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KEYNES'S CONCEPTS OF FINANCE
AND FUNDING, AND THE
STRUCTURE OF THE FINANCIAL
SYSTEM

SETEMBRO DE 1995

FERNANDO J. C. DE CARVALHO

Instituto de Economia Industrial
Universidade Federal do Rio de Janeiro

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FERNANDO J. CARDIM DE CARVALHO*



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* Professor of Economics, Institute of Economics, Federal University of Rio de Janeiro. This paper results from work developed in the Research Project on Money and Financial Markets and Policies, in progress in that institution. Financial support from the Brazilian National Research Council (CNPq) is gratefully acknowledged.

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1. INTRODUCTION

About a year after the publication of *The General Theory*, a debate took place opposing Keynes to Ohlin, Robertson and others on the determinants of *the* interest rate. This exchange of papers and letters, that extended for a whole year, gave Keynes the chance to develop and clarify crucial points of his proposed novel approach while giving his opponents the opportunity to set their own theoretical views against Keynes's. In this debate, loanable funds theorists presented their theory of interest to contrast to Keynes's liquidity preference theory. The former affirmed that *the* interest rate was determined by demand and supply of credit, the latter being, in its turn, ultimately dependent on desired or planned investment and savings. This school developed the Wicksellian insight that credit markets, operated by financial intermediaries such as banks, could break the limits set by supply and demand for real capital only temporarily or at the cost of generating cumulative disequilibria such as inflationary or deflationary processes. Keynes, on the other hand, defended the idea that the interest rate was not the price of capital or of credit, but of money, being the reward for parting with liquidity. It paid for the risk borne by the by wealth-holders that accepted to keep their wealth in less liquid forms than money. Money and credit in modern economies are related but different concepts, and their relationship with real investment and, in particular, with saving, is very complex and of a different nature than that proposed by loanable funds theorists.

It was a protracted and many times confusing debate, where themes were mixed up, and arguments were frequently raised at cross purposes.¹ Nevertheless, some important developments were proposed by Keynes to the

approach presented in *The General Theory*. In particular, a new motive to demand money, the finance motive, was added to the three proposed in the book and an important distinction was clarified, the one between the concepts of *finance* and *funding*, that shed light on the meaning and role of savings in Keynes's approach to capital accumulation and growth problems.

Keynes introduced the *finance motive to demand money* to deal with some difficulties of his monetary theory of interest, but the main criticisms coming from loanable funds theorists related to credit and issuance of debt problems. For these authors, to supply credit meant to transfer purchasing power to borrowers that was ultimately limited by the real purchasing power that spenders effectively chose not to spend. The model was of course much more sophisticated than the prior-saving argument of corn-economies² but the final result was the same. Keynes rejected the argument, and to defend his position he clarified the way banks and financial intermediaries, as well as money and savings, should interact in his approach. The clues he gave as to the empirical processes that were being stylized in his model are most easily understood in terms of the British financial system of his time. Keynes warned, though, that his was a *conceptual* point that could actually take different forms in different financial structures. The warning was not always heeded, however. Many researchers insisted that the arguments raised by Keynes would not be valid in economies where banks performed larger roles than those allowed in Great Britain. This paper is dedicated to explore both the new concepts and ideas launched in the debate and the ways they can be used in the analysis of the main models of financial structure available in modern capitalist economies. We begin, in section 2, by recovering Keynes's arguments as to the role of savings and finance in the investment process. In section 3, we propose a taxonomy of modern financial systems that would be largely descriptive of the types of financial structures currently

found in capitalist economies, to investigate whether the validity of Keynes's concepts is restricted to systems like the one found in Great Britain in the thirties. A concluding section, summarizing the main arguments, closes the paper.

2. FINANCE AND FUNDING

A few years after *The General Theory* came to light, Keynes conceded that

"In my *General Theory of Employment, Interest and Money* I was seriously at fault in omitting any discussion of ... 'the process of Capital Formation'. Under the spur of criticism I have since endeavoured to remedy this omission in an article published in this [The Economic] Journal (December 1937, pp. 663/9). I there introduced a conception serving the same purpose as, but not identical with, that of 'funds available for investment' under the name of 'finance' which still seems to me to be a convenient term to use. For it covers equally the use of the revolving pool of funds to finance the production of capital goods or the production of consumption goods or (e.g.) an increased turnover at the Stock Exchange." (Keynes, 1939, p. 573)

The criticism that 'spurred' Keynes to fill the gap was raised by Ohlin (Ohlin, 1937). While agreeing with Keynes that *the* interest rate would not be determined by the interplay between realized investment and saving, that were necessarily equal in value, Ohlin rejected liquidity preference theory as an explanation for interest. In his view, it was much more natural to see the interest rate as the price paid by would-be debtors to obtain bank credit and to accept that most of this demand for credit would come from people with plans to make investments. Although it is the role of banks

to create credit, ultimately it depended on savers' inclinations whether enough of available output would actually be put at the investors' disposition.

