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

Part I: An Account of Minsky's Financial Instability Hypothesis

J S Hart

Department of Economics, University of Natal, Durban

ABSTRACT

The 1990s have put the issue of global economic stability under the spotlight. This calls for a re-examination of the economic theory surrounding the subject. Here a three-fold classification is useful. The first grouping locates the source of stability in the workings of the real sector of the economy. A second, following Hyman Minsky, contends that instability arises in the financial sector. A third grouping draws on a distinction by Schumpeter to argue that any effective analysis of stability or instability requires a theoretical framework that integrates both the real and financial sectors at the most basic level. In the light of the current financial crisis which originated in South-East Asia, the second grouping appears most relevant. Part II will give an appraisal of Minsky's theory.

JEL E 44

INTRODUCTION

The post-war stability of the 1950s and 1960s was widely regarded as evidence of the validity of Keynesian theory and policy. It was generally accepted that while theoretically the market mechanism would, in the long run, lead to stable equilibrium levels of income and full employment, in the short run government intervention - in the form of monetary and fiscal policy - was necessary for economic stability. These were the heydays of Keynesianism. It was believed that policy intervention could be so accurate that it was possible to 'fine-tune' the economy to a position of full employment with zero inflation.

* Part II of this paper and the list of references will appear in the next issue of SAJEMS.

The inability of Keynesian fiscal and monetary policies to control the increasing inflation and unemployment of the 1970s eventually led to questioning of the theoretical base. Rightly or wrongly Keynesianism was blamed for the huge increase in government spending which was argued to be the underlying cause of the high rates of inflation and unemployment.

The scene was set for a resurgence of faith in the ability of competitive markets to provide a self-regulatory mechanism which would ensure a stable full employment level of income without inflation. According to monetarists, interventionist policies could change levels of output and inflation, but only in the short run. The rational expectations hypothesis was advanced against even this possibility: rational market players would swiftly outwit and outperform policy planners. McKinnon (1973) and Shaw (1973) argued against government regulation in financial markets, or 'financial repression'. According to the financial liberalisation perspective financial markets are inherently stable. Over the last decade monetary policy came to focus almost exclusively on the single objective of price stability in the belief that this was the best, if not only, route to ensuring financial and economic stability (Bordo & Wheelock, 1998: 41).

The dramatic stock market crash of September 1987, record levels of unemployment in the industrial economies, and increased instability in world financial markets in the 1990s have dampened expectations about the ability of free markets to ensure stable and optimal levels of income and employment. In the face of these developments Keynesian economics appears to be staging a comeback (Hutton, 1992). And monetarism is being questioned: Arestis (1998) provides evidence that financial liberalisation in developing countries in the 1980s and 1990s has destabilised rather than stabilised these economies. Even international financier George Soros (1998) has called for some sort of regulation of global financial markets.

The global economic instability of the 1990s calls for a re-examination of the literature on economic stability and instability. Here a three-fold classification is useful. The first grouping locates the source of economic stability or economic instability in the workings of the real sector of the economy. Neoclassical theory supports the view that free-market economies are *permanently stable*. By this is meant that they are stable self-regulating mechanisms. Provided there is free competition, market forces in both the real and financial sectors can be relied upon to ensure stability. The stability arises from the free interaction of market demand and supply which are grounded upon stable real forces, e.g., productivity and thrift,

rather than any monetary forces. Only real forces matter for the stability of the system and money is seen to be essentially neutral as it has no real effects. While the Marxian tradition also focuses on the real sector, it regards capitalist free-market economies as *permanently unstable*. The instability arises because of a long-run tendency for the rate of profit in the real sector to fall.

The second grouping is that surrounding the writings of Minsky (1975, 1977, 1982a, 1986a, 1986b). Minsky sees capitalist economies as *endemically unstable*. The roots of this instability are to be found in the financial, rather than the real, sector. Kregel (1998: 1) views the current Asian crisis as "a clear case of the Minsky instability hypothesis". The third grouping draws on a distinction by Schumpeter (1954) developed by Rogers (1989). This grouping sees capitalist economies as *potentially unstable*. For Rogers, analysis of the potential for instability must be based on a proper integration of real and monetary forces such as that achieved by 'Monetary Analysis' rather than 'Real Analysis' (Schumpeter, 1954: 277-8).

For Minsky the increasing inflation, unemployment and exchange rate fluctuations of the 1970s were a return to the normal cyclical behaviour of a capitalist economy. Minsky sees Keynesian policies as having been able, though with increasing difficulty, to impart a degree of stability to the post-war industrial economies. This stability, however, was not permanent because in Minsky's view capitalist economies are endemically unstable. What he means by this is that they are inherently liable to both short-run cyclical instability and the constant threat of a 1929-type economic collapse. The roots of this instability are to be found in the financial sector of the economy. It is monetary forces rather than real forces which are the cause of the instability of the system. Specifically, instability has to do with the relationship between money and debt in the process of financing investment (Fisher, 1933). Only continuous government intervention moderates cyclical instability and staves off imminent catastrophe. Paradoxically, however, this very action by governments simply serves to delay the onset, sooner or later, of economic disaster.

