

Durham Research Online

Deposited in DRO:

06 September 2013

Version of attached file:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Chima, O.R and Langley, P. (2012) 'Putting Humpty Dumpty back together again : financialisation and the management of the subprime mortgage crisis.', *Global society.*, 26 (4). pp. 409-427.

Further information on publisher's website:

<http://dx.doi.org/10.1080/13600826.2012.710595>

Publisher's copyright statement:

This is an electronic version of an article published in Chima, O.R and Langley, P. (2012) 'Putting Humpty Dumpty back together again : financialisation and the management of the subprime mortgage crisis.', *Global society.*, 26 (4). pp. 409-427. *Global society* is available online at:

<http://www.tandfonline.com/openurl?genre=article&issn=1360-0826&volume=26&issue=4&page=409>

Additional information:

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full DRO policy](#) for further details.

**Putting Humpty Dumpty Back Together Again:
Financialisation and the Management of the Subprime Mortgage Crisis**

Onyebuchi Ralph Chima and Paul Langley

Dr Onyebuchi Ralph Chima 42 Newlaithes Avenue Carlisle Cumbria CA2 6PY United Kingdom ralph.chima@onrrac.com	Dr Paul Langley Department of Geography Durham University Science Laboratories South Road Durham DH1 3LE United Kingdom paul.langley@durham.ac.uk
--	---

Onyebuchi Ralph Chima recently completed his DPhil in Social Sciences (International Political Economy) from Northumbria University, where his studies were supported by a full scholarship award. He is currently researching on the implications of the recent global financial crisis for financial inclusion and access to home and personal credit in United Kingdom, and on new financial inequalities in Nigeria.

Paul Langley is Reader in Economic Geography at the Department of Geography, Durham University. He is the author of *The Everyday Life of Global Finance* (Oxford University Press, 2008) and *World Financial Orders* (Routledge 2002), and is a co-editor of the *Review of International Political Economy* book series (Routledge).

Putting Humpty Dumpty Back Together Again:

Financialisation and the Management of the Subprime Mortgage Crisis

Abstract

The subprime mortgage debacle in the United States of America (USA) and the subsequent global credit crunch provoked a wide range of crisis management responses in different national settings. Such interventions are typically figured as the sovereign state coming to the rescue of the markets and the banks. In contrast, and offering a critical analysis of the character and content of the principal interventions of authorities in the heartland of the crisis in the USA and United Kingdom (UK) from Autumn 2007 through to 2009, we argue that these responses served to reproduce financialisation tendencies present across the seemingly separable domains of state and market which contributed to producing the crisis in the first place. Understood as a process co-constituted through pervasive but contradictory developments in capital accumulation, the risk management practices of lenders and the disciplining of borrowers, we show how, far from being seriously curtailed by crisis management, the financialisation of socio-economic life was actually buttressed during the very period in which its fragilities were most sharply exposed. In short, the management of the subprime crisis is a story akin to that of trying to put Humpty Dumpty back together again.

Keywords: financialisation; subprime mortgages; capital accumulation; risk management; borrower discipline.

Putting Humpty Dumpty Back Together Again:

Financialisation and the Management of the Subprime Mortgage Crisis

Introduction: “Big Government”

Writing in the Autumn of 2009, and reflecting on the highly likely prospect of a victory for David Cameron’s Conservative Party in the United Kingdom (UK) General Election in the coming year, *The Guardian* newspaper’s Economics Editor Larry Elliott poses a conundrum. Why is it, he asks, that Cameron’s “main argument ... that the economic mess we are in is the result of the failing of big government” is proving “amazingly successful at shifting the political battle onto his own ground” while, at the same time, the Labour government of Gordon Brown is unable to articulate an alternative at the very moment when “Making the case for interventionist social democracy has never been easier?”¹ For Elliott, the conundrum arises precisely because “Only by the most convoluted reasoning can the crisis of the past two years, and the events that led up to it, be described as a failure of big government”.² The crisis to which Elliott refers is, of course, the global financial crisis that emerged out of the subprime mortgage market debacle in the United States of America (USA) from August 2007. And, for him, the idea that the crisis was a consequence of “the failing of big government” is “the precise opposite of the truth” in two main senses: first, the crisis was the outcome of a state that “was too passive”, a state which relaxed the regulation of financial markets and cut taxes; and second, the crisis itself was a period of “Keynesian schadenfreude”, wherein “far from waiting for the invisible hand to work its magic, governments stepped in to prevent banks from failing, the financial system from imploding and the global economy from collapsing”.³

The focus of this article is upon the apparent interval that Elliott marks out, the period that witnessed a wide array of crisis management interventions by “big government” that took quite diverse forms in different national settings. Concentrating on the principal interventions by authorities in the heartland of the crisis in the USA and UK from Autumn 2007 through to 2009, the article offers a quite different understanding of recent financial crisis management. This is because, for us, Elliott’s piece is an example of a wider problem in the prevailing interpretation and critical analysis of the management of the recent crisis: interventions in the crisis are viewed in terms of the sovereign state coming to the rescue of the markets and the banks. For those on the centre-left of politics, state interventions were thus interpreted, in the early stages of the crisis at least, as amounting to the decline of the pro-market neo-liberal state form and the emergence of a Keynesian-infused alternative. An editorial statement in the *New Left Review* by Susan Watkins, for example, suggests that ‘neo-Keynesian emergency packages’ have produced a partial shift in the balance between state and market that heralds a move to ‘regulatory liberalism’.⁴ For Elliott, meanwhile, such packages represent a missed opportunity for interventionist social democracy. After all, and as the post-Keynesian and Marxist traditions of political economy are at pains to stress, competitive banking and crisis-prone financial markets necessarily require the last resort lending of sovereign institutions.⁵ For those on the political right, meanwhile, the efficacy of crisis management is always in doubt and may well store-up dangers for the future. Consider, for example, Republican Senator James (Jim) Bunning now infamous description of the US Treasury’s \$700 billion Troubled Asset Relief Programme (TARP) of October 2008 as “financial socialism” and “un-American”. Related, and for much of the Economics profession, financial crisis management provokes debates about “moral hazard”, that is, about the way in which state-led bailouts in the present may distort the operation of the self-regulating market mechanism in the future.⁶ From a range of starting points and often for quite different and distinct reasons, then,

orthodox and critical political economy interpretations and analyses of recent crisis management tend to suggest that what matters is that this is a story of “big government”.

Our opening contention here is that the prevailing “big government” explanation of the management of the crisis, which works through the binaries of states/markets and public/private, tells us relatively little about what Matthew Watson calls the “character and content” of those interventions.⁷ There would seem very little doubt that state institutions, public guarantees and programmes have been crucial to forestalling the worst economic eventualities of the recent crisis, at least for the short-term. Nonetheless, the tendency to frame these interventions in terms of states/markets and public/private necessarily limits the understanding of important continuities which we see as at work in the US and UK in particular. Somewhat in contrast with varieties of continental European capitalism, for instance, the significance of financial markets in contemporary socio-economic life persists in the UK and USA. Inquiry into the “character and content” of crisis management suggests that it amounts to “breathing new life” into the financialisation of everyday life.⁸ Indeed, in taking this contention forward below, we will argue that management interventions in the crisis actually served to reproduce the financialisation processes that contributed to producing the crisis in the first place. What matters to understanding crisis management for us, and in the terms of the popular nursery rhyme, is that it is a story akin to trying to put Humpty Dumpty back together again.

