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Abstract

This article is about knowledge limits and the financial crisis. It begins by examining various existing accounts of crisis which disagree about the causes, but share the belief that the crisis represents a problem of socio-technic malfunction which often requires some kind of technocratic fix: the three variants on this explanation are the crisis as accident or conspiracy or calculative failure. This article proposes an alternative explanation which frames the crisis differently as an elite political debacle. Political and technocratic elites were hubristically detached from the process of financial innovation as it took the form of ‘bricolage’, which put finance beyond technical control or management. The paper raises fundamental questions about the politicised role of technocrats after the 1980s and emphasises the need to bring private finance and its public regulators under democratic political control whose technical precondition is a dramatic simplification of finance.

Keywords: knowledge, experts, elites, financial crisis, financialization, bricolage

Misrule of experts? The financial crisis as elite debacle

The debate about knowledge limits and financial crisis was started early by Queen Elizabeth when she asked an audience of academics at the London School of Economics, ‘why did nobody see it coming?’ Some two years later there is a large after-the-event literature by academics and others, which allow us to ask a different question: ‘why does everybody disagree on what caused the crisis?’ This second question is important and interesting: important, because reform is frustrated by the absence of a unified and politically actionable story; interesting, because behind these differences about cause are generally shared assumptions about the crisis as a socio-technical malfunction which is variously accident, conspiracy or calculative failure. This article begins by observing how this underlying socio-technical problem definition recurs in different accounts, and how it in turn encourages authors to recommend technical, often technocratic, interventions to fix the malfunctioning economic parts, processes, behaviours and calculative practices.

Our argument is about the limits of technocracy before the crisis and the impossibility of effective technical regulation beforehand or control afterwards. Culturally, the high levels of trust between regulators and the financial community and the ideological belief in the efficacy of free markets, encouraged deference to the *métis* of the market in a pre-crisis world where finance was becoming dangerously ungovernable. The result was the hubristic detachment of elite technocrats who never engaged with the detail of financial market practice. This was reinforced by the politically sponsored devolution of management and oversight to unelected technocrats which led to a growing division between organisational elites and professional experts within key regulatory bodies like the Bank of England. Organisational elite technocrats became ever more connected to an inner-circle of elite politicians and their advisors who shared their hubris. This article therefore offers a critique of technocracy in its current form which encourages reckless innovation in the financial sector.

To make this argument is to propose a different, more political explanation of the crisis as an elite debacle. Interestingly, as we argue, the nature of this debacle is not as anticipated and previously described in the policy literature by Scott and others on policy fiascos and disasters. But if our readers want the crisis in one analogy, the financial crisis is the result of informal elite miscalculations which are like those that led to Western invasion of Iraq or the military involvement in Afghanistan (rather than the technical mishaps behind the space shuttle disaster or Deep Water Horizon). This reframing of the crisis is important because it highlights the importance of increased democratic control and accountability rather than more technical competence. Of course expertise is important, not least in devising the policies which are necessary to simplify finance and thereby make it amenable to control. But the fundamental (and so far uncorrected) political mistake of the 1990s and 2000s was to forget that technocrats are good servants but bad masters, and that the servant function requires clear mechanisms to secure their accountability.

Our paper develops this argument in three sections. The first section reviews current explanations of crisis whose differences are classified according to whether the causes are located in structure or agency or in neither as part of a kind of third way explanation. In this section we argue that these explanations of the crisis (as accident, conspiracy or calculative failure) share common assumptions about how crisis is generated within socio-technical systems amenable to technical, mainly technocratic, fixes. The second section shifts the problem into a much more political frame, initially by introducing the politics literatures on policy fiascos which are more commonly associated with foreign policy humiliations than with economic crisis. Within this frame, the section focuses on the massive failure of regulation before the crisis and argues that the crisis was then permitted by the inaction of

political and technocratic elites whose hubristic detachment was such that they made no serious attempt to control the finance sector. The third section explains how the unacknowledged process of financial innovation as bricolage produced a fragile latticework of connections that was in any case inherently ungovernable. A brief conclusion draws out some implications. The final verdict is that this financial crisis is different from earlier credit crises because it now requires a political solution after some serious intellectual reflection on the flawed legacy of Reagan and Thatcher.