Keynes conceded that the influence of investment expenditures on the interest rate had not received due attention in *The General Theory* but he maintained that nothing essential had to be changed of his theory by this admission. In particular, the determination of the interest rate through demand and supply for money was reaffirmed.

To restate his argument, Keynes first introduced the concept of *finance motive to demand money*, that was defined as demand for money to cover the period "between the time when the decision to invest is taken and the time when the correlative investment and saving actually occur." (Keynes, 1937a, p. 246) In fact, the finance motive is a variation of the transactions demand for money, that is, the demand for money in anticipation of planned expenditures.³ When an investment process is initiated, money can be needed for a variety of reasons. Keynes insisted, however, that, at bottom, this is "only a special case of the finance required by any productive process" (idem, p. 247). The reason to treat it separately is that "it is subject to special fluctuation of its own" (idem, p. 247).

Keynes was at pains to stress that the finance motive was part of his monetary theory of interest, that it did not violate any of its fundamental principles, and, in particular, that saving had nothing to do with it.⁴ Nevertheless, his finance motive was received by his critics as a belated and twisted acknowledgement of error.⁵ After all, Keynes seemed to have admitted that investment plans increased the demand for financial resources, which ultimately depended on savers being willing to lend to the financial institutions that were to supply credit to investors. To call it "finance motive to demand money" apparently was to be attributed to Keynes's reluctance to admit he was wrong rather than to any real point of substance.

Keynes returned to the debate making another important, but largely misunderstood or ignored, distinction. On the hand, he insisted that the basic model of *The General Theory* went unchanged with the introduction of the finance motive, in the sense that it related to the demand for money, not to savings, and that this demand was to be satisfied by banks, not by savers, be them ex-ante savers or ex-post ones. The discussion of the impact of investment activity on the money market should be distinguished from the problem of how investors structured the debts they had to issue to implement their plans. This second problem had to do with types of debt, their maturities, etc., to be issued at each of the stages of the investment process. It had to do, thus, with the structure of interest rates, that is, with the spectrum of interest rates charged in each type of financial contract, not with the interest rate determined by liquidity preference. But how does saving come into this picture? If it is not the ultimate source of Keynes called finance, what do we need such a concept for, anyway? In the course of his new attempt at clarification of these questions, Keynes proposed another pair of concepts in a much-cited but not always clearly understood, quotation:

"The entrepreneur when he decides to invest has to be satisfied on two points: firstly that he can obtain sufficient *short-term finance* during the period of producing the investment; and secondly, that he can eventually *fund* his short-term obligations by a long-term issue on satisfactory conditions." (Keynes, 1937b, p. 664, my emphases)

It is a distinguishing characteristic of Keynes's theory the separation between the two stages of the financial process that accompanies investment. On the one hand, it is pointed out that investment *expenditures* require money, and money is created by banks. Banks can create money if the monetary authority is willing to supply them with the required reserves against the deposits that are created when banks make loans. On the other hand, as investors are

typically deficit units, to use Gurley and Shaw's expression, it is desirable that the debts they issue have terms and maturities compatible with those of the assets they are buying. The novelty of Keynes's approach is to propose that those two needs are satisfied by different groups of people or institutions and at different stages of the investment process. Orthodox theory states that investors sell, directly or indirectly (through financial intermediaries) securities to savers in order to obtain the means to effect investment expenditures. Keynes, in contrast, argued that the funding phase should follow investment expenditures, not to precede it. This is a result of Keynes's theory of effective demand, and the relationship it proposes between investment and saving. The distinction between finance and funding is, thus, an integral part of the theory of effective demand, as envisioned by Keynes.

In its simplest and most general form, the argument is well known. Income is generated as a result of private agents' (if we forget government for a moment) decisions to spend in consumption and/or investment goods when they are successful in getting hold of the money balances necessary to complete the operation. Money can be obtained when income is earned, but it can also be obtained through a credit operation. If entrepreneurs are able to correctly forecast these demands, they will hire enough workers to produce the desired output. In the process of producing output, factors are remunerated, generating income, of which something will be spent and something will be saved, in what is called the consumption multiplier process. At the end of the circuit, people will have in their hands accumulated resources in the same value of the investment originally made. If they are willing to use these resources to buy long-term assets to hold as wealth, they may buy stocks or bonds of the investing firms, allowing the latter to fund their short-term debt, as Keynes wrote. If the public prefers more liquid assets, financial intermediaries may provide the required maturity transformation to close the circuit.⁶

Keynes's argument was that it was only at this point that savings entered the picture and even then what mattered was not the amount of savings but their form, dependent on the liquidity preferences of the public. What was required to finance investment, and to trigger the process was the *creation of money*, and, to repeat, money is created by banks, not by savers.⁷ Savings *resulted* from the investment process and always in the right amount, although not necessarily in the right form.