To this end, the article is divided into four main sections. We begin by briefly setting out what we understand by “financialisation”, a concept that, following Erturk *et al.*, we develop by combining insights from political economy and cultural economy perspectives.⁹ For us, the financialisation of socio-economic life is a process co-constituted through pervasive but contradictory developments in capital accumulation, the risk management practices of

lenders, and the disciplining of borrowers. When exploring the principal crisis management interventions by authorities in the USA and UK from Autumn 2007, the remaining three sections critically analyse these interventions as they relate, in turn, to each of the three co-constitutive forces of financialisation. What we will term financialised accumulation, financialised risk management and financialised discipline were all buttressed by crisis management interventions during the very period in which their fragilities were most sharply exposed. By way of conclusion, we return to Elliott's conundrum in order to briefly consider the political implications of our analysis.

The Forces of Financialisation

As social scientific literature concerned with the processes of "financialisation" in socio-economic life has grown over the last decade or so, attempts to classify it by academic discipline and theoretical approach (e.g. world-systems structuralist, French regulationist, historical materialist, institutionalist, poststructuralist, material sociologist) have become increasingly complex and arguably of only limited analytical value. Following Erturk *et al*, what is of greater importance is the way in which the analysis of financialisation can draw together valuable insights from both political economy and cultural economy perspectives. According to them, political economists "conceive of the economy as a machine of quantities and relations between categories like profit and liquidity whose logic is discovered and operates independently of analysis".¹⁰ Cultural economists, meanwhile, primarily draw on poststructuralism and material sociology to engage with the social construction of "how the economy is formatted by discourses [and] performance".¹¹ Whilst we recognise that the problems and prospects of bringing these contrasting perspectives together are presently the subject of ontological and epistemological debates over what some term "cultural political economy,"¹² what we propose here following Erturk *et al*¹³ is more modest, deductive and

conceptual in character. Indeed, we note how recent and well-received research by others has set aside debates over a singular cultural political economy and, instead, has developed concepts from political economy and cultural economy to great critical analytical effect.¹⁴

Specifically, then, we want to draw insights from both political economy and cultural economy perspectives in order to develop three categories for understanding the processes of financialisation; that is, what we will term the forces of financialised accumulation, financialised risk management, and financialised discipline. As the uncertain processes of financialisation are found to be at play in socio-economic life in the USA and UK in particular, we suggest that these forces, which can be identified from political economy and cultural economy perspectives, are co-constitutive. It is the coming together of these forces and their contradictions and tensions - change in how capital is accumulated, in how ‘default risk’ is managed by banks and other retail lenders, and in how borrowers are disciplined to meet their outstanding credit obligations – that is crucial to producing the broad tendency and orientation to financialisation.

As political economists typically stress, there can be little doubt that capital accumulation in USA and UK has become marked, across the last three decades or so, by profits accrued from largely speculative tendencies that are, at once, somewhat decoupled from and dominant over a stagnant productive economy. While financialised accumulation would seem, at first blush, to be an oxymoron – after all, finance is always pivotal to capital accumulation – the point here is that finance comes to predominate socio-economic life during a particular time and place. The roots of this “finance-led growth regime”¹⁵ are to be found in four associated developments. First, capital has responded to the anaemic returns available from “real” productive investment - apparent since the over-production and under-consumption tendencies that emerged in the 1970s - by directing its attention to the global opportunities

presented by successive speculative bubbles centred on one class of financial market asset or another.¹⁶ For the US economy specifically, this shift in the predominant orientation of capital accumulation broadly mirrors that which has previously marked the pattern of hegemonic decline in the capitalist world-system.¹⁷ Second, the capacity of capital to gorge on speculative opportunities is politically and institutionally enabled, as policies that liberalise and deregulate markets and individualise welfare provision serve to open-up and legitimate financialised accumulation.¹⁸ Third, and somewhat paradoxically given its consequences for the productive economy and employment, much of the material resources of financialised accumulation are generated by shifting patterns in household saving, occupational pension provision and the revolution in so-called “financial services” since the 1980s.¹⁹ Growing numbers of the population hold a stake, however meagre, in the “mass investment culture”²⁰ or “coupon pool capitalism”²¹ of financialised accumulation, wherein their money is moved through the markets by massive institutional investors.²² Fourth, financialised accumulation is not limited to the domain of finance itself, but hollows-out productive enterprises and holds-out “shareholder value” as the mantra by which their governance, performance and strategy comes to be judged.²³

The forces of financialised accumulation cannot be separated, however, from significant changes in how the uncertainties of outstanding debt obligations are calculated and managed as “risks”. What we would choose to call financialised risk enables and scientifically legitimates a vast array of profitable opportunities for lending and trading.²⁴ In the form of organisational risk management, for example, probabilistic risk calculations are crucial as the dangerous possibilities that outstanding obligations will not be met (i.e. “default risks”) are seemingly diminished. Value-at-risk (VaR) - which emerged in the wake of the 1987 stock market crash and puts a number on the amount a bank could expect to lose on its portfolio of assets on a relatively bad day - has become integrated into bank’s organisational procedures

and subsequently into the 1997 Basel II (and now Basel III) global standards for capital adequacy.²⁵ Default risks arising from all manner of loans are also routinely moved “off balance sheet”, put into circulation and traded by investors as a consequence of techniques of securitisation and structured finance.²⁶ And, while rapidly growing “over-the-counter” markets for credit derivatives promise that the default risks of specific assets (e.g. a corporate bond) can be hedged through bespoke contracts, they also serve to fuel trading in volatility and variance which is marked by its indifference to the performance of specific underlying assets.²⁷

Processes of financialised accumulation and risk management are, moreover, also closely intertwined with changes in how debt relations are reproduced and governed in mass consumer markets. Across centuries, law has occupied a pivotal role in the criminalisation and punishment of debtors as “deviants”, ensuring their brutal imprisonment and “moral regulation” as constitutionally-defined citizens through to the mid-nineteenth century, for instance.²⁸ In recent decades, however, what we might call the extra-legal and marketised mechanisms of financialised discipline have come to the fore. Alongside the juridical processes of bankruptcy and foreclosure/repossession, financialised discipline developed in response to the inherent problems of forging trust between lenders and borrowers in dispersed and decentred markets. Based upon their past credit histories, individual borrowers became subject to the apparently scientific and objective calculations of credit scoring by the principal agencies (Experian, Fair Isaac, TransUnion, and Equifax).²⁹ For Burton, then, face-to-face relations of trust have been largely displaced in mass markets by the disciplinary control and forces of synchronisation and standardisation exercised through what she characterises as the “credit panopticon”.³⁰ Deviancy and the failure to meet outstanding obligations by individual consumers (not constitutionally-defined citizens) is now punished by varying degrees of retribution through markets and by lenders; from graduated increases in the individual cost of

credit by virtue of the calculations and classifications of so-called “risk-based pricing”, through to denial and exclusion.³¹

While the co-constitutive forces of financialisation are highly pervasive in Anglo-American socio-economic life, they nonetheless remain laden with tensions and contradictory tendencies which constantly threaten to undermine them. As the following sections will show in detail, these general tendencies have been spectacularly revealed in the recent crisis and its management. Financialised accumulation creates, deepens (via leverage) and extends layers of apparently liquid asset claims on the “real economy” of production and consumption, but it nonetheless remains the case that these “illusionary” claims cannot be consistently met.³² Financialised risk management, meanwhile, turns on the assumption that it is indeed possible to calculate, control, manage and price future uncertainties as risks. Yet, the future remains stubbornly and necessarily uncertain, and innovations in risk calculations only contribute to a dangerous “complacency” which can have deleterious consequences when it is shattered.³³ And, finally, the extra-legal mechanisms that mark financialised discipline and work on and through borrower subjects also have an important Achilles heel. Borrowers are not isolated individuals who can be separated-out, broken-down, classified and priced as default risks, but are very much embedded in the rhythms and uncertainties of socio-economic life which may well undermine even their best laid plans to meet outstanding debt obligations.

