2. Horizontalism: Setting the Record Straight

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INTRODUCTION

There exists in the post-Keynesian literature a great deal of misunderstanding regarding what horizontalism is really all about. The various debates that have ensued since Moore (1988; see Pollin, 1991; Palley, 1991; Moore, 1994, 1995; Wray, 1995; Lavoie, 1996) only highlight the degree to which the horizontalist approach is misunderstood. In particular, some post-Keynesians have attributed to horizontalism ideas that are not supported by proponents of the horizontalist tradition.

This unfortunate state is attributed to a few reasons. First, some statements made by both Kaldor (1982) and Moore (1988) certainly lead to some confusion. For instance, Moore (1988) claims that banks fully accommodate the demand for bank credit, leading to the criticism that horizontalists do not have a credible theory of bank lending and that banks are purely passive in the economic process. The criticism is well taken (but see Lavoie’s clarification), although it does not mean that horizontalism is incompatible with a theory of banking that would be consistent with the fundamental notions of exogenous interest rates, endogenous money and demand-led supply (see Rochon, 1999, for the presentation of such a theory; see also Wolfson, 1996).

Second, there has been a tendency of limiting horizontalism to Kaldorian or Moorian economics. This is certainly understandable since Kaldor and Moore are two of horizontalism’s most ardent proponents. But it is problematic for a few reasons. On the one hand, other proponents of the horizontalist position, such as Lavoie (1992), have attempted to clarify some of the arguments first made by Kaldor and Moore, and tried to extend it to other areas, such as the open economy (see Smithin, Lavoie and Vernengo, all in this volume). Also, other proponents have tried to develop the core ideas of horizontalism while following a more heterodox tradition (see also Vernengo and Rochon, 2001), striving to incorporate some of Sraffas’s insights as well as some aspects of the circuit approach (Rochon, 1999; Lavoie, 1992).
This chapter sets out to clarify and develop the core ideas of horizontalism by setting the record straight, starting first and foremost with horizontalism by setting the record straight, starting first and foremost with horizontalism. Indirectly, it addresses many of the debates in recent a definition of money. Indirectly, it addresses many of the debates in recent a definition of money. Whether this is done, post-Keynesians should realize that the years. Once this is done, post-Keynesians should realize that the horizontalist theory of money endogeneity is compatible with a number of other important post-Keynesian arguments. In particular, I will show, hopefully convincingly, that it is consistent with liability and asset management, liquidity preference, a variable velocity of money, a variable interest rate mark up, bank-imposed credit constraints, and Kalecki’s principle of increasing risk. What this chapter does not do, due to space constraints, is to offer a systematic presentation of the post-Keynesian, structuralist theory, or to compare it to horizontalism, although references to structuralism are made on occasion. Comparisons between horizontalism and structuralism have been made, after all, on many occasions.

MONEY AND THE CONVENTIONAL VIEW

The conventional view of money begins first with the recognition that money is an asset. In neoclassical economics, for instance, money is defined as a good (commodity) chosen to be a numeraire whose existence reduces the transaction costs incurred in exchange, solving the dilemma of the double coincidence of wants. The analysis remains within the framework of a barter economy. But because money is a commodity (an asset), it has intrinsic value, the supply of which is exogenous. It is desirable because it is a token used in transactions, but also because it has value, like gold for instance. Money also yields utility, most often in the form of the goods it allows agents to buy, that is what agents can barter for goods. But, as Realffono (1998, p. 28) explains, neoclassical theory lacks a theory of the creation and destruction of money. Lavoie (1992) adds that in neoclassical theory, money is added as an afterthought.2

In the post-Keynesian, structuralist, tradition, though money is endogenous through the loan–deposit nexus, money is still seen primarily as an asset, fulfilling its traditional functions. Money is desirable because of its general acceptability as a means of payment, but also because it is the unit in which contracts are denominated. Money is first and foremost a unit of account. It is its great acceptability as a means of exchange that singles money out among all other assets.

Being a unit of account, an explanation of why money is held among all possible assets still needs to be given. For post-Keynesians, it is money’s as a store of value, in particular because the future is unknown and unknowable. Structuralists claim that money’s liquidity, and its ability to deal with uncertainty, gives it intrinsic value. In fact, for them, money exists because of uncertainty: money is a “time machine”, that is a necessary link between the present and future. While attention is drawn to the flow-generating process of production, the principle focus is the link between uncertainty and the existence of money as an asset (Davidson, 1972; Dymski, 1996).

Post-Keynesians, structuralists and horizontalists, share with neoclassical theory the use of supply and demand to analyse money. This raises the legitimate claim that post-Keynesian analysis is still trapped within a neoclassical framework. According to Deleplace and Nell (1996), such an analysis is methodologically derived from quantity theory analysis. The slope of the money demand curve may vary (depending on money’s sensitivity to interest rates, that is, the speculative motive) or even shift, but it is still downward-sloping in interest rate–money space. The assumption of a supply curve itself implies some sort of scarcity (see below). A “supply” of money implies the notion that must somehow be rationed because of its limited quantity: excess demands or supplies of money become a possibility, with the interest rate adjusting to eliminate the excesses (Howells, 1995).

There is, however, a more fundamental problem with the use of supply and demand. If credit and money are flows, how then can we reconcile this with an apparatus that analyses economic magnitudes in terms of stocks? This was pointed out by Arestis (1997, p. 56), claiming that there “is a logical objection to trying to represent an analysis of flows in a diagram designed to show the behaviour of stocks”. Post-Keynesians should hence go beyond the theoretical straightjacket imposed by supply and demand analysis as it applies to credit and money.

This is not to say that there is no such thing as a demand and a supply of money, for clearly there is. But the use of such analysis conjures up the notion of a market where price and quantity are determined simultaneously. The rate of interest is not a market phenomenon, but rather is determined exogenously by the central bank based on a number of key arguments, such as inflationary expectations, unemployment, exchange rate targets, and so on. As for the quantity of credit supplied, it varies with the demand for credit and the banks’ willingness to lend. Banks are never constrained by the central bank supply of reserves or by reserve requirements (or capital requirements).

If post-Keynesians are to use the concepts of supply and demand, we must do so while keeping in mind the methodological limitations of the model. Lavoie (1992) has suggested, correctly I believe, that their usage in post-Keynesian theory remains a “second-best solution” allowing us to convey our message of exogeneity of interest rates and the demand-
of the monetary transmission mechanism. What neoclassical theory does not tell us, however, is how money — and how much — is created in the first place. For them, money is simply exogenous.