The financial crisis in a socio technic frame

There are many diverse explanations of the post-August 2007 financial crisis and those differences between competing accounts can be analysed and classified in many different ways. In the argument below, we use the ‘structure versus agency’ opposition as a classificatory principle because this old, crude conceptual opposition has been an attractive simplifying device for those faced with new, complex empirical problems. Thus, for one group of authors, the crisis is a structural problem. The causal emphasis here is on system complexity and malfunction through unexpected interactivity within financial markets, so that the crisis becomes some kind of accident. For a second group of authors, human agency is important as key actors knowingly ignored the social and economic consequences of their actions and through greed, malfeasance or self-interest created an excessively risky system so that the crisis becomes, at best an incentive problem, at worst a kind of conspiracy. A third group takes a *neither nor* position on structure and agency as they explain how institutional and cultural factors restricted actor understanding of new financial instruments and complex structures, so that the crisis becomes a case of cognitive or calculative failure. Our argument is that underlying these explicit differences is a shared frame and an implicit problem definition about the form of the crisis as a malfunction within a socio-technical system which would work satisfactorily were it not for some flaw or defect. The implication is that the problems of finance are amenable to some kind of technical fix using, for example, better models of risk or stricter curbs on irresponsible behaviour. The corollary of different socio technic approaches is a multiplicity of positions on what politics is and how it matters. But, as we will argue, these different positions all one way or another encourage faith in technical or expert solutions by devaluing the ordinary stuff of politics in mass democracies where policy is justified in systems combining party competition and bureaucratic governance.

Malfunction accounts of the crisis from a structural perspective take a variety of forms. At the most basic level, there are official reports on crisis which adopt a ‘list and fix’ approach. This involves identifying the various defective parts of the financial system and then making a variety of technical recommendations which seek to fix them. Such ‘list and fix’ reports vary in scope and ambition. Radical reports, such as the EU’s 2009 De Larosière Report for example, highlight complex malfunctions at multiple levels so that no fewer than 31 far-reaching interventions are required to fix finance (De Larosière 2009). The British Turner Review (2009), equally radical and broad in scope, makes 32 recommendations and questions whether the over-reliance on rational-actor models contributed to the crisis. Other official reports use the same approach for more conservative ends. The 2009 Walker Report, for example, questions Turner’s radicalism and argues against extensive reform, but nevertheless makes 39 detailed recommendations for reforming bank corporate governance by empowering shareholders and limiting board excess.

System malfunction accounts can also take a more cerebral form when failures are attributed to erroneous and limiting pre crisis conceptualisations of the financial system, so that the first prerequisite is a new plan or diagram of the relevant systems.. Perhaps the most notable contribution here comes from Andrew Haldane, the Bank of England’s Director of Financial Stability, who challenges regulators to draw on the lessons of ecology and epidemiology and

‘rethink the financial network’. For Haldane, the spread of financial crisis is analogous to the spread of diseases like SARS which highlight structural vulnerabilities in complex but homogenous networks. But the reworked problem remains technical and Haldane’s solution is impeccably technocratic in its focus, with plans for remapping the system, vaccinating large interconnected ‘super-spreader’ banks and introducing central counterparties in swaps markets to reduce complexity (Haldane 2009). In a less radical way Andrew Lo (2009) articulates similar positions as he develops his adaptive network approach. This begins differently because it places a new emphasis on Darwinian notions of ‘human nature’ but Lo ends in an orthodox way by putting his faith in the regulators’ ability to construct new interventions, such as the creation of standardized OTC contracts.