Managing Financialised Accumulation

In the run-up to the recent crisis, it was the subprime sector of the mortgage market in the USA that provided the focal point for the latest wave of global financialised accumulation. Mortgage lending to those deemed to fall within the category of “subprime” - borrowers with low, irregular or unverifiable incomes such as workers on temporary employment contracts or the self-employed, and/or those with poor credit histories and scores as a consequence of no

borrowing record, past failures to meet obligations or bankruptcy – boomed from the mid-1990s through to the first years of the new millennium, and accelerated again from 2003 through to 2006, with new originations in 2006 standing at somewhere between \$605 billion and \$625 billion.³⁴ Such was the scale of these new originations that subprime lending came to account for between one-fifth and one-quarter of all new mortgage originations and re-mortgaging in the US in 2006. What was most significant in the financialised accumulation of subprime, however, were the ways in which assets related to and derived from these mortgages also became the focus for speculation on Wall Street and far beyond. As Ashton has it, global investors were motivated by an increasingly voracious “appetite for yield” which led to a feeding frenzy on the seemingly high risk-weighted returns available from mortgage-backed securities (MBS) and collateralised debt obligations (CDOs) as particular classes of assets.³⁵ Burgeoning markets for bespoke credit default swaps (CDS) offered the related opportunity to hedge and speculate on fluctuations in the value of these assets, including shorting their prospects.³⁶ Investors, moreover, were increasingly highly-leveraged. The major investment banks, for example, typically took positions on subprime assets on their own accounts and also lent in support of the strategies of hedge funds and became involved in the so-called “liquidity leverage” of structured investment vehicles (SIVs).³⁷ SIVs sought to take advantage of interest rate arbitrage, borrowing short-term with the backing of the banks that typically owned and ran them, and investing in MBS and especially CDOs.

Confronted in the Autumn of 2007 by the unravelling of the subprime speculative wave, public authorities in the USA did take steps to clamp down on what had been a largely unregulated sector of mortgage market lending. Yet, what was more notable were the various ways in which authorities sought to support highly-leveraged banks that were imperilled by portfolios stuffed with subprime assets which were rapidly falling in value. For the first twelve-months or so of the crisis, and like other central banks globally, The Federal Reserve

and Bank of England focused much of their efforts on “pumping” or “injecting liquidity” into inter-bank and short-term money markets, making sharp interest rate cuts and lending to commercial banks via their discount windows in increasingly large amounts against increasingly poor quality assets as collateral. These markets had “frozen-up” amidst uncertainties over the solvency of holders of subprime assets which were compounded by the short-selling of banking stocks. The Fed also created the \$200 billion Term Securities Lending Facility (TSLF) in March 2008, a program that provided support for investment banks for the first time since the 1930s by permitting them to anonymously swap their holdings of mortgage-related instruments for Treasury bonds for up to 28 days.³⁸ Latterly, from March 2009 in the UK and November 2009 in the USA, the Bank and the Fed effectively printed money in order to buy the bonds issued by their own governments under the auspices of “quantitative easing”.

Alongside such interventions undertaken largely in the name of restoring liquidity to markets, further crisis management initiatives in the USA and UK focused, first, on subprime assets which had become “toxic” and, latterly, on the solvency and capitalisation of banks and other institutions that, with the high-profile exception of Lehman Brothers which was allowed to collapse in September 2008, were deemed “too big to fail”. While quite different in the apparent solutions that they offered to the crisis, these sets of initiatives had one crucial feature in common: rather than ruling-out, enclosing and/or tightly restricting the global movements and machinations of financialised accumulation, they sought to keep open opportunities for on-going and future speculation.

As the crisis unfolded, investors struggled to value, price and trade the portfolios of subprime assets that they had accumulated during the preceding years. In the parlance of the period, these assets had now become “illiquid”, “distressed”, “troubled”, and “toxic”. For example,

when Merrill Lynch sold its portfolio CDOs worth \$31 billion to private equity firm Lone Star in June and July 2008, it did so at a drastic discount price of 22 cents in the dollar.³⁹ Crisis management interventions that targeted toxic assets were both ad hoc and systematic. So, for example, when investment bank Bear Stearns collapsed in March 2008 and was taken over by JP Morgan Chase, the Federal Reserve conjured up Maiden Lane LLC as a “bad bank” in order to take \$29 billion worth of Bear’s toxic assets onto its own balance sheet and to hold them to maturity. Not dissimilarly, in the UK, and as part of the UK Treasury’s £28 billion Banking (Special Provisions) Act of 2008 which nationalised Northern Rock, £10 billion was spent separating-out toxic assets into what became known as Northern Rock Asset Management (NRAM). When “bad banks” were not created in the course of incremental crisis management, public guarantees were extended. In November 2008, for instance, the UK government formally provided guarantees of £282 billion on toxic assets of Royal Bank of Scotland (RBS).⁴⁰ The same month saw a similar \$306 billion guarantee by the US Treasury and Federal Deposit Insurance Corporation (FDIC) on the assets of Citigroup.⁴¹

Both sides of the Atlantic also witnessed more systematic interventions which attempted, in the terms of Michel Foucault, to sift the “good” and “bad” assets of speculative subprime circulations.⁴² In the UK, the Special Liquidity Scheme of April 2008 enabled the Bank of England to lend up to £185 billion worth of Treasury bills in exchange for banks’ toxic mortgage-related assets.⁴³ Swaps took place at significantly discounted prices which favoured the banks and, as such, the Scheme amounted to “a direct credit gift from society as mandated by government policy”.⁴⁴ It was the US Treasury’s TARP, however, that was the most high-profile and infamous systematic attempt to sift subprime asset circulations. Aping the design of the Resolution Trust Corporation which managed the assets of failed institutions in the savings and loans (S&L) debacle of the 1980s and early 1990s, the TARP proposal to Congress in late-September 2008 requested authority “to issue up to \$700 billion of Treasury

securities to finance the purchase of troubled assets”.⁴⁵ Under the terms of what was also known as “the Paulson plan” – the TARP was the brainchild of then US Treasury Secretary Henry (Hank) Paulson - such subprime assets were to be purchased from investors by the Treasury’s newly created Office of Financial Stability through a reverse auction process and at prices higher than those presently prevailing in markets. It was also suggested, most clearly by Federal Reserve Chairman Ben Bernanke, that the purchase of toxic assets by the Treasury and their subsequent re-sale would enable so-called “price discovery”, encouraging investors to return to these asset markets and, ultimately, restoring flows of mortgage lending and global financial circulations more broadly.⁴⁶

Within two weeks of coming into effect on 3rd October as the Emergency Economic Stabilization Act of 2008, however, the TARP had mutated from its initial design. Taking advantage of an original legislative provision which gave the Treasury Secretary “discretion ... to purchase other assets, as deemed necessary to effectively stabilize financial markets,” the first \$250 billion of TARP monies were used to purchase preference shares and thereby to directly recapitalise the major US banks and financial institutions.⁴⁷ The workings of the TARP had quickly come to focus, then, not on toxic subprime assets but on the direct recapitalisation of otherwise insolvent banks, an orientation that remained as Congress granted the release of the second half of the TARP monies in January 2009 and as the President Obama came into office.