But when money is exogenous, it is not created. It simply exists as a given endowment. The endowment itself is not explained, nor is its magnitude, although given this unexplained magnitude, it must somehow be rationed given its scarcity. Money is neutral — in the short or long run, or both — since the real economy can continue operating without money.

A theory of money must, however, not only assume the existence of money, but must explain its magnitude, and why it increases and decreases. In other words, it must explain how money is created and destroyed. Such a theory begins with the study of the nature of money, rather than emphasizing money’s various functions, as is explained below. Money thus becomes endogenous because of its very nature as debt. Money is endogenous because it cannot be anything else. In this sense, neoclassical economics is rejected in all of its incarnations, as is part of the post-Keynesian theory that claims that money can be endogenous and exogenous.

The post-Keynesian tradition follows Keynes’s General Theory faithfully. But while the General Theory may be credited with having brought back the theory of effective demand, as far as a theory of money is concerned, Keynes left the details pretty much in the background, as he tells us at the very beginning of the book.

In the General Theory, Keynes goes to great length to show to what degree the economy is monetary, as opposed to a simple barter system. But while Keynes’s theory is set well within a monetary economy of production, Keynes assumed an exogenous supply of money, referring specifically to the money supply as one of the three independent variables.

Indeed, if one takes money out of the General Theory, one would be left with the theory of effective demand, which stands with or without money. The principle difference thus with neoclassical theory is that Keynes rejects Say’s Law. That is certainly a welcomed argument, but does not get us very far in terms of a theory of money. To get the whole picture, one must therefore move beyond the General Theory.

One possible place to begin is Keynes’s articles on the finance motive. If this is the case, then a note of caution is needed: these articles cannot be interpreted as an attempt by Keynes to clarify specific arguments of the General Theory, but rather must be seen as a way by Keynes to distance himself from “specific lines of thought”, as he wrote to Joan Robinson (Rochon, 1997). The bottom line is that the General Theory thus gives us a good example of a theory of a monetary economy without a theory of money, by which it must be understood as a theory of the creation of
as opposed to barter economics, where money is present in contracts and in household and firm behaviour. Money is endogenous. What then is the problem?

The problem in fact lies precisely in the definition of endogenous money given by many post-Keynesians. In reading the literature, one gets the impression that in post-Keynesian theory money is endogenous because of an imperfection, or that it exists because of imperfections in the market. Take away these imperfections, and we end up falling back on the orthodox barter economy or the neoclassical model of mainstream monetary economy.

Take, for instance, Davidson’s approach to money. We know that he believes that the money stock is both exogenous and endogenous. Davidson (1972) assumes that money exists because of uncertainty; because households, given the unknown and unknowable future, who wish to carry their wealth assets into the future, require an asset that will be able to bridge the gap of time. Money is the perfect liquid asset to fulfil this requirement. Money is a “time machine” acting as a store of value. That is, given uncertainty and the liquidity premium that money bears, agents will hold some money in their portfolios. The analysis is surprisingly neoclassical. Isenberg (1998, p. 233) argues along similar lines, claiming that “people hold money” only because of the ravages of uncertainty. Money “carries a liquidity premium, which is valuable in a world where expectations may not be realized”.

The imperfection of uncertainty, no matter how pervasive, explains the existence of money.

What is thus needed is a theory which not only explains how monetary economies work, but also on why – or how – money exists. Post-Keynesians have offered some explanations. By rejecting the existence of ex ante saving, investment needs to be financed by some other means. Banks thus exist to finance the production needs of firms and the government: loans create deposits.

We now must go further. Money is not endogenous because of the prevalence of fundamental uncertainty, or the interregnum between costs and revenues, or again because of a volatile velocity of money or an unstable demand for money. All these explanations, fundamentally, rest on some sort of imperfection. Money is endogenous because it cannot be anything else. This is what the next section will examine in closer details.

HORIZONTALISM

Horizontalism begins its analysis of monetary economies by emphasizing the nature and origin of money, rather than its role (Gnos, 1999).

Emphasis is less on the roles or functions of money as a medium of
circulation, store of value or a unit of account, but rather on the nature of money as debt. Rather than seeing money as a stock-asset, horizontalists see money first and foremost as a flow-liability. Close to the theory of the monetary circuit, money results from bank credit used for the purpose of production. Along with production, there is the creation of payments and hence of income. The economy is highly hierarchical, with production involving given relationships between specific macro-groups: central banks, banks, firms and households (we could also add the government and the open economy). Money exists whether there is uncertainty or not, and irrespective of whether the central bank chooses to accommodate the reserve needs of banks.

While horizontalism can best be claimed to have found its roots in Kaldor (1970, 1982), the names of Moore (1988) and Lavoie (1992) are most associated today with this approach. While this is so, there are nonetheless a great many other writers whose contributions to post-Keynesian monetary theory can be reconciled with horizontalism.


The sequence of events begins with the ability of the monetary authorities to set the rate of interest. Some argue that central banks can set the real rate of interest – and not just the nominal rate (see Pivetti, this volume; Smithin, 1994).

Once set, the rate of interest influences the demand for bank credit. However, this relationship is not direct but rather indirect through distributive effects and effective demand. By increasing interest rates, for instance, central banks encourage a redistribution of income and wealth from households to firms. As interest rates are increased, firms increase prices given their mark-up over costs of production. In the process, real wages fall.

In the longer run, however, with lower wages, effective demand will fall impacting on firms’ revenues. The causality runs from the real rate of interest to the rate of profit, through the process of effective demand. By neglecting the direct effect of interest rates on investment, one in fact rejects the existence of a demand curve for investment or credit. Moore (1988) does not discuss redistributive effects of interest rates, and in fact, generally sees the causality between the rate of interest and investment as direct. Nonetheless, adding the redistributive effects of interest rates leads to the same conclusions, but the theory rests on firmer heterodox ground. The sequence of events remains the same: from real interest rates to the demand for bank credit.

Once the demand for credit has been formulated, banks respond by supplying firms with credit, by either crediting their bank account with the funds or by giving them a line of credit on which firms can rely to make payments whenever an input of production, including labor, is purchased. In both cases incomes are created. In the first case, workers receive an income equivalent to their wages; in the second, capital-goods producing firms receive an income from the sale of their output to firms in the consumption-goods sector or other firms in the investment-good sector. Once firms have acquired both labor and capital, they are able to begin the production process given their willingness to enter into debt with respect to banks.

