INTEREST RATE CHANGES IN MARX'S THEORY OF THE INDUSTRIAL CYCLE

Francisco Paulo Cipolla
Universidade Federal do Paraná

Paper prepared for the XXV Encontro Nacional de Economia held in Recife, 1997.
Curitiba, July 1997

I. Introduction

Marx's view on the movements of the rate of interest along the economic cycle can be summarised into three phases. The first one in which reproduction credit is ensured by capitalists themselves with litle need for bank supply of money. In this phase the supply of money on the part of the banks is a mere metamorphosis of bank capital from the form of money into bank capital in the form of bills of exchange. This metamorphosis alters only the relative magnitudes into which bank capital resolves itself. A second phase develops in which there arises a demand for credit which relies on banks' own capital since it is a demand for new capital and therefore carries no collateral in the form of bills. During this phase, the rate of interest rises to its average level. And finally, a third phase in which due to an interruption in the normal course of commercial credit among capitalists, there is a sudden and accute demand for money as means of payment. The rate of interest climbs to its highest level.

As it will become clear, Marx's conception of the changing levels of the rate of interest depends crucially on the definition of bank capital and its component parts. This is so because it is the changing interconnection of bank's capital to the process of reproduction which will determine the changes in the rate of interest. This aspect of Marx's theory has been largely neglected in the marxian literature dealing with credit, interest rates and crisis as it will be seen in section VI of this paper. Also, of great importance and equally neglected in the marxian literature is the influence of the circulation of revenue, what Marx calls Circulation I, on the rate of interest along the industrial cycle.

Thus, a reconstruction of Marx's theory of the changing levels of the rate of interest along the economic cycle is justifyied on the grounds that that it has never been properly treated within the marxian literature. To my knowledge nobody has made explicit the connection of the changing levels of the interest rate either to the structure of bank capital nor to the role of revenue circulation in the credit system.

II. Money and credit in capitalism

As everyone knows from volume I of *Capital*, one of the determinations of money in simple circulation of commodities is its function as means of payment. As such money allows for the circulation of commodities without the actual flow of money. What allows commodities to change hands are payment promesses for money delivery at a later date.

With the development of capitalism and the generalization of production as commodity production, the fuction of money as means of payment is equally expanded and generalized.[1] When the agents engaged in exchange are capitalist firms these promesses of payment are made by means of issuing Bills of Exchange.

[1] "With the development of commerce and of the capitalist mode of production, which produces solely with an eye to circulation, this natural basis of the credit system is extended, generalized, and worked out. Money serves here, by and large, merely as means of payment..." (p.400).

The circulation of credit money in the form of bills of echange substitutes for the circulation of metal money or bank notes. As a consequence the circulation of commodities between capitalists is performed by means of credit instead of money. As will be seen this is important for the understanding of the reasons why the rate of interest is kept low in the recovery period after an economic crisis.

Commercial credit is a fundamental form of credit because it is credit granted directly between capitalists, therefore, credit implicit in reproduction, be it simple or expanded. Moreover, the whole movement of the rate of interest along the industrial cycle is tied up with the soundness and fluidity of this kind of credit. It is for this reason that Marx says, refering to this form of credit, that “it forms the basis of the credit system” (p.479).

III. Bank Capital

According to Marx bank capital is composed of two parts: gold and bank notes constitute one of them; the second one is constituted by securities. The part of bank capital which resolves itself into securities is divided by Marx between, on the one hand, Bills of exchange, which for Marx have a special status as it forms the basis of credit, and on the other, interest bearing paper such as government bonds and notes, stocks, etc. (p.463).

Deposits which are always made in gold or bank notes are loaned out by the banks. These deposits do not exist as gold or bank notes in the banks. The bank only keeps a reserve of gold and notes which corresponds to the “average quantity of money existing in the form of a hoard” (p.469). The deposit titles serve the purpose of balancing claims among banks. As such they represent capital for bankers (p.470) for they loan them out, earn interest, and use the nominal deposit claims in order to cancel mutual credits among the banks. Therefore, insofar as the credit system is a system of banks it allows the deposits to function as capital since the money deposited do not figure as money in those accounts.[2] Deposits are thus transformed into loanable capital. As it will be seen below, this fact play an important role in the analysis of the movements of the rate of interest along the industrial cycle.

