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Eric Nasica

► **To cite this version:**

Eric Nasica. Financing economic activity: Schumpeter vs Keynes. The Contribution of Joseph Schumpeter to Economics, Routledge, pp.241-256, 2002. halshs-00468593

HAL Id: halshs-00468593

<https://shs.hal.science/halshs-00468593>

Submitted on 31 Mar 2010

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Financing Economic Activity: Schumpeter vs Keynes

Eric Nasica

Introduction

In this chapter we compare Schumpeter's and Keynes' views on the financing of economic activity. As will be seen, both economists share common ideas about the working and financing of market economies. In particular, both Keynes and Schumpeter reject the classical notions of the neutrality of money and the dichotomy of the real and the monetary sector, emphasising instead the role of monetary and financial variables in their respective explanations of economic fluctuations (section 1). However, the two approaches also display significant differences, most notably with regard to the importance attributed to specific financial variables and institutions for the financing of economic activity. Section 2 examines these differences and emphasises the originality of Schumpeter's analysis of banking.

The rejection of classical monetary theory

When comparing Schumpeter's and Keynes' monetary analyses one can hardly miss the considerable degree of similarities between the two approaches: Not only does the inclusion of money into their respective analytical frameworks produce similar insights in both cases. It is also at the root of a radical revision of the features of the economic system they examine.

In the preparatory drafts of the *General Theory* (Keynes: 1973a, 1973b, 1979), Keynes makes a distinction between a ‘co-operative’ (or real wage) economy and an ‘entrepreneurial’ (or money wage) economy.¹ Schumpeter, too, draws a clear distinction between two situations: the circular flow and economic development. Keynes' co-operative economy and Schumpeter's circular flow have two key features in common. First, even if money exists in these specific states, as with classical theory it is simply regarded as a technical device for facilitating real exchange and is neutral with regard to the level of production. As Schumpeter points out, ‘money has, in the circular flow, no other role than that of facilitating the circulation of commodities’ (Schumpeter 1911: 53). Secondly, the co-operative economy and the circular flow both describe what might be called a ‘static’ economy. In the Schumpeterian circular flow there are neither entrepreneurs nor capitalists, credit or interest: All factors potentially influencing the process of economic development are excluded from the analysis. In Keynes' co-operative economy decisions about production and distribution are made jointly by all producers in such a way as to maximize utility and consumption for all individuals and, at the same time, for society at large (Keynes 1979: 66, 77). In this economy, income is paid in kind or out of the output produced by the workforce, and Say's law necessarily holds true.

In both approaches, the departure from the static economy is made possible by

introducing a more complex concept of money. In Keynes' analysis, this new type of money is a store of value; in Schumpeter's theory it takes the form of credit. With this change in the nature of money, the economy becomes dynamic in that disequilibria (or underemployment equilibria) and fluctuations of economic activity are now possible.

In Keynes' approach, macroeconomic instability and disequilibria are a consequence of new patterns of behaviour characteristic of the 'entrepreneurial economy', such as the long-run demand for liquidity. These types of behaviour are a feature of a money wage economy operating in an uncertain decision-making environment, in which Keynes was mainly interested. The mere existence of money as a store of value is likely to drive the economy towards a long-period equilibrium characterized by lasting unemployment. Indeed, the decision not to purchase goods (that is, to adopt an attitude of saving and waiting) does 'not necessitate a decision to have dinner or to buy a pair of boots a week hence or to consume at any specified date (...). It is not a substitution of future consumption demand for current consumption demand - it is a net diminution of such demand' (Keynes 1936: 218).