A more pessimistic structural take comes from several authors inspired by Perrow’s classic work on normal accidents. Perrow’s (1984) original work emphasised the inadequacy of human error (or ‘dumb operator’) explanations of major accidents in complex systems. Using examples of Three Mile Island, airline crashes and DNA research, Perrow argued that accidents were unforeseeable and uncontrollable by human agents insofar as they were rooted in the complex and tightly coupled nature of the systems themselves. These arguments had been transposed into analysis of earlier financial crises as in Meziar (1994) work on the US Savings and Loans crisis. Almost inevitably, they have been reused in explaining post 2007 events. Guillen and Suarez (2009) use Perrow’s frame to argue that financial markets became more complex as banks diversified and products became more complicated. Similarly the system became more tightly coupled as leverage levels and bespoke derivatives tied in the fortunes of major banks, eroding the safety buffers which might prevent cascading losses across notionally separate financial institutions and markets (see also Schneiberg and Bartley 2009, p.7). The normal accident school of authors on the crisis argue that system-based malfunctions were beyond human comprehension and control and take the position that the contributory role of human venality and fraud in the crisis was minimal (Palmer and Maher 2010, p. 84). The appropriate regulatory response therefore is a technical one: to reduce system complexity and introduce redundancies to make the financial system more robust.

Another group of authors blames the (knowing) actors inside the banks who act against the interests of ignorant outsiders like shareholders and taxpayers. Thus, Bebchuk et al (2009) have an institutionalist take on pay incentives. They agree that the senior board of large banks understood what risks they were taking and took decisions which effectively caused the crisis, but argue that these elite groups were simply responding to institutionally set remuneration incentives, which encouraged short termism and increased the probability of corporate failure (p.26). Bebchuk et al show that, between 2000 and 2008, the top 5 executives at Lehman and Bear Stearns extracted \$1.03bn and \$1.46bn respectively in bonuses and share options before they bankrupted their companies. Bebchuk et al. conclude that this represents bankers knowingly chasing short term profits through risky bets to boost bonuses and insist that these behaviours will only change if remuneration structures are reformed through long-dated share options with claw back provisions. Similar themes appear in the many moral hazard accounts of the crisis (e.g. Dowd 2009; Becker 2008); this account is again developed in several variant forms including Ho’s (2009) more radical cultural take. In the standard moral hazard account, the presence of an implicit State bailout guarantee encourages risk taking as bank boards went for risky growth safe in the knowledge that the taxpayer would bailout the institution if the bets went against them. Here however the break up of ‘too big to fail’ banks and the removal of such guarantees become the recommended interventionist remedy along with the remoralisation of wholesale banking which Ferguson believes must return to its relational origins (2010).

If all these authors one way or another resist the idea of the crisis as accident, it is perhaps ironic that the most vehement critic is Charles Perrow, the progenitor of normal accident theory. Perrow’s 2009 contribution to the debate is provocatively titled ‘Not An Accident’. He locates the problem in agency not impersonal interactive structures (Perrow 2009) and argues

in three steps that reckless and irresponsible actors caused the crisis. First, Perrow argues that the financial crisis was neither ‘above’ agency nor inevitable, but rooted in the decisions and behaviour of particular human agents which were controllable. Second, he argues that those agents were conscious of their actions and that the crisis was not the result of the, ‘*unanticipated*’ interaction of two or more [system] failures’, which would be the case in a normal accident scenario. Third, Perrow argues that key financial elites were not only aware of the damage they might cause, but were motivated by self-interest to persist with their behaviour. Perrow’s analysis emphasises that irresponsible financial elites suborned legislators and even regulators with political donations and revolving door jobs so that all these elite groups ignored manifest dangers. Perrow’s emphasis on a problem of ‘knowing malfeasance’ interestingly envisages a more explicit political counterweight of a stronger labour movement as well as greater state oversight (pp.20-1).

