Cambridge Journal of Economics 2009, **33,** 807–828
doi:10.1093/cje/bep024

The rise and fall of money manager capitalism: a Minskian approach

L. Randall Wray*

We are in the midst of a global financial crisis accompanied by a deep and probably long-lasting economic downturn; indeed, some analysts are already calling this the first depression of the post-World War II era. In this article, I argue that this is a systemic crisis—a crisis of what Hyman Minsky called money manager capitalism. I link this to the analyses of Hilferding and Veblen of an earlier period, finance capitalism, and argue that this is, in effect, the second failure of this type of capitalism. The essential characteristics of early finance capitalism are: relatively small government, use of external finance for investment, and growing concentration of economic power in the hands of 'trusts'—or what we might today call megacorporations with varied interests and diverse affiliations across 'industry', 'finance' and 'insurance'. Unlike the first phase, the second phase of finance capitalism took place in the context of a big government, neoconservative model. Minsky's analysis helps us to understand how the New Deal and big government created a paternalistic capitalism after World War II, which favoured high consumption, high employment, greater equality and financial stability; however, that stability was destabilising because it permitted the rise of managed money. Over time, innovation and deregulation increased fragility, which generated increasingly frequent and severe financial crises. While previous crises were resolved quickly enough to prevent 'it' (another debt deflation) from happening again, this crisis appears to be sufficiently severe that the very survival of money manager capitalism is thrown into question. The article examines the contributing factors to the current crisis, including the real estate boom and bust, the rise of risky financial instruments such as securitised debts and credit default swaps, the commodities market bubble and the fiscal squeeze. The article concludes with some suggestions concerning the possible outcome of the failure of this form of finance capitalism.

Key words: Hyman Minsky, Finance capitalism, Money manager capitalism, Financial crisis, Subprime crisis, Real estate boom and bust, Credit default swaps, Commodities market boom and bust, Securitisation
JEL classifications: G01, G20, E12, E32, E44, E5, E60, N10, P16

Manuscript received 11 March 2009; final version received 8 May 2009.
Address for correspondence: Economics Department, Haag 211, University of Missouri, 5100 Rockhill Road, Kansas City, MO 64110, USA. email: WrayR@umkc.edu

* Center for Full Employment and Price Stability, Kansas City and Levy Economics Institute, Annandale-on-Hudson, USA. I thank two anonymous referees for useful comments. In addition, I thank Yeva Nersisyan for assistance with several research projects that ultimately led to the writing of this article.

1. Introduction

There is little doubt that the world faces the worst economic crisis since the 1930s, with a few economists and policymakers beginning to talk about the possibility of a depression. References to Keynesian economics are commonplace, with only committed free marketeers arguing against government intervention. Even the wizards on Wall Street are begging for re-regulation of financial markets. Total US government commitments reached almost $9 trillion by mid February 2009, and few observers believe that will be enough. Recent revisions to gross domestic product (GDP) data indicate the sharpest decline since the Reagan recession. The Obama administration has projected current year federal budget deficits at $1.75 trillion (12% of GDP) and $1.17 trillion for 2010—although some private forecasters project $1.9 trillion for 2009, representing 13.5% of GDP, and it is not likely that it will fall next year.[1]

If anything, prospects facing the rest of the world are worse. The Fed has become the global lender of last resort, providing up to $600 billion in loans of dollar reserves to foreign central banks. Further, it is widely understood that the bail-out of US financial institutions (most prominently, of AIG) helps to protect foreign financial institutions (AIG is the biggest supplier of credit default swap [CDS] 'insurance' for debt held by European banks). Still, the run to relative safety in US treasuries has threatened exchange rates and increased risk spreads around the world. Social and political unrest is spreading around the periphery nations. Many economies will not recover until the USA does. While I believe that the USA has ample policy space at its disposal to resolve its crisis, many other nations do not. However, that is beyond the scope of this article.[2]

All sorts of explanations have been proffered for the causes of the crisis: lax regulation and oversight, rising inequality that encouraged households to borrow to support spending, greed and irrational exuberance and excessive global liquidity—spurred by easy money policy in the USA and by US current account deficits said to flood the world with too many dollars. Hyman Minsky's work has enjoyed unprecedented interest, with many calling this a 'Minsky moment'.[3] In this article I will not provide a detailed analysis of the events that have unfolded over the past two years, as I have already done so in two long publications.[4] Nor will I provide detailed critiques of the attempts made so far by policy-makers to deal with the crisis.[5] Finally, I will not provide specific policy proposals for resolving the crisis.[6]

Rather, what I offer is a more general analysis of the rise and fall of the form of capitalism that has dominated the global economy for the past generation. We should not view this as a 'moment'that can be traced to recent developments. Instead, as Minsky argued for nearly 50 years, we experienced a slow transformation of the financial system toward fragility that finally generated a systemic, global crisis. In the final years before his death in 1996, he had developed a 'stages' approach to this evolution, identifying the current phase as 'money manager capitalism'—vulnerable to crisis, with weakened safety nets so that a financial

[1] These numbers are not strictly comparable to past measures of the deficit because the new President has ordered his staff to bring all spending into the budget—rather than hiding some spending, such as that on the war against Iraq, as the previous administration had done.

[2] See Kelton and Wray (2009) for examination of Euroland's prospects.

[3] See Cassidy (2008), Chancellor (2007), McCulley (2007) and Whalen (2007). Analysts increasingly refer to the use of speculative and Ponzi finance during the upswing, and to the dangers of a Minsky–Fisher debt deflation. Also see Kregel (2007), Lahart (2007), and Magnus (2007) for references to Minsky, as well as Papadimitriou and Wray (1998) for a summary of Minsky's approach to finance capitalism.

[4] See Wray (2008A, 2008B).

[5] See Papadimitriou and Wray (2008).

[6] See Wray (2009).

collapse would create an economic calamity. Indeed, we have had a long series of crises, and the trend has been toward frequent and more severe crises.[1] This finally culminated in the booms and busts of the real estate market, the securitised products market, the commodities market and in the explosion of CDSs and other derivatives.

In short, following Hyman Minsky I blame money manager capitalism—characterised by highly leveraged funds seeking maximum total returns (income flows plus capital gains) in an environment that systematically under-prices risk. With little regulation or supervision of financial institutions, money managers concocted increasingly esoteric instruments. It is largely the capital gain—not the underlying income flow—that rewards the money manager. Capital gains, in turn are relatively easy to fabricate given the opacity of the underlying assets—what Warren Buffet termed 'financial weapons of mass destruction'. These are then leveraged to purchase the rights to prospective returns that purportedly underlie yet another asset class whose values can be bid up by managed money. Since each subsequent bust only wipes out a portion of the managed money, a new boom inevitably rises like a phoenix out of the ashes. However, this current crisis is so severe that it is destroying a considerable part of the managed money, thoroughly discrediting money managers and massively downsizing the financial sector—in other words, this might be the end of money manager capitalism.

I will first put the analysis in historical context. In some important respects, the money manager form of capitalism represents a return of 'finance capital' to its position of dominance—a position it had lost in the New Deal resolution of our last great depression. According to Minsky, that pre-1930s small government, laissez-faire economy failed. It was replaced by big government capitalism that was tolerably successful. Not only had government become a much bigger part of the economy, taken a bigger role in regulating and supervising business behaviour and provided numerous safety nets and guarantees, it had also promoted greater equality and growing incomes. For reasons I will summarise, all of this helped to stabilise the economy. However, over time our economy evolved a much more fragile financial structure subject to crises—as Minsky always argued, stability is destabilising—because money managers and their representatives in government shredded New Deal constraints, substituting alternative goals.

I begin with a brief summary of Thorstein Veblen's analysis of early twentieth century institutions because I believe it sheds light on modern capitalism. I next turn to Minsky's study of the evolution of post-war capitalism as money managers regained control. I briefly look at the role played by the state in this process, as it promoted 'free markets' and the 'ownership society'—a transition that could be more uncharitably called capture of the state apparatus by 'neocons' who replaced Minsky's 'paternalistic' state with what James Galbraith has described as a 'predator state'. By dismantling rules, regulations, institutions and safety nets, the predator state assisted the rise of money managers. Finally, I turn to the role played by three of the financial practices or instruments (securitisation, CDSs and commodities futures contracts) that helped create the conditions in which a Fisher–Minsky debt deflation process became possible, and to three 'triggers' (rising interest rates, oil prices and tax revenues) that brought overburdened consumers to their knees. This led to rising delinquencies and defaults that cut-off the supply of easy credit, while fear of job loss and home price depreciation depressed spending. A run to liquidity made it impossible for

[1] Examples include REITs in the early 1970s; LDC debt in the early 1980s; commercial real estate, junk bonds and the thrift crisis in the USA (with banking crises in many other nations) in the 1980s; stock market crashes in 1987 and again in 2000 with the dotcom bust; the Japanese meltdown from the early 1980s; and LTCM, the Russian default and Asian debt crises in the late 1990s.

financial institutions to continue to use short term debt to finance positions in increasingly toxic assets. The charade that unmarketable assets were valuable had to be abandoned, meaning that financial institutions were massively insolvent. The hole is now too big to be plugged with many trillions of dollars of bail-outs. Even as Larry Summers and Timmy Geithner try to save money manager capitalism, voters and markets reject their efforts (albeit for different reasons).

