
Origins of Economic Instability: Real, Financial or Both? ¹

Part II: An Appraisal of Minsky's Financial Instability Hypothesis

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ABSTRACT

Part I of the paper discussed Hyman Minsky's instability hypothesis and its main critics. Part II now gives a general appraisal of Minsky's theory.

MINSKY AND THE 'STRUCTURAL' ENDOGENOUS MONEY SUPPLY APPROACH

In Keynes (1936), and in Monetarist and neoclassical theory, the money supply is determined exogenously. What this means is that the money supply is determined (by the central bank) independently of the demand for money. In contrast, Post Keynesians have argued that the money supply is determined endogenously, although there is disagreement over the nature of this endogeneity.

Pollin (1991) has distinguished two theories of money supply endogeneity: the 'accommodative' and the 'structural' approaches. The accommodative approach to money supply endogeneity has developed from the writings of Kaldor (1970) among others. The best known proponent of this view is Moore (1988). Though with a somewhat different perspective, Lavoie (1984) adopts a broadly similar view on the endogeneity of the money supply. The accommodative approach argues that the central bank has no control over the quantity of money created: all it can do is set the price (interest rate) at which credit is available. The money supply curve is horizontal at this rate of interest. This contrasts with the orthodox view that it is vertical at some quantity of money determined by the central bank.

The importance of this 'horizontalist' view of the money supply is its implications for Minsky's financial instability hypothesis. Minsky argues that as

a boom develops, so financial fragility increases. Eventually, a credit crunch, debt deflation and deep depression may follow. From a horizontalist perspective a credit crunch cannot occur. Any increase in the demand for money will be automatically accommodated by the central bank. There is no necessity for interest rates to rise. The central bank may raise them if it so wishes, but need not. This view seems then to undercut the roots of the Minskian process of financial instability. Whether this is so or not will be explored in the final section.

By contrast the structural approach to the endogeneity of the money supply appears to be more in keeping with Minsky's ideas. The changing views on liquidity preference as the boom develops lead to an increase in interest rates, which spark off the process of debt deflation. The increase in interest rates occurs because the central bank is assumed not to fully accommodate the (increased) money demand. This approach views the money supply as a stock, rather than a flow: it may be analysed as a (very liquid) asset in terms of the portfolio approach to the demand for money. The interest rate is determined by both the demand and supply of money as in the *General Theory* and money's role as a store of value, rather than a medium of exchange, is stressed.

According to Rogers (1989: 39-43), the neoclassical synthesis sees money more as a medium of exchange than as a store of value, and adopts the loanable funds view of money and the interest rate. This sees the demand and supply of loanable funds mirroring the demand for investment and supply of savings in real terms. The determination of the interest rate in real terms, ensuring the equality of savings and investment, means that Say's Law always holds. This rules out the possibility of the existence of involuntary unemployment. But as Rogers (1989) has argued neoclassical monetary theory is subject to serious criticisms.

Underlying the neoclassical view that the natural interest rate is determined by real saving and investment, is the idea that saving precedes and is necessary to finance investment. Post Keynesians argue the reverse: investment determines income and hence saving (Chick, 1983: Chapter 9). Foster (1986: 962) has argued that

[t]he conclusion that the quantity of money is endogenously determined in the Keynesian system follows necessarily from the saving-investment relationship. In orthodox economics, the causal sequence is from saving to investment. In the Keynesian system the sequence is the reverse, from investment to saving.

It is in this context that Minsky's theory, on how financing decisions are crucial to the level of investment that occurs, should be seen. Finance and credit determine investment. Saving is a residual.

The structural approach views liquidity preference as important because it affects the financing of investment, not because it can upset the equality between real saving and investment. It is in this light that Dow and Dow (1987) have argued that endogenous money creation does not diminish the importance of liquidity preference. In their discussion, they analyse the ways in which changes in liquidity preference *can* affect expenditure plans even if the central bank pursues accommodating behaviour towards the commercial banks.