In Schumpeter's approach, the dynamic aspects of economic activity, such as innovation and development, are closely linked to the creation of money in the form of credit. Schumpeter regards credit creation by banks as the main source of

finance, once the stationary economy of the circular flow is left behind and the analysis focuses on the process of economic development. More specifically, the meaning of credit in this context is that of 'new means of payment created ad hoc since the entrepreneurs have no means of their own and since there are - so far - no savings' (Schumpeter 1939: 111). These means of payment required by entrepreneurs in order to finance their innovations do not only include money as such. Schumpeter (1917) provides a full list of such means of payments, which includes 'money made of a material the market price of which is less than the purchasing power of the monetary unit made of it', 'bank notes' but also 'current accounts and clearing accounts', 'the amount of all payments which are disbursements out of income and are handled exclusively by compensation' and, finally, 'credit instruments and claim titles of all kinds, to the extent that they in fact perform the role of money'.

Money strictly defined, therefore, no longer plays the same role as in the circular flow: 'Not only a part but the whole of the exchange process can be settled by ... credit media' (Schumpeter 1911: 53). This also implies Schumpeter's definition of the entrepreneur as the 'typical debtor' (Ibid: 101, 103). At first sight, this specific feature of the Schumpeterian entrepreneur, together with the fact that Schumpeter considers the diversion of finance from routine to innovative activities to be the main role of credit, suggests a certain affinity between his analysis and the writings of the Banking School.² However, on closer examination this

interpretation ceases to be convincing. Not only does Schumpeter accept the idea of a possible autonomous effect of the quantity of money on the general price level (Schumpeter, 1939: 546-547), suggesting that he would welcome a synthesis of the Banking and the Currency Schools. He has also made it clear himself in unambiguous terms that he does not regard his approach to be in complete accord with that embraced by the Banking School (Schumpeter 1917: 209).

However, it would also be quite difficult to include Schumpeter among quantity theorists, given his explicit and persistent rejection of the quantity theory of money (Schumpeter 1954:1095-1117). A detailed analysis of Schumpeter's main objections to the quantity theory of money has been provided by Graziani (1989) and Messori (1984) to which we refer the interested reader. In the present context it suffices to note a few main points: First, Schumpeter rejects any a-priori concept of the quantity of money as a causal influence on prices.³ Secondly, he argues that, because of the existence of substitutes, and of credit and reserves in particular, a precise definition of the quantity of money is quite impossible⁴, and that it has been equally impossible to provide a homogenous concept of the quantity of money or a unique notion of the velocity of circulation (Schumpeter 1917: 28). Furthermore, money, not being a commodity, has no proper value (Schumpeter 1990: XX) and 'the traditional apparatus of supply and demand [can] not be applied to the solution of the problem of money prices of commodities and of price levels' (Schumpeter 1939: 547). Schumpeter emphasizes that the 'reflected

value' of money is rarely proportionate to the quantity of money because variations in the latter often imply variations in relative prices and redistribution effects⁵. Finally, credit money supplied by banks depends crucially on entrepreneurial demand: Without the entrepreneur there is no credit creation, and the effective volume of credit supplied changes according to shifts in demand.

Schumpeter also mentions the possibility of a twofold origin of finance. If the demand of enterprises for means of payment is not fully met, entrepreneurs may take recourse to accumulated non-banking savings, either through self-financing (by using profits accumulated in an earlier phase of economic development) or through the money market (Schumpeter 1911: 199).

In essence then, Schumpeter regards money supply not as an independent variable, but as one that varies endogenously in response to entrepreneurial action. While it remains true that, just as with the quantity theory of money, the direction of causality runs from bank money to prices, changes in the former originate in entrepreneurial demand for credit required to finance innovations. Moreover, in the upswing inflation (through changes in relative prices) also plays a part in changing the distribution of productive resources and of income: The Schumpeterian inflationary process results in a transfer of productive resources and a squeeze of 'mature' producers' purchasing power.

Schumpeter's analysis thus implies a drastic break with the quantity theory of money. In contrast to traditional monetary theory, he strongly emphasises that there is no dichotomy between 'real' and 'monetary' analysis and no neutrality of the money supply in the long-run. In Schumpeter's own words,

'(i)t cannot be argued that the effect is temporary and as such negligible [...] A monetary process, the creation of money which is only a 'claim ticket' and not also a 'receipt voucher', and the rise in prices to which it leads, become a powerful lever of economic development [...] It is the specifically capitalistic method of effecting economic progress.'