It is possible that this crisis will result in a transformation toward a more robust capitalism, just as the Great Depression led to the creation of institutions, regulations and policies that promoted stability. In order to do so, however, policy makers must recognise the scope of this crisis of the global financial system—it represents a decisive failure of money manager capitalism just as the Great Depression should be remembered as the defeat of laissez faire capitalism. What will replace money manager capitalism is currently unknowable.

2. Finance capitalism: historical antecedent to money manager capitalism

Early last century, Hilferding identified a new stage of capitalism characterised by complex financial relations and domination of industry by finance (Hilferding, 1981).[1] He argued that the most characteristic feature of finance capitalism is rising concentration which, on the one hand, eliminates 'free competition' through the formation of cartels and trusts, and on the other, brings bank and industrial capital into an ever more intertwined relationship (Hilferding, 1981, pp. 21–2). Veblen, Keynes, Schumpeter and, later, Minsky also recognised a new stage of capitalism: for Keynes, it represented the domination of speculation over enterprise, for Schumpeter it was the command over resources by innovators with access to finance, while Veblen distinguished between industrial and pecuniary pursuits.[2]

Minsky argued that finance capitalism had been preceeded by 'commercial capitalism', a stage in which firms used commercial banks to provide working capital (finance of production). However, plant and equipment had become so expensive that external finance of investment became necessary. External finance, in turn, is a prior commitment of future profits. This creates the possibility of default and bankruptcy—the concerns of Minsky—while at the same time it opens the door for separation of ownership from control. From this Keynes derives the 'whirlwinds of optimism and pessimism' addressed by Chapter 12 of his *General Theory* (attributed to the precariousness of valuing firms based on average opinion), while Veblen's analysis points to management's manipulation of the value of business capital, discussed below. Schumpeter's view was obviously more benign, as his 'vision' of markets was much more orthodox, but he still recognised the central importance of finance in breaking out of a 'circular flow'—where money merely facilitates production and circulation of a given size—through finance of innovation that allows the circular flow to grow. In Minsky's commercial capitalism stage, external finance was short-term and performed a role similar to that played by money in Schumpeter's circular flow as

[1] Some have argued that Hilferding's analysis applies directly only to the European situation (which relied on banks) and not to the USA (which was more 'market-oriented'). I will not go into that controversy because it is not important to my argument. The essential characteristics of early finance capitalism are: relatively small government, use of external finance and growing concentration of economic power in the hands of 'trusts'—or what we might today call megacorporations with varied interests and diverse affiliations across 'industry', 'finance' and 'insurance'.

[2] Concentration also plays a role in Veblen's theory. He argued that modern crises can be attributed to the 'sabotage of production' (or 'conscientious withdrawal of efficiency') by the 'captains of industry'.

positions in assets were mostly financed internally. However, with the rise of finance capitalism, access to external finance of positions in assets was necessary.[1] This fundamentally changed the nature of capitalism in a manner that made it much more unstable.

Veblen designated the early twentieth century version of capitalism the 'credit economy' where it is not the goods market that dominates, for '[t]he capital market has taken the first place . . . The capital market is the modern economic feature which makes and identifies the higher "credit economy" as such' (Veblen, 1958, p. 75). By 'capital' Veblen means the 'capitalized presumptive earning capacity', 'comprised of usufruct of whatever credit extension the given business concern's industrial equipment and good-will will support' (Veblen, 1958, p. 65). This is contrasted to 'effective industrial capital', the aggregate of the material items engaged in industrial output. Goodwill can be collateralised and thereby increase divergence between values of industrial and business capital (Veblen, 1958, p. 70).[2] When presumptive earning capacity rises, this is capitalised in credit and equity markets, thus access to credit fuels capitalised values, which fuels more credit and further increases the discrepancy between industrial and business capital values in a nice virtuous cycle. The 'putative earning-capacity' is subject to fluctuation and manipulation because it 'is the outcome of many surmises with respect to prospective earnings and the like; and . . . they proceed on an imperfect, largely conjectural, knowledge of present earning-capacity and on the still more imperfectly known future course of the goods market and of corporate policy' (Veblen, 1958, p. 77).

There is a tendency for the value of business capital to rise faster than prospective earnings that ultimately depend on final sales, the majority of which consists of sales to

[1] Youngman (1906) provides an interesting account of the relative decline of commercial paper (an instrument used for short term lending to firms) and the rise of direct investments by financial institutions in stocks and bonds. She argues that 'the banks, far from acting independently, operate as part of a larger industrial and financial whole, and that the union of the principal banking, trust, and insurance companies of the country . . . merely reflects the trend of development of this more comprehensive alliance. It is, in fact but one aspect of the general movement toward an extension of investment interests together with a concentration of group control . . . It is the necessary consequence, as it is the essential condition, of the effectual carrying through by large groups of investors of big railroad and industrial enterprises. Each group has its own financial backing which it brings to the support of any undertaking, and when several groups combine, their several financial interests also become allied' (Youngman, 1906, pp. 438–9). She goes on to describe how investment banks that underwrite securities and stock issues end up accumulating positions in these assets—sometimes to keep prices up. Thus, the argument that the USA was more 'market-based' is perhaps overstated since banks held a lot of the 'marketed' instruments.

[2] Further, there is a 'widow's cruse': goodwill 'is of a spiritual nature, such that, by virtue of the ubiquity proper to spiritual bodies, the whole of it may undividedly be present in every part of the various structures which it has created'—it is never diminished but rather can augment the capitalised value 'of the next corporation into which it enters' (Veblen, 1958, p. 85). Comparisons with the past boom in exotic instruments are apt: these new assets collateralised prospective capital gains and income flows that had no chance of being realised—'spirits' that relied on nothing more than winks and nods of traders. A package of a thousand toxic loans gave triple A value to several different sets of securities—to a CDO, to its CDO-squared, and to its CDO-cubed—the payments that would never be made were 'undividedly' present 'in every part of the various structures' created. During the current crisis, banks and other firms have been forced to write-down billions of dollars of goodwill that had supported borrowing during the boom. In 2008, banks wrote off more than $25 billion in goodwill, and still had $291 billion worth on their books at the end of the year. In many cases, goodwill was created by the purchase of troubled financial institutions holding toxic assets (Healy, 2009). The same sort of thing was common during the thrift crisis of the 1980s: two demonstrably insolvent institutions could be merged and create enough goodwill to make the unified institution solvent, simply by paying far above market price for the merger target (Wray, 1994). In a remarkable statement, the CFO of United Community Banks (which had to write down $70 million of goodwill in one quarter) argued that it was not a big deal because 'It was just a paper entry sitting on your balance sheet' (Healy, 2009). However, that 'paper entry' added to bank capital that was leveraged to purchase earning assets!

consumers (Veblen, 1958, p. 56). Eventually over-capitalisation is recognised, credit is not renewed, loans are called-in and assets sold. Because in a period of 'buoyancy' 'not only is the capitalization of the industrial property inflated on the basis of expectation, but in the making of contracts the margin of security is less closely looked after' (Veblen, 1958, p. 97). A general liquidation crisis follows—this only requires the recognition by one large creditor that the earning capacity of some debtor is not as great as required by the capitalisation. The virtuous cycle becomes vicious: when credit is cut-off, the debtor is forced to default on contracts and to call-in others, thereby forcing asset sales.

Increasing the discrepancy between business and industrial capital is the prime motivation driving the 'business interest' of managers—'not serviceability of the output, nor even vendibility of the output', but rather 'vendibility of corporate capital' (Veblen, 1958, p. 79). They are 'able to induce a discrepancy . . . by expedients well known and approved for the purpose. Partial information, as well as misinformation, sagaciously given out at a critical juncture, will go far . . . [i]f they are shrewd business men, as they commonly are . . .' (Veblen, 1958, p. 77–8). Recall Keynes's famous warning: 'the position is serious when enterprise becomes a bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done' (Keynes, 1964, p. 159). While Veblen agrees there is uncertainty and speculation involved, he emphasises the likely success of pecuniary initiative in manipulating stock values, even denying that 'business interest' faces much uncertainty: 'the certainty of gain, though perhaps not the relative amount of it, seems rather more assured in the large-scale manipulation of vendible capital than in business management with a view to a vendible product' (Veblen, 1958, p. 82). While manipulation does carry risk, it is 'not so much to the manipulators as such, as to the corporations . . . [and to] the business men who are not immediately concerned in this traffic' (Veblen, 1958, p. 82–3).[1]

We will see that much of this description can be applied to the present. Indeed, the intervening years, from the New Deal until the early 1970s, should be seen as an aberration. That phase of capitalism was unusually quiescent—the era of John Kenneth Galbraith's 'New Industrial State' (what Minsky called the paternalistic capitalism stage), when the interests of managers were more consistent with the public interest. Unfortunately, stability was interpreted to validate the orthodox belief that market processes are naturally stable—that results would be even better if constraints were relaxed.[2] As New Deal institutions (broadly defined) weakened, a new form of finance capitalism came to dominate the US and global economies. This is what Minsky called money manager capitalism.