Although Keynes and his critics continued to talk at cross purposes in the 1937 debate, there were many other opportunities to set the picture straight. In fact, Keynes used the same approach in the context of the issuance of debt by the British government to finance the preparation-for-war effort, in 1939. Two points were raised in that occasion: 1. the government should think of funding its expenditures only after the latter were made; 2. the funding strategy should consist of accepting the liquidity preference of the public, avoiding the attempt to impose the government's own liquidity preference on the markets.

As to point 1, Keynes put it as follows:

"The early stages of the natural sequence of events are, I think, common ground. To begin with, the Treasury will finance itself by Treasury bills taken up to the extent of about 10 percent by the Bank of England, and for the rest mainly by the joint stock banks. ... When, that is to say, the public are ready to invest their savings in a more permanent form their demand will have its natural effect in raising the market price of securities. I am merely recommending that the Treasury should postpone the issue of new loans, other than Treasury bills, until the process is well advanced." (CWJMK, 21, pp. 524/5)

The argument is obviously the same: the government has initially a demand for money, the finance motive, and will later, when savings are available, fund its debt. Funding has to come later, because it is necessary to wait "until the new savings have had time to become available in investible form." (id. p. 544)⁸ Savings will be generated because incomes will increase as a result of increased demand (id., p. 538).

To try to fund an investment expenditure from the start, in Keynes's monetary economy, would depress the price of securities and raise the interest rate. To see why it is so, let us assume an economy in equilibrium, in which every investment made is already funded, that is, where savers have used their savings to buy securities issued by the entrepreneurs to fund the obligations related to their investment. Aggregate income is then at the level required to generate that amount of voluntary savings that matches realized investment.

Under these conditions, if an entrepreneur decides for an additional investment expenditure and issues long-term debt to fund it by drawing from available savings, he can only be successful by attracting to his placements some of the savings currently absorbed by other securities. This is so because before the investment expenditure is made, aggregate income cannot change and if income does not change aggregate savings are kept unaltered. So the placement of additional securities can only be accommodated by a decrease in the price of securities.

The ideal starting point, thus, is the *ex-nihilo* creation of credit to allow the investment expenditure to be made. Savings are to be intermediated later, when aggregate income has already increased, to fund the entrepreneur's short-term debt. The first step is to be taken by banks (and the monetary authority that has to accommodate banks' needs to reserves), the second by savers or by savers and

financial intermediaries if the liquidity preference of savers is such that the public is not willing to absorb the necessary amount of long-term securities directly in their portfolios.⁹

Three decisions must thus be made. Firstly, to seek short-term credit to initiate the investment process. Secondly, to wait for right moment to place the long-term securities, when savers are looking for such placements or are willing to place their resources in financial intermediaries obligations that will allow the latter to fund entrepreneurs' debts. Finally, to issue securities in the terms that can be accepted by the markets.¹⁰

An important implication of this approach is the necessity to pay attention to the scale of liquidity preference of the public and of banks and financial institutions even after the multiplier has run its course and aggregate saving is already entirely made up of desired saving. It is likely, in Keynes's world, that wealth-holders will prefer to keep some proportion of what they possess in liquid form. As a result, not all savings will be available to fund the debts of investors. This, however, has nothing to do with insufficiency of savings. It is not a problem of amount, but of the *form* in which wealth-holders desire to hold their assets. This means that an increase in wealth must be accompanied by an increasing supply of money to be kept as idle balances, for precautionary, speculative and even transactionary reasons (CWJMK 21: 399 and also 559). As Keynes warned,

"This problem has often been made to appear more difficult than it really is by the mistake of confusing the problem of evoking the savings with the problem of inducing their holder to sacrifice his liquidity." (CWJMK 21: 558)¹¹

An exceptional case is, however, admitted, in which attempts to fund investments from the start may be successful without depressing the price of securities (and,

thus, without raising the interest rate). It is a pragmatic proposition rather difficult to give precise form in a rigorous model. Let us assume an ongoing process in which a fixed amount of investment is realised at each period, but in which, for some reason, the first set of investment expenditures never got funded. In this case, a new investment can be funded from the start with the financial resources generated by the past investment, given by existing savings in search of securities. The same may happen to all investments that follow, as long as a constant flow is maintained (Keynes, 1939, p. 574). A sort of revolving fund¹² emerges then to keep the process rolling in which today's investment always draws funds from savers whose income was generated by yesterday's investment. Of course, if investments are increased, past savings are no longer enough and the arguments presented before reclaim their validity.