(Schumpeter 1917: 205-208).

Keynes' analysis of banking, developed both prior to and following the publication of the *General Theory*, is similar to Schumpeter's in several respects. In the *Treatise of Money*, Keynes maintained that money takes the form of credit money, and he shared the idea that bank money - i.e. deposits - is created in the form of loans and is not first collected from already existing deposits. In the introductory pages to the *Treatise*, he stresses over and over again that banking consists in the creation, and not the transfer, of liquidity (Keynes 1930: 25). Secondly, Keynes argues on several occasions that the money supply is not exogenously fixed (e.g. Keynes 1930: 189). In book 4 of the *Treatise*, he specifies the reasons why, in his view, the supply of bank money should be regarded as endogenous, emphasizing,

in particular, that an increase in the volume of global output requires substantial changes in the monetary sphere, that is, it 'requires the acquiescence of the banking authorities' (Keynes 1930: 256). This thought is forcefully taken up again in his analysis of the credit cycle which he concluded thus:

'In countries (such as most of the continent of Europe) where the volume of money partly depends on the volume of suitable bills available to be discounted at the central bank, an increase in the volume of output has a direct tendency to produce some corresponding increase in the volume of circulating money.'

(ibid: 275 fn).

The same ideas are developed in a series of articles published between 1937 and 1939 (Keynes 1937a, 1937b, 1938, 1939) when Keynes was defending his theory of the determination of income against criticisms by Ohlin and Robertson⁶. In these articles, he insists both on the central role of bank in the financing of economic activity and on the endogenous nature of bank money: 'The finance [of enterprises] [...] is mainly supplied by specialists, in particular by the banks.' (Keynes 1937b:219).

In the course of the debate, Keynes slightly modified his position to the effect that, like Schumpeter, he now highlights the possibility of a twofold origin of finance,

arguing that the demand for finance can be met in either of two ways: a) through banks creating new liquidity or b) through financial intermediaries bringing about an increase in the rate of interest and succeeding in making already existing liquidity available to enterprises.⁷

To sum up, in this first section we have highlighted a number of important similarities in Keynes' and Schumpeter's analyses. In particular, it was argued that both authors reject the dichotomy between a real and a monetary sector. They also agree that credit money created by banks plays a crucial role in the financing of economic activity. However, as Schumpeter himself pointed out, '(t)he reader should be on his guard against [...] surface similarities' (Schumpeter 1939: 127) between Keynes' theory and his own. Paying heed to this warning, the next section focuses on other aspects of the relation between finance and production.

Interest rates, banking and economic activity

The argument of this section is concerned with Keynes' and Schumpeter's analyses of the role played by specific financial tools and institutions in financing economic activity. As we shall see, it is here where the two authors differ considerably.

Short-term and long-term rates of interest

Keynes and Schumpeter coincide in their treatment of the rate of interest as a

monetary phenomenon. In chapter 17 of the *General Theory*, the liquidity preference theory - stating that the marginal efficiency of money is the premium to be paid for parting with money - effectively ensures that the rate of interest is determined in the money market: In Keynes' analysis the rate of interest is the price of liquidity.

The same monetary explanation of the rate of interest is also present in Schumpeter's approach who argues that 'interest attaches to money and not to goods' (Schumpeter 1934: 158). Indeed, Schumpeter points out that if

'money [was] only an intermediate link, merely of technical importance, and [we] 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 ... it is impossible to pierce the money veil in order to get to the premiums on concrete goods. If one penetrates through it one penetrates into a void'.

(Ibid: 184).

In a nutshell, 'the money form [of interest] is not shell but kernel' (Ibid.). Even so, the reason why, according to Schumpeter, the rate of interest is not a real but a monetary phenomenon differs from the explanation provided by Keynes. For Schumpeter, the monetary nature of interest derives from the fact that the rate of

interest is a portion of, a 'tax,' on monetary profits. However, the main difference between Keynes and Schumpeter's perception of the rate of interest lies elsewhere. To see this, a broader comparison between Schumpeter's work and Keynes' analysis in the *General Theory* is called for.