For Rogers (1989) and the third grouping, the economy is neither liable to constant pressures of boom or bust nor is there some inherent tendency towards a 1929-type Great Depression. On the other hand, the view that free markets alone can be relied upon to ensure full employment and price stability is also rejected. Rather, capitalist economies are seen to be potentially unstable. This means that there is only a fragile basis for the stability that does prevail. This is because certain key variables such as the wage rate and the interest rate are not grounded in any natural, objective or real foundation. Following Shackle (1967, 1974), Rogers argues that the formation of

these key economic variables depends upon social, subjective and arbitrary conventions and traditions which prevail in an economy at a particular point in time. But whereas others have discerned nihilistic implications in Shackle's views, Rogers (1989) develops a constructive interpretation by combining Shackle's analysis with Keynes's principle of effective demand to support the notion of a long-term equilibrium which could be one of less-than-full employment. This long-term equilibrium, he suggests, is potentially unstable.

The neoclassical and Marxian views (that only real forces matter), and Minsky's view (that only financial forces matter), may be contrasted with the view that both real and monetary forces are integrally bound up with the stability of the system. Rogers (1989) argues that today's received theory - the neoclassical-Keynesian synthesis, monetarism and the rational expectations hypothesis - has not achieved a successful integration of real and monetary forces in explaining the workings of the world's industrial economies.

Conventional economic theory remains trapped within the tradition of Real Analysis. It is worth quoting at length Schumpeter's distinction between Real Analysis and Monetary Analysis:

> Real Analysis proceeds from the principle that all the essential phenomena of economic life are capable of being described in terms of goods and services, of decisions about them, and of relations between them. Money enters the picture only in the modest role of a technical device that has been adopted in order to facilitate transactions ... so long as it functions normally, it does not affect the economic process, which behaves in the same way as it would in a barter economy: this is essentially what the concept of Neutral Money implies.

On the other hand,

> Monetary Analysis introduces the element of money on the very ground floor of our analytic structure and abandons the idea that all essential features of our economic life can be represented by a barter-economy model. Money prices, money incomes ... no longer appear as expressions ... of quantities of commodities and services and of exchange ratios between them: they acquire a life and importance of their own and it has to be recognised that essential features of the capitalist process may

depend upon the 'veil' and that the 'face behind it' is incomplete without it (Schumpeter, 1954: 277-8).

The appraisal of Minsky's theory developed in this paper draws substantially on the ideas developed by Rogers (1989) in arguing that the economy is potentially, rather than endemically, unstable. Rogers contends that any fruitful analysis of the economic system has to be firmly rooted in the tradition of Monetary Analysis. In arguing that the economy is endemically unstable, Minsky is at odds with Keynes's principle of effective demand which defines a stable - though not necessarily a full employment - equilibrium. By contrast, Rogers's view of the economy is consistent with this central concept of the *General Theory* whilst simultaneously allowing for the potential of instability.

In struggling to escape from the confines of Real Analysis where real forces are the ultimate economic determinants, Minsky (1975) has adopted the polar opposite view that only monetary forces matter. Although Minsky's (1982b, 1986a) later contributions involve the recognition that real forces are also important, any integration is bound to fail because Minsky's (1975) analysis cannot be simply extended to include real forces. Instead it needs to be fundamentally revised so that monetary and real forces are integrated on the 'ground floor' in the tradition of Monetary Analysis.

The paper is divided into six sections. In Part I we begin with a statement of Minsky's financial instability hypothesis. Next, the criticisms that have been levelled at this theory - mainly from a neoclassical perspective, are reviewed. The third section examines criticisms and interpretations of Minsky's theory from a perspective influenced by the Marxian tradition. In Part Two, the fourth and fifth sections consider Post-Keynesian interpretations and policy implications of Minsky's theory. In the final section we consider the relationship between Minsky's theory and Monetary Analysis. If Minsky's theory is to be grounded in the tradition of Monetary Analysis, then this paper argues that it needs to be substantially re-worked.

MINSKY'S FINANCIAL INSTABILITY HYPOTHESIS

Minsky has developed his theory over the years from when it was first extensively set out in his *John Maynard Keynes* (1975). In Minsky (1982b, 1986a) he extends his theory to take into account related developments in Post-Keynesian theory.

These include a theory of the determination of profits within the Kalecki-Robinson tradition.

