

Giancarlo Bertocco

The role of banks in financing
small and medium firms

2003/20



UNIVERSITÀ DELL'INSUBRIA
FACOLTÀ DI ECONOMIA

<http://eco.uninsubria.it>

In questi quaderni vengono pubblicati i lavori dei docenti della Facoltà di Economia dell'Università dell'Insubria. La pubblicazione di contributi di altri studiosi, che abbiano un rapporto didattico o scientifico stabile con la Facoltà, può essere proposta da un professore della Facoltà, dopo che il contributo sia stato discusso pubblicamente. Il nome del proponente è riportato in nota all'articolo. I punti di vista espressi nei quaderni della Facoltà di Economia riflettono unicamente le opinioni degli autori, e non rispecchiano necessariamente quelli della Facoltà di Economia dell'Università dell'Insubria.

These Working papers collect the work of the Faculty of Economics of the University of Insubria. The publication of work by other Authors can be proposed by a member of the Faculty, provided that the paper has been presented in public. The name of the proposer is reported in a footnote. The views expressed in the Working papers reflect the opinions of the Authors only, and not necessarily the ones of the Economics Faculty of the University of Insubria.

© Copyright Giancarlo Bertocco
Printed in Italy in July 2003
Università degli Studi dell'Insubria
Via Ravasi 2, 21100 Varese, Italy

All rights reserved. No part of this paper may be reproduced in any form without permission of the Author.

The role of banks in financing small and medium firms.

Giancarlo Bertocco
Università degli Studi dell'Insubria. Varese
Facoltà di Economia

Relazione presentata al workshop:
“Financial institutions and the growth of firms in Italy. An international comparison”,
Novara, 22-23 maggio 2003

Abstract

Up to a few years ago, economic theory did not pay any attention to the topic of firm financing. This situation has changed in recent years thanks to the development of a theoretical approach that has applied the conclusions of information economics to the analysis of the working of the financial markets. The purpose of this paper is to highlight the fact that the asymmetric information approach does not constitute the only theoretical framework which gives prominence to the issue of firm financing; a meaningful theory could be elaborated on the basis of the works of Keynes and Schumpeter. The aim of this paper is to highlight the most significant differences between these two approaches.

The role of banks in financing small and medium firms.

Introduction

Up to a few years ago, economic theory did not pay any attention to the topic of firm financing, that is, the mechanisms through which firms procure the means of payment necessary to carry out their investment decisions. This lack of interest was common to the two principal macroeconomic theories, the Keynesian theory and the monetarist one. Both were presented through models identifying the monetary sector solely with the money market.

The Keynesian theory supported the thesis of the non-neutrality of money by using more or less sophisticated versions of the IS-LM model, according to which investment decisions depend only on the interest rate whose level is determined by the money market equilibrium. The implicit hypothesis in these models is that firms are always able to obtain the liquidity necessary to carry out the desired investments. This approach found important theoretical support in the Modigliani-Miller theorem that shows that a firm's investment decisions are independent of the choice of the form of financing. The theorem shows that the cost of the capital, i.e. the rate of return that conditions the firm's investment decisions, is independent of the decision regarding the source of financing, whether this be self-financing, a new share issue or indebtedness. For the firm, therefore, the choice between these forms of financing

becomes indifferent and, for economic theory, firm financing becomes an issue of little importance.

The monetarist theory motivates the irrelevance of the firm financing issue by stating that it is not possible to attribute to the credit market a role which is distinct from that played in the real sector, inasmuch as the credit market coincides with the real sector. This theory separates the money market from the credit market; Friedman e Schwartz (1982) assert that the two markets are characterised by different prices: the price of money corresponds to the quantity of goods that can be purchased with a unit of money, thus it is equal to the inverse of the price level, while the price of credit is the interest rate. Consequently, a disequilibrium between money supply and demand will be eliminated by the variation in the price of money and hence of the general price levels, while an imbalance between credit supply and demand will be eliminated by the variation in the interest rate. This distinction reflects the conclusions of the quantity theory of money according to which the imbalance between demand and supply influences the level of the aggregate demand and thus the price level. In the case of the credit market, however, any demand and supply disequilibrium will have no effect on the aggregate demand and on the price level. The absence of a link between the quantity of credit and the aggregate demand level is due to the fact that the credit demand and supply derive from real decisions: the credit supply is generated by saving decisions while the credit demand reflects investment decisions. The credit market coincides with the real sector of the economy, so it is pointless to study the relation between the credit market and the real sector.¹ To leave aside the credit market means also to overlook the financial intermediaries, whose essential role is to facilitate the transfer of resources from savers to firms. We can apply Mill's statement about money to financial intermediaries:

“There cannot be intrinsically a more insignificant thing, in the economy of society, than money; except in the character of a contrivance for sparing time and labour. It is a machine for doing quickly and commodiously, what would be done, though less quickly and commodiously, without it: and like many other kinds of machinery, it only exerts a distinct and independent influence of its own when it gets out of order.. ”²

The intermediaries are considered a mechanism that makes it possible to do “quickly and commodiously ” what could be done even in their absence.

This situation has changed in recent years thanks to the development of a theoretical approach that has applied the conclusions of information economics to the analysis of the working of the financial markets and the role of financial intermediaries. The objective of this paper is to highlight the fact that the asymmetric information approach does not constitute the only theoretical framework which gives prominence to the issue of firm finance; a meaningful theory could be elaborated on the basis of the works of Keynes and Schumpeter. The aim of this paper is to highlight the most significant differences between these two approaches.

¹ Mc Callum (1989, pp. 29-30) states that the decision to overlook the credit market “... rests basically on the fact that in making their borrowing and lending decisions, rational households (and firms) are fundamentally concerned with goods and services consumed or provided at various points in time. They are basically concerned, that is, with choices involving consumption and labor supply in the present and in the future. But such choices must satisfy budget constraints and thus are precisely equivalent to decisions about borrowing and lending- that is, supply and demand choices for financial assets. ... Consequently there is no need to consider *both* types of decisions explicitly. ... it is seriously misleading to discuss issues in terms of possible connections between ‘the financial and real sectors of the economy’, to use a phrase that appears occasionally in the literature on monetary policy. The phrase is misleading because it fails to recognise that the financial sector *is* a real sector.”

² Quoted in Friedman 1969.

The paper is divided into three parts. In the first section, the asymmetric information (AI) approach is presented, and, in the second, the Keynes-Schumpeter approach is described; in the conclusion, the implications deriving from these two different analysis perspectives of firm financing are set out.

1. The asymmetric information approach

This approach abandons the hypothesis of perfect markets on which the neoclassical theorems on the irrelevance of money and the financial variables were founded. The capital market is significantly different in one respect from the other markets in which a simultaneous exchange between goods and money takes place; in the capital market, a given amount of money is exchanged for the promise of receiving a greater amount of money in the future. The temporal dimension of the credit contract leads the creditors to gather information in order to evaluate the ability of debtors to pay back the loan. Two types of situations can be distinguished: a) in the first, characterised by symmetric information, debtor and creditor have the same access to all the information available, b) in the second, characterised by asymmetric information, the creditors do not have all the information available to the debtors. The presence of information asymmetries in the capital market has two important consequences: a) in the first place, it eliminates the assumption of perfect substitutability between the different sources of firm financing. In the presence of asymmetric information, the Modigliani – Miller theory is no longer valid and the firms are not indifferent as regards the choice of the source of financing. The problem of the choice of the optimal financial structure, that is of the financial structure that allows the information costs to be minimized, becomes important; b) secondly, it provides a justification for the presence of financial intermediaries, and, in particular, of the banks, who specialise in information gathering.

According to the supporters of the AI approach, these two conclusions apply in particular to the small and medium firms, as there is less information available about them; this means that one should expect a significant difference between the financial structure of the small and medium firms with respect to that of the big firms; a difference that would reflect the different degree of asymmetric information. In recent years many empirical studies have been published that set out to verify the soundness of the AI approach and the fact that the small and medium firms have a peculiar financial structure. In the next section the two main theoretical conclusions of the AI approach are illustrated and the most important results of the empirical studies is presented.