To begin with, recall the main assumptions and conclusions of the *General Theory* regarding the status of money, financial markets and interest rates. As seen, money is essentially thought of as a store of value. While this interpretation is necessary to refute Say's law and to demonstrate the possibility of permanent unemployment, it also has further consequences for the analysis. In the first place, the concept of money as a pure financial asset - as 'fund-money' (Arena 1982: 434) - tends to be overemphasised at the expense of the role of 'circulatory' money (Arena 1985). Consequently, money as a store of value tends to overlook, even though not necessarily to exclude, what Robertson (1966: 161) called the forgotten but simple truth that people often acquire money not in order to hold it but in order to use it. Moreover, in the *General Theory* Keynes assumes an exogenous money supply⁸. Remarks such as 'the quantity of money as determined by the action of the central bank' (Keynes 1936: 247) or 'the quantity of money created by the monetary authority' (Ibid: 205, see also Ibid.: 84, 167, 174, 230, 267) can be found throughout the text. This was explicitly noted by Schumpeter who argues that, in the *General Theory*, Keynes assumes that 'the quantity of means of payment [is] externally given, i.e. [is] freely malleable by governments

and central banks' (Schumpeter 1954:1176), whereas, in his earlier writings dating from the twenties, 'he actually only accepted the equation of exchange' (Ibid: 1102), i.e. 'a formal relation [between money, velocity, price level and the volume of transactions] without any causal connotation' (Ibid.: 1096).

Another central feature of the *General Theory* is that financial markets receive star billing. Keynes gives two reasons for this: First, in chapters 13 to 15 he argues that the cost of borrowed funds is an important determinant of investment. Second, in chapters 12 and 22 we find the argument that financial markets will inevitably be affected by waves of shareholder optimism or pessimism which will influence entrepreneurs' calculations of the marginal efficiency of capital and may, ultimately, even dictate their investment strategy.

Furthermore, as will be seen below, Keynes' analysis of the determination of short- and long-term rates of interest and their effect on investment decisions differs drastically from Schumpeter's. Even before 1936, Keynes was already convinced that the short-term rate of interest was little significance as a determinant of investment. Thus, in his correspondence with Hawtrey in 1935, Keynes pointed to the minor importance of short term interest charges as a share of total cost, arguing that therefore they were a matter of little concern for decision making in business. Even though the argument put forward is different, he confirmed this point of view in the *General Theory*.

‘The short term rate of interest is easily controlled by the monetary authority, both because it is not difficult to produce a conviction that its policy will not greatly change in the very near future, and also because the possible loss is small compared with the running yield (unless it is approaching vanishing point).’

(Keynes 1936: 202-203).

Therefore, what matters is the long-term rate of interest which is not always easily controlled by the monetary authorities. The most obvious and sudden variations in the long term rate are not caused by changes in the money supply, but are instead linked to changes in the liquidity preference function.

Schumpeter's approach strongly contrasts with this view of the workings of financial markets. Above all, Schumpeter is not at all convinced that financial markets have a decisive role to play in the provision of credit for economic activity. For Schumpeter, the ‘money market’ consists of two distinct spheres : the ‘sphere of hoards and reserves’ and the ‘sphere of capital’ or ‘income yielding assets’ (Schumpeter 1917: 176), where the latter includes the stock market.

However, this distinction is of secondary importance to Schumpeter who holds that both markets are essentially interdependent.⁹ He argues, in particular, that the workings of financial markets are subordinate to those of ‘the sphere of hoards

and reserves' and, therefore, to the choices of the banking system. In Schumpeter's view, the usual dichotomy between short-term loans and long-term assets is, hence, inadequate. Instead, he maintains that capitalist development inherently tends to create the conditions for a 'perfect negotiability of all instruments of credit. Whatever their legal form may be' (Schumpeter 1939: 614). Therefore, bonds and shares differ from short-term instruments only 'technically and by degree' (Ibid), because financial speculation implies a withdrawal of existing balances or relies on credit creation. Credit and finance, banks and financial markets and, hence, short- and long-term rates of interest are intrinsically linked to one another, with long rates really representing a 'trend value' of short rates.

