

NOT THAT MINSKY MOMENT BUT ANOTHER ONE

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Abstract

The paper is in three parts. The first part discusses some of the methodological problems of studying financial crises in a systematic way. The second part discusses the evolution of Minsky's analysis of financial instability. The third part argues that the present crisis is best approached through the framework of Fisher's debt deflation theory which Minsky acknowledged as seminal to his own analysis.

1. Three methodological approaches

It is perhaps natural that, in a situation of largely unanticipated financial crisis (unanticipated in a New Classical sense that, had market participants anticipated the crisis, then they would have hedged or insured against it and the crisis would not have occurred) that questions have been raised about the role of risk models and recently even of the macroeconomic models that the Bank of England uses as a guide to policy. In those models it has increasingly been accepted, in line with the New Classical approach to macroeconomic dynamics, that changes in variables over time are responses to shocks or stochastic disturbances, i.e., random events with a known probability distribution, affecting a system that starts in general equilibrium, and then reverts back to a different general equilibrium. This may be contrasted with an older tradition in economic analysis attributing catastrophic economic events to particular market processes, of which perhaps the most famous (in this context) are Kindleberger's *Manias, Panics and Crashes* (Kindleberger 1989). An awareness of market process, i.e., of how transactions are conducted and how those transactions then affect financial and, in general, economic variables, is a methodological approach that sets Minsky apart from general equilibrium theorists. Early on, he made clear that he regarded theories which give no account of market process as defective (Toporowski 2008).

The two analytical approaches are not necessarily incompatible, since the outcomes of market processes, such as prices, may be modelled as variables exhibiting particular kinds of distribution. However, the two approaches are certainly not equivalent, at least not for policy-makers. While stochastic disturbance modelling provides satisfying simulations of crises, and even pre-crisis anticipations of crisis, the hallmark of any actual financial crisis is an inability to clear complex interrelationships between assets and liabilities that were previously settled in a routine way. In such a situation, an awareness that particular incidents have a stochastic distribution is not very helpful to those responsible for clearing up the mess. Unravelling those complex interrelationships, in order to clear payments and settle liabilities, and setting up new transactions routines

requires a careful analysis of actual market processes. This abstraction of stochastic modelling from really existing situations is what Marx had in mind when, discussing 'abstract forms of crisis', he observed:

'...how insipid the economists are who, when they are no longer able to explain away the phenomenon of over-production and crises, are content to say that these forms contain the possibility of *crises*, and that it is therefore *accidental* whether or not crises occur and consequently their occurrence is itself merely a *matter of chance*.' (Marx 1975, p. 512).

There is, moreover, another serious deficiency of the stochastic disturbance or 'shock' approach. This is that such shocks and the apparently dynamic (because they occur over time) adjustments to which they give rise are inevitably transitory before market-clearing general equilibrium is restored. In practice, as we are now much more aware, the structural shift that has occurred with the financial crisis is an outcome of much more deep-rooted and sustained macroeconomic imbalances. These have been most apparent in the United States, where the trade and fiscal deficits have been widening for nearly ten years. In China, the investment boom that is now coming to an end has been sustained for nearly thirty years. These are therefore very persistent 'shocks' and those who think in New Classical business cycle terms need more than just vague allusions to generic market rigidities to explain their persistence. Moreover, in the present economic situation any New Classical economists who may believe that a new market-clearing general equilibrium is emerging are, I think, very much mistaken or are using the notion of market-clearing (which includes full employment) rather loosely.

The approach to financial crisis that regards it as a structural shift following an extended period of expanding disequilibria, followed by a new period of extended imbalances, most notably in the labour market, suggests a different way of analysing financial crisis. This would be by examining the mechanisms by which macroeconomic imbalances were accommodated over the initial period. (Such mechanisms, for example, were provided in the period before the crisis by a process of what I have called capital market inflation, Toporowski 2000, Part 1). The analysis of crisis can then move on to examining the reasons why those accommodating mechanisms broke down and thereby precipitated the crisis. The subsequent economic decline can then be examined by regarding that decline as an outcome of a new set of macroeconomic imbalances reinforced by mechanisms generated in the crisis (see for example Perelstein 2009).

In the next section, I will argue that Minsky rejected the stochastic approach, embraced some of the market process approach, but really was rooted in the third approach outlined above, of growing imbalances hiding behind apparent economic stability because of accommodating mechanisms. The failure of these mechanisms induces crisis. In the third section, I present my own view of the crisis reconstructed from theoretical elements found in the work of Minsky and Irving Fisher.