It is in clarifying the meaning of an endogenous money supply and the idea that investment determines saving that we come closer to the heart of the debate surrounding Minsky's theory. For the horizontalists, investment demand cannot be constrained by a lack of funds. There is no necessity for a credit crunch and consequent rises in the interest rate as in the structuralist approach.

We have seen how a speculative boom can lead to a Minskian crash, in terms of the structural endogeneity approach to money. The process may be analysed in terms of Keynes's finance motive, an extension to his theory of the demand for money. The finance motive brings out the significance of time. According to Keynes (1937: 246) some of the investment *decisions* of firms generate a "temporary demand for money before it [actual investment] is carried out..." This demand for money to finance planned investment is particularly important during an investment boom. "It is, to an important extent, the 'financial' [i.e. credit] facilities which regulate the *pace* of new investment" (Keynes, 1937: 248, emphasis in original).

Finance, to Keynes, is a 'revolving fund'. With investment proceeding at a steady rate, the 'flow of new finance required by current *ex ante* investment is provided by the finance released by current *ex post* investment'. But when *ex ante* investment greatly exceeds the flow of *ex post* investment, the problem of finance asserts itself full force. During the short-run interregnum period 'finance is wholly supplied ... by the banks', and it is this fact that makes 'their policy ... so important in determining the pace at which new investment can proceed', and since the central bank determines the amount of finance that banks have to offer, it is central bank policy that plays the key role in determining the *pace* of investment (Rousseas, 1986: 37).

It is because structuralists, like Rousseas, view central bank behaviour as only partially accommodative that an investment boom can lead to a credit crunch, with rising interest rates. These might spark off a Minskian crisis. Rousseas (1986: 91-6) points out that in times of tight money, higher interest rates lead to financial innovation and so velocity increases. Thus, the central bank will not succeed completely in restricting the growth of credit. However, it has sufficient control to cause the probability of a credit crunch. It is against this background that a Minskian crash can take place.

Dow and Earl (1982) adopt a structural-portfolio approach to money supply and demand. They are among the more sympathetic critics and interpreters of Minsky. One of their concerns (Dow and Earl, 1982: 139) in interpreting Minsky's theory is to correct various 'mistakes' in the diagram he uses to explain his theory - see Figure 1 in Part I. For example, Minsky, in his diagram, refers to quantities of investment on the horizontal axis. In view of the difficulties surrounding the Two Cambridges capital controversy, Dow and Earl (1982) suggest the following changes.

The P_K borrower's risk curves remain demand price for capital functions though they now slope downwards as a result of diminishing returns as well as increased risk. The P_I curve becomes an index of new asset prices and lender's risk curves now become supply price of finance functions. It is clear that this latter is different from the supply price of capital. These three changes (index of new asset prices, finance functions and diminishing returns) help the analysis to overcome difficulties raised by the capital debate.

In Dow and Earl's reformulation of Minsky's model, they stress the importance of speculative activity - as the source of instability. The boom starts in the real sector and moves to the financial sector as prices start rising. Individuals resort to speculation partly as a means of making their wealth inflation proof. As more and more climb on the bandwagon, the artificial demand pushes prices up to levels where the (financial) returns on (financial) assets are way above the returns which could be earned on real assets. Keller and Carlson (1982) emphasise this aspect: the crash occurs some time after the speculative marginal efficiency of capital (MEC) becomes greater than the objective MEC. Dow and Earl (1982) list five reasons why the boom comes to an end. Most of these are non-speculative factors. Examples include unsound investment schemes being exposed, yields diminishing, mistakes being exposed, a general running out of investment ideas. These non-speculative factors indicate that the objective, is less than the speculative, MEC.

Speculation and the signalling device of the interest rate loom large in the structuralist account of Minskian booms and crises. We now turn to look at the accommodative approach.