The 1975 Statement: A Financial Theory of Investment

For Minsky (1975: 94) "the core of *The General Theory* is the theory of investment and why it is so prone to fluctuate". Hicks's interpretation of Keynes's theory of investment is described as a caricature of that theory. Investment is not a simple function of the rate of interest. It depends on the difference between the demand price and the supply price of capital goods and is related "not only to prospective yields but also to ongoing financial behaviour" (Minsky, 1975: 94). We will start by examining the factors underlying the demand price.

Keynes (1936: Chapter 17) analyses the relative price of different types of assets. He distinguishes three characteristics or 'attributes' of assets which together determine the total return expected from a particular asset.

> ... the total return expected from the ownership of an asset over a period is equal to its yield *minus* its carrying cost *plus* its liquidity premium i.e. to $q - c + l$... (Keynes, 1936: 226).

> [This expected total return], i.e. [t]he explicit and implicit cash flow, $q - c + l$, is capitalized to yield a value of the asset which is the demand price (Minsky, 1975: 81).

Minsky (I975a: 91) writes this demand price as the following function:

$$P_K = K(M, q, \hat{c} - c) \qquad (1)$$

where M = money supply, q = expected cash flows, $\hat{c}$ = acceptable cash payment commitments and c = a particular liability structure embodying cash payment commitments. For a given money supply, expected cash flows and liability structure, the greater acceptable cash-payment commitments, the higher the price of capital assets.

"The function will shift as the subjective views about prospective yields, the q's, and the value of liquidity, l, change" (Minsky, 1975: 91). Minsky uses the P_K function to replace the liquidity preference function of standard analysis - it refers to the prices of financial as well as real assets and to prices of units in the already existing stock

of assets. Minsky (1975: 94-95) notes that Keynes uses lower-case *q's* to refer to yields from capital assets when held in portfolios and upper-case Q's to refer to prospective yields from capital assets used in production. These prospective yields are quasi-rents, the result of the scarcity of capital, and do not represent the marginal physical product of capital.

> It is much preferable to speak of capital as having a yield over the course of its life in excess of its original cost, than as being *productive*. For the only reason why an asset offers a prospect of yielding during its life services having an aggregate value greater than its initial supply price is because it is *scarce* ... If capital becomes less scarce, the excess yield will diminish, without its having become less productive - at least in the physical sense (Keynes, 1936: 213, emphasis in original).

Minsky emphasises that, for Keynes, the scarcity yield of a capital asset varies over the business cycle whereas the marginal product of capital in orthodox theory is technologically determined. This is why Keynes refers to the marginal efficiency, rather than the marginal productivity, of capital.

While Keynes himself says that there is no 'material' difference between his marginal efficiency of capital (MEC) schedule and the demand curve for capital of 'classical' writers (Keynes, 1936: 178), Minsky argues that there is a significant difference. The 'classical' demand curve ties demand for capital in an almost one-to-one relationship with its productivity. Keynes's MEC schedule does not relate to productivity directly because there are

> two attenuating factors between productivity and investment, the first being, variability in the prospective yields and the second variability in the relation between the present value ... [which depends on the rate at which prospective yields are capitalized] and the market rate of interest on money loans (Minsky, 1975: 99).

These two attenuating factors introduce uncertainty into the investment decision. The second factor presents an alternative way (alternative to constructing the MEC schedule) to analysing the investment decision: capitalizing the prospective yields generates a demand price for investment which may be compared to a supply price of investment output.

> The fundamental relation in the theory of investment is the demand price of capital assets as determined by the capitalization of prospective yields ... The fundamental fact about this [relation] is that it is unstable (Minsky, 1975:101, 105).

So far we have been discussing only the demand price for capital assets (and investment). But the decision to invest depends on the demand price exceeding the supply price of investment output. We thus need to examine what factors underlie the supply price.

> Over against the prospective yield of the investment we have the *supply price* of the capital-asset, meaning by this, not the market-price at which an asset of the type in question can actually be purchased in the market, but the price which would just induce a manufacturer newly to produce an additional unit of such assets, i.e. what is sometimes called its *replacement cost* (Keynes, 1936: 135, emphasis in original).

"The supply price of the capital asset can best be interpreted as a schedule, in which higher demand prices for capital assets will yield greater outputs of investment goods" (Minsky, 1975: 95). This schedule is stable compared to the demand price for capital assets. Changes in wage rates will shift this schedule (as will changes in user cost and productivity). This schedule along with the consumption function are the two stable functions in Keynes's *General Theory*.

