterprise has to assess the future profits of firms and not their existing reputation among investors. But in opposition to the snobbist, the real investor should not consider short term fluctuations in the Stock Market as a guide for changing his attitude. He should not be afraid to invest in opposition to the established trend or convention.

It [investment] is one sphere of life and activity where victory, security and success is always to the minority and never to the majority (Keynes, 1937, XII: 526).

The enterprising attitude is more uncertain, less remunerative and demands more leverage than guessing what the future course of the market will be (Keynes, 1936, VII: 157).

According to both Fry and Keynes, the State should have an important influence in the market. They envisioned the government as a regulator of the structure of the market and as a support for market demand. The State was considered as a guaranty of public interests outside private conflicts. Fry, like Keynes (1936, VII: 372-373), was convinced that a stable long term demand would come from the middle-class and that the State should favor income redistribution to guaranty a stable demand (Goodwin, 1998: 49). The creation of the *Contemporary Art Society* in England was a public device to reach that aim. Moreover, the State may have an influence in the formation of the prices themselves. In the Middle Ages, the master of the guild was an arbitrator in case of conflicts between a patron and an artist and represented the public interest. In the last period mentioned above, Fry argues that education in art at the university level may influence existing conventions concerning the value of art products (Goodwin, 1998: 35). In the *Treatise on Money*, the Bank of England has the same role as the master of the guild did, influencing the investors' behavior through the modifications of the interest rate. The Bank should therefore be concerned with macroeconomic objectives.

The main criterion for interference with a ‚Äbull,Ä or ‚Äbear,Ä financial market should be [...] the probable reactions of this financial situation on the prospective equilibrium between saving and new investment. (Keynes, 1930, V: 230)

The State should interfere with the established convention when the latter contradicts public interest.

The influence of Fry,Äs analysis of the art market on Keynes,Ä analysis of the Stock Market exposes a similar framework to describe market behavior which lies in a sociological approach to the market demand. After establishing into a possible analogy between Fry,Äs analysis of the art market and Keynes,Ä researches on speculation, there remains an interrogation: how do snobbists or speculators forecast future trends?

In fact, Fry did not thoroughly study the motivations and psychology of snobbiſts. Therefore this question remains unanswered.

3.3 The Psychology of Preferences in Contrarian Literature

Thanks to the literature on the Stock Market written by professional investors, whose behavior conformed to Keynes' theories and practices of speculation, we argue that Keynes was able to enhance Fry's sociological perspective with psychological factors¹¹. This literature provides interesting elements to recover the context within which Keynes was creating his analysis of financial circulation in the *Treatise on Money*. We lack evidences of direct contact between Keynes and the contrarian literature described below. Nonetheless, our aim is more modest. We argue that Keynes belonged to a kind of contrarian investors' community who had a specific view of the Stock Exchange¹². Selden (1912) was the first author to describe the contrarian analysis of the Stock Market. He was followed by Harper (1926). The first book of contrarian literature to attract public attention was by Neill (1954)¹³.

Selden (1912) and Keynes developed many similar arguments. We focus here on three of them: the separation between investors and speculators, the existence of mimetic behavior in a context of uncertainty and the importance of emotions. In his description of speculative cycles, Selden distinguished two types of agents, the investor and

¹¹Keynes' idea to merge finance and social psychology had already been succinctly noted by Veblen.

The market fluctuations in the amount of capital proceed on variations of confidence on the part of the investors, on current beliefs as to the probable policy or tactics of the business men in control, on forecasts as to the seasons and the tactics of the guild of politicians, and on the indeterminate, largely *instinctive*, shifting movements of public sentiment and apprehension. So that under modern conditions the magnitude of the business capital and its mutations from day to day are in great measure a question of folk psychology rather than material fact. (Veblen, 1904: 74 ; emphasis added)

William James, professor of psychology of Harvard University, noticed the link between instinctive behavior and animal behavior (James, 1904: 390-414). As explained by Moggridge (1992: 207-209) Keynes was inspired by Descartes. He distinguished between mental, i.e. creativity, aesthetics, ethics, and physical, 'i.e. animated by animal spirit, processes. Animal spirit referred to robotic statues, located in Royal Gardens at St Germain-en-Laye, which were animated by water flowing through hidden piper under external pressure (Stagner, 1988:44-52).

