

13. Excess debt and asset deflation

Jan Toporowski

INTRODUCTION: THE FAILURE OF ECONOMIC THEORY

The financial crisis that is spreading out from countries with the most ‘advanced’ financial systems to the rest of the world has not been well served by economic theory. That is to say, economic theories did not, as they should, prepare policy-makers and practitioners for the crisis, and few theorists have been able to illuminate the course of the crisis and its implications with anything other than the insights that had conspicuously failed to prepare us for such a crisis.

In the mainstream, new classical economics has modelled a very attenuated financial system, driven by ‘rational’ individuals exchanging real resources to obtain such allocations in general equilibrium that maximize utility functions now and over time. Disturbances arise because of unanticipated ‘shocks’, following which general equilibrium is resumed. This unworldly philosophy ignores the very apparent macroeconomic imbalances that built up over many years (and therefore can hardly be described as ‘unanticipated shocks’) and that are now working themselves in the deflation of economies. However, it still plays a very real part in the thinking of policy-makers. Their general equilibrium models still reassure us that what is clearly emerging as a lengthy deflationary process is a temporary response to the shock of bank defaults, and that stable growth will be shortly resumed (Bank of England, 2008).

The new Keynesians have also been intellectually hamstrung by a methodological addiction to general equilibrium. This was used to model underemployment equilibria due to market ‘rigidities’. The more dynamic ‘financial accelerator’ model has a credit cycle driven by fluctuations in net wealth. However, this is still within a general equilibrium framework and with little explanation of the financial mechanics that have now broken down. Such mechanics are replaced by arbitrary constraints and lags imposed on the general equilibrium model, in order to generate a cycle (Bernanke and Gertler, 1989). Among behavioural economists Robert Shiller stands out for his embrace of what he regards as more realistic

financial economics that rejects ‘realism’, i.e. the notion that monetary and financial relations are a mere veil over real economic relations.

Outside the mainstream, post-Keynesians have traditionally emphasized low growth and high unemployment as consequences of the departure from ‘Keynesian policies’, which range from cheap money to fiscal activism (Coddington, 1983; Tily, 2007; Chick, 1973: ch. 8). For post-Keynesians, almost without exception, instability arises out of some combination of speculation and financial deregulation (e.g. Kregel, 2008; Wray, 2008). Over the years since post-Keynesianism emerged in the 1970s, its partisans have had one major methodological advantage over new classical and new Keynesian economists, namely the post-Keynesians’ rejection of general equilibrium. This advantage is now apparent, but that was of precious little benefit to post-Keynesians in the meantime and led to their being cast out of the mainstream. The rejection of general equilibrium inspired post-Keynesians to embrace an approach to financial market dynamics that I describe below as ‘market process’. Within this, post-Keynesians have emphasized the generation of economic disequilibrium because of uncertainty, perverse or fluctuating expectations, highlighting in particular the role of speculation in financial markets as a factor in capitalizt instability.

Outside the mainstream have also been old Keynesians critics of financial markets, such as Charles P. Kindleberger and John Kenneth Galbraith. Their economic-historical approach to their subject, rejection of the scientific pretensions of modern quantitative finance theory, and doom-laden forecasts as the markets rose caused their ideas to be marginalized in their senior stratum of their profession.

The present crisis has not dealt kindly with any of these schools of thought. The principal flaws have not been either a devotion to the efficiency of financial markets, or a belief in the inefficiency of those markets, since the former was, superficially at least, right through the long financial boom, and the latter is quite clearly right in the current crisis.

Perhaps the greatest casualties have been suffered by new classical ideas. The attenuated view of financial markets put forward by their most mathematically sophisticated exponents such as Michael Woodford has left them with little in the way of diagnostic equipment to bring to the analysis of the crisis. The equilibrium business cycle idea that real economies are briefly disturbed by ‘shocks’ is clearly inconsistent with not only the long-term structural disequilibria, most notably the macroeconomic imbalances of the USA, that preceded the crisis, but also the deflation now unfolding in the world economy.