Finally, Keynes also argued that while there is no fundamental obstacle preventing the government to finance its expenditures and waiting for the best moment to fund its debt, the private borrower may not be able to wait (id., p. 544)¹³. For this reason, an *efficient* financial structure¹⁴ would be that capable of creating finance in the amount and terms that allow entrepreneurs to wait for the best moment to fund their debts or that lighten that burden by transferring it to other institutions.

For some, Keynes's views constituted less of a general theory of investment finance than a rationalization of the ways British banks worked at his time. In this paper, we sustain the opposite view that the distinction between finance and funding, and the special role of banks as creators of credit, are conceptual arguments that should appear under specific concrete forms, in any economy organized as a monetary production economy.¹⁵ To further explore this point, we shall now proceed to an examination of existing types of financial structure to investigate whether those concepts are valid in differently organized structures.

3. ALTERNATIVE FINANCIAL STRUCTURES

The central point of the Keynes/Ohlin debate was their opposing views as to the nature and role of the banking system in a monetary production economy. It was one of the two main issues that opposed loanable funds theory to liquidity preference¹⁶, in which Keynes emphasized that banks had the exclusive faculty of creating money among financial institutions, while loanable funds theorists defend the view that banks are financial intermediaries like any other, with the ability to extend credit limited by the savers' propensity to hold deposits instead of other types of assets. Keynes, as we saw, believed that banks "hold the key" to the transition to higher levels of economic activity, while his loanable funds critics see no such power in the banking system. Ultimately, banks could not supply credit beyond the amount of deposits made by savers without inducing unsustainable disequilibrium situations.

Thus, for Ohlin, banks supply credit, and its price is the interest rate. In equilibrium, the interest rate must be such that intended savings at that rate is equal to the demand of financial resources to invest. For Keynes, let us insist, the interest rate is the reward for parting with the liquidity that characterizes money, and money is what banks produce.

An important difficulty to distinguish between the two theories is that in fact banks create *money* by supplying *credit*, so it would seem that loanable funds and liquidity preference theories are just looking to different aspects of the same process. But this is not true: there are crucial conceptual differences involved and they have to be sought for not in the actions of banks themselves but on the factors that actually limit their capacity to create money/supply credit. Ohlin believed that savings were the ultimate constraint on the supply of credit.

Keynes held another view. Banks are stated to have a dual nature as a financial intermediary and a creator of money.¹⁷ In relation to the investment process, the investor has initially a demand for money that is satisfied by the bank when it creates deposits in the process of extending credit. A bank, however, is limited in the modality of credit it can supply so that the investor at some point will try to change its debt structure into something more suitable to the life of the assets he bought. As shown above, Keynes's point is that there is a right moment to do it, that is, when newly formed savings come to the securities market, raising their prices. Any intermediary can, then, serve either as a broker or as a dealer for such securities. Thus, in this approach, banks are distinguished from non-bank institutions because it is the peculiar function of the former to generate money, while it is not exclusive of banks to intermediate between savers and investors. An *efficient* financial system performs both functions.

Criticisms may arise that the separation between banks and non-banks is artificial, an accidental result of the way financial institutions were formed in certain countries. But one should notice that the argument does not directly concern how actual institutions are organized but how certain *functions* are allocated, so that there is a peculiar *bank function*, that of creating money. To perform it, banks do not intermediate between savers and investors but between the monetary authority, that supplies reserves to them, and the public that demands money. The distinction does not spring from empirical observation of any particular existing financial system but results from the principle of effective demand as proposed by Keynes as a feature of a monetary production economy.

Actual financial systems represent different options as to how to provide for those needs. A financial structure is defined by the set of institutions that perform the functions of creating and intermediating financial resources, and the

relationships that are allowed to develop between them. These structures are determined as much by efficiency requirements in supplying the services one expects from the financial system as by historical, even accidental, forces operating in each national circumstance. Behind the particularities of each country, however, one can distinguish two paradigms of financial organization, with respect to the functions and roles of banks: i. segmented structures, where commercial banks are kept insulated from other institutions; ii. unified structures, the most characteristic institution is the *universal* bank.