¹²A Contrarian Opinion Library exists in United States since 1954. See <http://www.fraserbooks.com>

¹³Neill has given probably the first formal definition of contrarian attitude.

The art of contrary thinking consists in training your mind to ruminate in directions opposite to general public opinion; but weigh your conclusions in the light of current manifestations of human behavior. (Neill, 1954: 5)

the speculator.

In a sense, the market is always a contest between investors and speculators. The real investor, looking chiefly to interest return (,Ä¶). The speculator cares nothing about interest return. He wants to buy before prices go up and to sell short before they go down. (Selden, 1912: 14)

Financial dynamics comes from the interactions between investors and speculators. The contrast between the two is that one is technical and the other is psychological. From a technical point of view, whereas investors employ a buy-and-hold strategy, except in period of crises, speculators use borrowed funds by resorting to future markets as described in the *Treatise on Money*. From a psychological point of view, the contrast between investors and speculators is important. Whereas investors do not question information, speculators exhibit mimetic behaviors.

Especially, and more than all else together, these erratic fluctuations are the result of the efforts of traders to operate, not on the basis of facts, nor on their own judgment as to the effect of facts on prices, but on what they believe will be the probable effect of facts or rumors on the mind of other traders.

Yet it would be foolish to assert that assuming a position in the market based on what others will do is a wrong attitude. (Selden, 1912: 85)

Selden named the behavior of the speculator "inverted reasoning". It consists in forecasting other people,Äôs thoughts and behavior, while forgetting one's own situation during the process. Consequently, the active trader or speculator should not be especially interested in fundamentals like the earning power of corporations. He should only be vigilant to external information if it will modify other traders' behaviors (Selden, 1912: 53). This kind of psychological exercise explains the diversity of opinion in financial markets with similar information on fundamentals. Traders may "suffer" from wishful thinking. For example, a bull speculator who wants to increase his position will be prone to forecast a temporary situation in the face of a fall of prices. At the same time, with the same information, a bear speculator may find evidence of the development of a new bear trend (Selden, 1912: 65). Selden highlights the fact that speculators usually confuse their personal situation with the general opinion of the market. According to him, logic often mirrors psychological characteristics like hopes and desires. Nonetheless, the psychology of the speculator is a reaction to market situations.

Many of our emotions and some of our acts are merely automatic responses to external stimuli. (Selden, 1912: 44)

Selden noted that uncertainty about the future trend of the market comes from the limited rationality and the ignorance of speculators. In this context, speculators behave according to a convention that states that the present situation is the best available estimate of the future.

It is a sort of automatic assumption of the human mind that present conditions will continue, and our whole scheme of life is necessarily based to a great degree on this assumption. (Selden, 1912: 43)

Many characteristics of Keynes's liquidity preference theory was already described in the literature of contrarian speculators: the distinction between investor and speculator, the mimetic attitude of the speculator, the diversity of opinions and the existence of a convention to cope with uncertainty.

Through his Cambridgian background in economics, his relationship with Fry and his activity as a speculator, Keynes was then able to provide an analysis of the Stock Market which was in sharp contrast with the usual point of view in economics. The widely known treatise that Keynes used in his lectures at Cambridge did not contain the characteristics of Keynes's analysis described in this section¹⁴. Nonetheless, until now the link between speculation and the demand for money is not clearcut. How did Keynes establish this link? Why and how did he have the idea to bring together financial and monetary theories?