The new Keynesian approach, focusing on information asymmetries, is also unsuitable for dealing with long-term imbalances. At best it produced a financial cycle based on *ad hoc* lags and restrictions. For all of their

claimed insight into credit market operations, new Keynesians offer little in the way of a theory of credit or liquidity, other than a balance sheet of net wealth, that is supposed to respond to changing financial conditions by inflating or deflating the economy. Their cousins, the behavioural finance school, have the disadvantage of being led by someone whose touching faith in the ability of futures markets to secure us against all economic disasters, and is dramatically out of tune with what we now know about the risk-reducing efficiency of financial derivatives (Shiller, 1993).

The 'old Keynesians' of Kindleberger and Galbraith seem to be amply vindicated by the events of the crisis. Their accounts of greed, enrichment through financial manipulations, the hubris of finance leading to the nemesis of depression, cannot be read without evoking vivid parallels with our times. Nevertheless, their insights, however profound, do not add up to a systematic analysis, in the sense of laying out the market mechanisms by which financial markets are inflated and then deflated. In the final analysis, attributing financial boom and collapse to some nebulous 'confidence', or 'euphoria' followed by a 'loss of confidence', or 'panic' reduces experience to perceptions of that experience, rather than explaining events (cf. 'Bagehot's *Lombard Street* is the psychology of finance, not the theory of it': Keynes, 1915).

Related considerations apply to post-Keynesian accounts of the crisis, attributing it to either speculation or deregulation. The post-Keynesian view, as indicated above, is firmly rooted in the market process in the financial markets. However, it provides for weak accounts of business cycles. In the version put forward by Keynes and Kaldor, speculation and volatile expectations are permanent conditions of financial markets (Keynes, 1936: ch. 12, Kaldor, 1939). They may provide an explanation of economic or financial instability, in the sense of something approaching stochastic changes in output and financial variables, but something more is needed to account for *extended* financial booms and collapses. As for deregulation as a factor in the financial crisis, it may be a necessary condition of the crisis, but it is not a sufficient one. The major dismantling of financial regulations in the USA and the UK took place in the 1970s and the 1980s. By the 1990s it was virtually complete. Yet it took another decade and a half for the deregulated edifice to collapse. If anything, this would suggest that deregulation provided the economy with a stable boom, rather than financial disorder. An additional complication in the post-Keynesian case, perhaps, is that Keynes himself opposed 'Schachtian' policies of financial regulation except in the international monetary sphere.

The crisis has also provided some vindication of the views of Marxists and institutionalist followers of Veblen, whose analyses of capitalism rested to some extent at least on the immanence of its failure. We now

know much more about the financial theories of Marx and Veblen, and can marvel at the sophistication of their analysis and even their anticipations of certain aspects of twenty-first-century financial capitalism. However, by clinging to the original observations of those masters, their followers today have been unable to develop any theory of money and finance for modern financial capitalism that can provide insights to match or even go beyond those of Keynes, Kalecki, Steindl and Minsky.

The laurels for anticipating the crisis must assuredly go to Hyman P. Minsky, the leading late twentieth-century exponent of the inherent instability of modern financial capitalism. In his work, more than in that of any other economist, may be found the essential ideas and concepts that are necessary to understand the generation of the crisis and its consequences. The flaws in his work arise not because his insights were incorrect but because, put together into a systematic analysis, they contain inconsistencies in monetary analysis (see Toporowski, 2008). Central to Minsky's explanation of crisis is the emergence of over-indebtedness in the economy, i.e. excessive debt in relation to the income that is supposed to service it. This he drew from the debt-deflation theory of Irving Fisher (Fisher, 1933). However, over-indebtedness is difficult to reconcile with the boom in equity financing since the 1980s, and in the years preceding the 1929 Crash. By all accounts equity financing is a stabilizing feature of financial systems rather than a destabilizing one ('the greater the weight of equity financing in the liability structure, the greater the likelihood that the unit is a hedge financing unit': Minsky, 1992: 7).