In this framework, the role of long-term rates is hugely more important than that of short-term rates, the main reason being that entrepreneurs' real profits do not so much depend on the rate of interest paid on bonds but on interest paid to the banking system. In Schumpeter's view, income is divided into wages, bank interests and profits. Thus, interest payments made to banks involve a transfer of real wealth from the industrial to the financial sector. Whenever interest is paid to banks, real output is divided into real wages, industrial profits and financial profits. As Graziani (1989: 27) points out, 'a financial capital is thus gradually built up by banks, along with an industrial capital built up by firms'. This reinforces an essential point made by Schumpeter, to wit the fact that interest paid

to the banking system is a 'tax' on profits and, consequently, a brake on development. Finally, in the Schumpeterian framework, banks are the main financial institutions, which is why they are at the centre of much of Schumpeter's focus and interest.

The role of banks

While Schumpeter was writing his 1910 article 'On the nature of economic crises', followed in 1911 by his *Theory of Economic Development*, Keynes was preoccupied with the unsatisfactory state of monetary theory in Britain, which, in his judgement, was reduced to a 'matter of oral tradition' (Keynes 1983: 375). Anglo-Saxon thought on the theory of bank credit has indeed fallen somewhat behind developments in Continental Europe. The view of banks as creators of money, inherited from MacLeod (1855), had lost ground in academic circles, though retaining some popularity in banking circles.¹⁰ MacLeod's theory of bank credit had been violently attacked by Cannan, who had instead proposed his famous 'cloak-room theory of banking activity' (Cannan 1921) which held that no single bank, nor the banking system as a whole, could ever lend more money than the deposits it had collected. Cannan's view, according to which banks collect savings and then use them in order to finance investment, had become the official doctrine which Keynes had to confront, and would ultimately discard with, in his *Treatise*.

Not surprisingly then, his main goal in the *Treatise* is to show that credit granted by banks is not limited by savings, or deposits, already in existence. (That is, banks can 'create' deposits). Nonetheless, Keynes still felt it necessary to specify the constraints under which banks operate and which they have to respect. It is for this reason that he distinguishes several cases.¹¹ First, there is the case of 'pure credit' granted by a single bank: The creation of deposits by the bank determines the means of payment deposited with the banking system, not vice versa. Moreover, the single bank experiences no limits to this creation of deposits. Second, in the case where there are several banks the creation of finance by banks is governed by the average behaviour of the banking system. Finally, in a 'mixed-money' system banks as a whole are constrained by reserve requirements which depend on the monetary policy of the issuing bank.

One problem with this approach is that it fails to specify the analytical determinants of banks' behaviour and of the setting of interest rates. In the theoretical part of the *Treatise*, Keynes appears to reduce banks' behaviour to the monetary policy pursued by the issuing bank.¹² Variations in the bank interest rate are governed by changes either in legal reserves or in the discount rate.¹³ In so doing, Keynes makes the interest rate, and thus, the determinants of banks' behaviour, exogenous.

Schumpeter's approach is free of such inadequacies. Like Keynes, he shows that

banks are bound by norms of and limits to credit supply. Twenty years before the publication of the *Treatise*, Schumpeter concludes that these limits are determined by the average behaviour of banks as a whole. However, contrary to Keynes, he downplays the role of the issuing bank, assuming instead that

‘we have a banking system grouped around a central issuing bank, but that there are no other legal barriers and rules for the gestation of banking business [...] This represents the leading case the treatment of which is easily applicable to other cases.’

(Schumpeter 1911: 112-113).