1.1 Asymmetric information, Modigliani-Miller theorem and financial intermediaries.

The first result obtained by the AI approach is to show that the presence of AI renders the Modigliani-Miller theorem inapplicable. If the potential creditors have less information than the entrepreneur who plans to carry out a new investment project, then it is not indifferent for the firm to choose among self-financing, debt or a new share issue.

In the presence of asymmetric information the firms have to address the problem of choosing the optimal financial structure, i.e. the financial structure that makes it possible to minimize the information costs. The most well-known response is the ‘pecking order

theory',³ whose conclusions can be summarised in the following points: a) in the presence of asymmetric information, firms prefer self-financing over external financing; b) if self-financing proves insufficient to fund the planned investment, firms prefer to get into debt rather than to issue new equity. These conclusions are obtained by applying to the capital market the results of the work of Akerlof (1970). In Akerlof's model the potential used car buyers are not able to recognise the quality of the cars; in the case of the capital market, it is assumed that the potential financiers know only the expected return of the investment project that a single firm intends to carry out, while the single firm knows the actual return of its project. If it is assumed that there are many firms planning to carry out investment projects, and that every project has the same rate of return, it can be shown that the issue of new shares would be a very costly form of financing for the best firms. They would, in fact, have to issue shares on the same conditions as other firms so the potential share subscribers would not be able to distinguish between the strong and weak investment projects. The best firms would thus prefer to finance themselves through debt; in this situation, the worst firms have to follow the example of the best ones if they want to avoid being identified by the market.

The supporters of the AI approach recognise that the 'pecking order theory' is not generally valid; indeed, there are situations of asymmetric information in which firms may not be able to finance themselves through debt and are therefore forced to issue shares. This happens in particular when there is a potential conflict of interest between the creditors and the entrepreneur, who, once he has obtained the financing, could decide to carry out a riskier project than the one for which he obtained the financing, thus passing the risk onto the creditors.⁴ The first conclusion that can be drawn is that the choice of the financial structure depends on the type of asymmetric information which characterises the firm.

The second result obtained from using the asymmetric information approach is that it provides a convincing theory of financial intermediaries according to which their function is to reduce the costs associated with asymmetric information. The theory which characterises the AI approach is elaborated by starting from the observation that the presence of debtors and creditors is the necessary premise to justify the presence of financial intermediaries. The recourse to financial intermediaries entails a cost for the creditors and debtors; for this reason, the theory should explain what are the services provided by the financial intermediaries which compensate for the costs of intermediation.⁵ The presence of asymmetric information allows us to formulate a good answer: the services offered by the intermediaries is to gather information. Intermediaries play the same role in the credit market as the merchants play in Akerlof's used car market. Akerlof emphasized that the presence of asymmetric information stimulates the creation of agents whose purpose is to reduce the information costs; he considered, in particular, the activity of merchants that specialise in evaluating the quality of the goods exchanged.⁶ The role played by financial intermediaries can be illustrated using the distinction between inside debt and outside debt:

³ See: Myers 1984; 2001; Myers and Majluf 1984.

⁴ See for example: Gompers 1995; Berger and Udell 1998; Myers 2001; Carpenter and Petersen 2002.

⁵ "... it is useful to observe that, in principle, intermediate finance has one disadvantage: the chain of transactions between the firm and the final investor is longer, and *ceteris paribus*, an increase in the length of the chain of transactions may be taken to entail an increase in transactions costs. Any proposition that intermediated finance is more advantageous than direct finance must therefore be based on a view that the presumed gains from intermediation are more than enough to compensate for the increased transactions costs." Hellwig 1991, p. 42.

⁶ "In our picture the important skill of the merchant is identifying the quality of merchandise: those who can identify used cars in our example and can guarantee the quality may profit by as much as the difference between type two traders' buying price and type one traders' selling price. These people are merchants." Akerlof 1970, p. 117." Akerlof 1970, p. 117.

“ Inside debt is defined as a contract where the debtholder gets access to information from an organization’s decision process not otherwise publicly available... Bank loans are inside debt, as are the other types of debt commonly classified as private placements. In contrast, outside debt is defined as publicly traded debt where the debtholder relies on publicly available information generated by the organization or by information purchased by the organization (for example, independent audits and bond ratings)”⁷

The characteristic of intermediaries is to provide finance through inside debt contracts stipulated on the basis of information not publicly available, which is obtained by virtue of the close relation with the debtors. The intermediaries’ activities typically take place inside the private debt and equity markets in which the financing is provided by means of complex contracts whose characteristics are defined on the basis of information not publicly available.

The asymmetric information approach emphasizes that the recourse to financing from financial intermediaries regards especially the small and medium firms which, due to their informational opacity, and the high fixed costs associated with public share and bond offerings, are not able to finance themselves by using public debt and equity markets.⁸ The different degree of asymmetric information which distinguishes the small and medium firms with respect to the big companies therefore constitutes the principal explanation of the differences which are found between the financial structures of these two groups of companies. Such differences can be summarised in two points: a) the different importance of the self-financing channel: the small and medium firms are characterised by a high proportion of self-funding; b) the different share of financing obtained through the private markets: the external financing of small and medium firms come from private markets.⁹

The AI approach provides important elements that regard: i) the relationship that is created between the intermediaries and the firms; ii) the nature of the information collected by the financial intermediaries iii) the characteristics of the financial intermediaries. Many studies highlight the importance of the creation of a lasting relationship over time, which can lead to the application of more advantageous financing conditions for the firms. As Petersen e Rajan (1994, p. 5) observe:

“... through close and continued interaction, a firm may provide a lender with sufficient information about, and a voice in, the firm’s affairs so as to lower the cost and increase the availability of credit. We term this interaction a relationship.”¹⁰

The possibility of creating a close relationship between the intermediaries and the firms implies a physical proximity between these agents. Lasting relations are thus a characteristic

⁷ Fama 1985, p. 277.

⁸ As Berger and Udell assert (1998, p. 616): “Perhaps the most important characteristic defining small business finance is informational opacity. Unlike large firms, small firms do not enter into contracts that are publicly visible or widely reported in the press—contracts with their labour force, their suppliers, and their costumers are generally kept private. In addition, small business do not issue traded securities that are continuously priced in public markets... As a result, small firms often cannot credibly convey their quality... The private equity and debt markets ... offer specialized mechanism to address these difficulties... The financial intermediaries that operate in these markets actively screen, contract with, and monitor the small business... it can be argued that the modern theory of financial intermediation... is mostly a theory that applies to the provision of intermediated finance in private markets to small, informatively opaque firms.”

⁹ As Berger and Udell state (1998, p. 660): “Unlike large firms, small business typically have a substantial amount of their funding provided by insiders – the entrepreneur, other members of the start-up team, family, and friends. In addition, small businesses generally receive their external funding in private equity and debt markets, rather than public markets.” See also: Hughes and Storey 1994; Cantillo and Wright 2000.

¹⁰ See also: Berger and Udell 1995; 2002; Meyer 1998; Cole 1998; Gorton and Winton 2002.

element of the relationship between small and medium firms and local banks, which collect information not only because of their relation with the debtor firm, but also on account of their relations with the other components of the local economy such as clients or suppliers of the debtor firm.¹¹ A lasting relationship allows the intermediary to extend the financing over time, and to condition future financing on the basis of the information available about the behaviour of the firm and the evolution of the investment project.¹²

The information gathered by the financial intermediaries through lasting relationships with the firms is defined as 'soft information'.¹³ This information differs from 'hard information' relating to financial statements, payments to suppliers, proceeds taken in; this type of information is easy to quantify, verify and to pass on.