2. The Evolution of Minsky's Financial Instability Hypothesis

A central theme in Minsky's analysis is the endogenous character of financial crisis: Crises does not arise because of exogenous 'shocks' or because stochastic disturbances are assumed to affect the economy. Minsky's work can be seen as identifying successively different mechanisms by which financial crisis arises through the normal functioning of the capitalist economy.

In his earliest work, his Ph.D. thesis written under the supervision of Joseph Schumpeter and Wassily Leontief, and his first academic publications (Minsky 1954/2004, Minsky 1957), Minsky criticized the main models of business cycles current in the United States at that time, for their failure to take into account monetary factors. He argued that money had to be included in any model of a modern capitalist economy in which firms use credit. An inelastic supply of money then becomes a factor in business as rising investment increases the demand for credit and causes interest rates to rise. A fall in investment would then reduce the demand for credit, and cause a corresponding fall in interest rates.

Minsky's argument is essentially a monetary business cycle, without the sophistication of say Hawtrey's model, in which stocks play a key role in the transmission mechanism. Minsky's point was really to criticize mechanical interpretations of the accelerator principle of investment, using a Marshallian short-period equilibrium (Toporowski 2008). In his extensive paper for the Commission on Money and Credit in 1964, Minsky refined his cash flow analysis of economic units, and showed their vulnerability to developments in the financial markets (Minsky 1964).

Research on Keynes in Cambridge, U.K., at the end of the 1960s, gave rise to a string of publications linking Minsky's analysis firmly with the Post-Keynesian approach (Minsky 1975). He now rejected the monetarist view that monetary expansion had only a transitory impact on output, and mainly affected prices. Prices were endogenous to the system, and monetary policy affected financial stability. In his 'financial instability hypothesis', Minsky adopted a Kaleckian reflux theory of profit, with an endogenous money supply (Minsky 1978). However, he took over from Irving Fisher the notion that an investment boom inevitably leads to greater indebtedness. Hence, the mechanism that brings about (macroeconomic) financial crisis is rising indebtedness of firms, and the failure of investment to generate a sufficient operating surplus to service the debts incurred through past and current investment (Minsky 1978). The microeconomic counterpart of this macroeconomic crisis was Minsky's famous shift in financing structures from 'hedged' to 'speculative', and from 'speculative' to 'Ponzi' financing.

This phase in Minsky's thinking culminated in his 1986 book *Stabilizing an Unstable Economy* (Minsky 1986), which expounds his view of capitalism as essentially prone to financial instability, in contrast to the mainstream view of capitalism as an equilibrium system. The essential mechanism of financial crisis is the inevitable tendency of indebtedness to rise faster than investment because investment is increasingly financed with debt. Thus, an essential disequilibrium (between investment generating profits, and debt creating payment commitments) in the system is initially sustained by rising

investment, and then breaks down when the burden of debt becomes unsustainable in relation to cash flow.

From 1986 onwards, Minsky's analysis went beyond the industrial business cycle analysis implicit in his view of financial fragility as an outcome of the balance between investment and the debt financing it. In his last years, Minsky reflected much more on a long term view, in which successful financing in 'money manager capitalism' gave rise to greater confidence that financing techniques are failure-proof. The result is a tendency for 'cushions of safety', i.e., the margins of internal funds, to be reduced, and increasing debt-financing. This then gives rise to increasing financial fragility over the longer term (Kregel 2008).

There are two essential flaws in Minsky's analysis, as he expounded it. The first is that, in adopting a Kaleckian reflux theory of profit, Minsky seems not to have realised that rising investment must also give rise to an increasing liquidity of firms' balance sheets, even if that investment is debt-financed. The second is that capital market inflation (sustained increases in financial asset values) tends to give rise more to equity financing, rather than debt. The latter was characteristic of at least the first part of the long financial boom that started in the U.S. and U.K. in the 1980s (Toporowski 2008).

Moreover, the common view of the financial crisis, as a psychological 'Minsky moment' in which euphoria about the profitability of financing ventures, turns into panic, as firms realize their indebtedness and seek to reduce it by selling assets, is at best a rather superficial view of the market mechanisms giving rise to financial crisis, due in large measure to the summary of Minsky's analysis which Kindleberger put forward (Kindleberger 1989). In the remaining part of this paper, I would like to put forward a reconstruction of the 'Minsky moment' that is more consistent than Minsky's analysis, and identifies more realistically the key factors in the present crisis.

3. The other Minsky moment

It is possible to reconstruct a more contemporary version of Minskyan crisis by reconfiguring the essential elements of Minsky's analysis, while eliminating the flaws in that analysis. This would view the current crisis as a crisis of collateralized lending in the Fisherian two-price-system model that was the basis of Minsky's financial instability hypothesis.