4 The Inclusion of Speculation in a Theory of Demand for Money

How did Keynes come up with a theory of demand for money which includes the behavior of professional speculators? As stated earlier, Keynes knew very well the mechanisms of speculation. He was himself a speculator on the securities and commodities markets. But we are interested here in recollecting how he went from observations and analogies to theories, i.e. logical analysis. We argue that it involves firstly an incomplete intellectual tradition to deal with this problem, secondly a structural perspective on speculation, and thirdly a concept which had already been presented in the theoretical literature on money. The first and the second elements are presented in section 4.2. The third is presented in section 4.3.

¹⁴See Lawlor (1994).

4.1 The Demand for Money in the *Treatise on Money*

The theory of demand for money elaborated by Keynes in the *Treatise on Money* answered a puzzle regarding political and economic controversies. By the end of the twenties, Keynes had an occasion to disclose his own analysis of money. There was political debate surrounding the relationship between the rate of interest, the Stock Exchange and the level of investment by firms (Skidelsky, 1992: 343). Keynes was in an unstable situation, trying to convince both Conservative and Labor partisans that the economic problems of England may be solved if the country would change its monetary policy. Keynes' idea was to influence the level of entrepreneurs' expenditure through a lower interest rate, without impairing economic growth by fueling a Stock Market bubble. A policy of a high interest rate was promoted by political parties except the Liberal party. For the Conservatives, a high interest rate was necessary to sustain the gold standard system. The stability of the international monetary system was the cornerstone of future growth in an open economy like England. Moreover, a high interest rate was useful to lure foreign resources which were essential to the City. As explained by the director of the Bank of England before the *MacMillan Committee*, lowering the interest rate would only have a psychological effect on the level of investment and was by no means sufficient to promote long term investment by firms (Kynaston, 1999: 198-202). The Labor party was also in favor of a high interest rate to gain credibility in the City as a party able to govern Great Britain without abandoning the gold standard. Nonetheless, the left wing of this party blamed the City for reducing economic growth by favoring the international money market with prejudice to domestic security issues.

Keynes' answer to the puzzle described above was derived from his knowledge of the monetary system and his experience as speculator. His analysis was that the money available to finance industrial circulation, which determines the level of income, may be lowered by the demand for money in financial circulation which satisfies the preferences of bearish speculators who are selling short securities. Keynes established a distinction between three uses for the money managed by banks: income deposits, business deposits and saving deposits. The first two categories are analogous to the transaction motive of money demand (cash deposits) and Keynes considered that this consisted of the monetary side of the industrial circulation. The last category is the demand for money related to the future.

But a bank deposit may also be held, not for the purpose of making payments, but as a mean of employing savings, i.e., as an investment. The holder may be attracted by the rate of interest which his banker allows him ; or he may anticipate that other investments are likely to depreciate in money value ; or he may attach importance to the stability of the money

value of his savings and to being able to turn them into cash at short notice ; or he may find this the most convenient way of holding small increments of savings with the intention of transforming them into a specific investment when they have accumulated to a sufficient sum ; or he may be awaiting an opportunity of employing them in his own business ; or other such reasons may influence him. We shall call the deposits of this type saving deposits. (Keynes, 1930, V: 31-32)

From all these purposes to hold saving deposits, financial circulation is concerned only with the most volatile fraction of the stock of saving deposits, i.e. saving deposits held by speculators (Keynes, 1930, V: 223-224).

The volume of financial circulation is driven by two factors : the ratio between bull and bear speculators and their confidence in the existing trend which depends on the dynamics of profits¹⁵. Keynes considered four configurations of the Stock Market and their counterpart in financial circulation.

1. A bull market with increasing windfall profits. In this case, the magnitude of bear speculators falls and the volume of saving deposits as well.
2. A bull market with reducing windfall profits. In this case, the proportion of bear speculators goes up because the dynamics of profits differs from the existing trend in the market. The stock of saving deposits expands and then curtails the money available to industrial circulation.
3. A bear market with increasing windfall losses. The stock of saving deposits increases under the influence of the market situation and the behavior of bear speculators.
4. A bear market with reducing windfall losses. In this case, the stock of saving deposits is reduced because bull speculators start to anticipate a change in the market trend.