The asymmetric information approach distinguishes between two types of intermediaries: the bank intermediaries and the non-bank intermediaries.¹⁴ The most important example of non-bank financial intermediaries are venture capitalists.¹⁵ The venture capitalists finance the firms by underwriting shares, counting more on the possible gain in capital account to be obtained by the sale of shares rather than on the dividends. Banks and venture capitalists finance firms that have different characteristics; we can identify various factors that render bank financing difficult for some firms. In the first place, we can cite the problems of moral hazard which arise when there is a potential conflict of interest between the firm and the debtor; these problems make the access to bank credit difficult for those firms that do not possess businesses that can be given as collateral to the banks.¹⁶ Moreover, bank credit does not constitute a very suitable instrument for financing the particularly risky investment projects which, if successful, could yield high returns. Indeed, in these cases, the banks would have to apply excessively high interest rates, above the limits that are set by law against usury, and which, if they could be applied, would constitute an intolerable burden for firms.¹⁷ These considerations lead us to conclude that the ideal clients of venture capitalists are the firms that intend to carry out high return risky projects, but which do not have sufficient collateral to offer the banks. They are essentially small and medium sized firms that operate in the most innovative sectors.¹⁸

¹¹ See: Berger and Udell 2002.

¹²Stulz (2001, p. 153) notes that: "The solution to finance the entrepreneur's project generally involves staged financing obtained from financial intermediaries such as banks, banks substitutes, and possibly venture capitalists. Banks effectively provide staged financing. They do so in the form of loans that they renew and expand as the entrepreneur makes his case for financing more compelling." See also: Gompers 1995; Bergemann and Hege 1998; Fenn and Liang 1998; Mason and Harrison 2001.

¹³ "Relationship information is often 'soft' data, such as the information about the character and reliability of firm's owner, and may be difficult to quantify, verify and communicate..."Berger and Udell 2002, p. 32; see also: Petersen and Rajan 2002.

¹⁴ The characteristics of bank intermediaries are defined by Gorton and Winton (2002, p. 2) thus: "By bank like financial intermediaries we mean firms with the following characteristics: 1) they borrow from one group of agents and lend to another group of agents; 2) the borrowing and lending groups are large, suggesting diversification on each side of the balance sheet; 3) the claims issued to borrowers and to lenders have different state contingent payoffs."

¹⁵ "Venture capitalists perform the quintessential functions of financial intermediaries, taking funds from a group of investors and redeploying those funds by investing in informationally opaque issuers. In addition to screening, contracting, and monitoring, venture capitalists also determine the time and form of investment exit."Berger and Udell 1998, p. 632.

¹⁶ "Collateral and guarantees are powerful tools that allow financial institutions to offer credit on favourable terms to small businesses whose informational opacity might otherwise result in either credit rationing or the extension of credit only on unfavourable terms." Berger and Udell 1998, p. 639.

¹⁷ See: Gompers 1995, Carpenter e Petersen 2002.

¹⁸ See: Gompers 1995; Fenn and Liang 2000; Allen and Gale 1999; Jeng and Wells 2000; Freel 2000; Carpenter and Petersen 2002.

Numerous empirical studies set out to verify the soundness of the AI approach's conclusions concerning the characteristics of the financial structure of the small and medium firms. The results regarding the financial structure of the small and medium firms concern three points: i) the importance of self-financing and the recourse to inside debt contracts; ii) the importance of financing granted on the basis of lasting relationships iii) the recourse on the part of the small and medium firms to the private equity market.

Many studies confirm the recourse of the small and medium firms to self-financing and to inside debt contracts. The data collected by Berger and Udell on the capital structure of the small American firms in 1993 shows that, of the total capital, the proportion made up by equity is 49.63%, and by debt, 50.37%. The owner-entrepreneur holds 31.33% of this 49.63% quota while other agents consisting of other members of the family and friends own 12.86% of it; the residual amount of 6.44% is composed of shares owned by *angels* and by *venture capitalists*. As far as the debt is concerned, the most important quotas are comprised of financing obtained from financial institutions, corresponding to 26.66% of the total capital, and from commercial credit, which is equal to 15.78%. Similar statistics are found in other countries.¹⁹

Petersen and Rajan (1994) have analysed the consequences of the presence of a lasting relationship between banks and firms on the financing conditions imposed, and in particular on the interest level applied and on the availability of credit. Their analysis, based on data regarding small American firms, shows that the duration of the relationship between the bank and the firm seems to have a slight effect on the interest rate and a significant impact on the availability of credit.²⁰ These results have been confirmed by other studies;²¹ the results of empirical research regarding Italy are particularly important, given the strong presence of small and medium firms that often work within districts, i.e. delimited geographical areas inside which are found numerous firms involved in the various production phases which lead to the manufacture of a homogenous good. Local banks, i.e. banks that were created and grew within the area, often operate in the districts. The analysis of the Italian experience confirms the influence of the lasting relationships on the firms' financing conditions.²²

In a recent work, Petersen e Rajan (2002) analysed the consequences of the processes of merger and concentration experienced by the U.S. banking sector on the small firms' financing conditions. They highlight two, apparently contradictory, phenomenon. On the one hand, they observe, in tandem with the process of mergers and concentration, that the physical distance separating small firms and creditor banks grew substantially in the period from 1973 and 1993; on the other hand, they note that this greater distance did not lead to greater difficulties in financing for the small firms. This combination of apparently contradictory phenomena is due, according to Petersen e Rajan, to the effects of the information technology revolution allowing banks to gather a larger quantity of information despite the greater distance from the firms. They stress that the information collected by the banks through information technology is different from that collected through the direct contact typical of banks and firms which are in close physical proximity.²³

¹⁹ See: Giudici e Paleari 2000; Lopez-Garcia and Aybar-Arias 2000; Manigart and Stuyf 1997; Hughes and Storey 1994; Cantillo and Wright 2000.

²⁰ Petersen and Rajan (1994) consider as an indicator of the availability of credit the amount of credit that firms obtain from the most costly source; firms that have unlimited access to bank credit do not resort to more expensive forms of financing.

²¹ See: Cole 1998.

²² See: Finaldi Russo and Rossi (1999); Guiso, Sapienza and Zingales (2002); Alessandrini and Zazzaro (2001); Angelini, Di Salvo and Ferro (1998).

²³ "Soft information is, by definition, hard to put down on paper or store electronically... Instead, we believe more hard information about the borrower, such as whether he is current on his trade credit payment and to

Finally, as regards the third point, we note that many studies confirm that it is especially the firms involved in the high-tech sector that turn to the private equity market. Carpenter and Rajan (2002) analyse the data of 2.400 small and medium American firms involved in the high-tech sector and find that recourse to debt is much lower. Meyers (2001) observes, in connection with the U.S. experience, that the firms who most use share issues are: "... the smaller, riskier and more rapidly growing firms".²⁴ Research on other countries also indicates the importance of the role of venture capital; it is shown how the aversion of the owner – manager to the issue of new shares can be overcome when, as in the case of the venture capitalist, the agent underwriting the new shares is able to offer skills which are complementary to those of the owner-manager.²⁵ These considerations lead different authors to promote the utility of implementing policies encouraging the development of venture capital.²⁶

2. The Keynes-Schumpeter approach

It is possible to specify a theoretical approach which is alternative to the one based on the presence of asymmetric information, an approach that can be defined on the basis of the theories of both Keynes and Schumpeter. We can identify a common theory of credit and of financial institutions which is profoundly different from the one which characterises the asymmetric information approach. The characteristics of this approach can be presented by elaborating three points; i) the nature of the credit market; ii) the role of the banks; iii) the monetary nature of the interest rate.

2.1 The nature of the credit market

Both Keynes and Schumpeter observe that the credit market becomes particularly important as the use of fiat money spreads; the credit market is the instrument through which fiat money is made available to operators who plan to carry out a spending decision. They both maintain that the spread of fiat money profoundly changed the characteristics of the economic system.

Keynes (1933a) underlines this point by distinguishing between a *real exchange economy* and a *monetary economy*. He uses the first term to denote an economy in which money is just an instrument that makes it possible to reduce the costs of the exchange; the use of money does not change the structure of the economic system with respect to a barter economy. With

whom he has applied for credit, is now available even to lenders at a distance. As a result, even if lenders do not have the rich soft information they obtained from infrequent, but close, contact with the borrower, they now have far more timely hard information about their creditworthiness. This enable them to lend at a distance knowing they can intervene quickly and foreclose or refuse loan renewal if conditions deteriorate. Thus, new technology permits more, and different, information to be gathered, stored, and distributed. It changes the nature of lending... Petersen and Rajan 2002, p. 2535.