Neither of these two variants on the socio technic account deals with the politics of crisis at all satisfactorily. In the accounts of the crisis as accident there can be no politics because, for authors like Haldane, the analysis is of an enclosed socio technical system. The analogy is with systems like the Challenger space shuttle or the Deepwater Horizon rig which have a function like putting astronauts into space or extracting oil from the sea bed. The analysis of failure therefore centres, *ex post*, on accident as emergency event and how safe operation was aborted by something like the defective O ring component in the space shuttle, or the misreading of the stuck valve at Three Mile Island... The accounts which blame the knowing actor do bring back the politics but in a very crude way whereby politics becomes the sphere of action of corrupt elites. This can be seen in the work of Simon Johnson as much as in Perrow’s essay. Simon Johnson is an ex IMF chief economist and prominent critic of the connections at senior level between banks and government, that amount to a ‘Wall Street takeover’. Johnson and Kwak (2010) describe the major US banks as an oligarchy, whose political power comes not simply from campaign contributions but from the economic power of Wall Street firms (pp.6-7 and chapter 7). This, like Perrow’s (2009) conclusion, emphasises how the private knowledge, self-serving intent and venality of financial elites and their political allies caused the crisis. Such ideas border on conspiracy theory and ignore the more serious political question about whether we can accept that elite bankers and non bankers have agency without making the paranoid assumption that those elites knew what they were doing and understood the likely outcomes of their actions. Put another way, is it possible to balance structure and agency so as to avoid the crude opposition between accident and conspiracy.

From this point of view, we would emphasise the importance of a third set of authors, who are agnostic on structure versus agency oppositions, and propose more sophisticated institutional and cultural explanations about knowledge limits. From this perspective, these authors highlight the way in which institutional arrangements or calculative frames blocked the vision of senior bankers, traders and those outside the banks so that no actors could see the larger risks building up at a system level. Most notable here is the work of FT editor Gillian Tett who identifies the problems created by institutional silences and silos. Tett (2009; 2010) argues that the arcane and technical innovations within credit markets were ignored by journalists and politicians. The problems related to these ‘social silences’ were compounded by the limited or partial knowledge embedded inside the organisational and cognitive silos established within and between the banks, and amongst the regulators and central bankers with oversight responsibilities. In consequence, insiders and outsiders alike could not take a holistic view of credit market developments. Tett (2010) proposes an anthropologist’s variant on the socio-technical fix for finance and argues the case for a more active role for outsiders or ‘cultural translators’ who could develop and encourage a more holistic view.

The problems of limits on knowledge or ‘practice’ are constructed differently by MacKenzie (2010a) whose argument is that different clusters of evaluation around asset backed securities

(ABSs) and collateralized debt obligations (CDOs) created arbitrage opportunities that resulted in financial catastrophe. For MacKenzie, the financial crisis was initiated by a 'two step' valuation process, first as mortgages were bundled into ABSs, then as ABSs were rolled into CDOs. This, MacKenzie argues, transformed both the mortgage market and the ABS market as older risk sensitive ABS mezzanine tranche buyers were replaced by model-driven CDO buyers whose estimation of a correlation default of 0.3 was based on experience with corporate bonds. The result was an increase in apparent profitability based on an underestimation of risk and hence rising demand for riskier ABS tranches, which in turn allowed new mortgages to be written to riskier households. The models were therefore 'counterperformative' insofar as they changed economic processes in such a way that the more they were applied in a market setting, the more they diminished the verisimilitude of those same models. MacKenzie provides an academic account of a knowledge driven world but in his journalism he offers socio-technical solutions such as the need for better models which build from the bottom up (MacKenzie 2010b) and the need for banks to pay more attention to the gaps in evaluation cultures (MacKenzie 2009).

In many ways the "third way" cultural and calculative explanations of authors like Tett and Mackenzie are the most cogent and persuasive because they highlight the importance of agency but add analysis of how markets and firms make mistakes with out-of-control consequences that are not easily anticipated beforehand or contained mid-crisis. This third way kind of explanation makes it possible to acknowledge the role of human agency in the current financial crisis without reducing everything to a conspiracy on the part of knowing actors, as Perrow (2009) does. This fits with our own earlier arguments about financial innovation as bricolage with bankers constructing fragile financial structures from the opportunities presented by events (Engelen et al 2010; Engelen et al forthcoming) and with Ho's (2009) account of incentivised, self-interested individuals trying to utility maximise without really understanding the externalities of their actions. The improvisation of moves and the complexity of motives then create structures whose properties and behaviour are much harder to understand, predict and therefore govern. For this reason, it is important to retain the theme of unmanageability — of process and events moving beyond the control of human agents and cognition — which is one of the most valuable elements in the Tett and MacKenzie accounts, and in the system accident analysis of Guillen and Suarez (2009).