The supply of credit by banks to begin production was seen by Keynes as an argument challenging the orthodox causality between saving and investment. This was, after all, one of Keynes’s (1937, p. 222) “most fundamental ... conclusions within this field”. As he noted (ibid, p. 219), this finance is “wholly supplied ... by the banks” which he saw as “substantially representative of real life”. Bank credit is a flow responding to the needs of the economy to produce or to grow, that is, as Kaldor called, the “needs of trade”. It is imperative to understand that bank credit is needed irrespective of whether the economy is growing. Even when costs and output are remaining constant, firms still require bank credit (see Rochon, 1997).

If credit is a flow responding to the needs of trade, then so must be money since it is created ex nihilo through the extension of bank credit. Banks have the ability of creating money because their liabilities are accepted as means of payments. Money therefore appears as a flow at the very beginning of the circuit of production – that is at the very moment it is created. The emphasis is placed first on the flow aspect of money. While credit is an asset, money is a liability. At the beginning of the monetary circuit, money takes on the appearance of a flow/liability, with the flow/asset of credit being its counterpart.

Money also assumes the role of an asset. At the end of the monetary circuit, after households made their consumption purchases, households allocate their saving between financial savings (the purchase of financial assets of different maturities) and hoarded savings, which they hold in the bank accounts. They may choose to hold on to money because of its liquidity (theory of liquidity preference). At the end of the circuit of production, therefore, money is an observed stock, corresponding to the amount which households choose to hold, as part, if you will, of their financial portfolios. Money becomes a stock/asset. Horizontalism still emphasizes the role of money as an asset, but this role must be understood
in its proper context. Lavoie (1992) in fact claims that these hoarded savings correspond to the final, observable increase in the money supply—the permanent debt of firms towards banks.

The result of this analysis is that money is endogenous. In fact, because of the nature of money as debt, it is endogenous irrespective of whether the central bank accommodates the reserve needs of commercial banks. Money—both as a flow and a stock—is, to paraphrase some defunct economist always and everywhere an endogenous phenomenon. Money is demand-determined both at the beginning of the circuit and at the end. At the beginning of the circuit, money flows are demand-determined by the demand for credit, while at the end, money stocks are demand-determined by portfolio decisions. As Lavoie (1987, pp. 71–2) claims, "Initially, money [by which the author means money as the result of credit] appears as a stock. It is only as the end of the monetary circuit that money becomes a stock."

What is important to understand is the link between credit, money and production. In this sense, as will be argued later, money is not created from changes in portfolio, either from banks or households. Portfolio shifts and financial innovations can never finance production; they can never be a source of greater lending abilities. If this were true, as many post-Keynesians of the Minskyan pedigree claim, then you would have a restatement of the loanable funds approach.¹²

If bank credit is the primary way through which production is carried out, and if credit creates money, then bank liabilities must be accepted as money, backed of course by the government. Bank deposits are money. This changes the dynamics of production and its relationship to money. In fact, money no longer exists to lubricate the wheels of production or to facilitate exchange; nor does it exist to reduce transaction costs or to solve the double-coincidence of wants. Money is linked to production; it exists because of debt. Money is not "demanded" initially for any of its roles, but rather enters the economy through the process of production. In this sense, money does not have any intrinsic value (Realfonzio, 1998).

But the acceptance of bank deposits as money carries some interesting implications. When a firm demands credit, a bank is able to meet this demand precisely because its liabilities are accepted as money. Otherwise, banks would not be able to issue credit ex nihilo. It is the acceptance of bank deposits as money that enables banks to issue loans without prior deposits. Banks can create money. The origin and nature of money become intertwined in a modern economy of production. Bank debt becomes money; their liabilities are accepted as a means of payment; bank deposits (liabilities) consist of general purchasing power (Deleplace and Nell, 1996).

Horizontalism therefore emphasizes the importance of differentiating between credit and money thereby acknowledging two distinct processes in economic analysis.¹³ This is probably the most important argument. In Rochon (1997), I have argued this point as an important feature for constructing a monetary theory of production along heterodox lines. The demand for bank credit cannot be taken as a component of the demand for money.

Separating credit from money, however, is necessary in order to sever the tie between saving and investment, otherwise, "money" (bank liabilities) ends up financing bank credit. An example of this perverse logic can be found in Knodell (1995), who argues that "income growth is financed through a stock adjustment: interest rates rise . . . and money balances are transferred from speculative use to transactions use [production]". Other post-Keynesians—Davidson (1972) for instance—also conflate the two concepts.¹⁴ The problem here is that if money is an asset, held among other assets in one's portfolio, then investment is financed through a reallocation of saving, from illiquid to more liquid assets. This is also the precise nature of Minsky's early contributions to economic theory, as well as Pollin's (1991, 1996) analysis.

Yet, credit and money are not the same, as they serve very different purposes. Whereas credit enables production to take place and incomes to be created, money allows goods to circulate only once production has taken place. Money is created by credit when a payment is made.

As firms demand credit, they also accept to enter into debt toward banks. While loans are assets for banks (because they generate commitments to pay back initial debts with interest), they are a debt for firms who must pay them back from, for instance, the revenues generated from the sale of their commodities.

But if post-Keynesians assert that loans create deposits, and if banks do not lend out prior saving, how can we explain the fact that they can issue loans? The answer is that loans, while an asset of banks, are simultaneously a debt for banks too. As a loan is extended to a firm, the firm owes the bank. But as the firm pays out incomes to firms and to households, the bank deposits are shifted from the firms to other holders of bank accounts. The bank now owes these new deposit-holders. In double-entry accounting, the assets are equal to the liabilities. Any given loan is a simultaneous debt of firms to banks, and from banks to households; the latter being a debt banks write on themselves.

When extending credit to firms, the debt of the firm is balanced by the debt banks write on themselves through the money owing to households. As households purchase goods, they transfer part of their deposits back to firms, which then use the proceeds to extinguish their debt with the banks. The debt of banks toward households is reduced, pari passu. These two
notions are summarized by Parguez and Seccareccia (2000, p. 101) who write: “Money emerges always as a ‘debt’ (or liability) issued by this third agent [banks] on itself and which has as counterpart a ‘credit’ simultaneously granted to buyers of goods and services within an economy”.

A HORIZONTALIST RESPONSE TO THE CRITICS

The horizontalist position has not gone unchallenged. In fact, Wray (1992, pp. 300–1) claims precisely that “even if we all accept that the money supply is endogenous in the control, theoretical, and statistical sense, there is still plenty of room for disagreement”. These disagreements may, however, be the result of a fundamental misunderstanding of horizontalism.

In the previous section, I have given an overview of the horizontalist position. In this section, I will like to address specific criticism raised by structuralists, which has generally centered on eight specific points. First, many have argued that horizontalism implies that central banks supply all reserves demanded by banks. Second, the general post-Keynesian interpretation of Moore’s horizontalist position is that banks simply accommodate all demand for loans, and as such are passive players in the production process. Third, it has been suggested that while the base rate of interest is exogenous, horizontalists have failed to explain or justify its level (see Heise, 1992, p. 291).