²⁴ "Venture capital has been the driving force behind some of the most vibrant sectors of the US economy over the past two decades. Venture capitalists were instrumental in fostering the tremendous growth such as Microsoft, Compaq, Oracle and Sun Microsystems..." Jeng and Wells 2000. See also: Berger and Udell (2002); Frank and Goyal (2003).

²⁵ See for instance: Giudici and Paleari 2000; Manicart and Struyf 1997; Mason and Harrison 2001.

²⁶ See: Carpernter and Petersen (2000); Mason and Harrison (2001).

the term *monetary economy*, Keynes refers to an economy in which the presence of fiat money radically changes the nature of the exchanges and the law of production. The spread of fiat money transforms an exchange economy characterised by full employment into a production economy in which the level of income and production are bound to fluctuate. The condition that guarantees full employment in a world where commodity money is used, is the fact that any individual can produce money in the same way in which he produces any other good. In fact, Keynes (1993b) observes that in a *gold standard* system, fluctuations in the effective demand do not create permanent unemployment as the unemployed workers can set about producing the money-good, that is, gold.²⁷ When fiat money is used this is no longer possible: fiat money is not a good that can be produced by unemployed workers. The production of fiat money is the prerogative of particular agents; Keynes concentrates the attention on the banks and on bank money.

Using fiat money as bank money changes the nature of the exchanges with respect to a barter economy: when bank money is used, it is not necessary to own goods to buy other goods, but it is necessary to have money, and to obtain money it is necessary to satisfy the criteria applied by the banks for granting loans. The credit market is the instrument through which banks distribute money; to describe this market it is necessary to explain who are the agents that demand credit. Keynes deals with the credit market in some works published between 1937 and 1939 to reply to criticism of *General Theory*, and, in particular, to Ohlin's criticism of his interest rate theory

Ohlin compares with the Keynesian interest rate theory a new version of the loanable funds theory, according to which the interest rate is determined by the credit demand which depends on *ex-ante* investments, i.e. those planned by the firms, and by the supply of credit which instead depends on *ex-ante* savings. Keynes (1937) considers the concept of *ex-ante* investment important because it shows that the firms, to carry out their spending decisions, must obtain liquidity and, thus, that a lack of liquidity can impede the firms' investment decisions. At the same time, Keynes criticises Ohlin, noting that the supply of liquidity does not depend on the saving decisions, but on the banks' decisions. In fact, Keynes observes that the firms that plan the investments need liquidity that cannot be provided by *ex-ante* savers.²⁸ Savings are a consequence of the investment decisions carried out by the firms thanks to the money created by banks.²⁹

From Keynes's analysis there emerges a theory of credit which is completely different to the one which characterises the asymmetric information approach. According to the latter, the object of the credit is resources which have been saved; the existence of savers and investors is a necessary condition for a credit market, while the presence of banks is a consequence of the existence of asymmetric information. The use of fiat money has no effect on the nature of the credit market; both in the case in which commodity money is used and in the case in

²⁷ "In actual fact under a gold standard gold can be produced, and in a slump there will be some diversion of employment towards gold mining. If, indeed, it were easily practicable to divert output towards gold on a sufficient scale for the value of the increased current output of gold to make good the deficiency in expenditure in other forms of current output, unemployment could not occur; except in the transitional period before the turn-over to increased gold-production could be completed." (J.M.Keynes 1993b, pp. 85-86).

²⁸ "... The ex-ante saver has no cash, but it is cash which the ex-ante investor requires. ... Surely nothing is more certain than that the credit or 'finance' required by ex-ante investment is not mainly supplied by ex-ante saving ." (J.M.Keynes 1937c, p. 664-5).

²⁹ "Increased investment will always be accompanied by increased saving, but it can never be preceded by it. Dishoarding and credit expansion provides not an *alternative* to increased saving, but a necessary preparation for it. It is the parent, not the twin, of increased saving." (J.M.Keynes 1939, p. 572). For a more detailed analysis see: Bertocco 2002.

which fiat money is used, the object of the credit is the resources set aside by savers. Keynes instead maintains that: a) the object of credit is the money created by the banks and not by saving; b) the credit market is based on the relationship between banks and firms and not on the saver-investor relation.

The same conception of the credit market which marks Keynes's thinking emerges from the work of Schumpeter. Like Keynes, Schumpeter also observes that the spread of bank money profoundly changed the structure of the economic system. To highlight this change, Schumpeter (1912) distinguishes between a pure exchange economy and a capitalist economy. A pure exchange economy is one based on private property, on the division of labour and on free competition; an economy that always tends to replicate itself unchangingly, or that is in any case subject to very gradual changes triggered by extra-social factors like natural conditions, or by extra-economic social factors like wars, or by consumer tastes; it is an economy in which the production decisions are influenced by saver preferences and in which the principle of consumer sovereignty holds. In a pure exchange economy, money is just an instrument that reduces the transaction costs; its presence does not alter the structure of the economic system.

A capitalist economy, on the other hand, is an economy characterised by a continuous process of change triggered by internal factors. The fundamental internal factor of change regards the sphere of production and it is the innovations which consist in the introduction of a new good, or of a new method of production, or from the opening of a new market. The availability of credit constitutes the necessary condition for the realization of the innovations. Schumpeter emphasizes that within a capitalist economy three elements can be identified which make the role of credit essential in the development process: 1) private ownership of the factors of production; 2) the fact that innovations are carried out especially by new men, who do not own the factors of production;³⁰ 3) the full employment of productive resources.³¹ In order for the innovations to be carried out, these new men must be able to control the factors of production that are in the hands of the existing firms; credit is the instrument that enables entrepreneurs-innovators to use the existing productive resources in order to carry out innovations³²

Schumpeter stresses that the object of credit is not the resources saved, but the purchasing power created by the banks that allows the entrepreneur-innovator to divert the means of production from the traditional uses to which it would be put by the existing firms. He maintains that the fundamental factor determining the process of development that

³⁰ "... it is not essential... that the new combinations should be carried out by the same people who control the productive or commercial process which is to be displaced by the new. On the contrary, new combinations are, as a rule, embodied, as it were, in new firms which generally do not arise out of the old ones but start producing beside them ... in general, it is not the owner of stage-coaches who builds railways." Schumpeter 1912, p 66.

³¹ "...whenever we are concerned with fundamental principles, we must never assume that the carrying out of new combinations takes place by employing means of production which happen to be unused. In practical life, this is very often the case. There are always unemployed workmen, unsold raw materials, unused productive capacity, and so fort. ... but great unemployment is only the consequence of non-economic events –as for example the World War - or precisely of the development which we are investigating. In neither of the two cases its existence play a fundamental role in the explanation, and it cannot occur in a well balanced circular flow from which we start." Schumpeter 1912, p. 67.

³²Schumpeter (1912, p. 71) observes that the problem with innovation is in: "... detaching productive means (already employed somewhere) from the circular flow and allotting them to new combinations. This is done by credit, by means of which one who wishes to carry out new combinations outbids the producers in the circular flow in the market for the required means of production."

characterises a capitalist economy is not saving, but the different use of the existing productive resources made possible through credit.³³

In a capitalist economy the nature of credit is very different from in a pure exchange economy. The banks issue credit instruments denominated in legal tender, which have the same function as money³⁴ Schumpeter criticises the traditional view of the credit market according to which the supply of credit depends on the saving decisions and the banks are only intermediaries that collect the liquidity of savers. The banks are not intermediaries, but they create means of payment that carry out the same functions as legal tender.³⁵ The main players in the credit market, therefore, are not the savers and the firms, but banks and firms:

“The kernel of the matter lies in the credit requirements of new enterprises. ... only one fundamental thing happens on the money market, to which everything else is accessory: on the demand side appear entrepreneurs and on the supply side producers of and dealers in purchasing power, viz. bankers, both with their staffs of agents and middlemen.”³⁶

The credit market is not therefore a simple mirror image of the real economy as the neoclassical theory contends, but instead it represents an essential factor in the development process which characterises a capitalist economy with respect to an exchange economy.³⁷ Keynes and Schumpeter elaborate their analysis of the credit market in different contexts. For Keynes, the use of fiat money and its diffusion through the credit market become the fundamental elements of a monetary economy that does not possess automatic mechanisms capable of guaranteeing full employment. In contrast, Schumpeter criticises the static framework of *The General Theory* which overlooks the process of continuous change that marks a capitalist economy and neglects the effects of investment decisions on the productive capacity of the economic system.³⁸