3. Minsky: the glorious restoration of finance capitalism

In Minsky's approach modern capitalism requires expensive and long-lived capital assets, which in turn necessitates financing, thus, market power to gain access to financial markets. It is the relation between finance and investment that generates the instability of the modern capitalist economy. The Great Depression ended the early form of finance capitalism.[3] Minsky used to argue that even cartelisation of industry proved to be impotent

[1] Veblen's preference for an explanation based on 'capitalisation' over 'speculation' would seem to apply much more readily to the dealings of the Milkens, the Enrons and the Madoffs, than does Keynes's description of the game of 'Old Maid'.

[2] The clearest statement on the supposed new stable environment was Ben Bernanke's (2004) 'great moderation' thesis, which was taken seriously by markets and used as justification for discounting risk.

[3] 'Sixty years ago capitalism was a failed economic order . . .' (Minsky, 1993, p. 2).

in the face of pressures to cut prices, which in turn made it impossible to service debt issued to finance positions in capital assets. While unemployment rose to 'only' 25%, equity prices fell by 85% during the Great Depression. However, capitalism emerged from World War II with an array of new institutions that made it stronger than ever before: 'The capitalism that had a good run after the second world war was a big government interventionist economy with central banks that were less constrained than during the inter war years' (Minsky, 1993, p. 19). This was also a capitalism with a reduced role for finance.

Of course, the economy continued to evolve, and Minsky analysed this evolution to the fragile form of capitalism that exists today. He called the stage that emerged from World War II 'paternalistic capitalism', characterised by a 'big government' Treasury (whose spending is a fifth of GDP) with a budget that swings counter-cyclically to stabilise income, employment and profit flows (the latter comes from the Kalecki profits equation); by a 'big bank' Fed that kept interest rates low and intervened as lender of last resort; by a wide variety of government guarantees (deposit insurance, implicit government backing of most mortgages); social welfare programmes (Social Security, Aid to Families with Dependent Children, Medicaid and Medicare); by close supervision and regulation of financial institutions; and by a variety of programmes that promoted greater income and wealth equality (progressive taxes, minimum wage laws, some protection for organised labour; greater access to education and housing for low income individuals). In addition, government played an important role in providing finance and refinance facilities (for example the Reconstruction Finance Corporation and the Homeowner's Loan Corporation) and in developing the modern home mortgage market (based on a self-amortising 30-year fixed rate loan) supported by government sponsored enterprises.

It is also essential to recognise that the Great Depression and World War II directly contributed to the creation of an environment conducive to financial stability. The depression wiped out most financial assets and liabilities—this allowed firms and households to emerge with little private debt. Massive government deficit spending during World War II created private sector saving and profits, filling balance sheets with safe Treasury debt (60% of GDP after the war).[1] In effect, public debt was 'leveraged', serving as collateral for borrowing to finance housing and business investment. Creation of a middle class as well as the baby boom kept consumer demand high and fuelled rapid growth of state and local government spending on the infrastructure and public services desired by suburban consumers. High demand by government and consumers, in turn, generated most of the funds needed by business to internally finance spending, including investment.

Thus, for some decades after World War II 'finance capital' played an uncommonly small role. Memories of the Great Depression generated reluctance to borrow. Unions pressed for, and obtained, rising compensation—allowing rising living standards, financed mostly out of income. In any case, government guaranteed mortgages and student loans (both at relatively low interest rates), so most of the household debt was safe anyway. Jimmy Stewart's small thrifts and banks (burned during the depression) adopted prudent lending practices. The Glass Steagall Act separated investment banks from commercial

[1] In 1912 (during the first finance capitalism stage), total outstanding debt in the US was $62 billion, of which only $1.3 billion was federal government debt (business debt was $36 billion and consumer and mortgage debt totalled $15 billion). Commercial banks held $21 billion, about two-thirds of all debt held by financial institutions (Kaufman, 2009). By contrast, today federal government debt is $6.4 trillion (20% of the total), household debt is $14 trillion and business debt is over $11 trillion. Banks now account for only a quarter of all debt held by financial institutions. Today's version of finance capitalism has a much bigger government but a smaller role for banks relative to 'markets' or 'shadow banking'.

banks and various New Deal reforms protected market share for the heavily regulated portions of the financial sector. Military Keynesianism provided demand for the output of industry, often at guaranteed marked-up pricing. Low debt, high wages, high consumption and big government promoted stability.

Economists recognise a turning point in the early 1970s, and there are many plausible explanations for the transformation. Government spending began to grow more slowly than GDP; inflation-adjusted wages stagnated as unions lost power; inequality began to rise and poverty rates stopped falling; unemployment rates trended upward; and economic growth slowed. Intensified efforts to promote saving and investment (on the belief that this would restore growth) only made matters worse. Supply siders helped to concentrate income in the hands of the wealthy, arguing that this would generate more saving and investment. However, as Keynesians maintain, this could not increase saving but would reduce demand and thus income. Likewise, policy to favour investment (such as favourable tax treatment) cannot compensate for lack of demand for consumption goods, as it worsens the 'Domar problem'.[1]

Further, as Minsky argued, increasing the private investment share of GDP generated inflation as well as instability. First, relative growth of investment introduces inflationary pressures, since aggregate prices of consumer goods must be marked-up over wages required to produce them to allow workers in other sectors to consume (Minsky, 2008B). Second, it promotes inequality since wages and profits in the investment sector are higher due to greater economic power (of unions and firms). Third, as mentioned above, it creates excessive productive capacity unless demand rises sufficiently. Finally, investment-fuelled economic growth tends to produce growing private debt ratios that increase financial fragility (Minsky, 2008A). For this reason, Minsky argued that government-spending-led growth is more sustainable because it allows private sector spending to grow based on income rather than private debt—as it had in the earlier post-war period.

The 1960s and 1970s saw the development of an array of financial institution liabilities circumventing New Deal constraints as finance responded to profit opportunities. After the disastrous Volcker experiment in monetarism (1979–82), the pace of innovation accelerated as many new financial practices were adopted to protect institutions from interest rate risk. These included securitisation of mortgages, derivatives to hedge interest rate (and exchange rate) risk, and many types of 'off balance sheet' operations (helping to evade reserve and capital restraints). Favourable tax treatment of interest encouraged leveraged buy-outs to substitute debt for equity (with the take-over financed by debt that would be serviced by the target's future income flows). Another major transformation occurred in the 1990s with innovations that increased access to credit and changed attitudes of firms and households about prudent levels of debt. Now consumption led the way as the economy finally returned to 1960s-like performance. Robust growth returned, now fuelled by private deficit spending, not by growth of government spending and private income. All of this led to what Minsky called money manager capitalism.[2]

[1] Briefly stated, with capital-saving innovations, the supply side or capacity effects of investment outstrip the demand side or multiplier effects—leaving capital idle, depressing demand (Vatter and Walker, 1997; Wray, 2008C).

[2] Minsky defined it as follows: 'Capitalism in the United States is now in a new stage, money manager capitalism, in which the proximate owners of a vast proportion of financial instruments are mutual and pension funds. The total return on the portfolio is the only criteria used for judging the performance of the managers of these funds, which translates into an emphasis upon the bottom line in the management of business organizations' (Minsky, 1996).

In the following sections we examine the rise and fall of the money managers, first looking at the role played by policy-makers and then turning to transformation of the financial sector. Innovations included securitisation, creation of CDSs as 'insurance', and movement of managed money into commodities futures. Finally, we examine the role played by three 'triggers' in the crisis: higher interest rates, rising commodity prices and the fiscal squeeze caused by rapidly rising tax revenues. In the conclusion we contemplate the failure of the money manager phase of capitalism.

4. Money managers, neocons and the ownership society

In his remarkable new book, James K. Galbraith (2008) synthesises Veblen's notion of the predator with John Kenneth Galbraith's new industrial state. The result is what the younger Galbraith terms the predator state. Jamie insists that his father's analysis was correct, however, it was already outdated by the early 1970s as the Bretton Woods system fell apart—and as finance wrested control from industry. In this section I link the Veblen/Galbraith notion of predators to the take-over of the state apparatus in the interest of money managers by neoconservatives (or what are called neoliberals outside the USA). This encouraged the transformation of the economy from 'paternalistic capitalism' toward a form of financial capitalism that Minsky called 'money manager capitalism'.

As economic performance deteriorated in the 1970s, neoconservatives promised that 'free markets' would provide an antidote to 'planning' that was said to constrain recovery and growth. In truth, all economies are always and everywhere planned—for the simple reason that planning is the use of today's resources to meet tomorrow's needs—so the only question is who is going to do the planning, and to whom are the benefits going to flow? In the paternalistic/new industrial state, government participated in planning and, at least to some degree, operated in the public interest. Using the cover of laissez faire, the neoconservatives simply changed the constituency—to the rich—while never downsizing government. That is, the predator state is a Big Government operating in the interests of money managers under cover of laissez faire marketing—and this played a key role in the transition from paternalistic to money manager capitalism.