Fourth, some have claimed that horizontalism is inconsistent with Kalecki’s principle of increasing risk. Fifth, many structuralists have argued that a variable mark-up somehow invalidates the horizontalist approach. Sixth, some have criticized Moore’s use of liability management as a way for banks to meet reserve requirements. Similarly, the critics have argued that liability management invalidates horizontalism.

Seventh, some have argued that horizontalism necessarily implies a constant velocity of money. But, as is argued below, this is not so. Many of the structuralist arguments against horizontalism stem both from a misunderstanding of the theory and over a confusion regarding the difference between credit and money, and their respective role in the monetary circuit. Lastly, it has been argued repeatedly that horizontalism is inconsistent with liquidity preference. This, as will be argued below, is also not the case.

The Supply of Reserves

Moore (1988) has traditionally argued that money becomes endogenous because of the lender-of-last-resort behavior of the central bank given the latter’s role as lender-of-last-resort. Accommodationists therefore “rank the supportive responsibilities of central banks above their control duties” (Moore, 1979, p. 126). Indeed, central banks do not have the ability to constrain (or even raise) the money supply. Central banks are “impotent in their ability to restrict the rate of growth of the money stock” (Moore, 1985, p. 12).

While on the surface Moore’s argument may appear to contradict the views presented earlier, this does not need to be the case. After all, the argument presented in the previous section makes it clear that money is endogenous because of its nature as debt. Moore’s emphasis, therefore, on the accommodative role of the central bank may appear to be misplaced. Indeed, money is endogenous irrespective of whether the central bank accommodates the reserve needs of banks. Yet, Moore’s statement simply needs to be reinterpreted and placed within its proper context.

What Moore means of course is that the central bank cannot exogenously change the stock of money (to use his language) since there is no exogenous money stock with which to begin. Post-Keynesians agree that as loans are extended and create deposits in the process, reserves necessarily follow, thereby reversing the causality in orthodox theory. The implication of reverse causality is that post-Keynesians generally agree that the supply of reserves is endogenous (Forman, Groves and Eichner, 1987, p. 690), based on the demand for reserves by commercial banks.

Eichner (1987, p. 847) identifies two types of reserve endogeneity: the defensive and accommodating behaviours. The “accommodative” behaviour of the central bank is the traditional horizontalist role attributed to central banks. In this context, the central bank agrees to supply additional reserves incurred as a result of increases in commercial bank loans and the creation of new deposits. The “defensive” behaviour, however, is defined by Eichner (1987, p. 847) as the “component of the Fed’s open market operations [consisting] of buying or selling government securities so that, on net balance, it affects these flows into or out of the monetary or financial system”. This is the result of changes in portfolio decisions, and increases or decreases in bank (demand) deposits.

Moore (1989a, p. 26, emphasis added) has also made this argument:

Once it is recognised that loans are made at borrower initiative, and that loans create deposits, it logically follows that the money supply, bank reserves, and the high-powered base all vary endogenously in response to changes in the demand for money and credit.

Moore therefore differentiates here between commercial banks’ demand for reserves as a result of changes in the demand for credit (that is, the demand for loans), and that resulting from changes in the demand for money, as
analogous to portfolio decisions. The former is Eichner's accommodative supply of reserves, while the later is his defensive behaviour.

The end result, however, is that irrespective of whether the behaviour is accommodative or defensive, the supply of reserves is still seen as endogenous, or as passive behaviour (Forman, Groves and Eichner, 1987, p. 689), with no causal influence on economic activity.

It is true that at times horizontalists have given the impression that the central bank must fully accommodate all demand for reserves and, rightly so, have been criticized by structuralists. For the latter, this has become one of the main arguments against the depiction of the "money supply" curve as horizontal. For instance, Palley (1994, pp. 73–4) argues that the fully accommodative argument is an extreme position and that in the real world, the central bank retains discretionary power over the supply of reserves which affects the supply of bank loans. The lack of accommodation of the central bank then implies that the "loan supply schedule would also be positively sloped". In this respect, Palley claims that the lack of reserves invalidates the horizontalist position. As a result, horizontalism becomes a special case of the more general structuralist position.

Yet, the fully accommodative assumption is not needed for horizontalism to stand. In certain ways, horizontalists have already acknowledged that the central bank may refuse to fully accommodate banks' reserve needs. Central banks may or may not hit their reserve target. According to Eichner (1987, p. 851), the central bank only accommodates 80 percent of the accommodative and defensive demands for reserves. Forman, Groves and Eichner (1987, p. 692) claim this can be "a matter of policy or inadvertently". The end result therefore is that the rate of interest will rise, leading to an upward shift of the horizontal credit supply curve. At this new, higher rate, commercial banks will stand ready to supply all the credit which they deem creditworthy. According to Eichner (1987, p. 858):

Thus the perfectly elastic supply curve for additional credit ... may shift up or down, depending on whether the Fed is pursuing a less or a more than fully accommodating policy. ... However, this shift of the supply curve for additional credit should not be confused with a movement along the curve, with the quantity supplied assumed to vary positively with the interest rate...

That would involve the fallacy of posing a supply curve for additional credit that was separate from, and therefore independent of, the demand for additional credit.

This is also the position taken by Lavoie (1996, p. 280): "While at every moment of time the supply of credit-money is fully horizontal, shifts in the demand curve for loans induce the creation of a set of temporally-ordered horizontal supply curves of credit-money, because of the non-accommodating behaviour of the central bank".

Hence, the accommodative role of the central bank is not a necessary argument for the development of a theory of endogenous money. Money is always endogenous because it is debt. However, central bank policy and actions will affect the rate of interest at which banks agree to meet the demand for bank credit (see below). At this higher rate of interest, banks will stand ready to supply all credit demand that meets their new creditworthiness criteria.

Horizontalists hence reject the notion that the base rate of interest is determined by the demand and supply of saving (the loanable funds theory). That is not all, they also reject the idea that it is determined by the interaction between the demand and supply of money (as in Keynes's General Theory) or the demand and supply of credit (as defended by structuralists). As Moore (1994, p. 122) argues: "In consequence, Keynes' 'liquidity preference' and the classical 'loanable funds' theories of interest are both invalidated".