IV. Capital transfers and revenue circulation in reproduction

The overall circulation of commodities is divided by Marx into two parts: the circulation of commodities which fall within the system of capital transfers between capitalist firms Marx call *Circulation II*; the circulation of commodities which fall within the consumption of revenue by capitalists, workers and *rentiers* Marx call *Circulation I*. This distinction is important because it allows us to understand the pace

[2] “All the deposits, with the exception of the reserve fund, are merely claims on the banker, which, however, never exist as deposits. To the extent that they serve in clearing-house transactions, they perform the function of capital for the bankers -- after the latter have loaned them out. They pay one another their mutual drafts upon non-existing deposits by balancing their mutual accounts”(p.470).

of the relative demand for currency (as it includes both metal and bank notes) between the two types of circulation along the cycle.

It is important to notice that the expenditure of revenue is here conceived independently of the credit system, that is, capitalists, workers and *rentiers* go about their consumption demand with revenue already earned. In other words, consumer credit is not considered at this level of the analysis but its logical possibility is clear from Marx's critique of Tooke's and Fullarton's identification of money as means of purchase with currency and money as means of payment with capital.[3] Consumer credit is not considered here because "the majority of disbursers of revenue, the labourers, can buy relatively little on credit" (p.445).

> "On the whole, the currency of money in such periods (periods of brisk business) appears full, although its Department II (transfer of capital) is, at least relatively, contracted, while its Department I (expenditure of revenue) expands in absolute terms" (p. 447).
>
> The reverse is true in a period of crisis. Circulation No. I contracts... On the contrary, the need for money accomodation increases in circulation No. II with the contraction of credit" (p.448).[4]

With the development of the credit system Circulation I also supplies money which is used by banks as loanable capital. To the extent that revenue is not consumed all at once it gets deposited in the banks. The deposited sums of wages and profits set aside for consumption serve as loan capital in the hands of the banks.[5]

Credit between capitalists circulate commodities between them. By means of this credit the productive sphere is enlarged. With this enlargement, the circulation of revenue, which is the other side of enlarged reproduction, grows as well. This in turn, allows the money to return to the banks in the form of retail traders' deposits.The expenditures of revenue which are always withdrawls from deposit accounts end up returning to the banks as retail traders deposit their earnings back in the banks. This will be particularly important during the boom period for this return of revenue expenditures to the banks by means of retailers deposits keeps the rate of interest from rising excessively despite the increasing demand for loans. Thus the same money deposited as revenue can function more than once as loan capital (p.508).

V. The changing levels of the interest rate along the cycle

---

[3] See p. 459, for instance or "It is, therefore, neither its function as means of purchase, nor that as a means of payment, which distinguishes it from coin, for it may also act as a means of purchase between one dealer and another so far as they buy from one another in hard cash, and also as a means of payment between dealer and consumer so far as credit is given and the revenue consumed before it is earned" (p.443).

[4] Marx uses, in the passage cited above, the same terminology employed in the analysis of the schemes of reproduction. This needs not confuse us here: by Department II here is meant Circulation II (capital) and by Department I, of course, he means Circulation I (revenue).

[5] "The accumulation of loan capital consists simply in the fact that money is precipitated as loanable money" (p. 507).

The low rate of interest during the recovery

To every period of depression there corresponds according to Marx an accumulation of idle money. This accumulation of idle money happens because the interruption of real accumulation leads to a corresponding accumulation of previously active money capital as deposits in the banks.[6]

As the economy starts to improve the expansion of commercial credit reflects the pace of reproduction as credit between capitalists performs the transfers of capital between them. The extensive use of commercial credit allows expansion to proceed without using bank credit "to a great extent" (p.494).

The predominance of commercial credit between capitalists does not mean that there is absolutely no need for money. This need, however, is circunscribed by gaps between payables coming due and receivables. In as much as payments accruing to the firm do not coincide with Bills coming due, firms have to resort to their reserve money capital (which also is kept as current account deposits in the banks) or to the discount of Bills in their possession. Therefore the demand for money is a demand for liquidity arising from the mismatch between payables and receivables. In order to face these discrepancies some reserve capital has to be set aside (p.480) or else bills of exchange have to be discounted.

In this latter case, the demand for money is not to be confused with a demand for capital. Marx goes at great lenght to argue, against the bankers' usual point of view, that capitalists already have capital in their hands when they discount their Bills. This capital exists in the form of Bills of Exchange. What they, therefore, demand is convertibibility of Bills into cash. This is crucial for the understanding Marx's theory of interest rate movements along the cycle. If on the one hand capital already exists in the hands of capitalists in form of ficticious capital, when this ficticious capital is exchanged for money at a discount, it will likewise exist in the hands of bankers. This is therefore, not a demand for new capital. It is just a demand for liquidity. The capital of the bank changes configuration but its total value remains the same.[7]

The low rate of interest which accompanies the recovery period makes for a high profit of enterprise, that is, profits net of interest paid on the loans. The high rate of profit of enterprise accelerates the expansion and ultimately brings about an increase in the demand for bank credit for the formation of new capital which cause the rate of interest to rise to its average level.