These important differences of perspectives do not prevent us from highlighting the benefits of a synthesis between these two great economists.³⁹ This synthesis could be based on two points. The first one concerns the credit theory. We can identify a theory of credit that unites Keynes and Schumpeter and that is based on two points: a) for both, the object of the credit is not saving but the money created by banks; b) for both, the credit market is based on the relation between banks and firms rather than on the relation between savers and firms. The second point is in recognising the usefulness of extending Keynes’s analysis beyond the short term; this implies the need to recognise the influence of investment decisions on the

³³ “That rudiment of a pure economic theory of development which is implied in the traditional doctrine of the formation of capital always refers merely to saving and to the investment of the small yearly increase attributable to it. In this it asserts nothing false, but entirely overlooks much more essential things. The slow and continuous increase in time of the national supply of productive means and of savings is obviously an important factor in explaining the course of economic history through the centuries, but it is completely overshadowed by the fact that development consists primarily in employing existing resources in a different way, in doing new things with them, irrespective of whether those resources increase or not. ... Different methods of employment, and not saving and increases in the available quantity of labor, have changed the face of the economic world in the last fifty years.” Schumpeter 1912, p. 68.

³⁴ “Means of payments are created in the economic system which are, in the external form, it is true, represented as mere *claims* to money, but which differ essentially from claims to other goods in that they perform exactly the same service – at least temporarily- as the good in question itself, so that they may under certain circumstances take its place.” Schumpeter 1912, p. 97.

³⁵ Schumpeter 1954, p. 1113.

³⁶ Schumpeter 1912, p. 125.

³⁷ Schumpeter 1939 p. 356.

³⁸ Schumpeter 1937, p. 356 (Messori)

³⁹ On the opportuneness of a synthesis between the views of Keynes and Schumpeter see: Minsky 1986; Morishima 1992.

productive capacity of the economic system. This limit of Keynes's analysis is recognised by economists such as Kalecki, Kaldor and Hicks.

A theoretical framework that summarises the thinking of these two renowned economists should, on the one hand, include the Keynesian theory of income determination and, on the other, highlight the importance of investment decisions in the development process that characterises the capitalist economy. In this way, the dual role of investment decisions is emphasized: component of autonomous demand and element through which the innovations that influence the evolution of the economy are made. In this scheme, innovations are introduced via investment decisions, that is, through the demand for new capital goods, rather than by a new use of the existing productive resources on the part of the new entrepreneurs; the role of credit therefore consists in ensuring that means of payment flows to the firms that intend to make investments.

The opportuneness of expanding the Keynesian theory by giving prominence to the implications of the investment decisions for the evolution of the economic system is justified by the importance that the phenomenon of uncertainty assumes in Keynes's analysis. Keynes (1937a) states that the fundamental difference between his own theory and the classical one is the hypothesis introduced about the way the expectations regarding future results of economic decisions are specified. The classical theory assumes that it is possible to objectively represent these results by using tools of financial mathematics and the probability theory. In contrast, Keynes assumes that there are no objective methods that allow the future results of investment decisions to be represented; these decisions are taken in conditions of uncertainty. We can observe that the phenomenon of uncertainty is linked to the continuous evolution of the economic system which prevents us from considering the past and the present as a reliable guide to predict the future consequences of investment decisions. Uncertainty is thus the fundamental characteristic of a continuously evolving economy which does not replicate itself in the same way; an economy in which investment decisions do not entail a mere increase in the production capacity, but imply a structural modification of the production system, the results of which cannot be objectively predicted. Highlighting the aspect of uncertainty therefore means recognising the importance of the change. Keynes stresses that the phenomenon of uncertainty acquires particular significance in an economic system where investment decisions are of considerable importance.⁴⁰ It can furthermore be observed that when Schumpeter describes the behaviour of the innovator-entrepreneur, the views he expresses are similar to those of Keynes on the impossibility of predicting the effects of innovations on the basis of observations on the past.⁴¹ Schumpeter (1912, pp. 84-85) notes that when the entrepreneur must evaluate the future results of an innovation:

⁴⁰ "The whole object of the accumulation of wealth is to produce results, or potential results, at a comparatively distant, and sometimes at an *indefinitely* distant, date. Thus the fact that our knowledge of the future is fluctuating, vague and uncertain, renders wealth a peculiarly unsuitable subject for the methods of the classical economic theory. This theory might work very well in a world in which economic goods were necessarily consumed within a short interval of their being produced. But it requires, I suggest, considerable amendment if it is to be applied to a world in which the accumulation of wealth for an indefinitely postponed future is an important factor; and the greater the proportionate part played by such wealth accumulation the more essential does such amendment become." Keynes 1937a, p. 113.

⁴¹ "While in the accustomed circular flow every individual can act promptly and rationally because he is sure of his ground and is supported by the conduct, as adjusted to this circular flow, of all other individuals, who in turn expect the accustomed activity from him, he cannot simply do this when he is confronted by a new task. ... While he swims with the stream in the circular flow which is familiar to him, he swims against the stream if he wishes to change its channel. What was formerly a help becomes a hindrance. What was a familiar datum becomes an unknown. ... The assumption that conduct is prompt and rational is in all cases a fiction. But it proves to be sufficiently near to reality, if things have time to hammer logic unto men. ... outside of these limits

“...the individual is without those data for his decisions and those rules of conduct which are very accurately known to him within them. Of course he must still foresee and estimate on the basis of his experience. But many things must remain uncertain, still others are only ascertainable within wide limits, some can perhaps only be ‘guessed’. In particular this is true of those data which the individual strives to alter and those which he wants to create. ... Carrying out a new plan and acting according to a customary one are things as different as making a road and walking along it. ... As military action must be taken in a given strategic position even if all the data potentially procurable are not available, so also in economic life action must be taken without working out all the details of what is to be done. Here the success of everything depends upon intuition, the capacity of seeing things in a way which afterwards proves to be true, even though it cannot be established at the moment, and of grasping the essential fact, discarding the unessential, even though one can give no account of the principles by which this is done.”

It is precisely the peculiarity of the behaviour determining the innovations that leads Schumpeter to assert that innovations must be made by new people, capable of imagining a different reality from the one in which they live, and of countering the forces which are hostile to the innovation. The singularity of these people manifests itself in their motivations which are not simply of a hedonistic type, that is, concerned with the maximization of income and consumption.⁴²

2.2 The role of banks

The analysis of the phenomenon of credit that emerges from the approaches of Keynes and Schumpeter leads to a different definition of the role of banks than is obtained following the asymmetric information approach. As has been recalled, according to this approach, the existence of banks is justified by the presence of asymmetric information which hinders the direct financing of firms by savers. In a world without friction, savers directly finance the firms, and the interest rate is the instrument that allows the most profitable investments to be selected and to assure an efficient use of resources.⁴³ The function of banks is to gather information, in this way eliminating the problems connected with the presence of asymmetric information. The banks’ activities permit the real world, characterised by imperfections, to obtain those optimal results that characterise an economy without imperfections in which the mechanism of the interest rate ensures the efficient allocation of the savings. This conclusion is based on the conviction that the credit market works like Akerlof’s used car market. In other words, it is based on the conviction that information exists which permits the quality of an investment project to be objectively assessed in the same way in which the quality of a used car is evaluated. In the works in which the AI approach is presented, it is frequently assumed: a) that the future returns of a given investment project can be represented by a probability distribution characterised by a given forecasted return and by a given degree of

our fiction loses its closeness to reality. To cling to it there also, as the traditional theory does, is to hide an essential thing...”Schumpeter 1912, pp. 79-80.

⁴² Schumpeter (1912, p. 93) describes thus the motives which drive the behaviour of the entrepreneur-innovator: “First of all, there is the dream and the will to found a private kingdom ... Then there is the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself. ... finally there is the joy of creating, of getting things done, or simply of exercising one’s energy and ingenuity.”