The precise origins of this shift in the principal orientation of the management of the problems of financialised accumulation in the USA are unclear, but they appear to lie on the other side of the Atlantic and in the apparent success of interventions by Gordon Brown’s Labour government in the UK in early October. Brown’s £500 billion emergency financial rescue package earmarked £250bn to guarantee bank’s short and medium term wholesale debt

obligations, but also purchased preference shares worth £37 billion in two struggling banks (RBS and Lloyds TSB). Further and similar purchases of preference shares in these banks worth £39 billion were made in the following month.⁴⁸ The focus of Brown's crisis management solution on direct bank recapitalisation was embraced by a meeting of the Group of 7 (G-7) finance ministries and central bankers in Washington on 10 October, and subsequently became the intervention of choice that buttressed financialised accumulation.⁴⁹ In the USA, where the Federal Reserve had already engineered the "conservatorship" of the government chartered but publicly-traded mortgage giants Fannie Mae and Freddie Mac in early September 2008, this shift entailed a decisive reorientation of the objectives of the TARP in dealing with the bad circulations of subprime assets.

Managing Financialised Risk Management

The rise of the techniques of financialised risk management – that is, the combination of VaR models, securitisation techniques, structured finance and credit derivative markets - was crucial to inflating the bubble of subprime asset speculation. VaR underpinned significant savings by banks on the liabilities side of their balance sheets. With VaR in place, they appeared to require less capital to cover the risk of potential losses from their ever-burgeoning assets, a model of organisational risk management that had been thoroughly legitimated by the 1997 revision to Basel capital adequacy standards.⁵⁰ Meanwhile, the securitisation and structuring of subprime mortgages epitomised what seemed possible in an era in which "default risk" management was financialised. Specialist subprime lenders typically lacked the deposit base of banks, and so their capacity to grow their assets and manage default risks was reliant on the kind of extensive securitisation programmes that were celebrated by the so-called "originate and distribute model" of banking which held sway from the late 1990s. The MBS and CDOs that were issued, highly-ranked by Standard & Poor's,

Moody's and Fitch (the primary bond rating agencies) and which circulated on the back of the subprime lending boom apparently ensured that, even for this "risky business" which targeted borrowers who were much more likely to struggle to make their repayments, default risks were distributed between investors able to hold them and would not, therefore, pose a "systemic risk".⁵¹ Moreover, CDS seemingly provided for the further distribution of default risks and the so-called "completion of the markets", as investors in MBS and CDOs could hedge their positions through bespoke contracts provided by institutions such as insurer American International Group (AIG).

Given the co-constitutive relations of the forces of financialised accumulation and risk management, it is revealing that, at its outset in particular, it was commonplace for the crisis to be rendered as a "mispricing" or "underpricing of risk". With their prices in freefall, it appeared that the assessment and valuation of assets related to and derived from subprime mortgages had been optimistic at best. As the crisis ripped from US subprime asset markets into money, capital and derivatives markets globally, a second and no less revealing metaphor of risk came into common currency in the figuring of the tumult: "excessive risk". Miscalculations and failures in the pricing of risk, combined with the massive salaries and bonuses earned by those trading in those risks, had, it seemed, fed a dangerous euphoria of highly-leveraged speculation. As with many previous instances of financial crisis which have similarly been represented in terms of "excess", it appeared again to be the case that markets had recklessly gone beyond what was rational and reasonable.⁵² But, in this instance, it was an excess of "risk" specifically, alongside an apparent evaporation of "liquidity",⁵³ that appeared to threaten not only individual banks and institutions but the circulations of global financial markets as a whole.

Confronted by the crisis of financialised risk management, debates raged amongst policy-makers, media commentators and financiers over how best to intervene to rectify the problems of these techniques. For those who centred their attention on the specific role of the bond rating agencies, the problem was that otherwise rational calculations of risk had become clouded by a perverse structure of incentives wherein those charged with making the critical judgements on MBS and CDOs simultaneously earned their fees from the issuers of those instruments.⁵⁴ Others concentrated their fire on how to better deal with so-called “liquidity risk”. The measurement and management of capital adequacy under VaR models had assumed a “static environment” of market liquidity where “positions can be quickly closed out”, “closing large positions does not itself move market prices” and “the cost of hedging remains stable”.⁵⁵ While the pre-crisis Basel II standard included guidance on capital provisions for a whole host of risks, “liquidity risk” was notable by its absence and thus became a key concern in the development of the new Basel III standard.⁵⁶

Amongst those on both sides of the Atlantic who sought to address the problems of the edifice of risk management more broadly, there was also an important difference of views which informed quite different kinds of interventions. For advocates of probabilistic risk management such as former Federal Reserve Chairman Alan Greenspan, for example, the problem was that risk calculations about the uncertain financial future had been undermined by the quality of the data upon which they were based. In his terms, “the data inputted into the risk management models generally covered the last two decades, a period of euphoria. Had instead the models been fitted more appropriately to historic periods of stress, capital requirements would have been much higher and the financial world would be in far better shape today”.⁵⁷ VaR models, for example, which worked through the normal bell-shaped distribution curve of probability, were a poor guide to the future when their calculations were based on a period of largely uninterrupted financialised accumulation in one class of asset or

another. Responding to the “mispricing” and “excess of risk”, then, appeared to require a renovation of probabilistic risk management that turned on the up-dating of data. Consider for instance the on-going debates over the calculations of “default correlation” that are written into the rating of CDOs.⁵⁸

It was those who were less sanguine about the capacities of probabilistic risk management techniques, however, that gradually came to prevail as the crisis and its management unfolded. Interventions were made that reached-out towards an alternative form of financialised risk management which addressed precisely that which was unlikely and improbable, or what the influential work of Nassim Nicholas Taleb’s described as “black swans”.⁵⁹ Crucial in this respect was the Supervisory Capital Assessment Program (SCAP) of the first months of the Obama administration in Spring 2009. Part of the U.S. Treasury’s Capital Assistance Program (CAP) which evolved within the TARP, the SCAP projected whether the 19 largest bank holding companies had adequate capital on their balance sheets going forward and if they required further public recapitalisation. Between them, the 19 banks had already received \$216 billion as a consequence of the previous rounds of TARP recapitalisation.⁶⁰

Commonly known as the “bank stress test”, the SCAP is widely regarded as a turning-point and beginning-of-the-end of the crisis in its heartland in the United States.⁶¹ But, what was especially notable about the SCAP, and the way in which it contributed to reviving financialised risk management, were the two “stress scenarios” that were acted on.⁶² This pair of imaginaries of macroeconomic performance which had not and may never have happened were acted on in the present and “as if” they had consequences for bank’s revenues and assets and, therefore, for projections about the adequacy or otherwise of the capital on their balance sheets. These “plausible ‘what if’ scenarios” featured assumptions about real GDP growth,

unemployment and house prices for 2009 and 2010.⁶³ While the baseline scenario posited house price falls of -14% and -4% in 2009 and 2010, for example, for the more adverse scenario these projections were -22% and -7%. In conjunction with banks and using their year-end 2008 financial statement as a starting point, supervisors produced loss, revenue and reserve estimates for each institution that, combined with information on existing reserves and capital, were used to project capital buffers that banks would need under the two scenarios.