There were many regulatory changes that assisted the transformation over the entire period from the 1960s to the 2000s, but three recent acts are particularly important for the discussion that comes later: the Financial Modernisation Act of 1999 (eliminated New Deal functional segregation); the Commodities Futures Modernization Act of 2000 (excluded new instruments, including CDSs, from regulation, making the Enron fiasco possible); and the Employee Retirement Income Security Act of 2000 (expanded the range of assets that pension funds could buy) (Tymoigne, 2010). Some of these changes responded to innovations that had already undermined New Deal restraints, while others were apparently pushed-through by administration officials with strong ties to financial institutions that would benefit. Whatever the case, these changes allowed for greater leverage ratios, riskier practices, greater opacity, less oversight and regulation, consolidation of power in 'too big to fail' financial institutions that operated across the financial services spectrum (combining commercial banking, investment banking and insurance) and greater risk. Support of these changes generated huge campaign contributions for political candidates (Ferguson and Johnson, 2009). In the international sphere, there was also a movement toward 'self-regulation', a bias that was enshrined in the Basle II guidelines (Wray, 2006). No one captured the reigning sentiment better (or played a bigger role in the deregulation movement) than Chairman Greenspan: 'Market participants usually have strong incentives to monitor and control the risks they assume in choosing to deal with particular counterparties . . . Private regulation generally is far better at constraining risk-taking than is government regulation' (quoted in Ferguson and Johnson, 2009, p. 31). In other words, the state would take a step back and let 'free markets' regulate themselves.

Consistent with the rise of the predator state and neocon ideology has been the promotion of an 'ownership society' agenda. This proved to be of critical importance because of the role that US real estate played both in the ideological thrust of US politics, and also in the explosion of money manager activities in derivatives that eventually went catastrophically bad. President Bush's website proudly proclaimed that 'Since becoming President of the United States in 2001, President Bush has worked with the Congress to create an ownership society and build a future of security, prosperity, and opportunity for all Americans'. 'Reforms' pushed by neocons included privatisation of Social Security, tightening bankruptcy law, replacing income and wealth taxes with consumption taxes, transferring health-care burdens to patients, devolution of government responsibility, substituting 'personal reemployment and training accounts' for unemployment benefits, 'No Child Left Behind' and school vouchers legislation, elimination of welfare 'entitlements', bridling 'runaway trial lawyers', transformation of private pensions to defined contribution plans, the movement against government 'takings', and continuing attempts to hand national resources over to private exploiters.[1] In addition, 'freeing' financial markets and money managers played a critical role in (temporarily) increasing homeownership—the most visible 'success' of the ownership society policy. While supporters held out the promise that access to wealth would be broadened, I have argued that such policies actually *increased* inequality, which undermines an important justification for policies that aim to promote ownership.[2] (Wray, 2005A, 2005B) Again, the most telling evidence is that by early spring 2009, homeownership rates had already returned to the pre-Bush levels, with millions more foreclosures expected and with many more millions of America's homeowners 'underwater' (mortgage debt exceeds value of their homes).

The case for existence of an ownership society really rests on *home* ownership, since owner-occupied homes represent the only significant asset held by families across all income and wealth percentiles. However, about half the home 'owners' have mortgages against their properties and that debt rose quickly—from 40% of personal disposable income in 1984 to 100% at the peak of the boom. Indeed, recent years have seen a tendency to cash out equity—the housing 'ATM' phenomenon—contributing to rising debt ratios (and these loans are facing high default rates). Further, while financial assets and net worth are heavily skewed toward the richest households, debts are more 'democratically' shared—with the bottom half of the wealth distribution actually 'enjoying' more debt relative to income, and absolutely higher levels of debt in some cases.

[1] Space constraints do not permit a thorough explication of the links between these policies and neoconservative ideology and the interests of money managers (see Wray, 2005A).

[2] Supporters claim that ownership promotes responsibility, citizenship, active participation in society and care of the environment. As the Cato Institute's David Boaz explains, 'People who are owners feel more dignity, more pride, and more confidence. They have a stronger stake, not just in their own property, but in their community and their society' (Boaz, 2005). Owners have an interest in America that 'renters' and transient 'users' of resources do not. Public ownership of resources or provision of services encourages abuse—as in Garrett Hardin's 'tragedy of the commons' (Hardin, 1968). Uncertainty associated with relying on publicly owned and provided services arises because politicians can (and do) change access rules. Only private ownership can empower individuals and provide the discipline and real freedom to induce Americans to take control of their healthcare, environment, education and retirement. Hence, elimination of New Deal and other obstacles is said to democratise access to wealth.

With little or no equity cushion, even a slight downturn in real estate prices—or a decline in household income—would lead to foreclosures. The repercussions of a slowdown in real estate markets would be far-reaching, given the level of household debt, given that the family home represents a huge chunk of typical household wealth and given how important the housing bubble was for job creation. It is ironic that the 30-year mortgage brought to us by New Deal government guarantees—making home ownership possible for working Americans for the first time—morphed into a speculation-fuelling, debt-pushing casino that buried homeowners in a mountain of liabilities. Creditors emerge as owners of the foreclosed houses *and* with claims on debtors, who will be subject to a form of perpetual debt bondage (bankruptcy 'reform' does not allow relief from debt on a first home—this was seen as a 'credit enhancement' that made securitised subprime mortgages safer—but it still allows relief for those—like Candidate McCain—rich enough to own more than one home).[1] Many 'home owners' merely occupy, manage and improve homes really owned by the *true* owner class—those with lots of wealth, particularly financial wealth.

Thus, the neocon policies created a sharper division between a small class of owners and a much larger class of nonowners—including the highly indebted putative owners of homes. When neocon predators captured the state, this became inevitable because government policy was increasingly directed by and for the owners. Much more could be said about predators and the use of no-bid contracts in New Orleans and Iraq (which were turned into giant ownership laboratories) and rampant insider deals, corruption, fraud and cleptocracy that rivals anything the Russian Mafia could produce. With rising inequality, the true ownership class was actually shrinking and government policy was directed by a handful of predators for the benefit of that elite. The fallout was home price appreciation; when prices collapsed, the economy crashed, unemployment exploded, and the nation's real wealth became more concentrated in the hands of predators.

There was thus a fortuitous synergy: government policy promoted 'ownership', 'free markets' that actually generated rising inequality, innovations that increased risk and—as we see in the next section—esoteric instruments that made home ownership less affordable. The result was rising debt that would eventually lead to collapse of the financial system.

5. The demise of banking, the rise of securitisation and the real estate boom

In the developed world there has been a long term transition away from relatively tightly regulated banking toward 'market-based' financial institutions. This transformation is most clear in the USA, which had separated commercial banking from investment banking (broader array of financial instruments including equities and securities). Ironically, the push to increase safety and soundness through creation of international standards as adopted in the Basle agreements actually encouraged these developments—which, as we now know, greatly increased systemic risk. Here I focus on developments in the USA, although to a lesser degree there was a similar transformation in other developed nations.[2]

[1] Widespread home ownership *is* beneficial, and for at least some of the reasons enumerated by promoters of the ownership society. However, to equate holding a mortgaged family home with membership in a class of 'citizen investors' (as neocons do) borders on delusion.

[2] This is not surprising given the importance of the USA in the world economy and given that similar ideas were guiding policy makers and financial institution management around the world.

Just as the early phase of financial capitalism saw consolidation, the past few decades have seen considerable concentration of financial power—in part due to elimination of Glass–Steagall (permitting formation of huge conglomerates that operate across the spectrum of the financial services sector) and other regulations that restricted growth, and in part due to the 'too big to fail' doctrine that encourages mergers of failing institutions with large (purportedly healthy) institutions.[1] As a result, there was concentration of assets in the top institutions: in 1990 the ten largest US financial institutions held only 10% of financial assets—now it is 50%; the top twenty institutions hold 70% (compared with only 12% in 1990) (Kaufman, 2009). At the same time, the share of financial assets held by regulated banks fell from 50% in the early post-war period to under 25% by the 1990s (Wray, 2008A). In addition, the share of bank revenue that came from trading operations (rather than from making and holding loans) rose to over 90% for the Americas (80% in Europe, the Middle East and Africa) by 2006 (Nesvetailova and Palan, 2008). Finally, while the financial services sector accounted for only 16% of corporate output in the USA in 2007, it accounted for more than 40% of corporate profits. From 2000 to mid 2007, financial services stocks increased in value by 78% while the US stock market increased by only 6% per year (Nesvetailova and Palan, 2008, p. 174). These data are consistent with the hypothesis that financial capitalism is characterised by a shift of power toward the financial sector.

A major innovation was the increasing use of derivatives—financial instruments whose value 'derives from' underlying collateral. Securities, CDSs and commodities futures contracts are all important examples and each of these played a role in producing the conditions that made this crisis possible. Modern securitisation of home mortgages began in the early 1980s. While usually presented as a technological innovation through private sector initiative to spread risk, in reality—as Minsky (1987) argued—it was a response to policy initiated by Chairman Volcker in 1979, pushing the Fed funds rate above 20%.[2] In the new policy regime, no financial institution could afford to be stuck with long term fixed rate mortgages. Hence, regulators 'freed' banks and thrifts to pursue higher return and riskier activities (Black, 2005; Wray, 1994). The long term consequence was the shift of assets off their books to avoid interest rate risk, for example by asset securitisation and sale. What had been a non-market activity (a contract negotiated by lending officer and prospective homeowner) was gradually transformed to produce a seemingly homogenous financial product marketed globally. Other debts were soon securitised, including credit card receivables, student loans, auto-related debt and commercial loans.