Passivity of Commercial Banks

Structuralists have interpreted the horizontalist position as implying that commercial banks are passive agents accommodating all demand for credit. As an example, Cottrell (1994, p. 399) argues that "on the Kaldor–Moore view ... the banks are mere ciphers in this process, passively accommodating whatever demands they happen to experience". Minsky (1996, p. 77) refers to them as "simpletons". In a recent reply to Rochon (1999a), Pressman (2000) reiterates the notion that because banks actively seek out new customers, then horizontalism is invalidated.

Horizontalists must share some of the blame for this criticism having at times perhaps over exaggerated this position. According to Lavoie (1996, p. 283): "The reader is sometimes given the impression that those who support horizontalism are unaware of those quantitative constraints". Then adding: "The claim, quite legitimate, that banks have some restrictions on their lending does not call into question the validity of horizontalism. ... Banks often choose not to lend". Keynes's (1971, pp. 212–3; 1971a, pp. 364–7) statement to the effect that there will always be a "fringe of unsatisfied customers", becomes perfectly compatible with horizontalism.

Money, to quote Moore (1988), is still credit-supplied and demand-determined, but banks are price and quantity setters.

borrower. It is precisely for these reasons that banks develop client relationships with their borrowers.

In Rochon (1999), I develop a microtheory of bank lending based on horizontalism where banks will meet all the creditworthy demand for credit: there is thus plenty of room for bank-imposed credit constraints. Banks will vary their supply of credit (or the amount of credit they accept to extend) based on their expectations of the future profitability of firms, and the future course of interest rates. Their behaviour will be influenced by uncertainty. Lavoie (1984, p. 791) has argued that when bankers begin losing some of their high “animal spirits” though they are aware of the fact that their new behavior will harm the economy, they prefer to restrain the creation of credit-money. They know that those banks that are the least affected by the recession are those banks that show the most moderation. For this reason, it is quite possible for the banking system to start reducing its credit lines just when firms need extended loans.

As banks become more pessimistic, or as their “liquidity preference” increases, they begin to lend less, out of fear for potential profit losses. But this is not the result of a leftward shift of the supply curve for credit, but rather due to stricter lending criteria and a fall in the demand from creditworthy borrowers.

This also does not mean that central bank policies will not affect firms. A decision by the central bank to raise the rate of interest can still produce a fall in investment. Horizontalists can reject the well-behaved downward-sloping investment demand curve, and still have central bank policies affecting the quantity of credit. The difference here is that the fall in the quantity of credit (a decline in newly created endogenous money) will arise out of the supply side, that is the banks. As the rate of interest rises, it may affect the firm’s ability to reimburse existing loans thereby damaging its creditworthiness with the banks. The decrease in the degree of creditworthiness may convince banks not to renegotiate an existing loan (or to extend a new loan) when it comes due at the end of the monetary circuit. Hence, as stated above, the supply of credit falls, but this is due purely to a decrease in the amount of creditworthy borrowers.

This argument makes it clear that horizontalism becomes perfectly compatible with credit constraints, that is, crunches. The crunch does not arise out of the bank’s decision to wilfully decrease its supply of credit nor because the central bank has decided to decrease the supply of reserves. Rather, it results from the impact that monetary policy has on the firms’ creditworthiness and their standing with their respective bank. Banks therefore set up varying degrees of creditworthy criteria, and then agree to meet all forthcoming creditworthy demand for credit. They are very much active, in the sense that they set up these criteria.

The horizontalist argument is meant to emphasize two facts. First, that banks cannot lend without there being a prior demand for loans. Robinson (1952, p. 29) makes this claim precisely: “The amount of advances the banks can make is limited by the demand from good borrowers”. This does not mean that banks are not aggressive in their lending practices, seeking out new potential borrowers. But even if they find these new borrowers, they still cannot lend without having the approval of the borrower.

Second, horizontalists, as argued by Deriet and Secareccia (1996, p. 140), choose to emphasize the fact that “banks acquire the strategic role of ex nihilo purveyors of endogenous credit money. The emphasis is therefore on the causal role of bank lending which goes primarily towards satisfying the financing requirements of firms”. Hence, banks “hold the key” to production and economic expansion, as Keynes tells us.

All this suggests that the notion of uncertainty should be introduced within the theory of endogenous money, but not exclusively with respect to firms and their decisions to produce and invest, or to households and their portfolio allocation decisions, as is usually the case in post-Keynesian theory. Instead, uncertainty should be introduced within the context of dynamic banks, as they decide to validate or not the requests for loans. If this is the case, the emphasis is somewhat shifted away from firms to banks’ expectations of the future and their expectations of meeting a target rate of return. This is not to say that uncertainty does not affect firms’ decisions to produce and invest, as it clearly does. But once these “bets” have been placed, firms face another obstacle in requiring external financing. The analysis requires the introduction of another level of uncertainty: that of banks.

Kalecki’s Principle of Increasing Risk

By positing an exogenous rate of interest and a horizontal credit supply curve – as a second best solution! – horizontalists succeed in breaking the relationship between the rate of interest and economic activity, as stipulated by the orthodox approach. In contrast, structuralists do not break the orthodox causality between the demand for money (or credit) and the rate of interest. In preserving an upward-sloping supply curve, they preserve the positive relationship between interest rates and an increase in the demand for investment funds. The notion of scarcity remains central to their analysis. Lavoie (1996, p. 276) makes this point precisely, in his criticism of the structuralist approach, arguing that

if the link between the interest rate and the level of output is not broken, some of the standard beliefs imbedded in the neoclassical paradigm are recovered:
an increase in investment leads to an increase in the rate of interest, as the loanable funds theory would predict. We are back to the neoclassical world of scarcity, with crowding out effects and the like.

Indeed, structuralists argue that as the demand for credit increases (they usually draw this as an increase in the demand for money, see above), the rate of interest also increases. This conclusion is the same as that reached in most neoclassical models. Lavoie’s argument is to the point: it then allows the issue of scarcity to be reintroduced through the back door.

By positing an exogenous rate of interest, horizontalists break the link between the demand for credit and the price of credit. The two variables are in essence independent. The rate of interest on bank loans is set as a mark-up over bank costs, whereas the quantity of funds available is dependent on uncertainty, as argued above. A credit “market” does not properly exist.

But the central question is whether a horizontal curve is the proper representation of the monetary process. Structuralists have argued that when taking Kalecki’s principle of increasing risk into account, the upward-sloping “money supply” curve is a better representation of the real world. They argue that horizontalism is incompatible with Kalecki’s principle. The question is an important one and warrants closer examination. This can be done in two steps.