The results of the SCAP in May 2009 envisaged that, under its more adverse scenario, 10 of the 19 bank holding companies included in the Program needed to raise a cumulative total of a further \$75 billion in order to meet the required capital thresholds at the end of the two year horizon.⁶⁴ The firms were given thirty days to produce a plan which, over the next six months, would raise this capital from the markets and/or via the CAP which would fund the purchase of preference shares and public recapitalisation. Particularly revealing as to the contribution of the SCAP to reviving financialised risk management was that it was the banks themselves and the markets of which they were part that acted on the imagined scenarios of the SCAP apparatus and in the name of the preparedness of recapitalisation. The 10 banks which were projected to raise fresh capital did so without recourse to CAP funds. Indeed, almost a month-to-the day after the results of the banks stress tests were announced, some of the 19 firms that it had included began to pay back the TARP monies which, from the previous Autumn, had funded their recapitalisation.⁶⁵ When *The Economist* magazine had published a special report on international banking in May 2008, financial risk managers had been cast as “professionally gloomy” and taking “a hard look at themselves”⁶⁶. But, in a similar report published exactly a year later and in the same month as the results of the SCAP, there was apparently a “revolution within” financialised risk management in which the technique of stress testing was pivotal.⁶⁷

Managing Financialised Discipline

For subprime mortgage borrowers, the tensions and contradictions of the financialisation of socio-economic life have been experienced acutely as a “foreclosure crisis”. Foreclosure is the legal process through which lenders and loan servicers exercise a right to sell or to repossess ownership of the property which has been pledged as security for a mortgage. For some critical commentators, burgeoning foreclosure rates are the outcome of the largely unregulated “predatory lending” that preyed on African American and Hispanic families and neighbourhoods in particular and which prevailed in the subprime sector in the run up to the crisis.⁶⁸ But, for us, this overlooks the extent to which the subprime lending model was reliant upon important changes in how debt relations are reproduced and governed in mass consumer markets. What we have termed financialised discipline – that is, the growing significance of extra-legal and marketised mechanisms of credit scoring and risk-based pricing, alongside the juridical punishment of non-payment by borrowers – was a constitutive force in the subprime boom. Without it, the targeting, sorting and pricing of “high risk” subprime borrowers in a legitimate and often celebrated sector of the mass mortgage market prior to the crisis would have been impossible. As Martha Poon has shown, for example, the writing of credit scoring into mortgage underwriting standards was crucial to the flowering of the subprime sector.⁶⁹

What is also clear, of course, is that these extra-legal mechanisms of financialised discipline were found seriously wanting once the crisis took hold. Risk-based pricing failed, in its own terms, to effectively price default risk for individual borrowers and, as such, contributed to the collapse of subprime lending institutions and created serious doubts about the streams of repayments underpinning toxic MBS and CDOs. For lenders and their securitisation programmes, the graduated rates of interest that were payable by subprime borrowers, over and above the rates paid in the “prime sector”, were supposed to be sufficient to cover the

losses arising from a comparatively high rate of default across a whole portfolio of loans. To be clear, then, it was not that subprime mortgagees were not calculated to be more likely to default on their home loans, but that these calculations of risk failed to capture and control an uncertain future. For some, the reasons for this failure mirrored a manifestation of the broader problems of inadequate data that plagued probabilistic financialised risk management. The historical data that was available for subprime mortgagors only encompassed the last decade or so; a period of relatively low and stable interest rates, on the one hand, and rising house prices, on the other. So, for example, when seeking to defend the failure of HSBC Finance Corporation to predict the scale of defaults by subprime mortgagors, Chief Executive of HSBC Michael Geoghagan noted that “You’ve got to have history for analytics ... the fact of the matter is there [isn’t history] for the adjustable rate mortgage business when you’ve had 17 jumps in US interest rates”.⁷⁰

For others, however, the failures of risk-based pricing arose from an Achilles heal which is widely recognised to be present in the credit scoring techniques from which risk-based pricing is derived: credit scores focus only on an individual’s past credit history.⁷¹ They do not take into account the possibility that a future change in economic conditions (e.g. recession, fall in property prices, rising interest rates) will effect not only prospects for an individual borrower, but also the large numbers of borrowers on a lender’s books. Risk-based pricing in subprime networks similarly only calculates default rates for individuals within a particular category. In the terms of those seeking to develop and perfect techniques of risk-based pricing, then, these techniques do not address so-called “default correlation”. Writing prior to the crisis and based upon their analysis of the portfolio of a major subprime mortgage lender, Cowan and Cowan warn, for instance, that “as credit quality declines, the importance of default correlation increases ... ignoring default correlation in the development of credit risk models for subprime portfolios would lead to considerable model risk”.⁷² In our terms,

the failure of risk-based pricing to take into account default correlation led to considerably more than just model risk. It ensured that, when widespread defaults occurred, subprime lenders incurred losses that were not only uncalculated but on a much greater scale than could have been predicted.

The crisis management interventions in the USA and UK that buttressed financialised discipline were broadly two-fold. First, in terms of risk-based pricing specifically, a strategic policy drive focused on piercing the veil of its complexity and the ways in which this contributed to a “false sense of security” in the subprime and originate and distribute models of lending.⁷³ Significantly, rather than yielding a clear-cut alternative to risk-based pricing, this drive is now beginning to herald an adaptation that tends to be referred to as the development of “affordability pricing”. Simply put, affordability pricing requires point of sale risk calculations not simply and only in relation to the variable of the immediate affordability of the obligations created, but also in relation to on-going and continuing affordability. For example, in the UK, the Financial Services Authority (FSA) launched a consultation exercise in July 2010 which, in an effort to promote responsible mortgage lending practices, brought the issue of affordability to the fore.⁷⁴ Reflecting the widespread criticism of the agency during the crisis and its new commitment to “take a much more interventionist and robust approach to regulating firms and markets”, the FSA state that “We believe that a robust and effective assessment of individual affordability has to underpin any sustainable lending model”.⁷⁵ To this end, the consultation sets out proposals for “affordability assessments” at the point of sale that would produce important additions and revisions to pre-crisis practices. These include a regulatory requirement that lenders verify the incomes of would-be mortgagees based upon a source of evidence independent of the customer themselves, thereby effectively shutting down the market in self-certification mortgages. The proposals also feature measures to prevent the stretching of affordability through interest-only products or

extending mortgage terms, such that “affordability assessments must normally be based on a capital and interest basis, even for interest-only mortgages; and on a maximum term of 25 years, even where the actual term is longer”.⁷⁶ Moreover, and broadly mirroring the SCAP’s use of projected scenarios to supplement and up-date financialised organisational risk management, the FSA’s consultation proposes that future projected increases in interest rates, as determined by its own guidance, are to be used by lenders “to test mortgage payments” of applicants.⁷⁷

Second, crisis management interventions in relation to foreclosure specifically and the forces of financialised discipline more broadly have taken the form of support for forbearance. “Forbearance”, which literally means “calling a halt”, implies tolerance, moderation, leniency and even forgiveness by lenders or, as is typically the case in subprime and other securitised mortgages, by the loan servicers charged with collecting the repayments that underpin a pool of MBS. But, crisis management interventions cajoling forbearance largely reproduce rather than challenge the forces of financialised discipline, supporting what amounts to only a temporary and exceptional suspension of the norms of borrower responsibility for outstanding obligations.⁷⁸ By its nature, and despite its many forms, forbearance is a set of arrangements negotiated on an individual basis by a lender or servicer company to reschedule and modify - and not expunge, cancel or take co-responsibility for - a debtor’s outstanding obligations.