a. *Segmented Financial Systems*

These are systems in which financial institutions roughly specialize in the operation of a given area, or set of related areas, of the overall financial market. Banks are mostly confined, by custom or by regulation, to the acceptance of demand deposits or short-term time deposits and to the supply of equally short-term loans. In particular, banks are not allowed, or are not expected, to deal with securities. Other institutions operate in the *capital* market, that is, with longer-term obligations and securities. Typically, this is reflected in the segregation between commercial banks and investment banks or other institutions devoted to facilitate the placement of long-term securities. The most notoriously extreme case of segmentation is the financial structure of the United States. The characterization, however, is also largely valid for the cases of the United Kingdom and Japan.¹⁸ In these countries, one usually finds a large variety of financial institutions.¹⁹

In segmented systems, the distinction between the stages of the financial process accompanying investment proposed by Keynes are most clearly visible since different

institutions are in the lead of each stage. We can distinguish two ways in which finance and funding may take place in this kind of financial structure.²⁰ The simplest case would be that of a firm that decides for an investment that has to be entirely financed by outside sources.²¹ To draw the Keynesian picture with the strongest collors, let us suppose that the capital goods to be purchased have to be paid in full in advance and that the firm has to borrow the entire value of the investment from a bank. The finance motive to demand money is precisely the demand for money in advance of an investment expenditure, just like any other transactionary demand. If the bank makes the loan, and creates deposits in the process, total liquidity is expanded, and this is the provision of *finance*. If the bank was loaned up at the start we also have to count on the monetary authority creating the necessary reserves that have to be constituted because of the increase in deposits.

Once the investment is made, income is generated in the capital goods sector, part of which will be spent in consumption goods, generating additional income in the consumption goods sector, that will, on its turn, be partly spent as a further demand for consumption goods, and so on, until the multiplier has completed its round. When equilibrium income is finally reached, there will be a pool of voluntary savings in the hands of households and other firms that can be used directly to buy long-term debt from the investing firm or to lend to financial intermediaries that will themselves absorb the long-term debt of firms, in case of the liquidity preference of households being incompatible with the use of all their savings to buy illiquid assets. This is the *funding* stage, that would involve long-term lending institutions in the case of indirect finance or, for instance, stock exchanges in the case of direct finance.²²

Even though this simple picture would capture the essential elements of the finance/funding argument, it can be substantially improved by introducing some more complex

relationships between financial institutions that would bring the picture closer to reality.

Let us keep the assumption that the firm has no retained profits so as to have to appeal to the financial system to get finance to any investment project it may intend to implement. Let us assume, now, that the firm is risk-averse and cannot accept the possibility of being unable to fund its debt after the expenditure is made. It can get hold of finance by issuing bonds or equities and placing them with an investment bank that will hold them until a later date when securities markets are favorable, that is, when the demand for financial assets has risen because of new savers being in the market searching for securities to hold.

In this case, the firm skips the finance stage, funding their investment expenditure from the start. It does not require any adjustment in the finance/funding model though, since the investment bank is not going to try to place the stocks or bonds it bought before demand for financial assets has grown to avoid "straining the market", which is precisely what the Keynesian theory of finance would lead us to expect. Finance and funding are not actually microeconomic concepts, although they have a micro counterparty. They are *macroeconomic* concepts that are part of a macro-model of effective demand. Investment banks will absorb stocks and bonds most often by getting hold of commercial bank short-term loans, to be paid back with the proceeds of the placement of those assets in the markets. As Keynes put it:

"This service [i.e., supplying finance] may be provided either by the new issue market or by the banks; - which it is, makes no difference. Even if the entrepreneur avails himself of the financial provision which he has arranged beforehand *pari passu* with his actual expenditure on the investment, either by calling up instalments in respect of his new market-issue exactly when he wants them or by arranging overdraft facilities with his bank, it will still be true

that the market's commitments will be in excess of actual saving to date and there is a limit to the extent of the commitments which the market will agree to enter in advance." (Keynes, 1937b, p. 246)

The *finance* stage of the investment process, thus, is represented by the need that commercial banks do create the monetary resources to allow investment banks to underwrite the investors' securities and to hold them until the new savings arise. Investment banks do not generate this liquidity. Instead, they rely on commercial banks.²³ Funding takes place either by selling securities directly to households or to institutions that gather household savings. The direct sale of securities to households was specially important in the United States, although nowadays investment and pension funds have become more important. In Japan a great variety of institutions intermediate household savings, like the post office (through postal savings), pension funds, trust banks, insurance companies, etc (cf. Suzuki, 1986).