Other than in the *Treatise*, on this assumption it is impossible to resort to reserve requirements as the main determinant of the credit supply.

Consequently, Schumpeter needs to specify the endogenous determinants of the credit supply curve and of the interest rate. His starting point is a closer examination of each bank's supply behaviour. According to Schumpeter, each bank is faced with the risk of financial loss since it can only succeed in meeting financial requests if its customers settle their debts. In order to monitor this risk, each bank has to evaluate the economic projects or activities to be financed against the limits to supply set by the average behaviour of banks as a whole. Risk management then implies that there are two determinants of bank behaviour in

Schumpeter's framework: the quality and the total amount of commitments. Each bank faces two types of risk: the total risk of bankruptcy related to the financing of innovative as opposed to imitative activities ¹⁴; and the relative risk of bankruptcy for those banks adopting a more accommodating credit policy than the average bank.

Schumpeter is thus in a position to define the rules required for securing banking activity. The crucial point is 'neither the formal character of the business to be transacted [...] nor the security that makes sound banking, but knowledge and understanding of, and proper attention to, the purpose which the balances applied for are to serve.' (Schumpeter 1939: 641). According to Schumpeter, these rules consist of 'judging the chances of success of each purpose and, as a mean to this end, the kind of man the borrower is, watching him as he proceeds [...]' (Ibid). This then is the basis on which banks determine the amount and the composition of a loan as well as the rate of interest at which it is granted. Hence, the supply of credit presupposes an entrepreneurial demand for balances. The credit requested will be granted if the bank thinks it proper to meet this demand at terms compatible with the potential debtor's economic targets which are, in turn, a function of the latter's profit expectations.

We can, thus, conclude that the Schumpeterian credit market is characterized by a negative relationship between credit demand and interest rate, on the one hand,

and by a positive relationship between credit supply and interest rate, on the other. The shape of the credit demand curve is determined by the fact that the rate of interest is a 'tax' on profits. The relationship between the rate of interest and the credit supply is positive because of the greater risk accepted by banks who extend their credit facilities to those potential entrepreneurs who have been out-selected at lower levels of the rate of interest, and because of the likely depreciation of capital through inflation. The equilibrium level of the interest rate is established on the basis of these two curves. (Schumpeter 1911: 191-198). That is, the interest rate fixed by each bank must be equal to the rate of risk assigned to the 'marginal' debtor (Ibid: 195-196). Likewise, at the aggregate level, the equilibrium level of interest must equalise the profit rate expected by the 'marginal' entrepreneur or imitator whose demand for finance has been met with the rate of interest at which the 'marginal' bank has actually granted the last credit.¹⁵

However, as we shall see, the complexity of the Schumpeterian analysis makes it somewhat difficult to pin down the determinants of credit supply, credit demand and the interest rate with more precision. Schumpeter's own view on the matter is aptly summarised in the following passage :

'There is always, no matter how great the amount of credit in circulation, some demand for credit which remains unsatisfied even though it is able to pay the current rate of interest. The productive demand for any commodity,

e.g. wool, is limited at constant quantity of money, by the falling probability of processing continually increasing quantities ; by contrast, demand for credit is self-propagating, in that the consequences of its expansion and increasing satisfaction go on creating the economic conditions for even more credit demand. The more bank money is issued, the more credit is necessary for the purchase of one and the same quantity of means of production, and the more also, can economically be invested in their acquisition. [...]The demand for credit makes possible not only itself, but also a corresponding demand, so that supply and demand, in this case do not confront each other as independent forces. To this extent, therefore, the banks determine not only to whom they will grant credit but also how much credit as a whole they wish to grant and what demand to call forth.'

(Schumpeter 1917: 207).

On the one hand, the above passage contains important hints about the roles played respectively by entrepreneurs and bankers in the process of determining the volume of credit.¹⁶ It demonstrates that the volume of credit is a function of the interaction between both agents. Firms take the initiative, but banks have the power to select among these initiatives, based on their expectations as to the likelihood of borrowed funds being repaid: 'We know already by what forces this supply is regulated: first with regard to possible failures by entrepreneurs, and secondly with regard to the possible depreciation of the credit means of payment'

(Schumpeter 1917: 195).