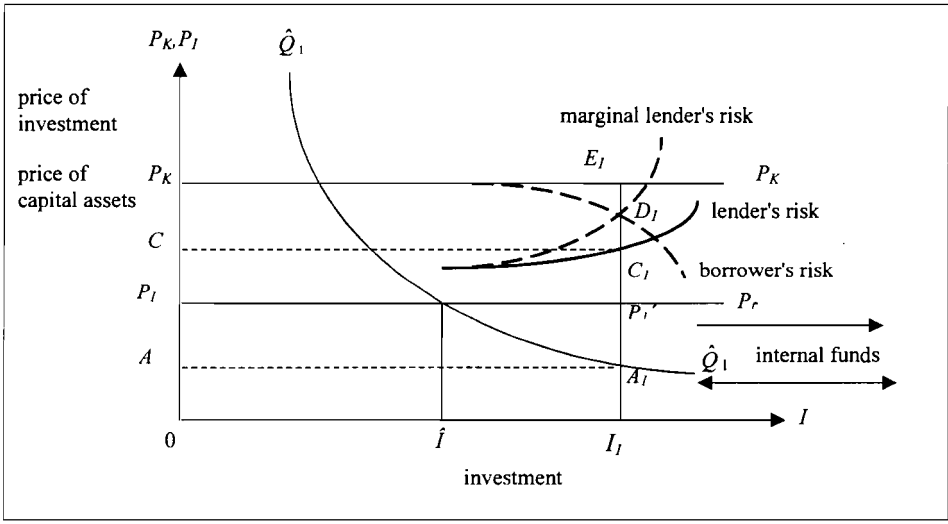
Now that we have seen what lies behind the demand price and supply price of capital assets, we can turn to analyse the investment decision.

The Financial Instability Hypothesis

In broad terms, Minsky argues that a capitalist economy with a sophisticated financial system has an inherent tendency towards instability. While this tendency is inherent or endogenous, exogenous shocks may also generate instability. The tendency arises because, as investment (and indebtedness) increases, a boom mentality leads to progressive underestimation of investment risks until there exists a state of 'overindebtedness'. More importantly, the form of indebtedness changes: in Minsky's terms, the financial structure becomes fragile. As long as cash flows are sufficient to cover debt repayment commitments, the system functions smoothly. However, when the system is fragile there is too small a margin between cash inflows and outflows. In this state of affairs any normal disappointment of

expectations concerning cash flows is sufficient to trigger the onset of a Minsky crisis. Alternatively the crisis may be reached earlier if an increasingly fragile system receives an external shock such as a rise in the interest rate or in the wage rate. Such a shock makes it more difficult for some firms with a particular form of indebtedness to repay their debts. Others feel they too may soon be short of funds. There is an increased liquidity preference. Once firms try to sell their assets a fall in asset prices starts - Minsky's debt deflation. This leads to a fall in investment which reinforces the crash. Minsky is none too clear about the necessary length of the depression, but once the turning point is reached, the conditions are re-laid for a repetition of the cycle.

Figure 1:



As discussed earlier, Minsky analyses the investment decision in terms of the demand price for capital assets (P_K) and their supply price (P_I). This is preferred over the MEC method. Although Keynes used the MEC method, he emphasised the importance of the role of the prices of capital goods (rather than the rate of interest) in bringing about equilibrium in the capital goods market.

> But the equality between the stock of capital-goods offered and the stock demanded will be brought about by the *prices* of capital goods, not by the rate of interest (Keynes, 1936: 186n, emphasis in original).

In a world of certainty, firms will demand an infinite amount of investment as long as $P_K > P_I$. But Minsky points out that in Keynes's world lender's and borrower's risk exists. Figure I above (reproduced from Minsky, 1975: 108) represents the financing behaviour of a representative firm. $\hat{Q}_1\hat{Q}_1$ depicts the prospective yield which is available for internal funding of investment. It is drawn as a rectangular hyperbola to show it is independent of the individual firm's level of investment. Likewise, the supply price of capital assets is assumed to be independent of the firm's level of investment. The amount of investment that can be internally financed, $\hat{I}$, will be given by the quotient of $\hat{Q}_1\hat{Q}_1$ and P_I If the firm wants to invest at a level higher than $\hat{I}$, it will have to use external funds. Since these are assumed to be more expensive, there is a discontinuity in the P_I curve at this point. The lender's risk curve then describes the supply price of investment goods and this increases along with lender's risk. Lender's risk exists because of the risk to the lender of default on the loan. While lender's risk raises the supply price of the capital asset, borrower's risk serves to lower the demand price. Borrower's risk arises because the entrepreneur is uncertain about the prospective yield. Where the two curves intersect at D_1 the level of investment, I_1 is determined.

In terms of averages, at I_1 level of investment, OA will be internally financed, AP_I debt financed, P_IC the interest charges and CP_K the profit.

As we have seen in the previous subsection, P_K and P_I are determined in very different ways. Minsky emphasises that P_I is the supply price of *current* (consumption or investment) output and, as such, is closely linked to the level of wages: if these are stable, then P_I will be stable. P_I is given to the individual firm. P_K on the other hand is dependent on the subjective estimate of the prospective returns (quasi-rents) the firm can earn from the asset. In contrast to P_I which is a flow magnitude, it is a stock magnitude.