However the more sophisticated third way explanations do not produce an adequate account of the political sphere because their concept is of a politics which is hidden as in the case of MacKenzie or compartmentalised as in the case of Tett. It would be wrong to say that MacKenzie has no politics when he represents the mathematization of finance as a performative project that changes the world. But this makes politics into a hidden, epistemic thing with the ordinary stuff of politics outside the field of the visible. In Tett, politics is visible but exists in a compartmentalised world where politicians, regulators, journalists and practitioners do not communicate. This makes politics into one more silo in a world where the basis for integration should be supplied not by political action but by the anthropological translation... The failure to recognise or conceptualise ordinary politics is endemic in all the different socio technic accounts of the crisis as a malfunction in a socio-technical system that would work properly were it not for defective processes or operating errors by the reckless or incentivised and/or failure of cognition.

By 2010, the neglect of politics in all these different socio technic accounts is being seriously challenged by events. In 2007 and 2008 it was possible to discuss the crisis as an emergency event because at that point crisis began with the troubles in sub-prime lending and ended in the autumn 2008 collapse of Lehman and extreme intervention to avert bank collapse and market seizure. But the crisis has since become a multi-year moving sequence of disasters which had by 2010 delivered fiscal crisis in high-income national economies and the beginning of a new age of austerity amidst an unresolved Europe wide sovereign debt crisis. This in turn has inaugurated unprecedented distributive conflicts within and between high-

income countries about who should pay and who can't pay and won't pay. As the explicandum morphs and shifts, this reinforces our misgivings about the problematisation of crisis as some kind of accident caused by defective parts or operator error or calculative limits inside finance. All these authors (with the notable exception of Tett) raise few questions about the capability of a technocracy to govern financial markets effectively and in the public interest. What if the world is more intractable? Are political leadership and economic management troubled with problems, more fundamental than those of silence and silo admitted by Tett? What if financial institutions and markets have no unitary function and logic? In this case routine disorder and occasional catastrophe may be not a lapse from safe operation but the playing out of inherent unmanageability which in extremis produces widening chaos not an emergency event and a moment of accidental disaster.

Our next section aims to broaden out the hitherto narrow socio-technical framing of the crisis by drawing on the politics literatures about policy fiascos and disasters. It opens onto a different style of explanation which foregrounds the role played by the hubristic detachment of political and technocratic elites. Instead of endorsing faith in (or the potential of) technocracy going forward, the next section raises questions about the absence of democratic checks on hubristic leadership amongst regulators and central bankers whose pre crisis activities were authorised by elected politicians.

The financial crisis as elite debacle

If the aim is to broaden or change the socio-technical framing of the financial crisis, we can turn to the politics literatures on policy disasters. This section begins by analysing accounts of policy fiascos and other disasters in the existing literature before concluding that none of the established concepts are immediately useful. These accounts do however provide us with a point of departure for a different kind of argument about how elite debacle is rooted in a distinctive and detached post-1980s mode of governance after deregulation. In the UK case, the rhetoric of neoliberalism and the long history of trust between finance and its public regulators were reinvented as a politically sponsored kind of light touch regulation. Hubristic detachment was then encouraged by new modes of governance driven by organisational developments. The resulting financial crisis was a debacle of policy elites.

The politics literature on disasters divides into three broad streams which take different epistemological and ontological positions.