In fact, real-world economies with segmented financial structures tend to present a more complex picture, in which investing firms issue a mix of liabilities, both short- and long-term, actually combining finance and funding deals in such way as to minimize the financial cost of their projects. Investors accumulate past profits to improve the terms under which funds may be obtained (Kalecki, 1971, ch. 9), they may choose to place securities with investment banks if acceptable prices may be achieved and finance the remaining proportion of their expenditures with short-term sources. Funding may be actually postponed if the public's liquidity preference is too strong and financial intermediaries are unable to offer acceptable terms to investors. The variety of possibilities was modeled by Minsky, with his classification of financial postures. Minsky (1975) identifies two groups of agents according to the way they issue liabilities in relation to the assets they buy.²⁴ *Hedgers* are those who only accept

to invest if their debts are funded from the start, so financial uncertainties are actually shifted to investment banks or some other financial institution with similar functions. *Speculators* follow, at least in part, a more "orthodox" sequence of finance and funding, maintaining for at least sometime assets that are more durable than their liabilities. This group speculates that financial conditions in the future will be such as to allow them to roll over their debts until funding may be completed. The combination of different sources of finance has some important implications for the degree of fragility and instability of this kind of economy.

b. *Universal Banks*

In this kind of system, existing institutions perform many functions and act in many markets. The most representative institution of this structure is the *universal bank*, that besides playing the role of commercial banks, creating deposits and making short-term loans to business and households, is also involved with long-term lending, buying, selling and holding securities, providing various kinds of services, including management of portfolios, etc. Commercial banks as such tend either to disappear or to lose their specificity, submerged in institutions that operate in many lines of trade. The paradigmatic case of universal banking is Germany.²⁵

German money and capital markets are very narrow. Households' preferences are clearly biased towards deposits rather than holdings of ultimate borrowers' liabilities or equities. The usual force behind the enlargement of financial markets, the need to trade in public securities to cover fiscal deficits, has been a relatively minor element in the development of German capital markets. As a result of the underdevelopment of these markets, direct placements of

corporate issues have also tended to be relatively irrelevant. This gives intermediaries in general, and banks in particular, great influence in the process of capital accumulation.

The lack of institutional differentiation does not mean, in any case, that the distinction between a liquidity-increasing finance stage and a savings-allocation funding stage loses relevance. All that happens is that the same actual institutions are capable of performing both roles. Keynes's concepts are still applicable if what universal banks do is to internalize both stages of the financial process. In other words, universal banks may initially act as commercial banks, granting short-term credit and creating deposits. Later, they can act either as a long-term credit bank or as an investment bank, capturing the public's savings to fund the investors' debt. These banks could restructure the investors' debt if they are capable of attracting time deposits from savers or can use their short-term funds to underwrite the securities issued by investors, to place them later with institutions like pension funds or insurance companies.

German banking regulations impose a limit on the extent to which short-term funds available to banks can be directly used to make long-term loans to investors (Francke and Hudson, 1984; Kregel, 1992). But the universal bank can act simultaneously as a commercial bank and as an investment bank, with the former extending short-term loans to the latter to underwrite and hold securities until the right moment to place them in the market. The main universal banks, private banks, do control flotation and dealing with securities (Francke and Hudson, 1984; Pozdena and Alexander, 1992) and do decide on the timing of the placement of their own bonds, that will ultimately match their long-term lending, "in order to avoid imposing excessive strain on the market" (Francke and Hudson, 1984, p. 88), which was precisely Keynes's concern.

Universal banks are, in fact, a particular solution to the problem of supplying liquidity and intermediating savings that has to be found in any financial system. It is best adapted to circumstances where deficit and surplus units are not sophisticated enough to deal directly with the variety of instruments that is characteristic of a diversified system like the one in Great Britain or in the United States. On the other hand, it does allow a measure of influence by the State in the implementation of development policies that is difficult to achieve in more institutionally fragmented systems (cf. Zysman, 1983). Universal banks concentrate resources in large scale and should be, in principle, capable of effecting better informed choices as to where to channel these resources than smaller institutions. Of course, critics would say, the other side of the coin is the possibility of misallocation, because of the monopoly power these banks have, the possibility of stifling competition and suffocating innovation, etc.

In some cases, a third alternative may emerge where the State itself takes the lead of the financial process, creating long-term credit institutions, either with fiscal resources or with deposits attracted from the general public, to support investment in selected activities on the assumption that no private arrangement would be capable of doing so. This seems to be the case of Italy (cf. Szego and Szego, 1992) and developing countries like Brazil. We also find this kind of intervention in Japan in relation to sectors like agriculture and fisheries (cf. Suzuki, 1986).

Thus, either with segmented or non-segmented financial systems, the demands on the financial structure are the same. One could readily accept that in non-segmented systems, the coexistence in the same institutions of lines of trade with long and short-term securities, among other activities, may raise some important difficulties for devising adequate prudential regulation, preventing an

exaggerated degree of mismatch of assets and liabilities in the balance sheet of financial institutions. Segmented systems, in this sense, make it easier to mark the limits within which each institution may be allowed to operate. All this, however, does not invalidate in the least the approach that proposes that an efficient system must be capable of creating money, to attend the need for *finance*, and of channeling savings, to *fund* debts of investors, all of them at their proper time.