In general, the financial crisis, like the 1929 Crash and the Great Depression that succeeded it, has confounded general equilibrium theorists and justified those critics of capitalism who view the system as prone to crisis. But if the crisis reveals the credulity of general equilibrium theorists, the catastrophists have an equivalent defect in their argument. This is in their failure to explain the relative stability of financial capitalism in the decades before the crisis, with only peripheral, if no less catastrophic for the markets concerned, crises up to 2007. Monetarists have sought to explain this stability and subsequent collapse by attributing it to loose monetary policy before a tightening in 2007–08. This view has two flaws. In the first place, monetary policy was hardly loose in the countries now most affected by the crisis, such as the UK. More importantly, monetarists never put forward financial crisis as a possible consequence of loose monetary policy. In their view, loose monetary policy was supposed to generate inflation in wages and product markets, rather than in the financial markets. The absence of such wage and product market inflation prior to the crisis is an inconsistency in the monetarist explanation.

In sum, economists have failed to predict the crisis and those who now

claim to have predicted it failed to predict the extent of the boom that preceded it. This chapter presents an explanation of the crisis rooted in a theory of financial inflation that has injected excess debt into the economy. The next section looks at some of the methodological issues in credit cycle analysis. A further section presents an explanation of the crisis using elements of Minsky and my own theory of capital market inflation. The final section considers some distributional aspects of financial inflation and crisis.

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), 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 to a different general equilibrium. This may be contrasted with an older tradition in economic analysis attributing catastrophic economic events to particular market processes, perhaps most famously described in Kindleberger's *Manias, Panics and Crashes* (Kindleberger, 1989). Early on in his work Minsky made clear that he regarded theories that 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 translations 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 translations, 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: 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 USA, 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 30 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, e.g., Perelstein, 2009).

In the next section, I present my own view of how long-term structural imbalances were accommodated by the financial markets through stabilizing mechanisms that broke down in the months preceding the outbreak of the crisis in 2007.

INFLATING THE CREDIT MARKETS

The account of corporate borrowing that is put forward by virtually all schools of thought in economics presents it as a ‘voluntary’ phenomenon, undertaken to generate the income that will service and repay that borrowing, with Keynesians, new Keynesians and post-Keynesians dissenting only to highlight the uncertainty that surrounds future income. It is precisely that uncertainty that makes lending against future income the most hazardous kind of lending, so that for 200 years and more banks have preferred to lend against collateral. However, collateralized lending is vulnerable to asset inflation, leading to lending against prospective capital gains. In a book criticizing the quantity theory of money, a book that was roundly condemned by Keynes, who refused thereafter to publish his work in the *Economic Journal*, John Atkinson Hobson recognized collateralized lending against financial assets as a key source of credit expansion and pointed to the inflationary potential of the equity market in this regard (Hobson, 1913: 89–92). Hobson did not foresee that when those gains fail to materialize, debt becomes excessive in the sense that it can only be serviced through the sale of assets, or reduced expenditure. This is how asset inflation creates excess debt, which in turn creates deflation in the form of falling prices and demand.

As indicated in the first part of this chapter, the systems of general equilibrium that are commonly used to analyse asset markets routinely ignore 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 of disequilibrium, itself the counterpart of the structural disequilibrium of the real economy that they are accommodating. 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 UK and the USA 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 overcapitalization 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 subcontracted 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 that 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 overcapitalization 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 characterized corporate finance since the 1980s.

The overall effect on banks of company overcapitalization 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 interbank market. If banks want to hold company loans, they have to buy them in the market at yields that give 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 treated with much more caution. The overall effect, from the savings and loans scandals of the early 1980s, to the subprime 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 collateralized 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; see also below).