⁴³ See for example: Wurgler 2000; Gorton and Winton 2002; Stulz 2001.

risk; b) that if all the agents had the same information, they would know the ‘true’ return probability distribution of that project.⁴⁴

Instead, Keynes and Schumpeter consider the presence of banks, of bank money and the credit market as essential elements of an economic system which is completely different from a *real-exchange economy*, to which Keynes refers, or to the pure exchange economy that Schumpeter talks about. Banks and credit are the fundamental elements of an economic system in which there are no mechanisms guaranteeing that full employment is automatically reached, of an economy in continuous evolution driven by the innovations made by virtue of the investment decisions taken in conditions of uncertainty. The credit market from this perspective is completely different from Akerlof’s used car market; it is one thing to assess the quality of used cars, quite another thing to evaluate the future returns of an investment project for the manufacture of a new type of car. In the presence of uncertainty there are no objective criteria that allow the future returns of investment projects to be evaluated; even the banks act in conditions of uncertainty. They evaluate the applications for financing presented by firms on the basis of subjective, discretionary criteria. This means that even if they had at their disposal the same information that the firms have, assuming that it is possible to list the information necessary to evaluate the future returns of an investment project in the same way in which the information necessary to assess the quality of a used car can be listed, the banks could have a different way to evaluate the return prospects of a given project than an entrepreneur-innovator. They could thus decide to ration the credit to certain entrepreneurs not because of any information they have, but because they believe that the entrepreneur elaborated overly optimistic forecasts.⁴⁵ Therefore, the banks share with the entrepreneurs-innovators the responsibility of deciding which investments are carried out; by their decisions they influence the development of the economic system.⁴⁶

This function of the banks is particularly present in the work of Schumpeter, who highlights the social role of the banks, noting that they have the same function as the central planning authority in a socialist economy. In a socialist economy the means of production are publicly owned and so it is the planning authority that decides how to use the available productive factors. When such authority decides to produce a new good, it orders a certain quantity of productive factors from a given sector to be collected and used in the new activity. In a capitalist economy in which the means of production are privately owned the role of the planning authority is carried out by the banks which offer the entrepreneur innovators the purchasing power enabling them to use the productive factors, diverting them away from the uses to which they were previously destined.⁴⁷

The social role of banks is defined by Schumpeter by giving prominence to three important aspects of their action. In the first place, Schumpeter emphasizes that the banks do not act on behalf of any particular agent as they do not lend the resources that have been

⁴⁴ See for instance: Stiglitz and Weiss 1981; Jaffe and Stiglitz 1990. For a more detailed analysis, refer to: Bertocco 2001.

⁴⁵ See: Tobin 1980; De Meza and Southey 1996; Wolfson 1996; De Meza 2002.

⁴⁶ This role of the banks does not emerge in the Keynesian macroeconomic models elaborated starting from the IS-LM model, in which prominence is given only to the money market. In those models the investment decisions depend only on expectations of entrepreneurs and the interest rate; these decisions are not influenced by the banks’ choices as the firms always have, at the market interest rate, the necessary liquidity to finance the desired investment.

⁴⁷“... suppose that our socialist community finds it convenient to rule that the executive submit every innovation it wishes to carry out to another body, which passes upon it and may grant or withhold assent. In case it sanctions the plan, it countersigns and issues the orders to the factors to form the new combination. This is the function which in capitalist society is filled by banks which, in providing entrepreneurs with means to buy factors of production or their services, do something akin to issuing such orders.” Schumpeter 1912. p. 86

given to them by specific agents; banks create purchasing power that enables the entrepreneur-innovator to divert away the existing productive resources from the use to which they were previously put. Schumpeter underlines that the granting of credit by the banks binds society in its entirety as this decision takes control of the means of production from the existing owners; by their decisions the banks alter the distribution of the ownership of the means of production.⁴⁸ The instrument which allows the ownership of the means of production to be transferred to the innovator entrepreneurs is the inflation triggered by the fact that the demand for means of production of the innovator-entrepreneurs is added to that of the already existing firms; this increase in the demand with respect to a constant supply of productive services causes an increase in the price of services which enables the innovator to divert resources from their current allocation.⁴⁹ With inflation it is possible to generate:

“...a shift of purchasing power across individuals ... a transfer of means of production in favour of those individuals to whom credit is granted via creation of new money... it is hence possible for new individuals and new programs, which would otherwise remain in the background, to emerge. In this way the obstacles created by private ownership to those who do not already own means of production are eliminated. In the banking system a central economic planning bureau is thus created, whose directions render the necessary means of production available to new individuals.... In the creation of this money (the bank money) lies the essence of modern credit . It is the specifically capitalist method of sustaining economic development. Unlike what happens in a pure barter economy, this is the key function of money in a capitalist economy.”⁵⁰

The second element which enables us to define the social role of banks can be understood when the consequences of their decisions are taken into account. When he emphasizes the role of innovations in the process of evolution of the economic system, Schumpeter describes a world in which it is not consumer decisions that influence production decisions, but rather it is the decisions of the innovators and thus of the banks that finance them, that alter consumer tastes.⁵¹

The third element which contributes to the definition of the banks' social role is the fact that they are the agents that assume the risk of the innovation. The entrepreneur-innovator does not risk his own resources but he acquires the means of production thanks to the purchasing power created by the banks; it is the bank that assumes the risk of the innovation

⁴⁸“Granting credit ... operates as an order on the economic system to accommodate itself to the purpose of the entrepreneur, as an order on the goods which he needs: it means entrusting him with productive forces... this function constitutes the keystone of the modern credit structure.” Schumpeter 1912, p. 107

⁴⁹ “If ... credit means of payment, new purchasing power in our sense, are created and placed at the entrepreneur's disposal, then he takes his place beside the previous producers and his purchasing power its place besides the total previously existing. Obviously this does not increase the quantity of productive services existing in the economic system. Yet 'new demand' becomes possible in a very obvious sense. It causes a rise in the prices of productive services. From this ensues the 'withdrawal of goods' from their previous use...” Schumpeter 1912, pp. 108

⁵⁰ Schumpeter 1917, p.114 (2/173). Translation of the Italian version contained in: J.Schumpeter, *Stato e Inflazione*. Saggi di Politica economica, Boringhieri Torino, 1983.

⁵¹ “... innovations in the economic system do not as a rule take place in such a way that first new wants arise spontaneously in consumers and then the productive apparatus swings round through their pressure. We do not deny the presence of this nexus. It is, however, the producer who as a rule initiates economic change, and consumers are educated by him if necessary....Therefore, while it is permissible and even necessary to consider consumers' wants as an independent and indeed the fundamental force in a theory of circular flow, we must take a different attitude as soon as we analyse *change*.” Schumpeter 1912 p. 65.

and, through it, the entire community, that accepts the redistribution of the ownership of the means of production, caused by the banks' decisions.⁵²

Given the social significance of the decisions taken by the banks, Schumpeter specifies the features of the banker's behaviour. In the first place, the banker must know how to assess the characteristics of the investment project to be carried out and the personality of the entrepreneur. Secondly, as the banks act on behalf of society and not of particular agents, they must stay independent of the firms and political power.⁵³

2.3 The monetary nature of the interest rate.

The third important aspect of the Keynes-Schumpeter approach concerns the interest rate theory. They both hold that the interest rate is a monetary phenomenon and not real; it does not constitute the reward for having renounced consumption as the supply of credit does not coincide with the saving. Keynes and Schumpeter come to define the monetary nature of the interest rate by following different paths. Keynes emphasizes money's stock of value function: money is a tool that allows wealth to be preserved over time. He observes that this role of money is particularly relevant in the presence of uncertainty, inasmuch as having money helps to alleviate the anxiety affecting people who must act without having clear points of reference; the interest rate, which constitutes the return on alternative activities to money, can be considered as an indicator of the unease produced by uncertainty.⁵⁴ Keynes does not alter his theory even when, after the publication of *The General Theory*, he recognises the need to render explicit the issue of financing of the firms' investments; as a matter of fact, as is well known, he considers the liquidity demand from the firms not as a demand for credit but as a further component of the demand for money.⁵⁵