MINSKY AND THE 'ACCOMMODATIVE' ENDOGENOUS MONEY SUPPLY APPROACH

The accommodative approach is more at odds with Minsky's theory. Neither an investment nor a speculative boom need run into a credit crunch since all demands for money will be fully accommodated at the given rate of interest. This means that there is no necessity for the interest rate to rise in a boom. This section will describe the accommodative approach as outlined in the writings of Moore (1988), Rogers (1989) and Lavoie (1985). It will then summarise the debate between the accommodationists and the structuralists. This provides the background for understanding Lavoie's (1985) criticisms of Minsky's financial instability hypothesis.

The accommodative approach to (full) endogeneity of the money supply has a long history:

The idea of an endogenous money supply, however, is not quite the post-war "discovery" it is sometimes made out to be. In less rigorous form, and lurking somewhere in the background to which it had been assigned, the 'banking principle' supported the notion of the money supply spontaneously accommodating 'the needs of trade' via a passive financial structure - as opposed to the dominant 'currency school', which was based on the 'real bills' tradition ... (Rousseas, 1986: 65).

The accommodative approach had its post-war revival in the Radcliffe Report (1959) and the writings of Kaldor (1970, 1982) and Moore (1979, 1984, and 1988). Rogers (1989: 174) points out that this approach views liquidity preference as determining only the short-run money market rate of interest. In place of the Wicksellian long-run natural rate, it sees the long-run rate of interest as set exogenously by the central bank at some conventional rate. This conventional rate does not, however, reflect the real forces of productivity and thrift (Dutt and Amadeo, 1990: Chapter 5). The money supply is perfectly elastic at this rate of interest. Moore (1988: 3) quotes Wicksell (1898) on this point:

It is no longer possible to refer to the supply of money as an independent magnitude, differing from the demand for money. No

matter what amount of money may be demanded from the banks, that is the amount which they are in a position to lend (so long as the security of the borrower is adequate). The banks have merely to enter a figure in the borrower's account to represent a credit granted or a deposit created. When a cheque is then drawn and subsequently presented to the banks, they credit the account of the owner of the cheque with a deposit of the appropriate amount (or reduce his debit by that amount). The 'supply of money' is thus furnished by the demand itself.

The Radcliffe Report (1959) concluded that because of rapid institutional change, conventional monetary policy had ceased to be effective. In the event of a tight monetary policy being imposed there need be no limit to the velocity of the circulation of money (Rousseas, 1986: 63). Kaldor (1970) went further than this and argued that the money supply was fully endogenously determined. In doing so, he indicated that the issue of the determinants of the money supply was not simply related to post-war institutional change but to the revival of a long standing theoretical issue: the banking *versus* currency schools controversy.

Moore (1988) argues that only commodity or metallic money is exogenous. Only in these circumstances can the reserve bank be seen as a causal influence supplying reserves which provide the base for commercial banks to increase the money supply via the money multiplier process. The quantity of credit money, by contrast, is determined by the demand for bank credit. Moore (1984) distinguishes between the behaviour of banks in retail and wholesale markets. In retail markets, where they are interested in extending their quantity of profit-earning assets, they seek to make as many loans as they can: they are quantity takers and price setters. The non-bank public take as many loans as they wish at a price set by the bank. The banks then use the wholesale markets to borrow (or lend any excess) the required quantity of funds at a price set ultimately by the central bank.

The supply of money schedule must be viewed as *horizontal* in every short-run period, essentially at whatever short-term interest rate the central bank chooses to supply liquidity (Kaldor, 1982). The central bank's primary obligation is to ensure the *liquidity* of the financial system, by standing ever ready to provide lender-of-last-resort facilities. Consequently, it can never quantity-constrain bank reserves ... (Moore, 1994: 106, emphasis in original).

It follows that there are no effective quantity constraints to the money supply. The only constraint is a cost one - central banks can choose the discount rate and thereby set the short-term market interest rate.

The direction of causality implied by the conventional multiplier model is more like the *reverse* of what actually occurs. Reserves are the *result*, rather than the *cause*, of movements in deposits (Moore, 1984: 107, emphasis in original).