To summarize, in the second and third cases listed above, the volume of saving deposits increases whereas in the first and fourth cases the volume of saving deposits falls. As already explained in section 2, the banking sector prefers to reduce the volume of industrial loans rather than the volume of money for financial circulation (Keynes, 1930, VI: 59).

The Central Bank, which pegs the level of interest rates on money can influence the level of investment in industrial circulation by influencing the forecasts of speculators in the Stock Exchange. The relationship between the rate of interest on money and

¹⁵It is less profits as such than profits as dividends which explain the behavior of the speculator.

the price of securities comes from the fact that speculators are using bank loans, futures market or brokers, to borrow loans to trade in securities. Keynes was convinced that speculation was a new channel of influence for monetary authorities if one assumes that the expectations of speculators are not fixed and may be influenced by the rate of interest, as in the *Treatise on Money*.

4.2 Hoarding in the Cambridge School and Intermarket analysis

In the process of creating the theory of the demand for money by bearish speculators, Keynes was stimulated by research undertaken by his Cambridge colleagues. The story of this intellectual influence is thoroughly described by Eshag (1963) and Bridel (1987). Nonetheless, we argue that Keynes was also inspired by his own knowledge of intermarket arbitrages in foreign trade, and speculation on securities in London Stock Exchange.

Robertson (1926), who had recurrent discussions with Keynes during the twenties, sketched a new analysis of the concept of hoarding. As mentioned in the introductory chapter of the book, Robertson wrote his chapters on hoarding under the influence of Keynes's remarks. Hence, it is difficult to separate the contribution of each to the final product. However, Robertson's book depicts the kind of issues they were dealing with. Keynes and Robertson were not alone in studying the demand for money. Giffen (1877), Marshall (1923) and Lavington (1921)¹⁶ had examined the demand for money. In chapter V labeled 'The Kinds of Savings', the issue was to separate the act of saving from the act of investing and to establish a logical typology of the

¹⁶Lavington also promoted the demand for money as a form of hoarding. Restating an argument developed in a previous article, Lavington (1921) argued that people held money as a form of security in situations characterized by the presence of uncertainty.

It seems reasonable to regard this latter part of the aggregate money stock as a reserve whose size is regulated largely by the general level of confidence, a reservoir from which money flows into active circulation when times are good, and into which money flows from active circulation when times are bad (Lavington, cited by Bridel, 1921: 33)

Lavington concluded that the volume of cash balances is not determined solely by the volume of trades. An incautious reading of Lavington writings may support the idea that Keynes' writings belonged fully to the Cambridge tradition in economics. However, Keynes did not have a favorable opinion of Lavington's writings. He thought that Lavington was too orthodox (Keynes, 1929, XIII: 97). In fact, the concept of uncertainty developed by Lavington (1912) was antagonistic to Keynes' view of the matter. The main differences lie in that Lavington supports the possibility of a quantitative evaluation of the economic consequences of uncertainty in that for him the origin of uncertainty is external to economics.

different kinds of savings from a macroeconomic perspective. The first distinction is between „the activity of providing capital and the material goods,“ (Robertson, 1926: 40). The second distinction is between three kinds of capital: fixed, circulating and imaginary. The last one is the money spent to buy securities or war bonds formerly issued by the government. The third distinction aims at separating "Applied Lacking" from "Abortive Lacking or New Hoarding". From the money owner’s viewpoint, the first distinction implies that the money is spent to buy goods or inputs whereas the latter means that the stock of idle money is augmented. Robertson, as with Keynes (1924) and Marshall (1923), supposed that the ratio of new hoarding to existing wealth or income is stable. The last distinction is between spontaneous, automatic and induced "Lacking", the former being similar to the usual definition of saving. The last two concepts are close to the real balance effect, i.e. individuals are reducing their consumption to restore the real value of their monetary wealth, in face of inflation. Induced Lacking, which is voluntary, was created by Keynes (Robertson, 1926 : 50). The concepts of hoarding developed by Robertson and Keynes adds three new elements to the usual meaning of the term. First, it is clearly specific to a monetary economy where barter is excluded. Second, it is a macroeconomic concept because the real value of individual savings depends on the behavior of others agents. Third, the demand for money is not solely determined by transaction motives as in the quantitativist,“’s tradition and includes a real balance effect component. Nonetheless, the concept of hoarding is ambiguous about the determinants of hoarding. Robertson never mentions a link between monetary theory and finance.