In recent years, financial innovations have been introduced that are changing present structures in ways that are not yet easy to evaluate or even describe. Globalization, securitization, the disappearance of regulations responsible for segmentation of markets, the creation of new products, seem to cause a tendency for the different national systems to converge to a more general model. On the one hand, financial institutions are becoming less differentiated than they used to be in segmented systems, strengthening the trend towards universal banks. On the other, securitization is giving a greater and greater role to the direct placement of securities, that changes the role intermediaries used to have in less segmented systems (BIS, 1986). *Prima facie*, none of these developments changes the basic question, that is, how to finance investments if savings can only be generated and made available after the investment expenditure has been effected, although the complexity of the new arrangements can challenge the power to give simple pictures as the ones above.

4. CONCLUSION

Keynes's principle of effective demand summarizes some important insights as to how a monetary economy operates. An implication of the principle is that saving *results*

from investment expenditures, so a theory of capital accumulation adequate for this kind of economy has to describe how investment expenditures can be financed, how savings are generated, and what is their role in this process. All these questions were addressed by Keynes in his debate with loanable funds theorists, by making the difference between finance and funding, in which the former consists in the expansion of liquidity necessary to accommodate a new element of aggregate demand, the demand for investments, and the latter consisting of the allocation of newly formed savings to restructure the investors' debts such as to allow them to make their assets and obligations compatible.

An *efficient* financial system in a monetary economy must, then, be able to provide *finance* to allow entrepreneurs to make investment expenditures and to channel savings so as to, directly or indirectly, *fund* their debts later. Financial efficiency means the capacity to satisfy the investors' needs for purchasing power with which to demand capital goods without exerting downward pressures on the price of securities as it would happen if they had to place them before an increase in savings has been effected. These are general needs that correspond to the concept of monetary economy, and to the way in which it operates.

These concepts tended to be accepted in the literature that followed Keynes's original writings in a way that restricted its validity to specific financial arrangements. It may not have been obvious that this was a conceptual matter and that it was developed in a higher degree of abstraction, and that, as such, these relations should be properly describable in terms of different national contexts. The purpose of this paper was precisely to clarify the generality of the concepts of finance and funding, by showing the forms they assume in two different kinds of financial structures, a segmented system and one composed of multi-purpose institutions.

5. NOTES

1 The author examined the original debate in Carvalho (1994).

2 An excellent explanation and detailed criticism of the prior-saving argument is presented in Studart (1994).

3 On the relationship between the finance and the transactions demand for money, see, for instance, Davidson (1994) and Carvalho (1995).

4 Keynes explicitly rejects Ohlin's statement that while ex-post saving is not a factor in the supply of credit, ex-ante saving is: "The ex-ante saver has no cash, but it is cash which the ex-ante investor requires ... For finance ... employs no savings." (Keynes, 1937b, pp. 665/6)

5 See, for instance, Tsiang (1956).

6 See Carvalho (1992), chapter 9.

7 "This means that, in general, the banks hold the key position in the transition from a lower to a higher scale of activity." (Keynes, 1937b, p. 668). One should remember that Keynes had already emphasized that banks did not just wait for depositors to lend them money. If they have the reserves (or access to them), banks create deposits: "[it] is fundamental, yet too little understood, that the volume of bank deposits in Great Britain does not depend, except within narrow limits, on the depositors or on the Big Five [banks], but on the policy of the Bank of England." (Keynes, 1963, p. 237)

8 "I am not advocating an unlimited expansion of Treasury bills. On the contrary, I am saying that, if the Treasury is moderately patient, the weight of natural market forces will by themselves render a funding policy possible at a reasonable cost." (CWJMK, 21: 540)

9 "It may also help to clear up misunderstanding to point out that whilst saving takes place concurrently with investment (in the sense of the first acquisition of a capital good by an entrepreneur), the flow of funds (i.e., of money) available for investment (in the sense of the first acquisition of this capital good by a permanent holder) takes place subsequently; the bridging of this time-lag by 'finance' (i.e., by the supply of money) being the function of the credit system (which is solely concerned with finance and never with saving.)." (Keynes, 1939, p. 574)

10 Referring to public debt, Keynes advised: "The second principle of loan policy is that the forms of the loans should be mainly dictated by the preferences of the public. If the public prefer short-dated debt, nothing can be gained and much will be lost in terms of interest and in the disturbance to the financial fabric by attempting to force long-dated loans on them." (CWJMK 21: 517). The problem, of course, is more serious for private entrepreneurs, for whom the issuance of short-term debt may be unacceptably risky. This would characterize a portfolio position called speculative or Ponzi by Minsky, as will be argued below.