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 per cent of the value of the property as a mortgage loan, in the 1990s they could obtain 100 per cent mortgages. Three years ago, borrowers in the UK were being offered 120 per cent 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 stabilizing features which put off the Minskyan crisis until 2008. The first was the overcapitalization 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 stabilizer 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 reduced 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 breakdown of these two stabilizers. In the capital market the emergence of debt-financed private equity funds, which bought out companies, transferred those funds debt onto the companies' balance sheets in order to resell the companies (and debts), and transformed the process of capital market inflation. The trend towards equity financing was now converted into a process of converting the debts used to inflate the equity market into company debt. (In his exhaustive analysis of the 1929 Crash, Schumpeter (1939: 877) had noted 'the ominous increase in the flotations of securities of investment trusts and financial and trading companies since 1926 . . .'.) 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 subprime sector of the market, where the market in the asset was least liquid, and therefore excessive debt could be serviced only 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 reverts to asset deflation. Collateralized lending now chokes off the supply of credit even further. The proportion of housing value that mortgage lenders in the UK will advance has, in recent months, reduced to between 60 per cent and 75 per cent. 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, homeowners find that the excess of collateral value over outstanding loan value disappears, and may even become negative. Debt that 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 collateralized lending, inducing over-indebtedness in the economy. Modern finance theory presents borrowing as a financing activity to generate future income which is then supposed to service that borrowing. From this is derived the economic function of the rate of interest in neoclassical, Keynesian, new Keynesian, new classical and even many post-Keynesian theories, as a regulator of business investment. However, in speculative markets it ceases to have that function. More importantly, as long as asset inflation continues, asset markets remain liquid, allowing the build-up of collateralized debt. Contrary to Minsky, Fisher, Kindleberger and their followers, it is not business investment that causes company over-indebtedness. As recently as 2006, around 90 per cent of non-financial business investment in the USA was financed from retained profits. Companies succumb to excess debt through asset inflation and the intervention of investment funds and private equity funds in the capital market inflation process. Such firms operate by issuing equity and then leveraging it up with additional borrowing that is then transferred as a debt liability onto the balance sheet of companies bought by the funds.

ECONOMIC INEQUALITY AND ASSET INFLATION

In the discussion on the financial crisis, one important factor has been overlooked, namely the distribution of income and wealth. It is obvious that the social consequences of the financial crisis have been made much more painful by the growing inequalities of income and wealth in the USA and the UK. But there are also connections between such inequalities and financial instability. These have been highlighted by many critics of financialized capitalism. For example, Hobson argued that inequalities of wealth and income gave rise to oversaving, and hence economic stagnation. More recently, the late John Kenneth Galbraith noted the connection between tax cuts for the rich and asset inflation (Galbraith, 1988: Foreword).

Asset inflation and income and economic inequalities are intimately linked. When the asset is housing, its inflation is especially pernicious. The housing market then redistributes income and wealth, from young people earning less at the start of their careers and indebted themselves hugely in order to get somewhere decent to live to people enjoying highest earnings at the end of their careers. But housing inflation is also like a pyramid banking scheme because it requires more and more credit to be put into the housing market in order to allow those profiting from house inflation to realize their profits.

Nevertheless, even those entering the system with large debts hope to be able to profit from it. Such has been the dependence of recent governments and society in general on asset inflation that the political consensus is 'intensely relaxed' about such regressive redistribution of income. That consensus has encouraged the belief that the best that young people can do to enhance their prospects is to incur debt in order to 'get on the property ladder', i.e. enrich themselves (or at least improve their housing) through housing inflation.

Those at the bottom of the income distribution inevitably suffer most from rising house prices because, living in the worst housing, they have the least possibility to accommodate their house purchase to their income by buying cheaper, smaller housing. Because households in this social group have little other option but to over-incur debt in order to secure their housing, default rates among them are also most likely to rise with house price inflation. This inequality lies behind the problems in the sub-prime market in the USA and the equivalents of that market in the UK and elsewhere. Paradoxically, a more equal distribution of income and wealth is more likely to keep the housing market in equilibrium, because any increase in house prices above the rate of increase in income and wealth is more likely to result in a fall in demand for housing. Where income and wealth are already unequally distributed, and house prices rise faster than incomes, a fall in demand from those who can no longer afford a given class of housing is offset by the increased demand for that class of housing among households that previously could afford better housing. In this way, the redistribution of income and wealth from those with more modest incomes to those with higher incomes also facilitates asset inflation in the housing market.

Thus asset inflation has increased inequalities of wealth and income, and those inequalities have further fed that inflation. Such inflation is therefore a self-reinforcing pathology of financial markets and society, rather than, as the economics establishment tells us, a temporary disequilibrium (a 'bubble') in the markets. Financial stability rests not only on sound banking and financial institutions; it also requires a much more equal distribution of income and wealth.