The idea is that banks, as profit-making institutions, seek first to grant as many loan requests as are demanded. This then gives rise to deposits within the banking system. The commercial banks then set about acquiring the required amount of reserves from the central bank.

Pollin (1991) has sought to test the accommodative *versus* the structuralist approaches to money endogeneity. He argues that if central bank and non-bank reserves are perfect substitutes at the ruling interest rate and the supply of reserves is perfectly elastic at this rate, then an increase in loans should lead to a proportionate increase in reserves. If this were the case, it would provide support for the accommodative view. The results of his tests show, however, that reserves do not increase proportionately to loans. The central bank does not fully accommodate the commercial banks' demands for reserves. (The implication is that reserves borrowed through the discount window of the central bank are not perfect substitutes for non-bank reserves.) This is what one would expect from a structuralist approach. It explains the growth of liability management: because accommodation is not complete, quantity constraints on reserves can be eased by making the limited reserves support a greater volume of deposits. With rising interest rates, liability management attracts funds out of deposit accounts with high reserve requirements into ones with low requirements such as certificates of deposit, federal funds and Eurodollars.

All this is in accord with Minsky's financial instability hypothesis. These financial innovations occur within a given institutional structure in response to rising interest rates. But these financial innovations, Pollin (1991) argues, lead to a new institutional financial structure with a new set of interest rates. Liability management is seen as relieving only temporarily the liquidity shortage occasioned by lack of full accommodation by the central bank. In this situation, the scene is set for an eventual credit crunch, financial turbulence and Minskian crisis.

Moore (1991) attempts to summarise the substantive issue at stake. Structuralists say the central bank can and does control reserves, but that quantity restrictions are offset by innovative bank liability management. The money supply curve slopes upward. The accommodative approach argues that the central bank can set only the supply price of funds and that both the base and the money supply are endogenously determined. The money supply curve is horizontal in the short run. He feels the structuralists may agree to the

horizontal nature of the short-run curve, though not the long-run curve. But he argues that the long-run interest rate is based on expectations of future short-term rates and so the long-run curve will also be horizontal.

For Moore (1991) there simply is no money supply function. The rate of interest does not adjust to equilibrate the demand and supply of money. The interest rate is an autonomous political instrument. Moore (1991) replies to points raised by Pollin (1991). The fact that reserves do not increase in direct proportion to loans does not prove the central bank is not fully accommodative. The relation between loans and reserves is complicated by deposits. While individual banks may not be able to borrow from the central bank, they are always able to borrow on the financial markets at the going interest rate. For the system as a whole, only discount window reserves increase total reserves. On the issue of substitutability between borrowed and non-borrowed reserves, Moore maintains that since total required reserves are pre-determined by the existing deposits and total non-borrowed reserves by open market operations, the monetary authorities must provide the residual reserves. Individual banks may show differences in propensities to borrow reserves.

Moore's approach implies that it is institutional change that has resulted in the money supply becoming fully endogenous. Wray (1990: 149-50) rejects the idea that originally commodity money was exogenous and as the form of money developed, so it became more endogenous. He argues that money has always been endogenous. This is because it is intrinsic to the process of production in capitalism. Like Kaldor (1970), his intervention is another contribution to the long-standing banking school versus currency school debate. This also applies to the writings of Rogers and Lavoie.

It is along these lines that Rogers (1989) and Lavoie (1985) argue. According to Rogers (1989: 175) bank money "because it is generated in the process of production - or speculation - appears as part of a process and often as effect rather than cause".

The integration of money in the economic system must not be done when output is already specified, as in the exchange economy of general equilibrium models ... but rather money must be introduced as part of the production process ... Those who organise production require access to existing resources, mainly human labor. This access is provided by credit money. Any flow of production requires a flow of new credit or the renewal of past flows of credit. The banking system creates the necessary credit ... Money is introduced into the economy through the productive activities of

the firms, as these activities generate income. There can be no (bank) money without production (Lavoie, 1984: 773-4).