In Minsky's model, it is the lender's and borrower's risk which are the immediate determinants of investment. If these decrease (the curves shift outwards so that they intersect to the right of D_1) a higher level of investment will be undertaken. Because of the increased cost of external finance, the supply price of investment (P_I) will rise once internally financed investment is exhausted. Hence the lender's risk curve slopes upwards. To see the influence of finance on P_K is not so easy. It would seem

that, in addition to the uncertainty surrounding the prospective returns which result in a particular P_K, there is an increased risk once money is borrowed. If we adopt the borrower's viewpoint, we can see that the more he borrows, the greater will be the proportion of certain cash outflows to the uncertain cash inflows. These extra uncertain cash inflows will not be as highly valued as the ones obtainable without borrowing. The returns will thus be discounted at a higher rate (capitalized at a lower rate). This is reflected in a lower P_K. Hence the borrower's risk curve slopes downwards.

The starting point for Minsky is the idea that a decision to invest is simultaneously a decision to acquire debt. (Unlike the neoclassical analysis saving does not precede investment - see Chick, 1983: Chapter 9.) He accepts that retained profits are used to fund investment, but focuses his attention on the necessity to acquire debt if further real investment is desired.

It is the funding of this further real investment which is the focus of Minsky's analysis. Keynes assumed that firms could acquire whatever funds they needed at the market rate of interest. Minsky points out that we need to examine closely the manner in which firms acquire their debt - we need to focus on the liability structure of firms. Here the analysis is on the micro level.

Firms finance their investment projects by selling assets i.e. titles to wealth (equity and bonds). This occurs on the stock exchange and financial markets. Minsky distinguishes three types of liability structures. The first, hedge financing, is where the firm funds most of its investment from internal sources and emits only a small amount of debt. Hedge financing is where the cash inflows to the firms (quasi-rents) are sufficient to cover the cash outflows payments on debt - in every period. Speculative financing describes the position where cash inflows are not sufficient to cover debt commitments in every period (refinancing is thus necessary); however, by the end of the investment project period, cash inflows will be sufficient to cover the total debt commitment. Ponzi financing is an extreme form of speculative financing whereby firms have to acquire more debt simply to pay the interest on the existing debt.

It is Minsky's contention that as a boom continues firms will be willing to finance more and more investment in a speculative way thus putting less and less of a premium on liquidity. This is because they are confident that future returns will be forthcoming which will more than cover the debt commitments. Likewise, those wealth holders who are willing to lend the finance do so because they too have a low

liquidity premium. They are willing to acquire equity and bonds and hold minimal idle balances. The analysis leads us to an examination of the asset portfolio of wealth holders (which include non-financial firms, financial firms and householders).

As the boom continues, so the liability structure becomes increasingly layered with debt built on debt: it becomes fragile. There is an inherent tendency for this to occur. This is because financial institutions profit out of selling debt: they are only too willing to supply the requisite funds. Now, in this financially fragile environment, wealth holders increasingly become aware of the danger of the heavily-layered liability structure. It takes only a normal disruption of expectations concerning cash flows for confidence in the system to weaken. Minsky sees non-financial firms selling assets to cover debt commitments. This may spread to other wealth holders, and if it does, the general selling of assets will lead to a fall in their prices and a consequent rise in the rate of interest.

The increase in liquidity preference and the consequent drying up of finance curtails the volume of investment; in Minsky's investment diagram we can visualise both the borrower's and lender's risk curves contracting. The reduction in investment will lead via multiplier-accelerator mechanisms to lower and lower levels of output and employment. We are in a debt-deflation process. Unemployment and a depression may result. "If the decline is not severe, the conditions for a more severe decline are created" (Jarsulic, 1988: 548).

For Minsky then, the basic instability of the economy arises in the financial sector. It arises because the prospective returns from investment occur over a long period whereas the investment project is funded with debt of a much shorter term: in this sense it is an investment theory of business cycles. The deep-seated cause of the instability of investment lies in the instability of portfolios and financial inter-relations because it is these institutions which reflect changing (uncertain) views about the future.

"Keynes without uncertainty is something like *Hamlet* without the Prince" (Minsky, 1975: 57). Minsky sees the economy not as naturally tending towards a position of rest, but rather as one in which each current state of the economy is transitory. The economy constantly moves from a boom to crisis to deflation to stagnation to expansion and recovery. "Each state nurtures forces that lead to its own destruction" (Minsky, 1975: 128).