Minsky (1987) argued that securitisation was important for the globalisation of finance, as securitisation creates assets freed from national boundaries. Packaged securities were appealing for global investors trying to achieve the desired proportion of dollar-denominated assets. Total dollar-denominated securities reached over $10 trillion; other kinds of financial assets grew even faster—at the peak, global CDSs reached $60 trillion, and total credit derivatives were at least ten times bigger. These assets linked balance sheets

[1] In a concise statement, Mayer captures the essential difference between commercial banking and investment banking: 'The commercial banker confronted with a borrower wants to know how the borrower will pay him back. The investment banker confronted with a borrower wants to know how he can sell the paper' (Mayer, 2009, p. 7). He concludes, in concert with a 1987 statement by Henry Kaufman, that 'there are three activities that have to be kept apart: lending, underwriting of securities and equity investing' (Mayer, 2009, p. 4) Note that this is precisely what Glass–Steagall did, responding to the failure of the first form of finance capital.

[2] See also Kuttner (2007) and Wray (1994).

all over the world, so that defaults in one small market could snowball across the globe: two German banks were the first to fail due to American subprime loan problems.[1]

By moving assets off their books banks could escape reserve and capital requirements—as well as regulation and oversight. As Minsky (1987) argued, investment banks would pay ratings agencies to bless the securities and hire economists to develop models to demonstrate that interest earnings would more than compensate for risks. Risk raters and economic modellers served as credit enhancers—giving securities the investment-grade rating required by insurance and pension funds. Later, other credit enhancements were added, such as large penalties for early payment and buy-back guarantees in the event of capital losses due to unexpectedly high defaults—the latter became important when the crisis hit because risks came right back to banks due to the guarantees. Another credit enhancement played an essential role—insurance on the securities, sold by MBIA (the world's largest insurer), AMBAC, FGIC Corp. and CFIG. Without affordable insurance and high credit ratings for the insurers themselves, the market for heterogeneous debt would be limited.

There is one other development: David Li's creation of the Gaussian copula function used to price risk (Salmon, 2009). Most of the mortgages originally securitised were 'conforming loans' that met standards established by Fannie Mae and Freddie Mac and were covered by quasi-government insurance.[2] Strong underwriting standards plus the guarantee meant that these mortgages were virtually risk-free, thus, the securities based on packages of mortgages were also safe. However, managed money had an appetite for risk and its accompanying high return. Hence, riskier assets, including Alt-A and subprime mortgages were also securitised.[3] For a variety of reasons, securities based on non-conforming loans are much more difficult to price: newer instruments have less history from which to calculate default probabilities and idiosyncratic loans packaged together make it harder to assess overall risk. One of the advantages of holding a security over outright ownership of an individual mortgage is one can diversify risks if default probabilities of individual mortgages underlying the security are uncorrelated. Including mortgages from all across the country, from lots of different kinds of communities, would appear to diversify risks in this manner. But how can one price such a security? One method would be to obtain default probabilities for each type of mortgage included in the package, then assess the correlation of these probabilities.

That would be very difficult and time consuming. Li's model appeared to solve the problem through an ingenious application of modern finance theory combined with the development of a market in CDSs.[4] The price of a CDS can be used as a proxy for the default risk on the bond itself. One could obtain a measure of the riskiness of any kind of debt for which such 'insurance' is available on the presumption that financial markets are

[1] Nesvetailova and Palan (2008) argue that while the supply of assets that eventually led to the crisis came from America, the demand for these assets was global. Ten per cent of all US mortgages are held outside the USA; a fifth of the securities issued by Fannie Mae, Freddie Mac and other government sponsored enterprises are held abroad.

[2] While there was no explicit Treasury guarantee, markets presumed government would intervene as necessary—an expectation that proved justified when Fannie and Freddie later were unable to cover their losses.

[3] As Kaufman (2009) puts it, this innovation 'was the securitisation of non-marketable obligations' that created 'the illusion that credit risk could be reduced if the instrument becomes marketable'.

[4] A financial institution can sell a CDS promising to pay the holder of a bond in the event of default by the bond's issuer. The buyer of the CDS pays a fee, say \$1 per year for insurance on a \$100 bond, with the 'price' for insurance higher on riskier bonds—say \$5 per year for a \$100 bond with five times the probability of default.

'efficiently' pricing risks. In this way, one uses the CDS price for a class of mortgages (or any other kind of debt) to measure risk of similar mortgages.[1] In 2000, Li took the additional step of using CDS prices to model default correlations—determining whether CDS prices of different kinds of debt were correlated. Those who packaged debt into securities could use his model to ensure that the expected defaults on the included debts would not be correlated. This led to a literal explosion of packages of pools of debts, called collateralised debt obligations (CDOs) (Salmon, 2009).[2] Of course, if it turned out that markets had improperly priced the CDSs, or if the future correlations deviated substantially from what the market expected when prices were formed, the pricing model could turn out to be catastrophically wrong.

Finally, leverage rose spectacularly over time, from the typical banking leverage ratios of 10 or 12, to investment banking ratios of 30 and to high flying hedge fund ratios of 300 to one. There were two primary justifications for rising leverage: first, diversification provided through securitisation lowers risk; second lower volatility (due in part to Bernanke's 'great moderation' and the 'Greenspan Put'—no matter what happens, the central bank will save markets) also allows for greater leverage ratios. And, as always happens in a boom, financing tends toward the short term end of the spectrum, as longer positions in assets are taken on the basis of short term debt. This is fine so long as the short term debt can be rolled over. However, the end of every boom always sees a reversal—the short term credit that was easy to obtain in the boom suddenly dries up in the bust. Volatility rises and it turns out that risks become highly correlated through systemic effects.

It is important to understand that complexity and opacity of the new instruments was desired. With huge sums of money managed by clever and well-compensated 'rocket scientists' seeking above-average returns, any innovation would be quickly copied, reducing spreads as it became 'saturated'. Using highly complex models to create and price new instruments meant that competitors would not be able to replicate strategies. Over the counter customised assets helped preserve differentiation and pricing power. The spread of desk-top computing helped immeasurably (Ferguson and Johnson, 2009, p. 22). There were two additional advantages: neither top management nor regulators could understand the models—so that institutional and systemic risk could not be assessed. For much of this stuff, there never was a market price—prices were set by the marketing institutions based on internal, proprietary models. Rather than 'mark to market', prices were actually set by 'mark to model'; later, this was called 'marking to myth' as the models broke down. While it is beyond the scope of this article, complexity and opacity also encourages fraud; judging from previous crises (such as the thrift crisis of the 1980s) as well

[1] One then has the choice of buying the bond or selling a CDS; in theory one is obtaining the same risk and return. However, bankruptcy 'reform' apparently made CDSs safer than bonds in one respect: holders of credit derivatives are first in line in the event of bankruptcy. There had been some question about whether a firm placed into bankruptcy could 'net', clearing positions and surrendering collateral to counterparties—since that would reduce recoveries for other creditors. Wall Street managed to get language clarifying this inserted into the same law that makes it impossible for homeowners to get relief from mortgage debt—yet another nice 'credit enhancement' the neocons in control of government handed to money managers.

[2] Amazingly, the worst tranch of a CDO could be further sliced into tranches—CDO squared—yielding another AAA tranch (safe as US treasury debt!); and the worst tranch of that product could be tranched as a CDO cubed, with yet another perfectly safe AAA tranch. And for the timid, there was CDS protection against default. In this manner, a pool of toxic loans would give life to any number of securities and derivatives of ephemeral value. When default on the loans occurs, courts have to sift through poor documentation and complex claims to determine who has legitimate claims—some courts have already dismissed cases because of lack of clarity (see Wray, 2008A).

as from the trickle of reports from the current crisis, fraud probably played a role in the creation of every insolvency that will eventually come to light.

In sum, the nature of finance had changed in a fundamental manner so that it would evolve toward fragility. The growth of securitisation led to a tremendous increase of leverage ratios with the owners (for example, hedge funds) putting up little of their own money while issuing potentially volatile commercial paper or other liabilities to fund positions in the securities. A virtuous cycle was created: with easy credit, asset prices could be bid up and rising prices encouraged yet more innovation and competition to further increase leverage. Innovations expanded loan supply, fuelled homebuying and drove up the value of real estate, which increased the size of loans required and justified rising leverage ratios (loan-to-value and loan-to-income) since homes could always be refinanced or sold later at higher prices if problems developed. The virtuous cycle pushed the financial system through the structures that Minsky labeled hedge, speculative and finally Ponzi—which requires asset price appreciation to validate it. Note the relation to Veblen's description of the virtuous cycle of bidding up the value of 'business capital', enhancing access to credit that capitalises expected continued appreciation of values. The problem is that these values grow faster than the incomes needed to justify them. One difference from the earlier stage of finance capitalism: much of the debt involved consumers rather than producers—home loans, credit card and consumer debt, auto loans and leases, cash-out equity loans and student loans, all of which capitalised improbable or even fictitious income and asset (mostly housing) appreciation. Problems were compounded by rising inequality and stagnant real incomes for most workers since the early 1970s.