The rising rate of interest during the boom

The high profit of enterprise leads eventually to a rise in the rate of interest (p.512) as more capitalists try to borrow money for purposes of expanding their business (p.513). To this is added the further effect of rising wages wich increases the volume of demand for loan capital.

Besides the credit demand arising directly from the needs to expand productive capital, Marx adds a speculative demand for credit.[8] Marx suggests that the growth of

[6] "Money-capital which was formerly employed in production and commerce appears as idle loan capital" (p. 494).

[7] It will actually increase by the amount of the discount charged on the transaction.

[8] Marx repeatedly refers to the role of speculators as one of the causes of the rise in the interest rate towards the last phase of the boom. The reader can check these references on pages 488, 495, 500, 511, 514 (here specifically on how demand for loans for commodity price speculation can raise the rate of interest).

fictitious capital that accompanies accumulation (of both, real and money capital) gives rise necessarily to the speculative activity in the form of buying and selling claims on capital revenues (stocks and bonds) or tax revenues (public debt) or other forms of claims. Inasmuch as the acquisition of such fictitious capital is done with borrowed money, then the rising demand for loan capital resulting from it exerts an upward pressure on the rate of interest.

The demand for money-capital now has a completely different meaning. It is indeed a demand for new capital. It is a demand for credit, for bank credit. It is a demand placed upon the capital of the bank, a demand for which the bank does not receive anything in exchange.

One should not be led to think that the rising rate of interest to its average level is due to capital formation in its fixed form. The rate of interest does not rise because the demand for bank credit is for investment in fixed capital but because it is a demand for new capital. In fact, if fixed capital were to be financed by means of issuing stocks it would not represent a drain on the bank's own capital but just a change of its form: if the bank bought the stocks its capital would now be in the form of stocks instead of money.

In this phase profits increase more than proportionately to the increase in the rate of interest. As a consequence, despite the increase in the interest rate, the profit of enterprise augments as well in this phase (p.495).

Yet, the increasing use in bank money is kept in check by the extensive use of commercial credit as well as by the reflux of money which does not represent capital accumulation. This latter part refers to the reflux of revenue which also increases during the expansion. Its increase reflects the enlargement of reproduction as both the wage and capitalist consumption funds expand. Although the portion destined for consumption does not become capital the money which flows from the expenditure of revenue "is regularly transformed into loanable capital for a period of time" (p.505) and thereby compensate for the increasing use of bank credit. We can conclude that during the period of expansion, the increasing use of bank credit is counterbalanced by the increasing volume of Circulation I as well as by commercial credit. The rate of interest is kept at its average level.[9]

Crisis and maximum rate of interest

For the purposes of this paper it is not important to develop a discussion of Marx's conception as to what causes crisis. In the context of the chapeters contained in Part V of the third volume of *Capital*, it is clear that his conception of crisis is one of

[9]"The ready flow and regularity of the returns, linked with extensive commercial credit, ensures the supply of loan capital in spite of the increased demand for it, and prevents the level of the interest rate from rising. On the other hand, those cavaliers who work without any reserve capital or without any capital at all and who thus opearte completely on a money credit basis begin to appear for the first time in considerable numbers. To this is now added the great expansion of fixed capital in all forms, and the opening of new enterprises on a vast and far-reaching scale. The interest now rises to its average level" (p.488).

overproduction brought about by the fact that credit creates a separation between credit sale and ultimate consumption sale. As the world market expands to include ever farther places the duration of those Bills of credit have to increase. This creates the possibility that production may go on expanding well after the ultimate consumption sales have stagnated. The important thing is that once this occurs a rush to means of payment start to develop as firms need money to pay their debts. There is a dynamic crisis here: Banks perceive the danger as they see more Bills being deposited than money (p. 447). The interest rises. This rise in interest rate depreciates the value of ficticious capital in general and of those Bills in particular.

> "It falls, furthermore, as a result of the general shortage of credit, which compels its owners to dump it in large quantities in the market in order to secure money" (p. 493).