For Lavoie, money must be analysed as a credit flow and not as a stock of commodity money. Viewing money as a credit flow linked closely to the process of production can be seen as the other side of the coin to Minsky's view of money as debt which must be entered into prior to production. Here Minsky's theory is in accord with the accommodative approach. This, therefore, appears to be an inconsistency in Minsky's theory which falls within the framework of the structuralist approach.

Lavoie (1985: 75) contends that some Post Keynesians have not managed to completely break out of orthodox thinking with regard to money endogeneity. They argue that money is not completely endogenous and that interest rates must rise when income rises. He cites the case of Davidson (1972: 226) who recognises the money supply can be created endogenously yet on the next page (1972: 227) asserts that the central bank can control the stock of money. He explains this apparent inconsistency as resulting from a reluctance to break with Keynes's portfolio approach.

Lavoie (1985: 77) takes issue with Minsky's (1982a: 124) statement that "the financing needs of the investment boom raise interest rates":

According to Minsky, this seems to be the result of both the rapid increase in the demand for financing (1982a: 140) and the abandonment of safe assets consequent to euphoric expectations (1982a: 123).

This explanation borders on the lack-of-savings thesis and is quite contrary to both post-Keynesian monetary theory and Keynes' view of the trade cycle. In Chapter 23 of the *General Theory*, Keynes makes it quite clear that rises in interest rates were consequential to the crisis. They were not the cause of it.

He argues, along with Rogers (1989) and Moore (1988), that interest rates are not determined via liquidity preference interacting with the supply of money. There is thus no necessity why they should rise in a boom. Lavoie (1985: 77) argues that for Minsky (1982a: 140) interest rates rise in a boom in terms of a "modified excess demand for loanable funds theory". New loans granted during the boom lead to an excess supply of money which, via Monetarist-type reasoning, generates increased aggregate demand. Central banks raise interest rates as an anti-inflationary measure. This line of reasoning presumes an excess supply of money. He denies this can ever exist and quotes Kaldor and

Trevithick (1981: 7): "The recipients of such an excess would use it to diminish their liabilities and the money so used would be 'extinguished as a result of the repayment of bank debt' " (Lavoie, 1985: 77). In line with Rogers (1989), Lavoie (1985: 78) argues that interest rates are basically "the result of a convention (Townshend, 1937), a consensus between those who can manipulate and those who can benefit from interest rates".

Lavoie (1987) has interpreted Minsky's financial instability hypothesis from the perspective of a completely endogenous approach to the supply of money. He argues that Minsky's hypothesis depends on two main phenomena: during the course of a boom (i) the financial system becomes more fragile, and (ii) interest rates rise. He accepts Minsky's arguments for the first phenomenon, but uses different reasoning to account for the second. Financial instability may prevail, but not only for Minsky's reasons.

AN APPRAISAL OF MINSKY'S FINANCIAL INSTABILITY HYPOTHESIS

The last two sections have viewed Minsky's theory from the structural and accommodative approaches to money supply endogeneity. This section will evaluate Minsky's theory from a perspective which adopts points from both the structural and accommodative approaches. In so doing, it will draw on Rogers (1989) and Shackle (1967, 1974). The thrust of the argument is that Minsky fails to make a sufficiently coherent and convincing case for his endemic instability thesis, i.e. that we are constantly threatened with a 1929-type crisis. This does not mean that Minsky's theory should be discarded. Instead, it can be reconstructed to support the notion of potential instability.

Minsky's theory fits in mostly with the structuralist approach to money supply endogeneity. This sees money as a stock than as a flow, as an asset than as a debt. Indeed, the view of money as a safe asset is central to Minsky's argument that when confidence fails, there is a move towards a preference for greater liquidity. If the money supply is structurally endogenous this drives up interest rates. The scene is set for a Minskian crisis.