Keynes(1923) developed a widely known formula in macroeconomics called "the covered interest rate parity". The mathematical formula itself was not invented by Keynes but he was the first economist to offer a logical analysis or systematization of arbitrage between the foreign exchange markets. Keynes was convinced that the older analysis of exchange rates was no longer valid under „the mutually inconvertible paper standards,“ (Keynes, 1923, IV: 61). Under fixed exchange rates, the Purchasing Power Parity was approximately valid but without this assumption, the issue was unsolved. Between 1919 and 1925, the City was the center of foreign trades on currencies. England was out of the gold standard system and it was then possible to speculate on the value of currencies. Keynes was an active speculator during this period. In 1925, England returned under the strict rules of the gold standard and arbitrage on foreign exchange rates was over. Keynes’ analysis of the international arbitrage involves three markets with flexible exchange rates. The first market is the monetary market where professional speculators lend and borrow money with short term debts. The second market is the spot market for currencies where two currencies are traded. The last market is the forward market for currencies (located in London) where futures con-

tracts are bought and sold. For example, when the price of forward dollar against pound is below the price of spot dollars, the speculator should sell dollars short in the spot market, buy a forward dollar contract and loan money on the English monetary market. Consequently, there exists an inverse relationship between differences on currencies and differences in interest rates (Keynes, 1923, IV: 102-103).

That kind of reasoning is similar to Keynes' analysis of speculators' behavior in the *Treatise on Money*. While Keynes was writing the *Treatise on Money*, he used his previous analysis of inter-market relationships and changed the context. The „Àmechanics of finance,À as Keynes named his analysis may easily be applied to trades on securities. In London and New York, speculation in the Stock Exchange was possible thanks to leverage, i.e. credit. It means that there existed a close relationship between Money Market and Stock Market. In London, it was automatic since clearings occurred fortnightly. Thus, each trade involved future delivery and was similar to futures contracts. In New York, borrowing and lending securities were possible through a centralized market for call money and stocks. In both places, each purchase of securities was similar to lending securities and borrowing money (like in a call contract) and each sale involved lending money and borrowing securities (like a put contract) (Williams, 1986 : 50). In New York, bull (bear) speculators could also borrow (lend) cash and buy (sell) securities to the broker with the agreement to sell (buy) the asset at a future date. Hence, bear speculators increase the demand for money. Keynes' idea to shift financial arbitrage on currencies towards securities was not as automatic as it seems. What explains this transposition? Even nowadays, the application of "the mechanics of derivatives" to the crash of 1929 was developed, by Rappoport and White (1993), lately in the literature.

4.3 The Influence of B. M. Anderson

In the book of B. Anderson (1917), Keynes may had been inspired to lay down a theory of demand for money which was consistent with his upcoming analysis of financial circulation in the *Treatise on Money*¹⁷. Anderson,Às book was an almost complete synthesis of the monetary theory, describing German, French and English monetary literatures in depth. Furthermore, Anderson,Às chosen foundations for monetary theory were much in accord with Keynes. Both emphasized the importance of uncertainty, psychology and speculation in understanding the motives behind the demand for money in contemporary economies.

¹⁷We lack direct evidence of contacts between Keynes and Anderson but Anderson's monetary analysis was widely recognized as a "classic" in monetary theory by Von Mises (1935). Moreover, Anderson was the chief economist in the Chase National Bank, one of the top leading banks in United States. Anderson published a well known economic bulletin in the twenties.