- The first may be called *fatalistic* insofar as the dominant theme is simply that 'accidents will happen'. This account often unites some high theorists of catastrophe with 'common sense' accounts; and, of course, echoes Perrow's classic 1984 position on 'normal accidents' which under some technological and social conditions must be expected. Practitioners faced with the problem of making sense of fiascos *post hoc* commonly also stress the complexity of the world and the inevitability of things going wrong (for examples ranging from BSE to financial failure, Moran 2001).
- A second may be referred to as *constructivist*, where the emphasis is on the absence of a stable 'objective' understanding of a fiasco or disaster. Shifting value criteria, or even the passage of time, can change our understandings of a particular fiasco, and its extent. A commonly cited example is the Sydney Opera House, which began as a disaster and ended as a triumphant icon. The most extended statement of this account is Bovens and 'tHart (1996; see also Bovens, 'tHart and Peters 2001) where the dominant message is that fiasco cannot be explained objectively and so the aim is to explore the different meanings we assign to specific fiascos.
- A third stream is the *modernist* stream, epitomised in the sub-title of Scott's (1998) classic study, 'how certain schemes to improve the human condition have failed'. Here disasters are the result of a particular historical conjuncture in the modern

world; a toxic combination of modern state power and the Enlightenment legacy of an obsession with legibility, simplification and measurement. The result is high modernist disasters in arenas as diverse as the modern city, economic planning and the management of nature. ‘Thin simplification’ — knowledge derived from standardised measurement systems — overrides *Métis* — the practical knowledge derived from everyday experience — and the result is disaster. The argument uncannily echoes Oakeshott’s (1962) case for the primacy of tacit knowledge over expertise and data in the practice of government.

The difficulty is that none of the three positions helps us make sense of the unfolding financial disasters since 2007-8. The fatalistic view has been forcefully attacked by Perrow (2009) himself; whilst the less academic variant that ‘accidents will happen’ is not currently a tenable position for policy makers or practitioners (though this excuse was tried, for example, in earlier fiascos, like the Baring collapse of the mid 1990s and the UK banking crisis of the mid 1970s: see Moran 2001 and Moran 1986). Indeed the fatalistic ‘accidents will happen’ account is probably most useful to policy makers attempting blame avoidance in the inquests that follow fiasco.

A constructivist understanding of the debacle is equally inappropriate because, whilst there may be competing explanations of the crisis, its scale and negative consequences are inescapable as sovereign defaults beckon. What culminated in the 2007-8 crisis is not, like the Sydney Opera House, a blessing in disguise. Equally, it is hard to argue that the crisis is caused by an obsessive modernist concern with control, monitoring and surveillance at the expense of *métis*. It is possible to find examples of this kind of approach in Power’s (1994) book *The Audit Society* which emphasises the often contradictory results of audit processes, developed initially as a means of compensating for the mistrust inherent in the market relations between investors and managers and between regulators and the regulated. This is also a subsidiary theme of Dunleavy’s (1995) review of policy failure which emphasised the role of excessive centralisation of the policy making system as a cause of catastrophe — part of his explanation for the peculiar vulnerability of the British to large scale disasters like the high rise housing fiasco. But it would be hard to picture what happened in financial regulation in the run up to the crisis as exhibiting a modernist mania for control. On the contrary, the main thrust of policy was in the opposite direction with the dismantling of monitoring and control under regimes that placed excessive faith in market operators and too heavy a reliance on the tacit, practical knowledge of those with expertise in markets. In this sense it was deference to *métis*, not its extinction, that gave us the crisis.

This observation provides us with as starting point: *why* was there such deference to the practical knowledge of financial markets and the supposed capacity of market actors and institutions to recognise, package and manage risk? The answer to this question varies in each major jurisdiction, although there are important common themes when econocrats and regulators are everywhere incorporated into the prevailing detachment. In a forthcoming book we will separately discuss the UK, US and EU (Engelen et al. forthcoming). In this section, for reasons of space, we will concentrate on the UK case where we can begin by recognising that deference to the markets went with the grain of long established habits of British financial regulation and with the rhetoric’s of the current neoliberal project.