But Minsky's theory is also consistent with the accommodative approach to the endogeneity of the money supply. This approach stresses the credit nature of money - the other side of the coin to Minsky's view of money as debt. It also emphasises money as a flow which is generated with the process (flow) of production. Again, this fits in with Minsky's emphasis on the necessity for financial flows to be maintained: uncertain revenue inflows must validate certain fixed wage and other cost outflows. This view stresses the potential of

instability arising from credit money. Since its cost of production is negligible, credit 'mountains' can easily be built up. This too is the kind of scenario in which a Minskian crisis can take place.

Because Minsky's theory draws on aspects of both the accommodative and structural approaches, there seems to be a *prima facie* case that his theory involves conflicting statements. These might be resolved if the differences between the structural and accommodative approaches could be reconciled. Palley (1991) has attempted such a reconciliation.

He argues that in normal circumstances central bank practice accords with the structural approach. The central bank does not immediately and fully accommodate commercial bank demands for reserves. Instead, it exercises its authority and seeks to control inflation and the exchange rate. In these circumstances, increases in the demand for money can lead to rises in the interest rate and the scene is set for the development of a credit crunch and Minskian crisis.

But once it is clear that abnormal circumstances prevail and a crisis might occur, central bank practice accords with the accommodative approach. The central bank fulfils its role as lender of last resort and fully accommodates the demands of the commercial banks.

The foregoing coincides with Minsky's account of how potential crises develop, but are prevented from occurring by the intervention of the central bank. It also appears to resolve conflicting statements in Minsky's theory. Up to the point of crisis, the structural approach holds sway. Only in preventing its consequences, does the accommodative approach become relevant.

Unfortunately, things are not quite as simple as this. Much of the role of money in Minsky's theory in 'normal circumstances' is in accord with the accommodative approach. In Minsky's view of the process of investment, a decision to invest is a decision to incur debt. The role of money as a flow is fundamental to distinguishing between the various types of debt financing - from hedge to speculative to Ponzi. Increasing amounts of debt-financed investment occur without significant increases in the interest rate.

The reason for these conflicting aspects of Minsky's theory may stem from wider shortcomings in his approach. Minsky locates instability in the financial sector. He stresses repeatedly that instability is rooted in monetary relations rather than real relations. Crotty (1990), we have seen, describes theories which root stability in either the monetary or the real sector as monocausal. He argues that both Marxian and neoclassical theories generally view instability as arising

from the real sector. Minsky is correct to argue that the phenomenon of instability can be analysed only in money terms (and not real terms). But this does not mean to say instability arises only in the monetary sector. We need to analyse instability from the perspective of Monetary Analysis as outlined by Rogers (1989) and Schumpeter (1954). We will consider Minsky's theory from the perspective of three major characteristics of Monetary Analysis: the nature of production, the role of credit money and the principle of effective demand.

Rogers (1989: 167) stresses that it is the capitalist nature of production rather than the recognition of the importance of money that is fundamental in Monetary Analysis. Much of Minsky's view on production accords with this characterisation. For example, Minsky follows Kalecki's theory of prices which links profits to the classical notion of surplus.

Minsky, we have already noted, has been criticised for explaining the tendency for sustained good times to turn into credit crunches and potential crises in terms of a "persistent boom psychology" (Pollin, 1985: 349). There must be a more fundamental, objective reason to explain this instability. But as Downe (1987), among others, has pointed out Minsky does not adopt the Marxian notion of a falling rate of profit. This could, as has been argued by the 'profit-squeeze' theorists, provide fundamental and objective reasons for Minskian crises.

Neither can Minsky turn to the neoclassical concept of diminishing returns to explain the tendency of booms to peter out. The returns that Minsky uses in his theory are of course Keynes's quasi-rents and these are not as he himself emphasises measures of marginal physical productivity (Minsky, 1975: 96).

On both the neoclassical and Marxian arguments there would be some necessity - even deterministic necessity - for returns to diminish. Given constant costs, the boom *must* come to an end. The model can be closed.