First, it is imperative to differentiate between a static and a dynamic approach to credit. Here, Kalecki’s principle of increasing risk is worth introducing. Yet, the horizontalist interpretation of this concept is quite different. Structuralists generally argue that increases in credit necessarily lead to increases in risk, thereby increasing the rate of interest in the process given the overall less-liquid position of banks, firms and the economy. This argument applies both at a given instant and through time. Through the cycle, the economy becomes increasingly fragile warranting a higher rate of interest. According to Wray (1995, p. 278, emphasis added), a leading proponent of this view,

Is there any difference between lending, say, 80 percent of the value of a development project, and, say, 105 percent? At any point in time, would a bank charge the same interest rate for these two very different loans? Over time, would a transition from an economy in which the normal rule of thumb set a maximum development loan at 80 percent to an economy in which 105 percent became the norm generate higher interest rates?

Horizontalists do not agree with the implications of the entire quote. While they agree with the microeconomic rationale, they reject the extension of Kalecki’s principle to the macroeconomic setting.

Lavoie (1996) has explained that it is rational to expect that between two otherwise identical firms, the firm with the highest risk factor may well receive credit at a higher rate of interest. In this static context, the riskier the firm (that is, the less creditworthy), the higher the loan rate of interest. This is the first part of Wray’s argument.

The additional argument, however, is whether through time this is necessarily the case. In other words, the argument is whether an economy that increases its demand for credit will necessarily become riskier, and subsequently lead to increasing rates of interest. This is precisely the position held by Wray (1995). Minsky scholars have argued that one would expect the risk to vary systematically with the cycle. This is what horizontalists reject arguing that there is no a priori expectation of the risk factor to vary pro-cyclically.

Structuralists, and Minskyans in particular, forget, however, that increases in credit, used for productive purposes (investment), lead to greater output and, ceteris paribus, greater profits – Kalecki’s profit equations. As profits are generated, there is no automatic reason for a growing economy to become riskier. Kalecki’s principle of increasing risk does not apply to the macro setting, but properly understood, becomes fully compatible with horizontalism. As Lavoie (1996, pp. 285-6) asks whether

[Kalecki’s principle of increasing risk is a] relevant assumption at the macroeconomic level? . . . Does the leverage ratio of industrial firms rise when economic activity increases? . . . When investment increases, profits increase as well, unless other elements induce reduced profits, such as a higher rate of savings by households, or a deficient trade balance. . . . Individual efforts to increase leverage ratios may lead to lower aggregate debt to equity ratios.

This is what Lavoie calls the “paradox of debt”. In Lavoie’s growth models, moreover, increased accumulation can even be associated with falling leverage ratios (see Lavoie, 1995). Secchiarocci (1988, p. 56) argued this point over a decade ago: “Overindebtedness [high debt/equity] becomes a generalized problem only when firms, as a group, reduce their rate of spending”.

The Base Rate of Interest

Another criticism made against the horizontalist argument is that it either fails to explain the level of the base rate of interest as determined by the central bank (Heise, 1992), or that the rate of interest is pegged (Palley, 1987-8, p. 283). Neither, however, is this the case.

Horizontalists have made several arguments, all essentially the same. For instance, Eichner (1987, p. 860) has argued that the rate of interest is a
“politically determined distributional variable”, and any decision to vary the rate is because “central banks have consciously taken the political decision to increase them” (Lavoie, 1993, p. 9).\cite{Lavoie1993}

The rate is determined exogenously by the central bank based on its own “reaction function”. It can be based on market and non-market phenomena, such as the growth of the economy, inflation, the level of unemployment, or even purely political variables. Moore has repeatedly made this argument. For instance, in Moore (1988, p. 266), the nominal rate of interest is made dependent on

the techniques of monetary policy, the sensitivity of economic behavior to interest rate changes, the size of openness of the economy, the degree of capital mobility, the extent to which the central bank is willing to allow foreign exchange reserves and exchange rates to fluctuate, the expected domestic and foreign inflation rate, the willingness of the government to regulate and impose controls on the economy, and the extent to which policy is coordinated across countries.

Moore (1989, p. 487) repeats the argument, emphasizing clearly that the central bank reaction function with short-term interest rates as the dependent variable, includes the authorities’ estimates of

(1) the future state of the domestic economy (demand factors),
(2) the responsiveness of system behavior to interest rate changes,
(3) their ultimate goals (full employment, price stability, growth, balance of payments, terms of trade, exchange rates, the distribution of income),
(4) the effects of interest rate changes on the viability, prosperity, and liquidity of the financial system and,
(5) in democracies at least the implication of interest rate change for the governing party in the next election.

As such, “In pursuit of their macroeconomic stabilization goals central banks ordinarily vary interest rates procyclically, in response to the perceived state of the economy” (Moore, 1994, p. 123). Similarly, Lavoie (1992, p. 163) has argued that the base rate “is fixed by the central bank, in accordance with its political or economic objectives, for instance the rate of unemployment, the distributive issues, or the external constraints on the balance of payments”.

The exogeneity of the rate of interest also does not imply that central banks have the ability to set the rate at levels which are deemed conditions, as Wray (1992) suggests. This is an important misinterpretation clarified this point. For instance, Moore (1991, p. 406) has argued that rates between minus and plus infinity. But it does imply that central banks always have a substantial range of discretion over which they can vary rates” (see also Moore, 1988, p. 266, n. 11). Lavoie (1996, p. 278) has also made this argument clearly, arguing that the central bank sets the rate of interest within some “boundaries of existing conventional financial wisdom”.\cite{Lavoie1996}

This argument also does not imply that central banks are in the habit of pegging short term rates for any lengthy period of time. This is again Wray’s (1995) interpretation of the horizonalist position. Yet, according to Lavoie (1996, p. 279): “To describe the money supply curve as a flat curve does not imply that central banks forever peg the base interest rate”. As argued above, changes in the rate of interest are interpreted as upward or downward shifts in the “supply” curve.

Finally, the fact that the rate of interest is exogenous neither implies the existence of a full-employment rate of interest, as argued by Wray (1990). According to the latter, if the rate were exogenous, what would then prevent the central bank from setting the rate at its full employment level. Wray’s argument therefore reduces horizonalism to an imperfection, that is, the failure by the central bank of setting the rate at its full employment level. This, however, is an erroneous interpretation of horizonalism. Because the economy is uncertain, full employment is associated with a multitude of possible rates of interest. Although a lower rate of interest is more desirable than a higher one.

A Variable Mark-up

Palley (1991, 1994) has argued that given the variability of the interest rate mark-up (over the base rate) through the cycle, the horizonalist position is necessarily invalidated. In his interpretation, and in that of several other structuralists, horizonalism implies a constant mark up. But horizonalists have never argued that the mark up is constant. Rousseas (1986) – a structuralist – is the only post-Keynesian to my knowledge who has made the argument of a constant mark-up. Palley’s observations therefore are only a criticism and rejection of Rousseas’s views, as pointed out by Lavoie (1996, p. 280, n. 19).