As indicated in the first part of this paper, the systems of general equilibrium that are commonly used to analyse asset markets routinely ignore what Minsky early on identified as the market process that actually occurs in such markets. Those markets do not fix prices that make supply equal to demand, except in a notional sense. Financial markets typically operate for extended periods out of equilibrium. When the demand for financial securities exceeds the amount of money that holders and issuers of those securities are prepared to take out of the market, prices rise. As prices rise, demand for those assets, far from falling off, is enhanced by a speculative demand for assets to benefit from capital gains. However, not all securities are equal, and prices of securities do not rise equally.

Short-term securities and bonds usually have the price at which they are repaid written into the terms of the bond. As the date of their repayment approaches, their market price converges on their repayment price. The market price of such bonds will only exceed that repayment price by a small margin reflecting any differences between the interest payable on such a bond, and the interest payable on equivalent new issues. Excess demand for new securities will therefore inflate most of all equities (common stocks) that do not have any fixed repayment value.

The majority of securities are issued by financial intermediaries and bought by other financial intermediaries. This issue therefore does not constitute any net expansion of credit, or of the balance sheets of non-financial businesses, such as would take out of the markets any excess net inflow of money into those markets. The non-financial sectors that do take money out of the markets are governments, and corporations. The finance that governments take out of the markets is limited by their fiscal position (the balance between government income and expenditure). An excess demand for securities, such as was set off by the inauguration of funded pension schemes in the U.K. and the U.S. therefore impacts most directly on the balance sheet operations of corporations. During the 1980s, corporations that issued securities in the capital markets found that they could issue shares cheaply. In large part this is because the return on shares is not just in the form of dividends paid out of company profits, but also in the form of capital gains, which are not paid by the company but by other buyers in the market for the shares.

As a result of the excess demand for shares, corporations have issued capital in excess of what they need to finance their commercial and industrial operations. In the past the over-capitalisation of companies might have been avoided because it would have involved the 'watering down' of profits (sharing a given amount of profits among more shareholders), or loss of control by the directors of a company who could no longer control the majority of shares at a company general meeting. However, today's shareholders are mostly institutions whose large diversified portfolios are sub-contracted to professional fund managers and rated on financial returns, rather than on their interventions in the running of companies. Those financial returns include the appreciation of the value of stocks through financial inflation, a return which is paid by other participants in the market, rather than by the issuer of the securities. By and large fund managers have too many diverse holdings to take any other than a financial interest in a company. At the same time, new techniques of senior management remuneration have tended to replace profit-related pay with share price-related pay, through stock options. Along with new techniques of debt management, stock option remuneration has removed inhibitions about the over-capitalisation of companies.

Excess capital has been used to replace bank borrowing with cheaper long-term capital. Replacing borrowing with shares also has the advantage that pre-tax profits can be made to rise by the reduction in interest cost. Where excess capital has not been used to reduce debt, it has been used to buy short-term financial assets. Alternatively, excess capital is committed to buying and selling companies. Hence the extended festival of merger and takeover activity and balance sheet restructuring that has characterised corporate finance since the 1980s.

The overall effect on banks of company over-capitalisation has been to make them more fragile. Before the 1970s, the largest, most reliable borrowers from banks were large corporations. From the end of the 1970s, such corporations found that they could borrow much more cheaply by issuing their own bills (company paper) or directly from the inter-bank market. If banks want to hold company loans, they have to buy them in the market at yields that gave banks no profit over their cost of funds in the capital or money markets. The loss of their best customers has turned banks towards fee-related business in derivatives and debt obligations markets, and towards lending into the property market and to other risky customers that banks had hitherto been treated with much more caution. The overall effect, from the savings and loans scandals of the early 1980s, to the sub-prime market crisis since 2007, has clearly been to make banking markets much more prone to crisis.

This capital market inflation is behind the long equity financing boom since the 1970s. In the housing market, the deregulation of housing credit since the 1980s has increased the amount of credit entering the housing market, driving up house prices. In a sense, this is the paradigmatic example of asset inflation with collateralised lending. The more house prices rise, the more credit comes into the market because housing is a necessity, and the prospects of capital gains may be set against the costs of greater indebtedness. Indeed, as house prices rise, the housing market becomes more liquid and more capital gains can be realized to reduce the debt induced by the inflation of housing assets (Toporowski 2009).