If Minsky were to adopt the tradition of Monetary Analysis, he would be in a better position to emphasise the uncertainty of capitalist production and the subjective nature of Keynes's quasi-rents. There are no objective reasons for the boom to begin or to end. The model cannot be closed.

Further, Minsky would do well to adopt the accommodative approach to money supply endogeneity. As discussed earlier, key aspects of Minsky's theory depend on this approach's viewpoint that money is a flow of credit. Although Lavoie (1987) has given a formal account of how changes in interest rates (which rise in times of a Minskian crisis) can be accounted for in terms of the accommodative approach, this approach can also explain a Minskian crisis without the necessity for it to be sparked off by an interest rate rise. This may

be done by making use of Keynes's distinction between the industrial and financial circulations of money.

According to Rogers (1989: 168) the "industrial and financial circulations become the transactions and speculative demand in the *General Theory*". Whereas the demand for money in the industrial circulation, like the transactions demand, is stable, the demand for money in the financial circulation depends on "the comparative attractions *in the mind of the depositor* of [savings-deposits] and of alternative securities" (Keynes, 1930, I: 38, emphasis added). This allows uncertainty to play an important role and explains the greater volatility of the financial sector of the economy.

Rousseas (1986: 34) points out that Keynes, in the *Treatise*, analysed the potential conflicts that might exist between the financial and industrial demands for money. In this regard a speculative boom which took place in the financial sector (assuming a partially endogenous money supply) could well end up "stealing resources from the Industrial Circulation" (Keynes, 1930, I: 254). If full accommodation from the central bank were not forthcoming, interest rates would rise causing deflation and a fall in output in the industrial sector. If full accommodation was forthcoming, interest rates would remain low, but the speculative boom might lead to a runaway speculative bubble, which would eventually burst in a crash similar to that of 1929. According to Rousseas (1986: 35) Keynes proposed selective credit controls to deal with this potential problem.

Thus Monetary Analysis is capable of explaining Minskian crises. But, in terms of Monetary Analysis endemic instability, i.e. the ever-present threat of a potential 1929-type crash occurring, is unlikely. Rather than envisaging a series of short-run Minskian booms and crises, Monetary Analysis adopts an interpretation of Keynes's principle of effective demand which supports the notion of a potentially unstable equilibrium. This concept of equilibrium provides a fundamental benchmark for analysis - something which is missing from Minsky's theory. Within the tradition of Monetary Analysis, the potential instability of the economic system depends on the degree of stability of certain key independent variables. Amongst these the two most important are the wage rate and the interest rate. Both of these variables are determined mainly by convention. They do not reflect any underlying natural forces.

This framework also explains ongoing and persistent unemployment which Minsky's theory does not explain. In Minsky's theory unemployment in the slump would alternate with full employment in the boom. Rogers (1989) argues that because the rate of interest is a conventional rate, there exists no automatic mechanism whereby it could adjust to that rate which would yield full

employment. In Monetary Analysis it is the 'real' rate of return which adjusts to the 'money' or conventional rate of return and not the other way around as is the case in neoclassical and Real Analysis (Rogers, 1989: 214). The possibility for the conventional rate not to adjust in the long term then explains persistent involuntary unemployment.

Although the framework of Monetary Analysis would seem to imply greater stability, this is not really so. The instability is still present and is basically that of the Keynesian kaleidics of Shackle (1974). It follows from the fact that the independent variables upon which the stability of the system rest do not have an objective basis "such as costs of production or the forces of productivity and thrift..." (Rogers, 1989: 268). Instead, they depend on the subjective notion of the maintenance of a convention. This should make plain enough that the "stability that we do enjoy has a rather fragile basis" (Rogers, 1989: 269).

The interest-rate in a money economy. This was the enigma that led Keynes to the nihilism of his final position ... The interest-rate depends on expectations of its own future. It is expectational, subjective, psychic, indeterminate. And so is the rest of the economic system. The stability of the system, while it lasts, rest upon a convention: the tacit general agreement to *suppose* it stable. The stability, once doubted is destroyed, and cascading disorder must intervene before the landslide grounds in a new fortuitous position. Such is the last phase of Keynesian economics. But Keynes had shown governments how to prolong the suspension of doubt (Shackle, 1967: 247, emphasis in original).