The Ponzi phase would end when rates rose or prices stopped rising. Of course, both events were inevitable, indeed, were dynamically linked because Fed rate hikes (beginning in 2004) to cool the boom would eventually slow speculation, attenuating rising property values and increasing risk spreads. When losses on subprimes began to exceed modelled results, securities prices fell. Problems spread to other markets, including money market mutual funds and commercial paper markets, and banks became reluctant to lend even overnight. With big leverage ratios, money managers faced losses greatly exceeding capital and began to de-leverage by selling, putting more downward pressure on prices. As the subprime market unravelled, fears spread to other asset-backed securities, including commercial real estate loans, and to other bond markets such as that for municipal bonds. Further, with securities riskier than previously believed, insurers would have greater than expected losses, so ratings agencies downgraded their credit ratings. This made the insurance that guaranteed the assets worthless—so securities were further downgraded. In many cases, investment banks held the worst of the securities, and they had promised to take back mortgages or had positions in the insurers—so all the risks came right back to them, resulting in downgrades and runs out of equity and liabilities. Virtuous again becomes vicious.

Finally, problems spread to CDSs—'insurance' against default risk. AIG was the biggest seller of these products, and held little reserves to cover losses—after all, unlike normal insurance CDSs are completely unregulated. Further, one can buy and sell CDS 'insurance' even if one has no direct interest in the securities—essentially, these are gambling bets on prospective failures. AIG's collapse (occasioned by ratings downgrades on securities covered by swaps it had sold—which triggered collateral requirements that it could not meet) was by far the biggest in business history and no one knows how many hundreds of billions of dollars will be required. Policymakers justify a bail-out on the grounds that loss of this insurance could bring down the entire global financial system.

Given the size of the CDS universe, and the fact that there are many dollars of bets for each $1 of securitised debt, default on $1 billion worth of bonds can cause CDS sellers to default on many billions of dollars of 'insurance'.[1] In this way, leverage works against the bail-out—government has to spend many times more than defaults on mortgages to cover losses on bonds, and still more to cover CDS losses.[2]

6. 'Prudent investment' and commodities boom and bust

Over the course of the 2000s, we also saw a commodities market boom with oil prices quadrupling, followed by a bust. I have previously analysed three explanations for the explosion of commodities prices (Wray, 2008B). While often presented as rivals, I argued that there are synergies reinforcing one another, driving prices higher. Supply and demand is the economist's favourite explanation: supplies are naturally constrained while demand is climbing—pushing prices higher. The second story involves market manipulation by commodities producers and traders, who hoarded commodities and raised prices. Finally, speculation—much of it by managed money—in commodities futures markets drove prices up. This argument was given added weight when managed money reversed the flows in the Fall (Autumn) of 2008 and commodities prices plummeted. I argue that commodities represent the latest asset class—another over the counter, unregulated, derivative—identified by money manager capitalism as ripe for financialisation.

After equity prices collapsed in 2000, researchers demonstrated that commodities prices are uncorrelated with returns from fixed income instruments and equities, so holding commodities reduces volatility of portfolios. However, storing them is expensive. Hence, money managers looked to the futures market—paper derivatives based on commodities. Because a futures contract expires on the contracted date, the holder of the paper is in a position to receive the commodities. Money managers do not want the commodities, so they 'roll' contracts on the scheduled date—into another with a future delivery date.

[1] At the peak, CDSs reached $60 trillion or more (they are unregulated, so we do not know). Much of this debt is supposedly hedged. For example, a bank (or AIG) might write $5 million of 'insurance' to cover default risk for a securitised pool of mortgages, selling CDSs for $500 to a hedge fund (which might, or might not, hold the securities). Assume credit raters downgrade the securities, so that CDS prices rise to $750. Now holders of the CDSs can write new CDSs and sell them for $750, booking $250 profit ($750 revenue less $500 paid). The hedge fund is perfectly hedged: if the securities become worthless, it must pay $5 million to holders of the CDSs it wrote, but it receives $5 million from the bank that wrote the CDSs it holds. The problem, of course, is counterparty risk: what if the bank cannot pay the hedge fund? Because reserves are insignificant and because the financial relations are so complex and interrelated, it is impossible to know what all the counterparty risk is; as it turns out, AIG was a bad counterparty! It has received almost $200 billion in government bail-outs and is 80% owned by the government. It held $440 billion in CDSs when it collapsed; it held no collateral against these. Amazingly, when it wrote most of these CDSs in 2005, the entire company was valued at only $200 billion—so it made bets twice the size of the company's value with no loss reserve. As of March 2009, it still had $300 billion of CDSs on its books, of which $235 billion were sold to foreign banks. It later came out that AIG passed much of its bail-out funding on to counterparties, including foreign banks—generating a huge political backlash. Hence, the US government bail-out serves to protect the global financial system (Morgenson, 2009).

[2] This is why a $10 trillion securities universe that suffers, say, 'only' a 20% default rate can generate many tens of trillions of dollars of losses. Further, holders of CDSs might actually prefer default: if the market price of bonds plus the price of CDS 'insurance' is less than the face value, it is profitable to buy bonds and CDSs and then push for default. This is called negative-basis trade, and if a sufficiently large number of creditors pursue the strategy, the troubled firm will not be able to negotiate debt restructuring. And since markets take CDS prices as an indication of credit worthiness, rising 'insurance' prices leads to downgrades that push CDS prices higher in yet another vicious cycle. Because these are completely unregulated and opaque markets, a few large traders making bets against survival can wreak havoc in credit markets.

Unlike traditional speculators, money managers only take long positions—it is a buy and hold strategy. To simplify allocation, managed money replicates one of the commodity futures indexes—hence the term 'index speculator'. Because futures contracts do not pay any yield, the only source of return is an increase of the index price—so this is, fundamentally, speculation. Prior to the 1990s, the Prudent Investor rule prohibited pensions from buying such contracts (Masters and White, 2008). It was the equities collapse in 2000 and the discovery that performance of commodities is not correlated with equities that allowed Goldman, Sachs & Co. and other indexers to successfully push commodities futures as a new asset class.

Energy commodities dominate these indexes, with petroleum-related products accounting for 58%. The biggest agricultural weights are given to corn, soybeans and wheat; the biggest shares for metals are aluminum, copper and gold. Typically, managed money allocates 4 or 5% of a portfolio to commodities. While this might appear small, managed money is gargantuan relative to the size of commodities futures. By comparison the total increase of Chinese consumption of oil over the commodities price boom totalled 920 million barrels, while index speculators increased their holdings of oil contracts by 848 million barrels (Masters, 2008A, 2008B). As another example, index speculators held a sufficient quantity of wheat futures to supply America's demand for wheat for two years, and contracts on enough corn to supply the US ethanol industry for a year (Masters, 2008A, 2008B). Masters and White (2008, p. 20) estimate that over the boom, speculators bought just over half of the additional futures contracts sold. By contrast, physical hedgers purchased just a fifth. In 2002 there was a total of about $50 billion of managed money in the indexes, growing above $100 billion in 2006 and above $300 billion at the peak in mid 2008 (Masters, 2008A).[1]

In summary, it is no coincidence that futures prices soared after 2000 as managed money flowed into markets—coming from pension funds, sovereign wealth funds, hedge funds and banks (mostly European). This reinforced other factors that drove up prices, including rapid growth in China and India as well as some supply constraints and inventory manipulation. Government policies, including export restrictions and US biofuels incentives, also played a role. These policy choices were themselves prodded by rising commodities prices, even as they contributed to rising prices. A perfect storm was created in which almost every participant's interest lay in continued price gains. Similarities with the real estate boom are notable and, indeed, the two are linked because the Fed reacted to rising commodities prices (that fed CPI inflation) by raising rates and helping to precipitate the collapse of real estate markets.

Once managed money achieved the desired allocation of commodities, the large inflows subsided. Further, when Congress began to investigate the role of managed money, pension funds retreated—fearing bad publicity and possible regulation. Suddenly prices stopped rising. Traditional speculators revised their expectations and shorted commodities. A strong price reversal took place between mid-July, when the price of oil brushed up against $150 a barrel, and mid-August, when it had dropped below $115. (By January 2009 the price had plummeted toward $40; it is estimated that one-third of all the managed money had fled the market by fall 2008.) Producers who made business plans based on rising prices found that they could not succeed as commodities prices fell. We have seen the

[1] The link between futures prices and spot prices may not be clear—but in general, spot prices in commodities are determined through reference to futures prices (see Wray, 2008B). This is why index speculators can drive spot prices up through futures markets.

result of falling agricultural commodities prices several times during the past century; of course the most significant was during the period described in *The Grapes of Wrath*. The consequences for rural America and its banks can be severe. Rural farmers around the globe are already feeling the pinch. While starvation hit urban areas in the price boom, now the rural poor are starving.