Furthermore, asset inflation improves the quality of loan collateral, not only by making that collateral more liquid, but also by increasing its value, so that the margin between the loan and the asset value increases. With competitive lending and turnover in the housing market, the prospective capital gain on housing collateral comes to be incorporated into the loan. Whereas at the start of the housing boom, during the 1980s, house purchasers were offered typically 80% of the value of the property as a mortgage loan, in the 1990s they could obtain 100% mortgages. Three years ago, borrowers in the U.K. were being offered 120% mortgages.

Unlike the Bernanke-Gertler financial accelerator model, this asset inflation was clearly a disequilibrium process. (The determining variable of the financial accelerator is a fluctuating net worth of economic agents, whereas in this analysis it is an unconstrained rise in asset values). But asset inflation had two stabilising features which put off the Minskyan crisis until 2008. The first was the over-capitalisation of large non-financial companies: Excess capital held in the form of liquid assets makes those companies more financially stable and capable of surviving a longer period of negative cash flow. The other stabiliser was the support for consumption expenditure from a debt-inflated housing market, whose capital gains could be extracted by the greater liquidity of that market. The use of capital gains for consumption household saving and made firms' investment a more effective generator of cash flow for the business sector (Toporowski 2009). Rising asset values thus hedged speculative and ponzi financing structures with capital gains.

The financial crisis results from the break-down of these two stabilisers. In the capital market the emergence of debt-financed equity funds, which bought out companies, transferred those funds debt onto the companies' balance sheets in order to re-sell the companies (and debts), transformed the process of capital market inflation. The trend towards equity financing was now converted into a process of placing on company balance sheets debts used to inflate the equity market. In the housing market, there was clearly a limit to which young people, at the start of their careers, could indebt themselves, even with the prospect of capital gains in their later middle age. It is significant that the housing boom broke not where houses were most expensive, where capital gains may be said to have been the greatest, and hence where a speculative 'bubble' may have been most distended. The boom broke where incomes were lowest, in the sub-prime sector of the market, where the market in the asset was least liquid, and therefore excessive debt could only be serviced out of a low and unreliable income, rather than out of capital gain.

With a reduction in the credit entering the capital and housing markets, relative to the credit being taken out of those markets, asset inflation reverses into asset deflation. Collateralised lending now chokes off the supply of credit even further. The proportion of housing value that mortgage lenders will advance has in recent months reduced to between 60% and 75%. This obliges purchasers to put more of their own money into house purchase. The higher deposit requirement has reduced the number of borrowers capable of meeting the standard for prudent collateralized lending. Moreover, with falling asset values, home-owners find that the excess of collateral value over outstanding loan value disappears, and may even become negative. Debt which previously could be written off against capital gain, must now be paid out of income.

In the company sector, the equivalent process involves reducing firms' investment, which then reduces the cash inflow of the firm sector as a whole. In both sectors a reluctance to borrow is accompanied by an increased desire to repay debt. Contrary to official opinion, the reduced lending of banks is not because banks are unwilling to lend, but because their customers are unwilling to borrow. In terms of Minsky's financing structures, financing obligations previously hedged by capital gains are made speculative by the fall in asset values, and speculative structures are turned into ponzi financing structures when income and asset values cannot generate sufficient cash flow to settle financing obligations.

Throughout the process of asset inflation and the subsequent deflation, companies, households and banks are behaving rationally and prudently in terms of what their recent experience tells them about their prospects. The problem lies in the mutually-reinforcing combination of asset inflation and collateralised lending, turning into asset and debt deflation.

Conclusion

The present financial crisis is not the result of euphoria, followed by panic and a rush to sell, but the outcome of asset inflation in the dual price system that Minsky took over from Irving Fisher, in a setting of collateralized lending. Measures to stabilize asset values are an essential element in financial reconstruction. Furthermore, financial

reconstruction must deal with more than just the stability of the banking system, or the broader financial system. Minsky's analysis, in the tradition of Fisher's debt deflation theory, was an analysis of the role of finance and financial instability in the instability of the economy as a whole. It is possible to stabilise the financial system by means of regulation. For example, a country could adopt a system of Islamic finance in which the banking system is stable because such a credit system does take economic risks away from its customers but lays off those risks to 'risk-sharing' depositors. If the authorities stabilise a banking system in this way without stabilising the economy, then, especially in times of economic instability (as in the 1970s) or even modest economic imbalance, there will be more than enough bankers and economists to argue that if only the regulations were made lighter, or preferably removed altogether, the credit system would then automatically alleviate those imbalances, and bring the economy back to equilibrium. And who then would argue against them, since we all teach our students that the credit system functions to accommodate economic imbalances and has done so quite effectively for decades with only recent disastrous results. The radical conclusion of Minsky's work remains that without stabilising the economy at large, banking stabilisation is unlikely to hold.

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