Schumpeter, on the other hand, defines the monetary nature of the interest rate by placing the credit market at the centre of his analysis. As the object of the credit is the liquidity created by the banks, the interest is the premium that the banks ask to those who wish to acquire purchasing power.⁵⁶ Schumpeter (1939) notes that the necessary condition for the banks to obtain interest is that there are agents who: "... value a present dollar more than a future dollar." There may be different agents who are willing to pay interest, for example consumers who wish to anticipate their consumption, but Schumpeter maintains that the fundamental phenomenon which allows banks to obtain interest is the financing of the innovation. Indeed, the innovation allows the entrepreneur to obtain a profit, that is a monetary surplus with respect to the production costs, which enable him to pay interest. The interest is thus a monetary phenomenon that arises out of the relation between banker and entrepreneur: "The exchange, to which interest owes its origin ... according to our

⁵² "The entrepreneur does not save in order to obtain the means which he needs, nor does he accumulate any goods before beginning to produce. ... The entrepreneur is never the risk bearer. ... The one who gives credit comes to grief if the undertaking fails. ... Risk-taking is in no case an element of the entrepreneurial function. Even though he may risk his reputation, the direct economic responsibility of failure never falls on him." Schumpeter 1912, pp. 136-7.

⁵³ See: Schumpeter 1939.

⁵⁴ Keynes 1937a, p. 116

⁵⁵ See: Bertocco 2002.

⁵⁶ "Interest is the premium of the present purchasing power over the future one" Schumpeter 1912, p. 199.

interpretation ... takes place between entrepreneur and bankers”⁵⁷ Schumpeter (1912, p. 225) criticises the real interest rate theory which considers interest as a premium for the abstention from consumption.⁵⁸ According to Schumpeter the monetary nature of the interest rate derives from the fact that in the credit market what is exchanged is not goods, but rather purchasing power, whose creation by the banks alters the distribution of the ownership of the means of production.

By emphasizing the monetary nature of the interest rate, Schumpeter distances himself from the distinction made by Wicksell between a ‘monetary’ rate fixed by the bank, and a ‘natural’ rate which corresponds to the rate that would be generated in a barter economy in which the object of credit is the resources saved. According to Wicksell, the value of the natural rate is the point towards which the monetary rate should converge. Schumpeter (1939) states that in a capitalist economy there is no natural interest rate. This demonstrates how Schumpeter, just like Keynes, holds that the capitalist economy works in a way which is profoundly different to a barter economy.

Conclusions

In conclusion, we can note that the two theoretical frameworks described analyse the role of the financial institutions from different perspectives. The asymmetric information approach offers a reassuring picture of the working of an economy marked by the presence of a complex financial structure. This financial structure is considered as the response to the imperfections that characterise the real world and that prevent savers from directly financing firms. The presence of a complex financial structure eliminates the negative effects connected with asymmetric information and allows an efficient allocation of savings. It can be concluded that the distinctive element of this approach is the return to the principle of the neutrality of the financial variables, as the function of the financial structure is to ensure that the real world, with its imperfections, reproduces the results that characterise the ideal world without imperfections, in which savers directly finance the firms and the financial institutions have no role at all.

The Keynes-Schumpeter approach leads us to analyse in a more complicated way the role of the financial structure. This approach underlines that bank money, banks, credit market are elements that mark an economy that is completely different from the pure exchange economy to which the principle of the neutrality of the monetary variables is applied. It is an economy in which: 1) the object of the credit market is not the resources saved but the means of payment created by the banks; 2) the credit market is based on the relation between banks and firms and not on the relation between savers and firms; 3) there are no automatic mechanisms that guarantee the full employment of the resources; 4) the evolution of the economic system

⁵⁷ Schumpeter 1912, p. 195.

⁵⁸ “Unquestionably it is extraordinarily tempting in the case of interest also try to turn away from the element of money as quickly as possible and to carry the explanation of interest into the region where values and returns arise, namely in the realm of the production of goods. However, we cannot turn aside. It is true that in every case, corresponding to money interest, that is to the premium on purchasing power, there is a premium on goods of some kind. It is true that goods and not ‘money’ are needed to produce in the technical sense. But if we conclude from this that money is only an intermediate link, merely of technical importance, and set about substituting for it the goods which are obtained with it and for which therefore in the last analysis interest is paid, we at once lose the ground from under our feet. ... Thus we cannot move away from the money basis of interest.” Schumpeter 1912, pp. 183-4.

is determined by the innovations that are made through investment decisions taken in conditions of uncertainty.

These elements make it possible to highlight the social role of the banks, which do not act on behalf of a particular group of economic subjects, but they act on behalf of the entire society inasmuch as, by creating money to finance the entrepreneur-innovator, they express the consensus of society towards the investment project which is funded. The social responsibility of the banks becomes evident when, following Schumpeter, we observe that it is the investment decisions financed by the bank that influence the choice of the goods to produce and not the preference of consumers, and when we recall that it is society in its entirety through the banks that assumes the risk of the investment.

If the dimension that characterizes the asymmetric information approach is that of the neutrality of the financial structures, the dimension that marks the Keynes-Schumpeter approach is that of consensus: the financial structure is the instrument through which the consensus of society in its entirety is expressed about the innovations that are made through the firms' investments.

The Keynes-Schumpeter approach has important implications. In the first place, this approach leads us to minimize the importance of asymmetric information in explaining the characteristics of the financial structure. According to Keynes and Schumpeter, the existence of the banks is not explained by the presence of asymmetric information, but it is explained by the spread of a fiat money. The Keynes-Schumpeter approach emphasizes the monetary role played by the banks, that is, their ability to create new money through credit. Moreover, in the presence of uncertainty, the difference between the financial structures of the small-medium firms with respect to the big firms can be explained on the basis of the selection criteria applied by the banks rather than on the basis of the presence of asymmetric information.

In the second place, this approach leads us to ask questions about the financial structure that are not relevant according to the asymmetric information approach. The first question can be formulated as follows: given that the banks, in taking their financing decisions, express the consensus of society with respect to projects that the firms intend to make, we can ask ourselves to what extent can banks represent the aspirations and desires of society as a whole, and if there are tools that allow society to express some sort of judgement on the banks' action. We can assume that society on the whole expresses an evaluation of the banks' choices by creating the conditions that permit firms to repay the loans obtained from the banks; we can therefore hold that the banks express a partial consensus towards the entrepreneur-innovator when they grant the financing, while the substantial consensus is expressed by society as a whole when it puts the firms in a condition to be able to repay the loan. This leads us to give importance to the phase of repayment of the loan by the firms; a problem to which the asymmetric information approach does not give much importance. The reason for this lack of attention is intuitable: if one agrees that the intermediaries' task is to overcome the problems connected with the presence of asymmetric information and to ensure that savings are used efficiently, then the problem of repaying the loan fades into the background as it is taken for granted that the firms receiving funding are those that have the most profitable projects. If, on the other hand, one emphasizes that the decisions of the banks are taken in conditions of uncertainty and the investments condition the development of the system, then it becomes important to study the factors that put companies in the condition of repaying the loans granted. Two references seem to me to be important on this point: the first is Schumpeter's considerations about the conditions that enable the firms which introduce innovations to make profits; the second reference is the analysis of Minsky, the Keynesian

economist who most developed the analysis of the role of financial institutions by specifying the conditions that allow firms to repay the loans.

Moreover we may ask if the degree of consensus on the part of society with regard to the financing decisions taken by the financial institutions alters as a result of changes in the financial structures. We have seen that Keynes and Schumpeter highlight the central role of the banks. The data concerning the financial structure of firms shows how important alternative channels of financing are to the banks; in particular, for small firms, the importance of self-financing and the financing obtained by non-bank intermediaries that operate on private share markets, while for the big firms we can note the importance of recourse to financing obtained through the stock market. So we can ask ourselves in which way does recourse to these non-bank channels alter the degree of consensus with respect to financing decisions that are taken by the financial structure.