In the Kaldor–Moore–Lavoie hori

\[ i_t = [1 + m_k(e)] \text{costs} \]  

(2.1)

where \( i_t \) is the loan rate of interest; costs is a variable representing the overall costs to banks of maintaining their operations, such as wages and the cost of acquiring additional reserves, if the need arises; \( m_k \) is the mark-up reflecting the Kaleckian degree of monopoly. It represents the banks’ desired rate of profit.

The crucial element is \( e \), which represents a risk premium. For horizontalists, \( e \) varies independently of economic activity. For instance, Eichner (1987, p. 858) accepts this approach, claiming that the mark-up depends on the type of borrower, the nature of the assets serving as collateral, and the duration of the loan. As such, “It is the combination of all three factors [which] will determine the risk premium”. The variable \( e \) is the bank’s evaluation of the firm’s creditworthiness.

Secareccia (1996, pp. 144–5) argues that such a component does not pose problems for the advocates of the horizontalist perspective since [the risk component] could simply be considered an additional element that would be covered by the markup . . . as long as [the risk component] does not fluctuate with demand, and would depend on factors extraneous to business cycle activity”.

Liability Management

It has been suggested that liability management and horizontalism are incompatible. For instance, Pollin (1991, p. 371) has wondered why banks would engage persistently in liability management if the central bank is ready to supply all required reserves. At best, liability management should be viewed as a short-term, or even transitory, phenomenon. Pollin (1996, p. 502) asks, “One must ask why private intermediaries would systematically engage in liability management if they were free to draw at the discount window . . . . In the aggregate, an institutional framework where no quantity constraints exists would not encourage the systematic practice of liability management”.

But while structuralists appear to claim that horizontalism and liability management are incompatible, a proper understanding of both concepts reveals the opposite conclusion. In fact, liability management (and asset management) exists irrespective of whether one labels himself structuralist, (liability and asset management) occur regardless of the monetary regime imposed by the central bank.

Liability management has traditionally been discussed in terms of non-accommodation from the central bank. After all, when reserves fall short of their needs, commercial banks develop innovative ways to either find additional reserves or economize on reserves. It is perhaps true that in a non-accommodating environment commercial banks may engaging in liability management in order to meet their reserve needs. This would be the position of Arestis (1987, p. 7) who claims that “it follows, therefore, that financial innovations have enabled banks to become increasingly immune from Central Bank control and consequently dependent upon it as lender of last resort”.

But liability management must also be seen as a permanent practice of banks to reduce their current reserves in the face of a given amount of aggregate deposits – not necessarily because the central bank does not fully accommodate – but also because reserves represent an implicit tax to banks and a loss of potential earnings. Even in a fully-accommodating environment, banks would still practice liability management. Banks always have an incentive to reduce their holdings of reserves with the central bank, irrespective of the accommodating behavior of the central bank.

Minsky’s early (1957) articles on this topic have been influential in developing the structuralist position (see Pollin, 1996). The problem with the Minskyan approach (see Rochon, 1999, 1999b) is that financial innovations is a way to expand the credit supply potential of banks. The causality is still orthodox. The horizontalist position is quite different. Banks do not have any predetermined constraint on the supply of credit. However, financial innovations allow banks to economize on reserves. The amount of aggregate deposits does not change, although the composition between higher and lower reserve-intensive deposits does. Since reserves are not causal in determining the supply of bank credit, liability management can not have a role in determining the overall quantity of credit available. Financial innovations are an ex post phenomenon, arising at the end of the circuit.

Variable Velocity of Money

Many post-Keynesians have interpreted the horizontalist position as implying that the velocity of money must necessarily be constant. For instance, Hewitson (1995, p. 293) argues precisely that “a perfectly elastic, horizontal supply of money curve will generate a constant income velocity of money”. Similarly, Rousseas (1986, p. 85) argues that “in a very unKeynesian way . . . [horizontalism] divorces the income velocity of money from changes in the rate of interest”.

The notion of the velocity of money has to do with the demand side of the monetary system, that is what factors will induce the public to hold whatever bank liabilities residually exist, after the production process has taken place and, above all, after incomes have been created. It does not
have much to do with credit creation and the supply side of the production system. There is no particular reason for it to be constant. Whether it is is of little importance. In other words, velocity is an ex post variable, the value of which is “impossible” to predict. Moore (1989, p. 486) made the same argument earlier too: “A horizontal money supply function does not imply that V is stable. ... But changes in the supply and demand for transactions balances will cause V to vary even when interest rates remain unchanged. Financial innovation, disintermediation, and the development of near-money substitutes are simply forces which affect money demand and so cause V to vary”.

Horizontalists have never claimed that the velocity of money needs to be fixed. In fact, horizontalists are perfectly comfortable with a variable velocity of money. In his reply to Cottrell, Moore (1994, p. 124) argues precisely that the “velocity of money”, like many other macro- and microeconomic time series, closely approximates a random walk.

Variable velocities of money are linked to liability management. As Seccareccia (1988, p. 56) has argued, in a non-accommodating setting, as banks extend loans, they may also reshuffle their liabilities in order to attract money into less liquid deposits, with lower reserve requirements. However, in their attempt to economize on reserves, banks may have to offer a higher rate of interest as an incentive for money holders to switch their money from the liquid deposits to term deposits. Changing values of velocity are a result of liability management, but in an ex post situation, that is only when loans have been extended, incomes and money created.

As money is shifted into and out of liquid deposits, the velocity of money will necessarily vary. As Lavoie (1996, p. 282) claims, “It was never denied by horizontalists that higher interest rates would generate attempt to economize on cash or demand deposits”. Reminding readers of a passage he wrote earlier in 1984, Lavoie (1996, p. 282, n. 27) then adds, “Banks would encourage the transformation of demand deposits to term deposits; large firms would start acting as banking institutions and credits between companies would be extended. ... As a consequence the velocity of money as defined by the authorities would be on the rise”.

But what horizontalists do argue, though, is that the notion of velocity of money is not causal, but is an endogenous and ex post variable. It does not determine the availability of bank loans. As such, it becomes a “passive factor,” as claimed by Kahn (1972). What must be clearly acknowledged is that changes in velocity follow liability management which all occur after production and income have been determined. As Lavoie (1996, p. 282) argues: “These portfolio adjustments, however important they may be, rank second to the expansion of balance sheets required by economic expansion – the income effects highlighted by horizontalists”. Hence, “Post-Keynesians can feel comfortable with either stable or unstable velocity” (Lavoie, 1985, p. 845). The variability of the velocity of money does not threaten the post-Keynesian causality between loans and deposits.