The rate of discount on those Bills rise to its highest levels (p. 483).

VI. The marxian literature on the subject

A quick glance at the literature immediately reveals what was sugested in the introduction to this paper: a total lack of development of certain aspects of the mechanics of the credit system which are important in order to understand the variations of the rate of interest along the cycle.

Lianos (1987) distinguishes between industrial and commercial credit (p.42-43). For Marx, commercial credit encompasses credit between industrial capitalists as well as between industrial capitalists and mercahants. Since Lianos also considers bank credit as a distinct form of credit we can suppose that industrial and commercial credit amounts to the kind of reproductive credit that Marx calls commercial credit. Lianos goes on to say that that "in the Marxian model of interest rate determination the demand for money-capital depends on the level of production and varies with the phase of the business cycle, while the supply of money-capital depends on the rate of interest..."(p.45). This is not accurate: during the recovery, a period of rising production and income the rate of interest is kept low by the predominance of commercial credit. Therefore, Lianos model prescription does not fit Marx's own view on the subject. Moreover, in the phase following the recovery, the interest rate rises to what Marx defines as its average level. In this period the rise of the rate of interest reflets, to a considerable extent, the rise in the demand for loans for the purpose of speculation with fictitious capital which can hardly be characterized as increased production or income. Here also, Lianos "model" does not seem to reflect Marx's own suggestions. The modelling of the supply of money as a function of the rate of interest is equally misleading. Nowhere in Part V of the third volume of *Capital* does Marx suggest that the supply of money depends on the rate of interest. Moreover, if the rate of interest is determined by the forces of supply and demand for loans, then supply itself cannot be a function of the rate of interest without leading us into a circular argument. As suggested before there is no discussion of the role of revenue circulation and bank capital in the process of determination of changes in the interest rate.

Crotty (1987) admits that “a full treatment of Marx’s analysis of the relationship between commercial credit and financial intermediation and capitalism’s laws of motion in either the short or long run is well beyond the scope of this paper” (p.77). He correctly emphasizes the role of rising profits of enterprise in the change of credit regimes from predominantly commercial credit to increasingly bank credit (p.78). However, he only stresses the role of positive expectations, measured by the difference between profit and interest rates, in the snowballing of debt. This leads, in his words, to the transformation of a “boom-induced confidence into euphoria”. He then suggests that from the mid-expansion on the rate of interest rises further, diminishing the gap between proft rate and interest rate. This, according to him is due to two causes: increasing loan demand and increasing illiquidity. Yet, there seems not to be, in Marx’s description of interest rate cycles, a continuing rise of the rate of interest. Whereas Crotty’s analysis seems to adhere to Marx’s general view it is rather a better description of Minsky’s theory in which the cause of crisis is the rise in the interest rate. It differs, however, in an important regard from Minsky’s own view in that it assigns the role of ultimate trigger of the crisis to the fall in the rate of profit. The onset of the crisis is thus related to a contraction of the rate of profit incompatible with the overextended and “oversensitive contract-credit system” (p.79). Yet, from Part V of the volume three of *Capital* all we have is a theory of overproduction caused by the lack of knowledge as to the rithm of ultimate consumption. This lack of knowledge is brought about by the incresingly distant markets and the increasingly longer terms of commercial credit contracts. In any case, the analysis of bank capital as it relates to the circulation of money (revenue) and the circulation of Bills (capital) is left outside the range of his objectives which were to incorporate credit organically into a marxian theory of crisis.

Itoh (1980) centers his analysis around the theory of crisis. He emphasizes the squeeze on profits resulting from the rise in wages due to the strong demand for labor. However, the normal flow of circulation allows the system to go on unhindered by rising wages. The normal course of sales allows money to return to the banks “thus forming disposable funds usable by the banks”, These funds allow the banks “to meet the rising demand for money capital”(p.111). We see here that Itoh is one of the few marxists who have integrated the analysis of circulation to explain how the reflux of money to the banks keeps the interest rate from rising. It is in the sequence to this argument that Itoh introduces the role played by the increasing loan demand for speculation during the last phase of the boom. However, he only considers commodity speculation (pp.112 e 113).[10] It is in face of such massive speculative activity that the elasticity of credit diminishes. “More commercial exchange bills are issued and brought to the banks to be discounted”. Here he refers to the contraction of the reserve funds of banks “which results in a rise in interest rates” (p.113). He is not clear about this point but it seems, from the nature of the argument, that the contraction of the reserve fund of the banks is the result of two forces: a slow down in the turnover of exchange bills coupled with rising demand loan as means of payment. This starts to place increasing strain on the capital of the banks.