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. Here it needs to be recognized that one of the functions of financial intermediation is to absorb risks that arise in the course of business. Stabilizing a banking system without stabilizing the economy makes any regulated financial system vulnerable to arguments from bankers and economists that if only the regulations were made lighter, or preferably removed altogether, the credit system would 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 stabilizing the economy at large, banking stabilization is unlikely to hold. To this must be added recognition that the inequalities of income and wealth that have scarred the most financialized economies are not incidental to asset inflation, but are a part of its pathology.

ACKNOWLEDGEMENT

I am grateful to Ms Fatima Tariq for her assistance.

REFERENCES

- Bank of England (2008), *Financial Stability Report*, No. 24, October.
- Bernanke, B.S. and M. Gertler (1989), 'Agency costs, net worth, and business fluctuations', *The American Economic Review*, **79** (1): 14–31.
- Chick, V. (1973), *The Theory of Monetary Policy*, London: Gray–Mills Publishing.
- Coddington, A.C. (1983), *Keynesian Economics: The Search for First Principles*, London: Allen & Unwin.
- Fisher, I. (1933), 'The debt deflation theory of Great Depression', *Econometrica*, **1** (1): 337–57.
- Galbraith, J.K. (1988), *The Great Crash*, London: André Deutsch.
- Hobson, J.A. (1913), *Gold, Prices and Wages with an Examination of the Quantity Theory*, London: Methuen.
- Kaldor, N. (1960 [1939]), 'Speculation and economic stability', in N. Kaldor,

- Essays on Economic Stability and Growth*, London: Gerald Duckworth & Co., pp. 17–58.
- Keynes, J.M. (1915), Review of Mrs. Russell Barrington (ed.), *The Works and Life of Walter Bagehot. Economic Journal*, in Donald Moggridge (ed.), *The Collected Writings of John Maynard Keynes Volume XI: Economic Articles and Correspondence Academic*, London: Macmillan and Cambridge University Press for the Royal Economic Society, 1973.
- Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*, London: Macmillan & Co.
- Kindleberger, C.P. (1989), *Manias, Panics and Crashes: A History of Financial Crises*, London: Macmillan.
- Kregel, J.A. (2008), ‘Minsky’s cushions of safety: systemic risk and the crisis in the U.S. subprime mortgage market’, *Public Policy Brief*, No. 93, New York: The Levy Economics Institute of Bard College.
- Marx, K. (1975), *Theories of Surplus Value Part II*, Moscow: Progress Publishers.
- Minsky, H.P. (1992), ‘The financial instability hypothesis’, Working Paper No. 74, New York: The Levy Economics Institute of Bard College.
- Perelstein, J.S. (2009), ‘Macroeconomic imbalances in the United States and their impact on the international financial system’, Working Paper No. 554, New York: The Levy Economics Institute of Bard College.
- Schumpeter, J.A. (1939), *Business Cycles A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*, New York: McGraw-Hill Book Company.
- Shiller R.J. (1993), *Macro Markets Creating Institutions for Managing Society’s Largest Economic Risks*, Oxford: The Clarendon Press.
- Tily, G. (2007), *Keynes’s General Theory, the Rate of Interest, and Keynesian Economics: Keynes Betrayed*, Basingstoke, UK: Palgrave Macmillan.
- Toporowski, J. (2000), *The End of Finance: The Theory of Capital Market Inflation, Financial Derivatives and Pension Fund Capitalism*, London: Routledge.
- Toporowski, J. (2008), ‘Minsky’s ‘Induced Investment and Business Cycles’, *Cambridge Journal of Economics*, **32** (5): 725–37.
- Toporowski, J. (2009), ‘The economics and culture of financial inflation’, *Competition and Change*, **13** (2): 147–58.
- Wray, L.R. (2008), ‘Financial markets meltdown: what can we learn from Minsky?’, *Public Policy Brief*, No. 94, New York: The Levy Economics Institute of Bard College, April.