Furthermore, particular governmental interventions in support of forbearance have actually been constituted through the forces of financialised discipline in determining, for example, whether and on what terms a borrower may be eligible for a rescheduling of their obligations. Take, for example, the FHASecure programme in the USA. Introduced by then Treasury Secretary Hank Paulson as the crisis broke in August 2007, FHASecure transformed the underwriting standards of the Federal Housing Administration (FHA) to make it possible for

them to insure the new mortgages of delinquent borrowers for the first time, conditional on debtors negotiating forbearance with their lenders and refinancing from adjustable rate products to 30 year fixed-rate mortgages. But FSASecure employed a series of risk calculations to divide apparently deserving mortgagors who qualified for the scheme from the apparently undeserving who didn't, and the insurance of new loans under FSASecure was also risk-rated such that borrowers paid differentiated and graduated premiums based upon a series of calculations about their likelihood of default.⁷⁹

By way of further illustration, consider the Obama administration's "Make Home Affordable" programme that, after much fanfare, was introduced as a joint Treasury and Housing and Urban Development initiative in March 2009. Targeting around 8 million Americans who are said to be confronting the prospect of foreclosure with US\$75 billion of support, the key elements of Making Home Affordable are HAMP and HARP. HAMP, the Home Affordable Modification Program, is supposed to enable forbearance by lenders and servicers that reduces the level of monthly repayments; and HARP, the Home Affordable Refinance Program, is designed to enable forbearance in terms of remortgaging to lower rates of interest, especially for those who would otherwise be unable to refinance because falling house prices have undermined their equity at the same time as loan-to-value (LTV) ratios have tightened. But, under the terms of HAMP, borrowers only become eligible if they can first negotiate forbearance that reduces their monthly repayments to 38% of their gross income. The Treasury and HUD then provide the lender or servicer with a flat \$1,000 sum, and contribute match funding to further reduce down to 31% of the borrower's gross income for a trial period and with a view to a permanent modification. However, discretion over forbearance is calculated as to whether it is in the best interests of the lender or the investors for whom, in effect, the loan servicer acts. Calculations as to what will be recovered through foreclosure (based on house prices, minus legal costs) are set against that which may (or may

not) be earned after forbearance. By August 2010, HAMP had achieved 422,000 permanent modifications. A further 600,000 households have been party to cancelled modifications under the scheme.

Conclusions

Offering a critical analysis of the principal managerial interventions by authorities in the heartland of the subprime crisis in the USA and UK from Autumn 2007 through to 2009, our argument here has been that these responses served to reproduce tendencies to the financialisation of socio-economic life which contributed to producing the crisis in the first place. Our account of this period of intense crisis management stands in contrast with the prevailing orthodox and critical views that turn on the binaries of state/market and public/private. For us, and to return to the terms of Larry Elliott with which we began this article, “big government” may well have been crucial to crisis management, but concentrating on this alone and its apparent implications for financial markets and state forms tells us very little about the make-up and purpose of the various “bad banks”, “liquidity schemes”, “bank bailouts” and so on. It does not articulate the ways in which the co-constitutive forces of financialised accumulation, risk management and discipline continued to be at work in the substance of pro-market crisis management.

For Elliott, the question of how the crisis was managed is also a matter, however, of the missed opportunity that this represented for interventionist social democracy. Set against the backdrop of our analysis here, it becomes apparent that the opportunity offered by the moment of “Keynesian schadenfreude” was not missed simply because, as a consequence of its management, the financial crisis became a fiscal crisis. Now, it is undeniably the case that the costs of the crisis management, and the associated costs of the crisis in terms of rising unemployment and shrinking tax revenues, have been funded by heavy government

borrowing which, at the time of writing at the start of 2012, has become manifest in a so-called “sovereign debt crisis” in the Eurozone. And, it is also clear that the austerity agenda of deficit reduction in the UK at least has “provided opportunity and cover for a sustained assault on the public sector, long considered by neoliberals as a drain and burden on the income-generating capacity of free market capitalism”.⁸⁰ But, simply understanding these developments in terms of the binaries of state/market and public/private misses the point about the tendencies to the financialisation of socio-economic life that cut across these seemingly separable realms.

It was the “Third way” social democratic parties of the mainstream political left on both sides of the Atlantic which, from the 1990s in particular, played up and played on the tendencies of financialisation.⁸¹ As Shaun French and Andrew Leyshon describe it, for example, the post-1997 period in the UK witnessed an implicit Faustian pact brokered between the City and the Labour Government whereby the former was enabled to continue to generate enormous speculative profits on the basis that such business not only served to mask a large and widening trade imbalance, “but also helped to generate substantial tax receipts for the Treasury”.⁸² Labour thus funded public and quasi-public sector employment and regeneration and development strategies outside of the South-East “as a means to partly offset the social and regional disparities of financialisation”.⁸³ As the Labour administration of Gordon Brown sought to manage the crisis, then, it effectively did so in the name of the continuation of a particular vision of social democracy which had flowered but then suddenly wilted amidst the forces of financialisation. While the authority and resources of big government were marshalled to try to put humpty dumpty back together again, articulating an alternative vision which displaces the financial markets from the heart of contemporary socio-economic life remains a much bigger challenge. As such, more recent high-profile and seemingly state-empowering re-regulatory initiatives – including, the Dodd-Frank Act of 2009, the provision

of regulatory functions to be conducted by the Bank of England at the expense of the FSA, and the ‘ring-fencing’ of investment and commercial banking recommended by the Vickers Report 2011 – do not contain or elaborate upon an alternative vision. Certain pre-crisis opportunities for speculative financial accumulation may now have been closed-down, but the co-constitutive forces of financialised risk management and financialised discipline have been largely up-dated and revised rather than conclusively reformed.

Endnotes

1. Larry Elliot, “David Cameron is gaining ground even though Labour handled the crisis well”, *The Guardian* online, (12 October 2009), available: <http://www.guardian.co.uk/business/2009/oct/12/cameron-outflanking-labour> (accessed 15 February 2011)
2. *Ibid.*
3. *Ibid.*
4. Susan Watkins, “Shifting Sands: Editorial”, *New Left Review* 61, Jan-Feb (2010), p. 9.
5. See, for example and respectively, Charles P. Kindleberger, *Manias, Panics and Crashes: A History of Financial Crises*, 3rd edition (New York: John Wiley & Sons, 1996); and David Harvey, *The Limits to Capital* (Oxford: Blackwell, 1982).
6. See, for example, John B. Taylor, *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis* (Stanford, CA: Hoover Institution, 2009).
7. Matthew Watson, “‘Habitation Versus Improvement’ and a Polanyian Perspective on Bank Bail-outs”, *Politics* Vol. 29, No. 3 (2009), p. 191
8. *Ibid.*, p. 191. On financialisation and everyday life, see Randy Martin, *Financialization of Daily Life* (Philadelphia: Temple University Press, 2002); Paul Langley, *The Everyday Life of*

Global Finance: Saving and Borrowing in Anglo-America (Oxford: Oxford University Press, 2008).

9. Ismail Erturk, Julie Froud, Sukhdev Johal, Adam Leaver and Karel Williams, “General Introduction: Financialisation, Coupon Pool and Conjuncture” in I. Erturk, J. Froud, S. Johal, A. Leaver and K. Williams (eds.) *Financialisation at Work: Key Texts and Commentary*, (Routledge: Oxon, 2008)

10. *Ibid.*, p. 34.

11. *Ibid.*, p.34.

12. Jacqueline Best and Matthew Patterson (eds.) *Cultural Political Economy* (London: Routledge, 2010); Ngai-Ling Sum and Bob Jessop, “Towards a Cultural Political Economy: Poststructuralism and the Italian School”, in M. de Goede (ed.) *International Political Economy and Poststructural Politics* (New York: Routledge, 2006), p. 157-176.