7. The squeeze, the crisis and the collapse of money manager capitalism

Most accounts attribute the crisis to monetary policy that was too loose, to irrational exuberance among lenders and borrowers or perhaps to lax regulation. I argue that fragility built over a very long time, so in a sense we simply awaited a trigger. Actually there were three forces that acted to squeeze consumers: rising commodities prices (especially oil), rising interest rates and a fiscal squeeze. The first two of these have garnered some recognition and follow on from the discussion above. What is remarkably lacking from all popular accounts is the tremendous fiscal squeeze experienced first during the Clinton boom, and next during the real estate and commodities boom from 2004. These sucked income (and wealth) from the private sector, which could grow only by deficit spending. The squeeze from all three sources finally caused a retrenchment by consumers. Note also that there were long-term trends that were already operating to burden households: rising debt ratios, higher home prices, stagnant real wages and rising inequality. When interest rates and oil prices rose after 2004, and then when tax revenue collections accelerated, the squeeze finally became too great.

By the mid-1990s, the US economy began to grow at a moderately robust pace. For a wide variety of reasons—still mostly inadequately understood—American households and firms ramped up spending. Indeed, after 1996 the private sector as a whole spent more than its income year-after-year (only in the depths of the Bush recession did the sector run a brief surplus). The other side of the coin was the growing debt-to-income ratio. Given a US current account deficit, and a declining federal government budget deficit, the Clinton-era expansion was driven by the private sector's deficit spending.[1]

By the late 1990s, tax revenue was growing at 10% per year, very much faster than government spending (around 3% per year) or real GDP (about 4% per year).[2] The 'favourable' fiscal situation led to three years of Clinton budget surpluses—the first sustained budget surplus since the end of the 1920s—creating fiscal drag. By 2000, real GDP growth collapsed to zero and tax revenue began an unprecedented four-year fall. Only near the end of 2003 did tax revenues begin to rise, and the rate of growth of revenues continued to climb to almost 15% by the end of 2005—far outstripping growth of government spending (half as fast), nominal GDP (less than 7%) and real GDP (just over 3%). There is no other extended period since 1970 in which taxes grew twice as fast as nominal GDP. In its January 2006 report the Congressional Budget Office projected that total federal tax revenues would continue to grow faster than the economy as a whole over the following decade, rising from 17.5% of GDP in 2005 to 19.7% of GDP in 2016. We now know the economy could not sustain growth at an adequate pace to validate the projections: tax revenue growth fell to 11.44% in 2006, to 6.71% in 2007 and actually went

[1] This relies on the well-known macroeconomic identity popularised by Wynne Godley: the domestic private sector balance equals the government sector balance plus the current account balance. If the current account deficit equals 6% of GDP, and the budget deficit equals 4% of GDP, the private sector balance must be a deficit of 2% of GDP.

[2] See Papadimitriou and Wray (2007).

negative in 2008 as revenues fell by nearly 2% (as a percent of GDP, tax revenue rose to 17.74% in 2006, then fell from 18% in 2007 to 17.15% in 2008).

As I projected at the time this fiscal squeeze would help kill the expansion, and it played a role in triggering the financial collapse because it added to the burdens created by higher debt service and energy and food costs. The mortgage financial obligations ratio of homeowners (a measure of costs of servicing mortgage debt relative to disposable personal income) rose from 9.5% in 2002 to 11% at the beginning of 2005 (after the Fed began to raise rates), and to almost 12% at the end of 2007 just before the collapse. Personal consumption expenditures on gasoline, fuel oil and other energy goods rose from 2% of personal income in 2002, to 3% in 2006 and to 3.4% in 2008.[1] So, adding growth of the tax burden, mortgage service burden and higher energy costs, consumers lost roughly 3–4% of their incomes between 2004 and 2007.

Given the external account deficit plus the falling budget deficit, continued growth required bigger private sector deficits. While it was impossible to predict when the private sector would retrench, many of us at the Levy Institute believed it was inevitable. In early spring 2007 delinquencies and defaults on mortgages started to rise; problems continued to spread during the following 12 months. Suddenly, by summer 2008, the private sector began a full-scale retreat. Looking at a wide range of data, it is almost as if the global economy fell off a cliff. Of course, many factors contributed to the downturn, but the combination of record indebtedness, higher interest rates and higher commodity prices plus a fiscal squeeze must have played the decisive role.

8. Conclusions

As memories of the Great Depression faded, as financial institutions innovated around constraints, as relative stability promoted risk-taking and as policymakers came to rely on self regulation, the financial structure of the economy became more fragile. Money managers reasserted financial control over ‘industrial capital’. In addition, fiscal restraint as well as current account deficits required that growth was led by private sector spending, increasingly financed by debt given that private incomes grew slowly. Partly to escape regulation as well as to reduce costs of relationship banking, many financial activities were moved off bank balance sheets. Globalisation also played a role, promoting deregulation to maintain international competitiveness even as managed money was freed to search the world for the best returns. Leverage rose, complexity of financial relations increased and underwriting standards fell. With ‘modern’ techniques, actual knowledge of credit-worthiness not only deteriorated, but was believed to be irrelevant. No longer tethered to income flows to service debt, assets could have any price desired. As Bill Black argues, this is a perfect recipe for control fraud, or what Veblen called ‘large scale manipulation’ to increase differential valuation between industrial and business capital through ‘expedients well known and for the purpose’, including ‘partial information, as well as misinformation’ by ‘shrewd business men’.[2]

As of January 2009, US financial institutions had written off $1 trillion of losses. Even conventional projections expect another $3–5 trillion of write-offs. Congress allocated $700 billion ‘bail-out’ funds for asset and equity purchases and for merger subsidies. The Fed’s balance sheet expanded to $2 trillion as it bought assets and lent reserves to US banks

[1] Financial obligations data are from the Federal Reserve Board of Governors Statistical Release; energy cost data are from the Bureau of Economic Analysis.

[2] Black (2005) is essential reading for the shady (and illegal) practices adopted during the thrift crisis; the current crisis has already dwarfed that one in terms of losses and almost certainly in the role played by fraud.

and to foreign central banks. Total commitments by the US government (including loans, guarantees, capital injections and fiscal stimulus packages) already approach $9 trillion. Note that securitised subprimes totalled just $2.5 trillion. Clearly the losses are not simply a matter of bad mortgage loans made to low income borrowers to buy unaffordable suburban mansions. Rather, this is a crisis of the money manager system. And because so much of it is unregulated, unreported and off balance sheet, there is no way to guess the ultimate scale of losses. A secret report is rumoured to estimate that Euroland's banks hold $25 trillion of questionable assets. To repeat, it is a global crisis.

Minsky argued that the Great Depression represented a failure of the small-government, laissez-faire economic model, while the New Deal promoted a Big Government/Big Bank highly successful model for capitalism. The current crisis just as convincingly represents a failure of the Big Government/Neoconservative model that promotes deregulation, reduced oversight, privatisation and consolidation of market power. It replaced the New Deal reforms with self-supervision of markets, with greater reliance on 'personal responsibility' as safety nets were shredded, and with monetary and fiscal policy that is biased against maintenance of full employment and adequate growth to generate rising living standards for most Americans. The model is in trouble—and not just with respect to the current global crisis, as the USA faces record inequality and destruction of the middle class, a healthcare crisis, an incarceration disaster and other problems beyond the scope of this analysis.[1]

We must return to a more sensible model, with enhanced supervision of financial institutions and with a financial structure that promotes stability rather than speculation. We need policy that promotes rising wages for the bottom half so that borrowing is less necessary to achieve middle class living standards, and policy that promotes employment rather than transfer payments—or worse, incarceration—for those left behind (Wray, 2000). Monetary policy must be turned away from rate hikes to pre-empt inflation and toward a proper role: stabilising interest rates, direct credit controls to prevent runaway speculation and regulation.

Minsky insisted 'the creation of new economic institutions which constrain the impact of uncertainty is necessary', arguing that the 'aim of policy is to assure that the economic prerequisites for sustaining the civil and civilised standards of an open liberal society exist. If amplified uncertainty and extremes in income maldistribution and social inequalities attenuate the economic underpinnings of democracy, then the market behaviour that creates these conditions has to be constrained' (Minsky, 1996, pp 14, 15). It is time to take finance back from the clutches of Wall Street's casino.

What will replace money manager capitalism? Only time will tell.

Bibliography

Bernanke, B. S. 2004. The Great Moderation, speech given at the meetings of the Eastern Economics Association, Washington, DC, 20 February, available at www.federalreserve.gov/Boarddocs/Speeches/2004/20040220/default.htm [date last accessed 12 May 2009]

Black, W. 2005. *The Best Way to Rob a Bank is to Own One*, Austin, TX, University of Texas at Austin

Boaz, D. 2005. Defining an ownership society, available at www.cato.org/special/ownership_society/boaz.html [date last accessed 12 May 2009]

Cassidy, J. 2008. The Minsky moment, *The New Yorker*, 4 February, available via www.newyorker.com [date last accessed 29 January 2008]

[1] See Wray (2000, 2005A, 2005B).