References

- Akerlof, G. 1970. The market for 'lemons': qualitative uncertainty and the market mechanism, *Quarterly Journal of Economics*, vol. 84, 488-500.
- Alessandrini, P. and Zazzaro, A. 2001. A 'possibilist' approach to local financial systems and regional development: the Italian experience, in: Martin R. (ed.), *Money and the space economy*, J. Wiley & Sons.
- Allen, F. and Gale, D. 1999. Diversity of opinion and financing of new technologies, *Journal of Financial Intermediation*, 8, 68-89.
- Angelini, P. and Di Salvo, R. and Ferri G. 1998. Availability and cost of credit for small businesses: Customer relationships and credit cooperatives, *Journal of Banking & Finance*, 22, 925-954.
- Bergemann, D. and Hege, U. 1998. Venture capital financing, moral hazard, and learning, *Journal of Banking & Finance*, 22, 703-735.
- Berger, A. and Udell, G. 1998. The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle, *Journal of Banking & Finance*, 22, 613-673.
- Berger, A. and Udell, G. 2002. Small business credit availability and relationship lending: the importance of bank organizational structure, *The Economic Journal*, 112, feb., 32-53.
- Bertocco, G. 2001. Do information asymmetries constitute a solid foundation for the elaboration of a Keynesian theory of credit and financial institutions? *Quaderni della Facoltà di Economia dell'Università dell'Insubria*, 2001/19
- Bertocco, G. 2002. The role of credit in a Keynesian monetary economy, *Quaderni della Facoltà di Economia dell'Università dell'Insubria*, 2002/39.
- Cantillo, M. and Wright, J. 2000. How do firms choose their lenders? An empirical investigation, *The Review of Financial Studies*, 13, 1, 155-189.
- Carpenter, R. and Petersen, B. 2002. Capital markets imperfections, high-tech investment, and new equity financing, *The Economic Journal*, 112, feb, 54-72.
- Cole, R. 1998. The importance of relationships to the availability of credit, *Journal of Banking & Finance*, 22, 959-977.
- De Meza, D. 2002. Overlending ?, *The Economic Journal*, 112, feb. 17-31.
- De Meza, D. and Southey, C. 1996. The borrower's curse: optimism, finance and entrepreneurship, *The Economic Journal*, 106, mar., 375-386
- Fama, E. 1985. What's different about banks?, *Journal of monetary economics*, 15, 29-39.
- Fenn, G. and Liang N. 1998. New resources and new ideas: private equity for small businesses, *Journal of Banking & Finance*, 22, 1077-1084.
- Finaldi Russo, P. and Rossi P. 1999. Costo e disponibilità del credito per le imprese nei distretti industriali, *Temi di Discussione*, 360, dicembre, Banca d'Italia.

- Freel, M. 2000. Strategy and structure in innovative manufacturing SMEs: the case of an English region, *Small Business Economics*, 15, 27-45.
- Friedman, M. 1969. The role of monetary policy, *American Economic review*, 58, mar., 1-17.
- Friedman, M. and Schwartz, A. 1982, *Monetary Trends in the United States and the United Kingdom*, The University of Chicago Press, Chicago.
- Giudici, G. and Paleari, S. 2000. The provision of finance to innovation: a survey conducted among Italian technology-based small firms, *Small Business Economics*, 14, 37-53.
- Gompers, P. 1995. Optimal investment, monitoring, and the staging of venture capital, *The Journal of Finance*, 50, 1461-1489.
- Gorton G. and Winton A. 2002. Financial intermediation, NBER working paper series, 8928, may.
- Guiso, L., Sapienza, P. and Zingales, L. 2002. Does financial development matter?, *NBER Working Paper 8923*, may.
- Hellwig, M. 1991. Banking, financial intermediation and corporate finance, in Giovannini, A. and Mayer, C. (eds.), *European Financial Integration*, Cambridge, Cambridge University Press.
- Hughes, A. and Storey, D. (eds.) 1994. *Finance and the small firms*, Routledge, London.
- Hicks, J. 1989. *A Market Theory of Money*, Oxford University press, Oxford.
- Jaffee, D. and Stiglitz, J. 1990. Credit rationing, in Friedman, B. and Hahn, F. (eds.), *Handbook of Monetary Economics*, Amsterdam, Elsevier Science Publishers.
- Keynes 1933a. A monetary theory of production, CW, XIII, 408-411.
- Keynes 1933b. The distinction between a co-operative economy and an entrepreneurial economy, CW, XXIX.
- Keynes, J.M. (1937a) 1973. The general theory of employment, *The Quarterly Journal of Economics*, vol. XIV of *JMK*, 109-123
- Keynes, J.M. (1937b). Alternative theories of the rate of interest, *The Economic Journal*, June, CW, XIV, 241-251
- Keynes, J.M. (1937c) 1973. The 'ex ante' theory of the rate of interest, *The Economic Journal*, vol. XIV of *JMK*, 215-223
- Keynes, 1939. The process of capital formation, *The Economic Journal*, 49, 558-577.
- Jeng, L. and Wells, P. 2000. The determinants of venture capital funding: evidence across countries, *Journal of Corporate Finance*, 6, 241-289.
- Lopez-Gracia, J. and Aybar-Arias, Cristina. 2000. An empirical approach to the financial behaviour of small and medium sized companies, *Small Business Economics*, 14, 55-63.
- Manigart, S., and Struyf, C. 1997. Financing high technology startups in Belgium: an explorative study, *Small Business Economics*, 9, 125-135.
- Mason, C. and Harrison, R. 2001. Financing entrepreneurship: venture capital and regional development, in: Martin, R. *Money and the Space Economy*, John Wiley & Sons.
- McCallum, B. 1989. *Monetary Economics. Theory and Policy*. Macmillan Publishing Company, New York.
- Meyer, L. 1998. The present and future roles of banks in small business finance, *Journal of Banking & Finance*, 22, 1109-1116.
- Minsky, H. 1986. Money and crisis in Schumpeter and Keynes, in: Wagener, H. and Drukker, J. (eds.), *The Economic Law of Motion of modern Society*, Cambridge University press, Cambridge.
- Minsky, H. 1993. Schumpeter and finance, in: Biasco, S., Roncaglia, A. and Salvati, M. (eds.)
- Morishima, M. 1992. Capital and credit. A new formulation of general equilibrium theory, Cambridge University Press, Cambridge.
- Myers, S. 1984. The capital structure puzzle, *Journal of Finance*, 39, 3, 575-92.
- Myers, S. 2001. Capital structure, *Journal of Economic perspectives*, 15, 2, 81-102.
- Myers, S. and Majluf, N. 1984. Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics*, vol. 13, 197-221
- Petersen, M. and Rajan, R. 1994. The benefits of lending relationships: evidence from small business data, *The Journal of Finance*, 49, 3-37.
- Petersen, M and Rajan, R. 2002. Does distance still matter? The information revolution in small business lending, 57, 6, 2533- 2570.

- Schumpeter, J. 1912 (1934), *The Theory of Economic Development*, Harvard University Press, Cambridge, Mass.
- Schumpeter, J. 1917. Das sozialprodukt und die rechenpfennige, *Arkiv für sozialwissenschaften und sozialpolitik*, 627-715. in: Spiethoff, A. and Schneider E. (eds.), *Aufsätze zur ökonomischen theorie*, 1952, Mohr, Tübingen.
- Schumpeter, J. 1939 (1964), *Business Cycle. A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, McGraw Hill, New York.
- Schumpeter, J. 1954. *History of Economic Analysis*, Oxford University Press, New York.
- Stiglitz, J. and Weiss, A. 1981. Credit rationing in markets with imperfect information, *The American Economic Review*, vol. 71, 393-41
- Stulz, R. 2001. Does financial structure matter for economic growth? A corporate finance prospective, in: Demirgüç-Kunt, A. and Levine, R. (eds.), *Financial Structure and Economic Growth*, The MIT Press, Cambridge, Massachusetts.
- Tobin, J. 1980. *Asset Accumulation and Economic Activity*, Basic Blackwell Publisher.
- Wolfson, M. 1996. A Post Keynesian theory of credit rationing, *Journal of Post Keynesian Economics*, 18, 443-470.
- Wurgler, J. 2000. Financial markets and the allocation of capital, *Journal of Financial Economics*, 58, 187-214.