CONCLUSION

In many respects, the global economic instability of the 1990s appears to be better explained in terms of Minsky's theory than that of the financial liberalisationists (McKinnon, 1973; Shaw, 1973). According to the financial liberalisation perspective financial markets are inherently stable. Yet, those south-east Asian countries which liberalised their financial systems found that banking and financial crises ensued. According to Arestis (1998: 9), financial liberalisation encouraged short-term speculation rather than long-term productive investment. This fuelled a Minskian speculative boom. Kregel (1998: 1) points out that most of the lending to firms and financial institutions was in foreign currency, Yen and US dollars. This meant that, unlike the 1975 and 1982 experiences in the USA, the local central bank was unable to act as a lender of last resort due to its limited foreign reserves. Kregel goes on to argue that the IMF misjudged the crises as flow problems: they essentially arose out of

balance of payments problems due to imports exceeding exports. The Fund therefore believed that constraining domestic demand (by cutting government expenditure and implementing tight monetary targets) would stabilise exchange rates. "But the problem was a stock problem, as firms and banks tried to liquidate their stocks of goods and assets to liquidate their stocks of foreign exchange debts. In Keynesian terms it was a problem of a shift in liquidity preference, not a problem of a shift in spending propensities that had to be achieved" (Kregel, 1998: 15). The IMF policies were therefore "exactly the opposite" of what was needed to stop a Minskian debt-deflation crisis.

While the above provides support for Minsky's theory in explaining the Asian crisis, problems arise from Minsky's contention that such crises are endemic to the economic system. In this respect Minsky fails to make a sufficiently coherent and convincing case for his thesis that the economy is endemically unstable. Rather, as it has been argued above, the economy is potentially unstable. This view accords more closely with the greater degree of stability that exists in today's industrial economies than is implied by Minsky's theory: the 1987 Wall Street crash, for example, did not lead to a 1929-type depression. Moreover, Keynes's principle of effective demand which defines the existence of an *equilibrium* level of output and employment for the economy implies that instability is potential rather than endemic.

Our conclusion is therefore that Minsky's theory needs to be set firmly within the tradition of Monetary Analysis. Minsky (1988: ix) correctly points out that when instability returned in the late 1970s "orthodox economics offered no support for the efficacy of interventionist policies to maintain income and employment". While the financial instability hypothesis explains why interventionist policies are needed, his theory requires a firmer base from which to answer criticisms such as Tobin's (1989: 106) that "Minsky's excellent account of asset pricing and investment decisions is separable from his theory of prices, wages and profits". Monetary Analysis provides such a base and in addition allows the development of a consistent theoretical framework for analysing the process of production and the relations between surplus or profit and interest - notions central to Minsky's theory. Further it will enable the results of the debate on the nature of money supply endogeneity to be applied to Minsky's theory - another crucial area for his financial instability hypothesis.

This is not to imply that the only path lies within the tradition of Monetary Analysis. Account needs to be taken of the criticisms raised by both the neoclassical and profit-squeeze theorists. One of the criticisms raised by Rouseas (1986) and Pollin (1983) is that aspects of politics and social relations, the problem of aggregation (Chick, 1983: Chapter 3) and the problem of income distribution should be integrated into the analysis. In particular Minsky needs to

set his theory within a wider vision of how the economic system operates. Neither the Marxian nor the *laissez-faire* visions are open to Minsky and his fellow Post Keynesians: their position stands separately from these two established traditions.

Progress towards developing a coherent Post-Keynesian vision has been slow. Dutt and Amadeo (1990) have gone some way toward clarifying Keynes's (1936: xxi) 'third alternative'. Fitzgibbons (1988) provides an important step towards reconstructing the broad and major philosophical insights contained within 'Keynes's vision'. However, much work remains to be done.

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