Chancellor, E. 2007. Ponzi Nation, *Institutional Investor*, 7 February, available at http://www.iimagazine.com/article.aspx?articleID=1234217 [date last accessed 21 May 2009]

Ferguson, T. and Johnson, R. 2009. Too big to bail: the 'Paulson Put', presidential politics and the global financial meltdown, Part 1: From shadow financial system to shadow bailout, *International Journal of Political Economy*, vol. 38, no. 1, in press

Galbraith, J. K. 2008. *The Predator State: How Conservatives Abandoned the Free Market and Why Liberals Should Too*, New York, Free Press

Hardin, G. 1968. The tragedy of the commons, *Science*, vol. 162, 1243–8

Healy, J. 2009. Losses in good-will values compound bank troubles, *The New York Times*, 27 April, available at www.nytimes.com/2009/04/27/business/27bank.html [date last accessed 12 May 2009]

Hilferding, R. 1981. *Finance Capital. A Study of the Latest Phase of Capitalist Development*, in Bottomore, T. (ed.), London, Routledge & Kegan Paul

Kaufman, H. 2009. 'Who is Primarily Responsible for the Credit Crisis?', paper delivered at the 18th Annual Hyman P. Minsky Conference on the State of the US and World Economies, Levy Economics Institute and Ford Foundation, New York City, 17 April

Kelton, S. and Wray, L. R. 2009. 'Can Euroland Survive?', manuscript, presented at University of Rome, La Sapienza, February

Keynes, J. M. 1964. *The General Theory of Employment, Interest, and Money*, New York and London, Harcourt Brace Jovanovich

Kregel, J. 2007. Minsky's 'cushions of safety', systemic risk and the crisis in the US subprime mortgage market. Public Policy Brief No. 93, 2008, available via http://www.levy.org/pubs/ppb_93.pdf [date last accessed 21 May 2009]

Kuttner, R. 2007. The alarming parallels between 1929 and 2007, *The American Prospect*, 2 October, Testimony of Robert Kuttner Before the Committee on Financial Services, Rep. Barney Frank, Chairman, US House of Representatives Washingtone D.C., http://www.truthout.org/docs_2006/100307H.shtml [date last accessed 12 May 2009]

Lahart, J. 2007. In time of tumult, obscure economist gains currency, *The Wall Street Journal Online*, 18 August, available at http://online.wsj.com/public/article_print/SB118736585456901047.html [date last accessed 5 September 2007]

Magnus, G. 2007. What this Minsky moment means for business, *Financial Times*, 23 August, p. 11

Masters, M. 2008A. U.S Senate Testimony of Michael W. Masters, Managing Member/Portfolio Manager Masters Capital Management, LLC before the Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, 20 May, available at http://hsgac.senate.gov/public/_files/052008Masters.pdf [date last accessed 21 May 2009]

Masters, M. 2008B. U.S Senate Testimony of Michael W. Masters, Managing Member/Portfolio Manager Masters Capital Management, LLC before the Committee on Homeland Security and Governmental Affairs, 24 June, available at http://hsgac.senate.gov/public/_files/062408Masters.pdf [date last accessed 21 May 2009]

Masters, M. W. and White, A. K. 2008. The accidental hunt brothers, Special Report, 31 July, available via www.accidentalhuntbrothers.com/?p=67 [date last accessed 10 September 2008]

Mayer, M. 2009. 'Narrow Banks versus Toxic Instruments', paper delivered at 18th Annual Hyman P. Minsky Conference on the State of the US and World Economies, Levy Economics Institute and Ford Foundation, New York City, 17 April

McCulley, P. 2007. The plankton theory meets Minsky, Global Central Bank Focus, PIMCO Bonds, March, available at http://www.pimco.com/LeftNav/Featured+Market+Commentary/FF/2007/GCBF-+March+2007.htm [date last accessed 8 March 2007]

Minsky, H. P. 1987. 'Securitization', Handout Econ 335A, Fall, mimeo, in Levy archives, published as Policy Note, 2008/2, Levy Economics Institute, available via http://www.levy.org/vtype.aspx?doctype=7 [date last accessed 12 May 2009]

Minsky, H. P. 1993. Finance and Stability: the Limits of Capitalism. Working Paper No. 93, Levy Economics Institute, available via www.levy.org; http://www.levy.org/pubs/wp93.pdf [last accessed 21 May 2009]

Minsky, H. P. 1996. 'Uncertainty and the Institutional Structure of Capitalist Economies', Working paper no. 155, Jerome Levy Economics Institute, April

Minsky, H. P. 2008A. [1975] *John Maynard Keynes*, New York, McGraw Hill
Minsky, H. P. 2008B. [1986] *Stabilizing an Unstable Economy*, New York, McGraw Hill
Morgenson, G. 2009. A.I.G., where taxpayers' dollars go to die, *The New York Times*, 7 March, available at www.nytimes.com/2009/03/08/business/08gret.html [date last accessed 12 May 2009]
Nesvetailova, A. and Palan, R. 2008. A very North Atlantic crunch: geopolitical implications of the global liquidity crisis, *Journal of International Affairs*, vol. 62, no. 1, 165–85
Papadimitriou, D. B. and Wray, L. R. 1998. The economic contributions of Hyman Minsky: varieties of capitalism and institutional reform, *Review of Political Economy*, vol. 10, no. 2, 199–225
Papadimitriou, D. B. and Wray, L. R. 2007. 'The April AMT Shock', Policy Note 2007/1, Levy Economics Institute, available via http://www.levy.org/vtype.aspx?doctype=7 [date last accessed 12 May 2009]
Papadimitriou, D. B. and Wray, L. R. 2008. 'Time to Bail-out: Alternatives to the Paulson Plans', Policy Note 2008/6, Levy Economics Institute, available via http://www.levy.org/vtype.aspx?doctype=7 [date last accessed 12 May 2009]
Salmon, F. 2009. Recipe for disaster: the formula that killed Wall Street, *Wired Magazine*, http://www.wired.com/techbiz/it/magazine/17-03/wp_quant?currentPage=all [date last accessed 23 February 2009]
Tymoigne, E. 2010. 'The US Mortgage Crisis: Subprime or Systemic?' (manuscript, Lewis and Clark College), in Gregoriou, G. N. (ed.), *Banking Crisis*, London, Taylor and Francis in press
Vatter, H. G. and Walker, J. F. 1997. *The Rise of Big Government in the United States*, Armonk, NY, M.E. Sharpe
Veblen, T. 1958. *The Theory of Business Enterprise*, A Mentor Book, New York, The New American Library of World Literature
Whalen, C. 2007. 'The US Credit Crunch of 2007: a Minsky Moment', Levy Public Policy Brief, No. 92, available via http://www.levy.org/vtype.aspx?doctype=9 [date last accessed 12 May 2009]
White House. 2004. Fact Sheet: America's Ownership Society: Expanding Oppportunities, available at www.whitehouse.gov/new/releases/2004/08/20040809-9.html
Wray, L. R. 1994. The political economy of the current US financial crisis, *International Papers in Political Economy*, vol. 1, no. 3, 1–55
Wray, L. R. 2000. A new economic reality: penal Keynesianism, *Challenge*, September–October, 31–59
Wray, L. R. 2003. The Perfect Fiscal Storm, *Challenge*, January–February, vol. 46, no. 1, 55–78
Wray, L. R. 2005A. 'The Ownership Society: Social Security Is Only the Beginning', Public Policy Brief No. 82, Levy Economics Institute, August, available via http://www.levy.org/vtype.aspx?doctype=9 [date last accessed 12 May 2009]
Wray, L. R. 2005B. 'Manufacturing a Crisis: The Neocon Attack on Social Security', Policy Note 2005/2, The Levy Economics Institute, available via http://www.levy.org/vtype.aspx?doctype=7 [date last accessed 12 May 2009]
Wray, L. R. 2006. 'Can Basel II enhance financial stability?', Public Policy Brief No. 84, Levy Economics Institute, May, available via http://www.levy.org/vtype.aspx?doctype=9 [date last accessed 12 May 2009]
Wray, L. R. 2008A. 'Financial Markets Meltdown: what can we learn from Minsky', Public Policy Brief 94, Levy Economics Institute, April, available via http://www.levy.org/vtype.aspx?doctype=9 [date last accessed 12 May 2009]
Wray, L. R. 2008B. 'The Commodities Market Bubble: Money Manager Capitalism and the Financialization of Commodities', Public Policy Brief 96, Levy Economics Institute, available via http://www.levy.org/vtype.aspx?doctype=9 [date last accessed 12 May 2009]
Wray, L. R. 2008C. Demand constraints and big government, *Journal of Economic Issues*, vol. XLII, no. 1, 153–174
Wray, L. R. 2009. Return to Big Government: Policy Advice for President Obama, Public Policy Brief No. 99, Levy Economics Institute, available via http://www.levy.org/vtype.aspx?doctype=9 [date last accessed 12 May 2009]
Youngman, A. 1906. The growth of financial banking, *The Journal of Political Economy*, vol. 14, no. 7, 435–43