On the other hand, however, this passage also highlights the limitations of Schumpeter's analysis of the workings of the money market. In the first place, even when examining the ways in which the credit market operates from within his own framework, Schumpeter fails to offer exact conclusions, the main reason being that credit supply and credit demand are mutually interdependent. Schumpeter's reasoning suggests that the higher the demand for credit, the more important its supply. However, an increase in credit will be inflationary, consequently raising the entrepreneurs' demand for the quantity of credit money required to finance the same quantity of means of production, implying an increase in the demand for credit. Therefore, an 'uncertain value' adheres to the concepts of credit demand and supply due to the permanent instability involved. In other words, equilibrium levels of credit and of the interest rate cannot be accurately determined. Secondly, Schumpeter's description of the money market is not very useful for an analysis of the process of credit creation. Cyclical shifts of the demand for finance affect not only actual but also potential credit levels (i.e. the maximum credit banks can create in a given institutional context). Moreover, even in a monetary system where banking operations are apparently constrained by reserve requirements, credit demand does not meet with any technical supply limits. As pointed out in the above passage ¹⁷, the reason is to do with the nature of credit rationing by banks (that is, the credit volume actually supplied by banks

is always lower than the potential volume, so that the former is in elastic supply). Furthermore, economic development will push potential credit in the same direction (In periods of prosperity, banks are likely to reduce their reserve ratio and the cash-deposit ratio falls.)¹⁸ In brief, in this model, actual credit supply shifts with demand and does not face a definite 'ceiling' of potential credit because the latter moves procyclically.

It follows that, in the Schumpeterian model, even though banks obviously perform an important task in the accumulation process, because 'purchasing power is the vehicle of an essential process' (Schumpeter 1911: 97), and because without credit there will be no innovations and no cycles, banks do not determine economic fluctuations. On the one hand, at the onset of an upswing interest is zero and cannot be reduced any further. On the other hand, when active innovation is going on, a lowering of the interest rate is of little analytical relevance because of the shifts in entrepreneurial demand (Schumpeter 1939: 634-638). In Schumpeter's words, this means that 'the analytical schema presented in this book evidently does not belong to the family of monetary theories of business cycles' (Schumpeter 1939: 142). The actual upper ceiling of the upswing is not set by credit supply which expands in prosperity. Rather, limits to credit supply are set by the prospect of the success of innovations since interest depends on profits, and the risk taken is not the entrepreneur's. but the capitalists' (the banker's) (Schumpeter 1911: 75-76 ; 1939: 104).

Schumpeterian bankers then appear to be both, Stiglitz' and Weiss'¹⁹ 'social accountants', replacing the auction market ruled by the law of supply and demand, and the 'ephors'²⁰.of market economies who assess innovative projects, but do not 'think them up'.

Conclusion

By taking account of the relationship between finance and economic activity, both Keynes and Schumpeter are able to develop a true analysis of economic instability which assigns a central role to financial factors. However, the nature of economic instability clearly differs between the two authors. To use a distinction suggested by Vercelli (1984) one could say that the type of instability investigated by Schumpeter is 'physiological' in the sense that it makes the survival and the development of the capitalist system possible, whereas the type of instability Keynes is concerned with is 'pathological' in the sense that it impedes the performance of an individualistic economic order.

This assertion may offer the key to a better understanding of the actual development of financial structures from commodity money to sophisticated credit instruments in market economies. More specifically, we suggest that financial innovations have been introduced whenever the need was felt to increase the structural flexibility of the economic system.²¹ Unfortunately, the

development of financial structures seems to have contributed not only to more physiological instability but also to more pathological problems, resulting at times in financial crises, inflation, unemployment and generalised economic crises.²² Neither Keynes nor Schumpeter paid sufficient attention to this basic ambiguity of financial tools and institutions and their evolution over time. A synthesis of the two approaches would perhaps be the most promising route to a more balanced and articulated view of the role of money in economic fluctuations.