Extending the Theory: Post-1975 Developments

The question that arises naturally from the foregoing is what has prevented a large-scale Minsky-type debt deflation and deep depression from occurring to date in the USA? Minsky (1986a) analyses the economic experience of the USA between 1975 and 1986. The reason the recession of 1975 did not turn into a deep depression is explained by Minsky as being due to the impact of government expenditure as well as lender-of-last-resort intervention by the central bank. However, the recession of 1982 was prevented from turning into a major depression simply by the central bank acting as lender of last resort: no government expenditure was needed. The theoretical explanation as to why massive government expenditure is sometimes also necessary (the 1975 US federal deficit increased to over five times the 1974 deficit - Minsky, 1986a: 29) is the task of Minsky (1982b, 1986a).

Minsky (1986a: 141) points out that the role of prices in neoclassical theory is "limited to explaining how relative prices of currently produced goods adjust so that markets are cleared...". But prices accomplish more than resource allocation only. In particular, they need to ensure

> that (1) a surplus is generated, (2) incomes are imputed to capital assets (i.e., profits), (3) the market prices of capital assets are consistent with the current production costs of outputs that become capital assets, and (4) obligations on business debts can be fulfilled ... [in short] ... *prices must carry profits* (Minsky, 1986a: 141-2, emphasis in original).

Prices, in addition to carrying profits, must also cover costs. Firms base their prices on costs which comprise labour, materials, as well as financial costs. The prices are calculated as a mark-up on these costs. The size of the mark-up depends on the market power of the firm.

Minsky goes on to stress that investment depends on the difference between two price levels that exist in the economy - the one for current output and the one for already-produced capital assets. The capital goods price, P_K, must exceed the price of current investment output, P_I, by a degree sufficient to ensure the required amount of investment. This means that both realised and expected profits must be sufficiently high. And this, in turn, leads us to ask how profits are determined. Minsky proceeds to answer this question along Kaleckian (1971) lines - see Minsky (1982b: 24-30; 1986a: 145n, 14n).

Several assumptions are made. Firstly, there are workers who produce consumer and investment goods, and capitalists who receive profits. Secondly, workers spend, and capitalists save, all their income. The demand for consumption goods thus stems solely from the total wage bill - there is no demand from profit income. If consumption goods only were produced, the total wage bill would be W_cN_c so that

$$P_cQ_c = W_cN_c, \text{ which gives us} \tag{2}$$

$$\pi_c = P_cQ_c - W_cN_c = 0 \tag{3}$$

where P_c and Q_c are the prices and quantities of consumer goods. Let W_c and W_I be the wage rates in the consumer good and investment good sectors, N_c and N_I employment in the respective sectors, and π the profits or gross capital income.

Now if W_IN_I represents the wage bill in the investment goods sector, then

$$P_cQ_c = W_cN_c + W_IN_I \text{ and} \tag{4}$$

$$\pi_c = P_cQ_c - W_cN_c = W_IN_I \tag{5}$$

so that profits in the consumer goods sector equal the wage bill in the investment goods sector. The demand for investment goods, I, is

$$I = P_IQ_I = W_IN_I + \pi_I \tag{6}$$

Since, from (4) $W_IN_I = \pi_c$ we have

$$I = \pi_c + \pi_I = \pi \tag{7}$$

Thus, we arrive at Kalecki's idea that profits equal investment. The conclusion is of course based on strong assumptions and Minsky (1986a: 147-170) proceeds to relax these conditions. The Kaleckian theory explains how government expenditure may help avert a Minsky crisis. Any decline in investment expenditure can be countered by an increase in government expenditure so that demand and profits remain at a level sufficient to maintain the appropriate level of investment.

> Investment or its equivalent in government deficits is necessary to sustain profits so that the inherited debt structure and historical capital-asset prices are validated (Minsky, 1986a: 169-170).
>
> Hence, a steady or increasing level of government expenditure can at least ameliorate the development of the crisis (Jarsulic, 1988: 548).

THE NEOCLASSICAL CRITICS

This section deals with those criticisms of Minsky which are made mostly from an orthodox position, i.e. the neoclassical-Keynesian synthesis and monetarism.

Flemming (1982) says Minsky's work does not do justice to mainstream theorists such as Tobin (1969) who have emphasised aspects of finance and stability rather than instability. Minsky's theory of investment relies on a two-sector model. This is not novel, he says, and cites Hicks (1937) and Witte (1963) as examples. Hahn (1966) has also examined the possibility of instability when there are many assets, some of which are financial. Flemming's next point is that Minsky's conclusion that wage and price flexibility may generate instability does not follow from any arguments concerning the financial and debt structure upon which so much of Minsky's thesis centres. Instead the Minsky mechanism that generates endogenous crises is extremely general - it is not restricted to capitalism. His argument depends on agents failing to distinguish a run of good luck from a favourable shift in their environment. This implies that authorities should intervene randomly to promote stability.