13. Ismail Erturk, Julie Froud, Sukhdev Johal, Adam Leaver and Karel Williams, *op cit.*

14. See, for example Melinda Cooper, *Life as Surplus: Biotechnology and Capitalism in the Neoliberal Era* (Seattle, WA: University of Washington Press, 2008).

15. Robert Boyer, “Is a Finance-led growth regime a viable alternative to Fordism? A preliminary analysis”, *Economy and Society* Vol. 29, No:1 (2000), p. 111-145

16. Robert Brenner, “The boom and the bubble’, *New Left Review*, No: 6 (November – December 2000), p. 5 - 43

17. Samir Amin, ‘The challenge of globalization’, *Review of International Political Economy* Vol. 3, No. 2 (1996), p. 216-259; Giovanni Arrighi, *The Long Twentieth Century: Money, Power and the Origins of Our Times* (London: Verso, 1994).

18. See, for example and respectively, Gerald A. Epstein and Arjun Jayadev, “The Rise of Rentier Incomes in OECD Countries: Financialisation, Central Bank policy and Labour Solidarity” in Epstein G.A (ed.) *Financialisation and the World Economy*, (Massachusetts:

Edward Elgar 2005); Englebert Stockhammer, “Financialisation and the Slowdown of Accumulation”, *Cambridge Journal of Economics*, Vol. 28, No.5 (2004), p. 719-741; and Greta. R Krippner, “The financialisation of the American Economy”, *Socio-Economic Review*, No.3 (2005), p. 173-208

19. David Knights, “Governmentality and Financial Services: Welfare Crises and the Financially Self-Disciplined Subject”, in G. Morgan and D. Knights (eds.) *Regulation and Deregulation in European Financial Services* (Basingstoke: MacMillan, 1997), p. 216-236.

20. Adam Harmes, “Mass Investment Culture”, *New Left Review*, 9 (2001), p. 103- 124

21. Julie Froud and Karel Williams, “Financialisation and Coupon Pool”, *Capital and Class*, No.78 (2002), p. 119 – 152

22. Gordon L. Clark, *Pension Fund Capitalism* (Oxford: Oxford University Press, 2000); Michael Useem, *Investor Capitalism: How Money Managers are Changing the Face of Corporate America* (New York: Basic Books, 1996).

23. Michel Aglietta and Antoine Rebérioux, *Corporate Governance Adrift: A Critique of Shareholder Value* (Cheltenham: Edward Elgar, 2005); Julie Froud, Sukhdev Johal, Adam Leaver, and Karel Williams *Financialisation and Strategy: Narrative and Numbers*, (London: Routledge, 2006)

24. Robin Blackburn, “Finance and the Fourth Dimension”, *New Left Review*, No.39 (2006), pp. 39-70; Frank Partnoy, *Infectious Greed: How Deceit and Risk Corrupted the Financial Markets* (London: Profile Books, 2004).

25. Marieke de Goede, ‘Repoliticizing Financial Risk’, *Economy and Society*, Vol. 33, No. 2 (2004), p. 197-217; Tony Porter, *Globalisation and Finance* (Polity Press, 2005), p. 62-63; Michael Power, “Enterprise Risk Management and the Organization of Uncertainty in Financial Institutions”, in K. Knorr Cetina and A. Preda (eds.) *The Sociology of Financial Markets* (Oxford: Oxford University Press, 2005), p. 250-268.

26. Paul Langley, "Securitising Suburbia: the transformation of Anglo-American Mortgage Finance", *Competition & Change*, Vol. 10, No.3 (2006), p. 283-299; Andrew Leyshon, and Nigel Thrift, "The capitalization of almost everything: The future of finance and capitalism", *Theory, Culture and Society*, Vol. 24, No. 7-8 (2007), p. 97-115.
27. Duncan Wigan, "Financialisation and Derivatives: Constructing an Artifice of Indifference", *Competition and Change*, Vol. 13, No. 2 (2009), p. 157-72.
28. Felix Driver, *Power and Pauperism: The Workhouse System, 1834-1884* (Cambridge University Press, Cambridge, 1993). On constitutionally-defined citizenship, the state and finance capital, see Stephen Gill, *Power and Resistance in the New World Order* (Basingstoke: Palgrave, 2003), p. 132.
29. See, for example and respectively, Andrew Leyshon and Nigel Thrift, "Lists come alive: electronic systems of knowledge and the rise of credit scoring in retail banking", *Economy and Society*, Vol. 28, No. 3 (1999), p. 434-466; Donncha Marron, "Lending by numbers: credit scoring and the constitution of risk within American consumer credit", *Economy and Society*, Vol. 36, No. 1 (2007), p. 103-133
30. Dawn Burton, *Credit and Consumer Society* (New York: Routledge, 2008), p. 53.
31. Paul Langley, "Consumer Credit, Self-Discipline, and Risk Management" in G.L Clark, A.D Dixon, and A.H.B Monk (eds.) *Managing Financial Risks, From Global to Local*, (Oxford: Oxford University Press, 2009), p. 280-300.
32. Anastasia Nesvetilova, *Fragile Finance* (Hampshire: Palgrave Macmillan 2007).
33. Ewald Engelen et al., *After the Great Complacence: Financial Crisis and the Politics of Reform* (Oxford: Oxford University Press, 2011); Paul Langley, 'Sub-prime mortgage lending: a cultural economy', *Economy and Society*, Vol. 37, No. 4 (2008), p. 469-494.
34. *The Economist*, "Subprime subsidence" (December 13 2003), available: http://www.economist.com/PrinterFriendly.cfm?story_id=8424086 (accessed 24 July 2011);

- The Economist*, “American Mortgages: Bleak houses” (February 15 2007b), available: <http://www.economist.com/node/8706627> (accessed 24 July 2011)
35. Philip Ashton, “An Appetite for Yield: The Anatomy of the Subprime Crisis” *Environment and Planning*, Vol. 41, No.6, (2009), p. 1420 – 1441
36. Michael Lewis, *The Big Short: Inside the Doomsday Machine* (London and New York: Allen Lane, 2010).
37. *The Economist*, “Paradise Lost: A Special Report on International Banking”, (15 May 2008), available: <http://www.economist.com/node/11325347>, (accessed 24 July 2011)
38. Markus K. Brunnermeier “Deciphering the Liquidity and Credit Crunch 2007 – 2008” *Journal of Economic Perspectives*, Vol. 23, No.1, (2009) p.77 – 100
39. Lucian A. Bebchuk, “Buying Troubled Assets,” Harvard Law and Economics Discussion Paper No. 636 (24 April 2009), available: <http://ssrn.com/abstract=1392808>
40. National Audit Office (NAO) “Maintaining Financial Stability across the United Kingdom’s Banking System” (December 2009), available: http://www.nao.org.uk/publications/0910/uk_banking_system.aspx (accessed 23 February 2011)
41. Treasury Department, “Financial Sector Assessment Programme: United States of America” (5 November 2010) p.13, available: http://www.treasury.gov/resource-center/international/standards-codes/Documents/FSAP_Technical%20Note_Crisis%20Management%20Arrangements_Final_5%2011%2010.pdf, (accessed 17 March 2011);
- Greg Farrell and Henny Sender, “US Agrees Bail-Out for Citigroup” *Financial Times* online (November 24 2008), available: <http://www.ft.com/cms/s/0/447938ee-b9f0-11dd-8c07-0000779fd18c.html#axzz1T2cawM4s> (accessed 19 February 2011).
42. Michel Foucault, *Security, Territory, Population, Lectures at the Collège de France, 1977-1978* (Basingstoke: Palgrave MacMillan, 2007), p. 65.