Moreover, such a synthesis might be of use for the clarification of an important empirical issue, namely the nature of the evolution of the role of financial institutions in capitalist economies from the time of Schumpeter and Keynes to the present. As is well-known, financial capitalists no longer act as the 'ephors' of the economy, providing the necessary finance to ensure the growth of capital stock. Today's narrowly focused 'managers of money' are little concerned with the development of capital assets, much less with the going concerns of economic and technological progress. Indeed, the great crash of 1929-1933 marked the end of this stage of 'Finance Capitalism' in which investment bankers dominated financial markets. Today, with the advent of 'Money Managerial Capitalism' (Minsky 1993: 108), financial structures seem much closer to Keynes' characterisation of the financial arrangements of advanced capitalism as a 'casino'.

However, this evolution of financial structures does not render Schumpeter's approach obsolete. By enriching the analysis of monetary production with a broader view of the economy as an evolving institutional, Schumpeter implicitly completes Keynes' theory. Indeed, nowhere is market-driven institutional evolution (innovation) more apparent than in the financial sphere. As Schumpeter himself argued, financial institutions are also entrepreneurial organisations striving to innovate in order to generate capital gains (Schumpeter 1951: 222). Hence, the rapid changes in the use of monetary and financing tools that have characterised the past fifty-five years of successful capitalism could have been easily accommodated and understood within the framework provided by Schumpeter which, thus, remains a valid theoretical tool for explaining the evolution of today's financially sophisticated economies.

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Notes

¹ In the published text of the *General Theory*, Keynes uses the terms 'barter economy' and 'monetary economy'.

² Arena (1985), de Boyer (1985).

³ See, for instance, Schumpeter (1917).

⁴ Ibid: 14, 17 and 27 ; 1939, vol. II :546 and 1990: XX.

⁵ On this point, see Graziani 1978: 91 and Messori 1984: 49.

⁶ Robertson (1966) accused Keynes of having neglected the process of the creation of liquidity in the *General Theory*.

⁷ Keynes 1937a: 208. This may attributed the fact that Keynes was intent on modifying the approach adopted in the *General Theory* as little as possible. As will be seen in the next section, the stock market there occupies the main position, while the banking system seems to be entirely absent.

⁸ Mainly to facilitate the analysis, see Robinson (1971: 81-82).

⁹ A footnote to the *Theory of Economic Development*, dealing with this problem, lends support to this interpretation. Schumpeter argues there that 'at the most one may with Spiethoff distinguish the capital market as the market for long-term purchasing power from the money market as the market for loans. But purchasing power is the commodity in each' (Schumpeter 1911: 124, note 1). For a more detailed account, see Arena and Festré (1994).

¹⁰ See Graziani (1989).

¹¹ For a more detailed account see Messori 1986: 131-133.

¹² See, for instance, Keynes 1930: chapter 17.

¹³ Ibid: chapter 13, § 2.

¹⁴ Schumpeter 1911: 75 n. and 137 ; 1939: 104.

¹⁵ See Messori 1986: 139.

¹⁶ For a more detailed account see Arena and Festre (1994).

¹⁷ See also Schumpeter 1939: 126 and 640-641.

¹⁸ Schumpeter 1911: 112-115 ; 1939: 121-123 ; 1917: 206-208. This point has been stressed by Bellofiore 1985, in particular.

¹⁹ Stiglitz and Weiss 1988.

²⁰ Schumpeter 1911:74. The ‘ephor’ was a magistrate of Sparta who contained and controlled the kings. In Schumpeter's framework it is the banking system of a capitalist economy which controls the finance of economic activities and only those activities which are financed enter the realm of the possible.

²¹ As suggested by Schumpeter himself, see 1939: 122.

²² In this we follow the ‘Minskyan’ interpretation of the *General Theory* (Minsky 1975).