Melitz (1982) argues that Minsky's hypothesis is one of financial fragility rather than instability. The extent of speculative financing depends entirely on the term structure of debt: the shorter the term, the more speculative the form of debt. But the term structure of debt depends on the time profile of interest rates. For instance, if the long-term interest rate falls, the financial structure will become more robust! This means that the concept of speculative finance depends entirely on the time unit in which income is measured. If there is a long enough income period, all debtors become "hedgers". If there is a short enough income period, all debtors become "speculators". For any given income period, debtors change status automatically from hedgers to speculators as the maturity date approaches. Melitz questions whether this is a useful measure of speculative activity.

In Minsky's analysis the debt deflation process results from capital losses (on bonds) resulting from increasing interest rates causing falls in wealth. Melitz points out that the extent to which capital losses reduce wealth depends on how many bonds people actually choose to sell. It also depends on the wealth and price elasticities of the net stock demand for these assets - people may have enough money. While Minsky's analysis sees fragility increasing the shorter the term of debt, it must be remembered that countering this, increases in the interest rate lower the capital value of short-term assets by only a small amount. Melitz questions whether Minsky's hypothesis applies to capitalism as a whole or just to the United States. He contends that this is important since Minsky's argument depends on particular institutional arrangements. For example, it may matter that in both France and Japan extensive use is made of the lender-of-last-resort facility.

Tobin (1989) agrees with Flemming (1982) that Minsky has not done justice to his (Tobin's) work on finance and stability. In particular, he objects to being lumped together with monetarists and others who reject government intervention. On the contrary, he says, he altogether accepts the need for government intervention. Paying tribute to Minsky, he says he is not to be confused with the many economists who are currently concerned with the huge trade and federal deficits of the USA. His thesis has been around for three decades and his analysis of the problems of debt for the economy refers to much more than concern with recent deficits.

Tobin's (1989: 106) main criticism of Minsky is that his 'post-Keynesian', i.e. Kaleckian theory "is not convincingly linked to [his] central message ... the financial theory of business cycles". Another problem is that Minsky does not present his financial instability hypothesis as a formal model "and without one, readers cannot judge whether an undamped endogenous cycle follows from the assumptions or not" (Tobin, 1989: 106). This allows rational expectations theorists to argue that, with increased knowledge on the part of borrowers and lenders, the cycle would soon vanish.

On the empirical side, while it is generally agreed that the world economy has become more crisis prone since 1965, this may be easily explained by pointing to the many external shocks of this period: the Vietnam war and its financing, two oil supply and price shocks as well as the collapse of the Bretton Woods international monetary system. There is no need to invoke Minsky's theory for an explanation. (This echoes Flemming's criticism.) The reason why the economy's structure was vulnerable to these external shocks may quite easily be attributed to the old conflict between full employment and price stability. The recessions have been caused by

counter inflationary policies of the central bank. This implies the central bank's role as lender of last resort has not affected its ability to control the monetary system. This is supported by the fact that the severe 1929-type stock market crash of 1987 did not lead to a credit crunch, debt deflation or deep depression.

Tobin (1989) is not solely critical of Minsky. While the financial system seems to be more robust than Minsky's theory would have us believe, there are urgent reforms that need to be undertaken. And Minsky is correct to reject "Modigliani-Miller" theorems that money does not matter, i.e. that financial assets and debts cancel out in economic terms. Instead, as Minsky argues, financial relations have real economic consequences.

Minford (1987) contends that Minsky's thesis - that the capitalist system has a fatal flaw (the instability of its financial structure) - is itself flawed. "His picture of over-optimism in boom and pessimism in slump is of course true after the event, but it is useless before it" (Minford, 1987: 104). From a rational expectations perspective Minford argues that it is "difficult to beat the market systematically ... [there is no general way of knowing] ... better than the market ... [whether credit should be restricted or not]" (Minford, 1987: 104). Here he bases his criticism on the assumption of an endogenous money supply. While generally critical of Minsky's theory, he agrees with Tobin (1989) that Minsky is correct in urging reform in financial institutions.

> The lender-of-last-resort function is one whereby the central bank lets the institution die and its shareholders lose their money, but ensures the liquidity of the whole financial system. This has been taken to include, besides injecting money, insuring small depositors, whose confidence in the system is necessary, but not the deposits by other financial institutions (Minford, 1987: 103).

Minford bemoans the fact that in practice, the central bank has intervened to support not only small depositors, but also large depositors. This is in danger of eroding the discipline of the large depositors (who should know better). Unlike Minsky, he rejects the need for these bail outs (of the large depositors). Left on their own, they will soon realise they must conform to market discipline.