These views were fully endorsed by Robinson (1956, pp. 403–4; see also Kahn (1972). As she claims, the concept is of “limited significance ... since it merely shows that some M formerly lying in an inactive account (where it represented the title to someone’s quasi-permanent wealth) has moved into an active account (where it represents a temporary balance lodged for a short period between the receipt of income and its disbursement)”.

The above discussion has shown that horizontalism is compatible with a variable mark-up, a variable velocity of money, non-accommodating behaviour of the central bank, credit constraints, and liability management. What must be kept in mind is that many of the activities described above are seen by horizontalists as ex post, that is occurring once credit has allowed production to begin.

**Liquidity Preference**

Many post-Keynesians (see Wray, 1990) have claimed that horizontalism is inconsistent with liquidity preference. This is of course not true. It does require, however, that we understand the proper sequence of events.

As incomes are created, households either consume or save. Household saving, however, can either be channeled into financial saving (that is, the purchase of less-liquid assets such as bonds or securities), or into hoarded saving, that is money. This is households’ liquidity preference: it is a decision on how to allocate their saving. Here, the demand for money is equivalent to hoarded saving, that is, liquidity preference. It is precisely at the end of the circuit that money becomes an observed quantity, a stock. Household liquidity preference manifests itself as an increase in the money stock. This stock of money is a residual, and is not determined by the monetary authorities, nor is it by banks. It is a willingness of households to hold liquid saving. But as a residual, the stock of money cannot be causal in determining output.

This stock of money represents, in fact, that part of bank credit firms were unsuccessful in retrieving from households. It is, so to speak, what firms cannot reimburse to the banks: their permanent debt. Financial saving, of course, is recuperated by firms provided households purchase new issues (Rochon, 1997). Hoarded saving, however, represents the final debt of firms toward the banks (Lavoie, 1992). In turn, the banks agree to hold these deposits on behalf of households.

An implication of the horizontalist theory, however, is that the demand for credit is always positive, it can never be nil, even though production is
CONCLUDING REMARKS

Horizontalism has received some unfair criticism in recent years. Much of this criticism is the result not only of misinterpretation, but also from a misunderstanding and unfamiliarity with the literature, as was evidenced above.

This chapter has shown, hopefully convincingly, that horizontalism is compatible with a number of important post-Keynesian arguments, many of them having been made over more than a decade ago, but largely ignored. In this sense, horizontalism has been able to accommodate itself with changing institutional features and has proven to be general in its applicability.

I must admit that my own interpretation of horizontalism may be challenged. My views are influenced by the theory of the monetary circuit. Yet I believe that both schools can be reconciled, and hope I have demonstrated that horizontalism is consistent with a number of issues addressed by post-Keynesians and structuralists in particular.

The next task is to extend horizontalism beyond the confines of credit, money and banks and to develop it in ways which will explain growing problems in open economies and balance of payment issues. This I believe it can do, and become a true general theory of employment, interest, money and open economies.

NOTES

1. The author would like to thank, without implicating them, Marc Lavoie, Basil Moore, Alain Pargues, Ricardo Realfonzo, and John Smithin. The author would like to thank Sergio Rossi in particular for his most constructive comments.
money supply, through bank creation of liabilities as banks purchase the debt of the non-
bank public”.

16. For instance, Rousseas (1992, p. 48) has argued that “to argue that the central bank fully
accommodates any and all increases in the demand for money not only overstates the
(1992, p. 47) argues that Keynes’s finance motive becomes a “trivially ephemeral and
where demand creates its own supply, and Keynes’s novel discussion of banks as holding
called the horizontalist approach “political, not economic”. Cottrell (1988, 1994) has
described it “radical endogeneity”, while Coghlan (1978, p. 75), Kregel (1996, p. 659),
and Wray (1992, p. 1169) have all referred to it as an “extreme” post-Keynesian theory of money.

17. Palley (1994) claims that the direction between loans and reserves is “bi-causal”. In
Rochon (1999), I have argued that this allows neoclassical theory to be reintroduced.

18. Following the publication of the General Theory, Keynes (1973, p. 213) himself claimed
that the liquidity preference theory of the rate of interest was “exceedingly simple” and
“by itself does not carry us very far”. He also noted (1973, p. 215) that “to speak of the
‘liquidity-preference theory’ of the rate of interest is, indeed, to dignify it too much”.
See Rochon (1997) for a discussion of Keynes’s finance motive from the circuitist and
horizontalist perspective.

accepts it as a valid theory.

20. In a recent article, Dow (1996, p. 498) has acknowledged that this is not an entirely
correct interpretation of the horizontalist position. In fact, Dow now claims that “neither
Kaldor nor Moore would seem to argue that literally all demand for credit is
accommodated”.

21. Earlier, Lavoie (1993, p. 10) also claimed that “to argue that the money supply is
horizontal is not to argue that there are no constraints on credit”. Similarly, Parker Foster
(1986, p. 594) argues that banks simply “respond to this demand in greater or less
degree”.

22. Despite Musella and Panico’s (1993, p. 30) claim to the contrary, Kaldor also
emphasized this point. According to Kaldor (1981, p. 15): “At any one time the volume
of bank lending or its rate of expansion is limited only by the availability of credit-worthily
borrowers”. The argument was even put forth by Minsky (1991, p. 208) who claims that “those proposals that meet the banker’s standard of the time will be
financed”.

23. As stated earlier, the relationship between interest rates and the demand for bank credit is
indirect. The central bank may influence the creation of money via credit. As it raises
the rate of interest, this will impact on the creditworthiness of the potential borrowers via
the redistribution of income. This in turn will force banks to refuse to lend to an
increasing number of firms. This would necessarily translate into a fall in newly-created
endogenous money.

24. In Rochon (1999, 1999a), I argue that banks may be able to measure this optimism or
pessimism by comparing their targeted rate of profit, set at the beginning of the period,
with the actual rate of profit, realized at the end of the circuit. If the latter is less than the
former, then there may be cause for pessimism, and the supply of credit will fall.

25. The expression rationing implies the neoclassical notion of scarcity. It is therefore not a
matter of semantics whether or not the resulting availability of credit is termed

26. Many post-Keynesians argue that the loan rate is a mark-up over the base rate of interest.
While I generally agree with the post-Keynesian approach, I prefer setting the loan rate
as a mark-up over the banks’ costs of operation. This is a minor point of disagreement.

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