Anderson lists seven functions of money. The last one is called the ‚Äòbearer of options,Äô function of money (Anderson, 1917: 374). It is a source of value for money because it allows the money-holder to choose the best time to invest his wealth. This function of money has evolved with time. Before the development of asset markets, the ‚Äòbearer of options,Äô function of money was associated with uncertain contingencies in individual businesses which could impair consumption and then put the survival of individuals in danger. At that time, uncertainty was exogenous to the economic system. However, in modern-day economies, this function of money is different.

The man who sees uncertainty and fluctuation in the market, and expects them to give him bargains in time, foregoes income for a time, and hold his money. (Anderson, 1917: 382)

It is associated with the acquisition of capital gains by professional speculators and companies who refrain from investing because they prefer to await for better times or to forecast better future opportunities. Uncertainty in this case is the consequence of economic activity which creates fluctuations.

Anderson firmly insists that this function of money should not be confused with the traditional ‚Äòstore of value,Äô function of money. Two conditions are specific to the ‚Äòbearer of options,Äô function of money. First, financial titles, like government bonds, call loans or bank deposits, which perform this function of money must be highly liquid, i.e. saleable. He distinguishes between value and saleability of goods. In financial markets, saleability depends on the proportion between bulls and bears, the former (latter) enhancing (reducing) the saleability of securities. Anderson was inspired by Menger’s analysis of money as the highest saleable good (Anderson, 1917 : 358-364). The second condition is the existence of ‚Äòundated emergencies,Äô which exists in economic dynamics.

The *whole* of the ‚Äúbearer of options,Äù functions arise from dynamic change. This is the *dynamic function* of money par *excellence*. (Anderson, 1917: 381 ; italics in original)

Anderson closely associated the existence of money with dynamics analysis, having been probably influenced by Schumpeter.

A functional theory of money and credit must be a dynamic theory. To talk about the laws of money, ‚Äúafter the transition is completed,Äù is to talk about the work money will do after it has finished working. (Anderson, 1917: 235)

The meaning of dynamics, according to Anderson, differed then from that understood in modern economics. Anderson associated dynamics with historical analysis which

includes organic interdependencies (Anderson, 1917: 93). Anderson argued that taking into account dynamics or transitional periods should produce different equilibria from the ones found in static economic theory (Anderson, 1917: 513). Nonetheless, we should not conclude that Anderson, like Keynes (1930, VI: 365), was pleading for a new stage in economics. On the contrary, he attempted to reconcile dynamics and statics.

Starting from his analysis of this special function of money, Anderson enumerates two properties of the demand for money. First, the demand for money is an increasing function of "business distrust". A psychological element is thus included in the arguments of the demand for money. He criticizes the quantity theory for excluding complex phenomena resulting from psychological elements and interdependencies within social networks. Anderson argues that "the motivation of economic life is a psychological matter" (Anderson, 1917: 489). The role of psychology in his book on money is based on the literature on imitation and suggestion.

Bagehot, in his *Physics and Politics*, Tarde, and Baldwin, to name no others, have shown how tremendously responsive human beings are to suggestion, how wide is the sway of imitation in human life, how fashion, mode, custom, etc., make and mold the individual. (¶) In what follows, I assume the results of these investigations. They constitute the starting point from which we set out on the quest of a theory of economic value. (Anderson, 1917: 16-17)

At the same time, Anderson rejected individual supply and demand curves based on utility curves. Social Psychology was important in economics because Anderson was convinced that there exists interactions between individual preferences and social context. According to him, "there is a functional unity of individual minds, and no individual can be understood in abstraction from society" (Anderson, 1917: 104). Moreover, he took for granted that a few individuals had a decisive influence on social opinion.

Further, business confidence is not a matter in which each man counts one! There are centers of prestige, men and institutions whose attitude towards the future counts heavily indeed in determining the attitude of others. (Anderson, 1917: 414)

The value of assets, which implies forecasting future events, includes psychological elements like beliefs and hopes. Hence, the value of assets and economic goods are not determined by the microeconomic theory of marginal utility.