11 In this sense, Asimakopulos' condition for equilibrium, that the multiplier has fully run its course, is a necessary but not sufficient condition. See Asimakopulos (1983, 1986).

12 That has nothing to do with the revolving fund of finance connected with the finance motive.

13 Also CWJMK 21: 543, where it is said that "[t]his ability to wait constitutes the signal advantage of the Treasury over private borrowers."

14 Studart prefers to call it a functional financial structure if, besides providing the required finance and funding, financial institutions also contribute to minimize Minskyian fragility. See Studart (1994).

15 For a discussion of Keynes's definition of a monetary production economy see Carvalho (1992), ch. 3.

16 The other bone of contention was the role of money itself. Loanable funds models stress the means-of-transaction role of money, even though the possibility of hoarding is recognized. Liquidity preference theory focus on money as an asset, characterized by its maximum liquidity premium that makes it a particularly powerful defense against the uncertainties of private activity in market economies.

17 "Thus the modern banker performs two distinct sets of services. He supplies a substitute for State money by acting as a clearing house and transferring current payments backwards and forwards between his different customers by means of book entries on the credit and debit sides. But he is also acting as a middleman in respect of a particular type of lending, receiving deposits from the public which he employs in purchasing securities, or in making loans to industry and trade mainly to meet demands for working capital. This duality of function is the clue to many difficulties in the modern theory of money and credit and the source of serious confusion of thought." (CWJMK, 6: 191)

18 See, for example, Edmister (1986), West (1983), Zysman (1983) and Baer and Mote (1992), for the United States; Llewellyn (1992) for the United Kingdom; and Suzuki (1986) and Cargill and Royama (1992) for Japan.

19 In the US, we find commercial banks, money market funds, savings and loan associations, mutual savings banks, credit unions, finance companies (including suppliers of consumer credit, commercial credit, and firms operating with leasing and factoring), insurance companies, pension funds, investment banks, mortgage banks, investment companies and real estate investment trusts.(cf. Edmister, 1986) In Japan, there are 1. commercial banks; 2. long-term credit financial institutions; 3. specialized foreign exchange banks; 4. financial institutions to attend small business; 5. financial

institutions to attend to agriculture and fishery; 6. securities companies; 7. governmental development banks (Suzuki, 1986, p. 163). These groups actually include different kinds of institutions operating special segments of each market.

20 In fact, Davidson (1986) suggests another description, somewhat more complex, of how the process would typically develop in the United States.

21 Considering retained profits would complicate but not change the nature of the process we want to describe. In this case, one has to distinguish two cases. If the firm kept retained profits in the form of financial assets (or even bank deposits), they should be considered part of past savings that were being used, directly or indirectly (through intermediaries), to fund past investment debts. To use these resources the firm has to cash these assets causing a downward pressure on the price of securities. If, instead, the firm had hoarded its past profits, its past savings had already depressed aggregate income, causing losses to producers and creating pressures on prices of securities even before the current period.

22 This is roughly the case described by Keynes, above, with respect to the placement of Treasury bills to finance government expenditures, to be funded later, when the pool of desired savings has been increased by the multiplier process. In that case, however, the Bank of England was to act like a commercial bank first, absorbing the bills, and as an investment bank or a broker later, to place bonds to fund the debt.

23 For investment banks in the United States the "[s]ources of financing are principally commercial bank loans and customer credit balances." (Edmister, 1986, p. 256) The same involvement of commercial banks providing resources to other institutions that offer longer-term credit is found in relation to mortgage banks (idem, ch. 14), the purchase of consumption durables (id., ch. 10) and the credit for small

firms by finance companies (Harris, 1983). The recent trend toward securitization does not change the picture for commercial banks remain as the main source of liquidity in these markets (cf. Kregel, 1993).

24 In later works, Minsky introduced a new category, Ponzi investors, as a special kind of speculators. For our purposes his original grouping is sufficient.

25 "For what would be seen as the most evident feature of the German system which distinguishes it from that in other advanced economies, especially from that in Great Britain and (after the New Deal banking reforms) the USA, has been the dominance exerted in various fields by the "universal banks", i.e. banks which provide a full range of banking services. They 'take deposits and make loans, are active in the securities business (the underwriting and issue of securities, the acceptance of securities on deposit and provision of bankers' services) and sit on the supervisory boards of non-bank corporations." (Francke and Hudson, 1984, p. 2) On the German financial system see also Pozdena and Alexander (1992).

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