Weeks (1981) puts forth a theory of crisis based on the discrepancy between the growth of debt claims and the available money to cancel them (p.143). He argues that during expansions the exchange between capitalists “becomes increasingly independent of money” (p.140) as well as “semi-independent” of money capital from the banks. We

[10] In fact, fictitious capital speculation is equally important for Marx. As explained above such speculation arises naturally from the increasing masses of fictitious capital that accompany real and money accumulation.

should interpret this to mean that the accumulation of debt claims occurs mainly in the form of commercial credit. Then, he goes on to say that when “expansion comes to an end” only money is accepted for the function as means of payment. As the amount of credit accumulated well exceeds the quantity of money available, the rush to money as means of payment on the part of “all industrial capitalists at the same time” (p.142) “theatens the value of fictitious capital, and thus the structure of ownership” (p.143). This sudden demand for cash pushes up the rate of interest (p.145). Weeks touches upon a very important point, namely, the theatened value of fictitious capital. Since the larger part of bank capital is formed by fictitious capital it would be interesting to connect the question related to the value of fictitious capital to the rate of interest charged by banks. But this he does not do.

Sherman (1991) completely misrepresents Marx’s discussion of the changing levels of the interest rate along the cycle. Sherman gives the phenomena the appearance of a continue and smooth rise from the beginning of recovery all the way to the crisis. But this is an inadequate representation of what Marx says. In the prosperity period, he says, the rate of interest rises because demand passes supply. It should be made clear that interest rates rise because there develops a demand for new capital and this demand puts pressure on the use of banks’ own capital. “After the downturn” (p.271), which in Sherman’s context can only be understood by the crisis, he says that interest rates rise a little further due to increasing borrowing. In Marx, this is the moment when the rate of interest rises to its highest levels.

Foley (1986) argues that without risk capitalists would use all their money in their own business and therefore the rate of interest would equal the rate of profit, that is, capitalists would not lend for less nor borrow for more than the rate of profit. He therefore derives the rate of interest in capitalism from the existence of “uncertainty of realization and the possibility of bankruptcy” (p.33).[11] Foley conceives the varying levels of the interest rate according to whether the spectrum of firms are distributed between strong lenders and weak borrowers. “Depending on how firms are distributed between these groups, the interest rate may be high or low relative to the average rate of profit” (p.33). The dynamics of crisis, he suggests, will depend in part on how the distribution of firms shift toward financial weakness (p.34) since this shift will increase the rate of interest and decrease investment. He goes on to include the system of banks in the analysis. Here the quantity of money is equal to bank deposits. A part of this money is set aside as a legal reserve requirement (p.35). He then considers the rate of interest formed in the market for reserves between banks. The cost of a loan for the bank is then the opportunity cost of the reserve loan market rate. The rate of interest charged by banks will be determined by the reserve loan rate “plus a cost of servicing the loan” (p.35). The model then determines the values for the variables in the system but it is not used to analyse how bank capital interact with accumulation to generate variations in the rate of interest. In fact, it is not clear how the distribution of firms between strong lenders and weak borrowers interact with the model of interest rate determination.

VII. Conclusions

[11] This could not be farther removed from Marx’s own way of conceiving the rate of interest.

The marxian literature on economic cycles, crisis and interest rates does not include several of Marx's own propositions on the subject. As a consequence the treatment given to the exposition of Marx's ideas often seem more designed to adapt Marx to the authors' own research agendas. A more thorough consideration of Part V of the third volume of *Capital* seems to be necessary in order to better understand Marx's theory of credit and interest.

VIII. Bibliography

Lianos, Theodore P. "Marx on the Rate of Interest". *Review of Radical Political Economics*, vol. 19(3): 34-55, 1987.

Crotty, Jim. "The Role of Money and Finance in Marx's Crisis Theory", in *The Imperiled Economy: Macroeconomics from a Left Perspective*. New York: Union For Radical Political Economics, 1987.

Itoh, Makoto. *Value and Crisis: Essays on Marxian Economics in Japan*. New York: Monthly Review Press, 1980.

Marx, Karl. *Capital*. New York: International Publishers, 1975, vol.III.

Sherman, Howard. *The Business Cycle: Growth and Crisis under Capitalism*. Princeton: Princeton University Press, 1991.

Foley, Duncan. *Money, Accumulation and Crisis*. New York: Harwood Academic Publishers, 1986.