Anderson gives two illustrations wherein social psychology is fundamental in economics. The first is the value of gold as money. Gold had become the standard money because

gold was associated with ornaments which were stored as a reserve of value. Ornaments found their origin in three motives : love of approbation, the sex impulse and the spirit of rivalry (Anderson, 1917: 366). This analysis of the value of gold as money is not far from Keynes's own analysis in the *Treatise on Money* where Keynes also highlighted the role of psychology (Keynes, 1930, VI:258-59). The second illustration is the demand for money in times of increasing uncertainty. According to Anderson, this preference for hoarding money is based on psychological elements and is very variable. In this kind of situation no forecast or logical analysis is possible (Anderson, 1917: 123n). The second characteristic of the 'bearer of options' demand for money is that money is also defined as a liquid asset and not only as a means of exchange. Money becomes a synonymus with bank deposits, call loans in the money market and government securities. The short term interest rate is lower than the long term one because it embraced the value of the 'bearer of options' function of money. Hence, without interference from the Central Bank, short term interest rates should fluctuate with the psychology of the market. The more anxious are investors about uncertain events, the higher the short term rate of interest.

By recovering some elements from Anderson's book, we intended to suggest that Keynes and Anderson shared similar analysis about the demand for money. Anderson's writings and Keynes's inquiries on money were also connected by a common viewpoint on individual's behavior and the methodology of economics. Anderson and Keynes argued that it was possible to insert psychological and sociological features into standard economics.

5 Concluding Remarks

In this article, we aimed at recovering how Keynes had created liquidity preference theory. Our story has been framed as a dialog between tradition and heterodoxies in order to bring to light some American writings usually separated from the history of the keynesian revolution. Johanssen, Selden and Anderson were at least as meaningful as Marshall, Lavington and Robertson. We also intended to question whig history of the keynesian revolution which often led to oppose orthodox and keynesian economics. This kind of methodology cannot clarify the evolution of Keynes's thought. It often leads to a simple conflict between old and new concepts and often merges value judgments based on current economics with historical elements. Instead, we have recovered the evolution of the concepts of liquidity, preferences and demand for money in order to introduce "history within theory". In opposition to whig history which primarily focus on logic and internal consistency, we have chosen to study how Keynes had nurtured his theoretical considerations through activities external to economics. The *Treatise*

on Money was especially interesting in this perspective because its lack of unity was an asset to recover external influences on Keynes. His general education, at Eaton and Cambridge, allowed Keynes to combine ideas coming from different social groups. He was a true polymath involved in Art, Politics and Speculation, and was an exceptional example of an eclectic intellectual who refuses to insulate various fields of knowledge. The history of liquidity preference theory suggests an analogy between Keynes, "a methodology of creation in economics and neo-impressionism in painting. Keynes owned a preliminary study of a picture of the painter G. Seurat called, *Un dimanche après-midi en grande jatte*. Seurat was the main figure of neo-impressionism. Keynes (con. 311). This analogy illustrates that Keynes's writings should not be evaluated according to modern criteria of (176, it. added). Post-impressionist style bears some resemblance to Keynes's methodology. Post-impressionism proposed "pointillism", a methodology which consists of juxtaposing points of color to create. For Seurat lights and shadows symbolized form through contrast of colors. They were used according to "scientific impressionism defined the artist as a man who strives to create unity in plurality through rhythm of tints and shades" (137). Nonetheless, these rules were not as exclusive as it seems. Science was used to convey emotion of the artist (215). Keynes was indeed prone to highlight that the contrast between classical economic and his own theory or (ix). Like Seurat, Keynes used the methodology of contrast to explain his point of view. For instance, the main members of the Bloomsbury group like neo-impressionist painters were highly concerned with the growth of (135–148). Keynes also criticized rentier, who accumulates savings endlessly and trades the pleasure of life for (impressionism in England, was inspired by critics of the Victorian society to label the different ideal-type in his description of the market for art (Goodwin, 2004 : 70). The possible connection between Keynes and impressionism may help us to view Keynes's writings from a broader perspective than only internal history of

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