43. NAO, *op. cit.*, p.42
44. Mathew Watson, *op. cit.*, p.186
45. Treasury Department, “Fact sheet: proposed Treasury authority to purchase troubled assets”, (20 September 2008), available: <http://www.ustreas.gov/press/releases/hp1150.htm>, (accessed 20 July 2011)
46. See, for example, The Guardian, “Banking crisis: Congress urged to endorse \$700bn bail-out plan” (September 2008), available at <http://www.guardian.co.uk/business/2008/sep/23/> (accessed 14 July 2011).
47. Wall Street Pit, “Treasury Sends Congress Unprecedented \$700 billion Bailout Plan” (September 2008) available: <http://wallstreetpit.com/523-treasury-sends-congress-unprecedented-700-billion-bailout-plan> (accessed 14 July 2011).
48. NAO, *op.cit.*, p.42
49. Treasury Department, “G-7 Finance Ministers and Central Bank Governors Plan of Action” (October 2008), available: <http://www.treasury.gov/press-center/press-releases/Pages/hp1195.aspx> (accessed 12 February 2011).
50. Tony Porter, *op. cit.*, p. 62-3.
51. John Kiff and Paul Mills, P (2007) “Money for Nothing and Checks for Free: Recent Developments in US Subprime Mortgage Markets”, *IMF Working Paper*, WP/07/188
52. Angus Cameron, Anastasia Nesvetailova and Ronen Palan, “Wages of sin? Crisis and the libidinal economy”, *Journal of Cultural Economy*, Vol. 4, No. 2 (2011), p. 117-135; Marieke de Goede, “Finance and the excess: The politics of visibility in the credit crisis”, *Zeitschrift fur Internationale Beziehungen*, Vol. 16, No. 2 (2009), p. 299-310.
53. Paul Langley, “The performance of liquidity in the sub-prime mortgage crisis”, *New Political Economy*, Vol. 15, No. 1 (2010), p. 71-98; Anastasia Nesvetailova, *Financial Alchemy in Crisis: The Great Liquidity Illusion* (London: Pluto Press, 2010).

54. Jack Read, “The Role and Impact of Credit Rating Agencies in the Subprime Credit Markets”, Statement at the Hearing of US Senate Committee on Banking, Housing, and Urban Affairs, (September 26 2007), available: http://banking.senate.gov/_files/ACF1CC4.pdf, (accessed January 4 2008)
55. *The Economist*, “Paradise Lost: A Special Report on International Banking”, (May 17 2008, p.14), available: <http://www.economist.com/node/11325347>, (accessed July 27 2011)
56. Anastasia Nesvetilova, *op. cit.*
57. Alan Greenspan, “The Financial Crisis and the Role of Federal Regulators” Statement before House Committee on Oversight and Government Reform hearing on (October 23 2008), available: https://house.resource.org/110/gov.house.ogr.20081023_hrs_15REF2154.pdf, (accessed 25 July 2011)
58. Donald MacKenzie, “The Credit Crisis as a Problem in the Sociology of Knowledge”, Unpublished paper, (September 2010), available: http://www.sps.ed.ac.uk/data/assets/pdf_file/0019/36082/CrisisRevised.pdf, (accessed 22 July 2011)
59. Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Radom House, 2007)
60. Board of Governors of the Federal Reserve System, “The Supervision Capital Assessment Programme: Overview Results” (May 2009, p.4) available: www.federalreserve.gov/newsevents/press/bcreg/bcreg20090507a1.pdf (accessed 15 July 2011)
61. See, for example, Ben Bernanke, “The Supervisory Capital Assessment Program – One Year Later”, Speech at the Federal Reserve Bank of Chicago 46th Annual Conference on Bank Structure and Competition, (May 6, 2010), available: <http://www.federalreserve.gov/newsevents/speech/bernanke20100506a.htm>
62. *Ibid.*, p. 4

63. Board of Governors of the Federal Reserve System, “The Supervisory Capital Assessment Program: Design and Implementation”, (April 24 2009a, p.10), available: <http://www.federalreserve.gov/bankinfo/bcreg20090424a1.pdf>, (accessed 20 July 2011)
64. Board of Governors of the Federal Reserve System, “The Supervisory Capital Assessment Program: Overview of Results”, (May 7 2009b, p.3), available: <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20090507a1.pdf>, (accessed 21 July 2011)
65. Eric Dash, “10 large banks allowed to exit U.S. aid program”, *New York Times*, (June 9 2009), available: <http://www.nytimes.com/2009/06/10/business/economy/10tarp.htm> (accessed 26 July 2011)
66. *The Economist*, “Paradise Lost: A Special Report on International Banking”, (May 17 2008), available: <http://www.economist.com/node/11325347>, (accessed July 27 2011)
67. *The Economist* “Rebuilding the banks: A special report on International banking”, (16 May 2009), available: <http://www.economist.com/node/13604663>, (accessed 28 July 2011)
68. Elvin. K Wyly, Monia Atia, Holly Foxcroft, Daniel J. Hammel, and Kelly Phillips-Watts, “American home: Predatory mortgage capital and neighbourhood spaces of race and class exploitation in the United States”, *Geografiska Annaler Series B Human Geography*, Vol. 88, No.2, (2006), p. 105-132.
69. Martha Poon, “From New Deal Institutions to Capital Markets: Commercial Consumer Risk Scores and the Making of Subprime Mortgage Finance”, *Accounting, Organisations and Society*, Vol. 30, (2009), p. 654 – 674
70. *The Economist*, “American Mortgages: Bleak houses” (February 15 2007b), available: <http://www.economist.com/node/8706627> (accessed 24 July 2011)
71. Andrew Leyshon and Nigel Thrift, *op. cit.*, p.434 - 466
72. Adrian M. Cowan and Charles D.Cowan, “Default Correlation: An empirical investigation of Subprime Lender” *Journal of Banking and Finance*, Vol. 28, (2004), p. 755.

73. Richard K. Green, “Imperfect Information and the Housing Finance Crisis: A Descriptive Overview”, *Journal of Housing Economics*, Vol. 17, (2008), p. 269.
74. Financial Services Authority, (2010) “Mortgage Market Review – Responsible Lending”, FSA CP10/16, London, (... 2010), available: http://www.fsa.gov.uk/pubs/cp/cp10_16.pdf, (accessed 13 July 2011)
75. *Ibid.* p. 6.
76. *Ibid.* p. 8.
77. *Ibid.*, p.9.
78. Paul Langley, “Debt, discipline and government: foreclosure and forbearance in the subprime mortgage crisis”, *Environment and Planning A*, Vol. 41, No. 6 (2009), p. 1404-1419.
79. John C. Weicher, “Focus on the problem: subprime borrowers in trouble” *Housing Policy Debate*, Vol. 18, No.4 (2007), p. 830-836
80. Shaun French and Andrew Leyshon, “Those F@#king Guys: The Terrible Waste of a Good Crisis”, *Environment and Planning A* Vol. 42, No. 11, (2010), p. 2549 – 2559
81. Magnus Reiner, “An Obituary for the Third Way: The Financial Crisis and Social Democracy in Europe” *The Political Quarterly* Vol. 81, No. 4 (October/December 2010), p. 554–563
82. Shaun French and Andrew Leyshon, *op.cit.*, p. 2556
83. *Ibid.* p. 2556