THE 'PROFIT-SQUEEZE' CRITICS

These theorists adopt the Marxian notion that there is a long-run tendency for the rate of profit to fall. Minsky's theory is viewed from the perspective of Marxist crisis theory. Each of the articles by Downe (1987), Harrison (1987) and Goldstein (1985) have common roots in the writings of Weisskopf, Bowles & Gordon (1983). These authors argue that the current crisis of capitalism is to be found in the squeeze on corporate profits. There are two sides to this squeeze: on the demand side we have a tendency towards underconsumption; on the supply side, especially since the 1960s, there has been a steady rise in the 'social' wage. Harrison (1987) contends that they have not taken into account the increased international competition and the restructuring of large corporations. This restructuring has seen an increasing number of American firms operating as "financial holding companies with only a transitory interest in any particular product, service or market" (Harrison, 1987: 78). Consequently, there has been conflict between financial and production managers. International competition has added to the squeeze on profits.

Downe (1987: 440) integrates the Taylor-O'Connell (1985) model of Minsky's theory with the "wage-determining model based on Bowles's (1985) model of the production process" and so attempts to extend Minsky's model. After following the Taylor-O'Connell (1985) model, he locates the source of instability in the effect of the political business cycle on labour costs. In a boom these costs rise and lead to inflation. If profits are a mark-up on wages, they will be increased by keeping wages down and increasing the work intensity. Thus a fall in inflation necessitates a fall in labour costs and this is achieved by raising the cost of being unemployed. This is what Reaganomics is all about. Thus, for Downe (1987: 453) a solution is possible to Minsky's crisis, "but with an anti-labor bias".

Goldstein's (1985) paper follows a similar structure. To him the source of the instability lies in the necessity for firms to have a variable mark-up if they want to preserve market share. In the long run, if a firm simply passes on any increases in wage costs in the form of price increases, it will find its market share eroded. The mark-up will generally increase from the trough to the mid-expansion of the cycle and then fall as unit labour costs rise. The firm now accepts a lower mark-up to preserve market share. The lower mark-up means lower investment.

Pollin (1983: 49) has criticised Minsky for the "narrowness of his overall vision", i.e. he concentrates on the financial sphere to the exclusion of the spheres of production and distribution. Absent in Minsky is any systematic tendency such as a falling rate

of profit that might generate crises. Pollin (1985: 349) contends that we need more than a "persistent boom psychology" to explain crises. In somewhat similar vein, Rousseas (1986: 115) likewise argues that the instability of capitalism is not just a monetary phenomenon, but arises out of basic inequalities of wealth. Dillard (1984) also questions whether inequalities of wealth and income are unrelated to the instability problem. He contends that Minsky has still to provide a "systematic, integrated statement of his theory as a whole" (Dillard, 1984: 1262).

The overall criticism of these profit-squeeze critics is that Minsky locates the roots of instability exclusively in the financial sector whereas they locate instability in the real sector. Crotty (1990) has criticised both Marxists (who root instability exclusively in the real sector) and Post Keynesians such as Minsky (who root instability exclusively in the monetary sector) for providing only monocausal theories of instability. He argues that Marx himself gave equal weight to both real and financial sources of instability. Crotty directs his attention at "Keynesians", in particular at Tobin and Minsky. The latter have wrongly adopted the neoclassical assumption that owners always dominate managers and so "conflate" the two. This leads them to the thesis that the roots of investment instability are to be found in the stock exchange and other financial markets.

Crotty (1990) argues that neither owners nor managers are completely independent. Furthermore, they have different goals and perspectives. Owners today are largely institutions who "turn over most of their portfolios in the course of a year" (Crotty, 1990: 534). This means they adopt a very short-term perspective; may easily sell stock if profits fall; prefer greater risk and debt because this gives greater liquidity and opportunities for diversification, and are mainly interested in maximising dividends. Managers, in contrast, adopt a longer-term perspective; are more interested in the growth and survival of the firm and so push capital accumulation beyond the point which maximises dividends. Crotty (1990: 538) concludes:

> The financial theories of investment espoused by Tobin, Minsky, and the Keynes of Ch.12 are simply wrong. To understand the determination of investment spending and theorize investment instability, we must study and model the managerial enterprise [i.e., the real sector] as well as financial markets; there is no legitimate shortcut through the conflation of agents.

One implication of Crotty's theory, that he fails to draw out, is that the longer-run perspective of managers' behaviour imparts a degree of stability to the system. To

the extent that his argument is correct, the economy will tend to be more stable than Minsky's theory would have us believe.

But the interesting point - for the purposes of this paper - arises from Crotty's criticism of both Marxists and "Keynesians" for failing to give due weight to both real and financial sources of instability. Crotty's criticism needs to be developed within the broader framework of the fundamental distinction raised in this paper between Real Analysis and Monetary Analysis. Part II addresses this issue.

To be concluded in SAJEMS NS Vol 2 No 2 June 1999.