The pattern of financial regulation and oversight in the UK was characterised by high levels of trust between regulators and those regulated within an enclosed, interconnected policy making community that have resisted the audit and evaluation imperatives so well described by Power (1994). This has resulted in a particular form of regulation that relies heavily on shared, interpersonal knowledge’s, with evaluation and decision making often informal, i.e. driven by the ‘imponderables of personal judgement’ (Moran 2001, p. 421) rather than the strict, routinised, indicator-driven regimes of oversight and control that characterise other sectors. Financial regulation was initially reinvented after the 1986 Big Bang of deregulation

and then again when New Labour in office re-regulated finance with the merger of banking supervision and investment services regulation under the auspices of the Financial Services Authority (FSA). But finance was never subject to the more adversarial forms of regulation typical under new public management regimes in the public sector or the more proactive, hands-on approach of regulators in the privatised utilities sector like telecoms where reducing costs to the consumer was the fundamental principle of action.

The peculiar regulatory privilege of finance reflects the endurance of what other authors have termed ‘club government’ (Marquand 1988). In numerous areas of public policy a combination of the Thatcher revolution and New Labour’s consolidation of that revolution destroyed the club system, replacing it with more transparent, centralised and low trust systems of control (Moran 2003). It seemed, superficially, that the centralisation of regulatory authority in the FSA in 1997 had accomplished something similar. But we now know that the FSA was an imposing Potemkin village: behind its impressive façade, all informed observers agree, it deferred, club fashion, to the elites in the market. The club persisted because in finance the close reciprocal ties between elite practitioners and high public office provide ample opportunities for financial reward to senior politicians and bureaucrats who leave public service via ‘the revolving door’ into lucrative directorship or advisory roles in industry (Hood and Lodge 2006; Gonzalez-Bailon, Jennings and Lodge 2010). Tony Blair, for example, currently makes £3.5m per year as a senior advisor to JP Morgan on top of the £500,000 per year as an advisor to Zürich Financial, another six figure sum as advisor to private equity firm Khosla Ventures and £1m per year as a ‘governance advisor’ to Kuwait (Independent 2010).

But new ideologies were also important in Britain and the United States as part of a rhetorical commitment to a neoliberal project of social and economic reconstruction in the image of a deregulated system of free market capitalism. This rhetoric was not always faithfully implemented (see Konings 2008), and could not be implemented in finance where State withdrawal was not an option. But it sanctioned and empowered ‘light touch’ regulation which sought to reduce expensive and unnecessary monitoring and control so as to liberate financial innovation and build national success. ‘Light touch’ was personally championed by New Labour’s Chancellor Brown for whom it was government’s positive contribution to the success of London as an international financial centre:

“And just as two years ago we promoted the action plan for liberalising financial services across Europe, I can tell you that the Treasury is now working... to ensure that the forthcoming European financial services white paper signals a new wave of liberalisation. [...] In 2003, just at the time of a previous Mansion House speech, the Worldcom accounting scandal broke. And I will be honest with you, many who advised me including not a few newspapers, favoured a regulatory crackdown. I believe that we were right not to go down that road which in the United States led to Sarbanes-Oxley, and we were right to build upon our light touch system... fair, proportionate, predictable and increasingly risk based...”

(Gordon Brown, Mansion House speech, 21st June 2006)

The policy of ‘light touch’ which sought to encourage and steer rather than monitor and control appeared to be working in the political world of the early to mid 2000s. As was the case with the dotcom bubble of the 1990s, the boom reinforced dominant narratives and encouraged optimism about irreversible epochal change. For technocrats like Mervyn King, this was the Great Moderation, the NICE decade, the Goldilocks economy; for Chancellor Brown the growth rates confirmed his conviction that policy makers had effectively abolished boom and bust. In retrospect, these claims and assumptions are deeply *hubristic* in the more or less exact meaning of that word: an overbearing self-confidence that led to ruin. And with

hubris comes ex post denial, as events — and one's personal role within them — are rewritten to accommodate emerging realities, as was the case with Gordon Brown:

"As I said in Harvard ten years ago, we need an early warning system so that international financial flows are properly monitored ... We must create a framework for the international governance that we currently lack. We must consider at a global level the regulatory deficit. For a decade I have said that the current patchwork arrangement is inadequate."

(Gordon Brown, cited in the Times January 26 2009)

The role of *hubris* in modern politics is most closely documented in studies of foreign policy disasters such as the Afghanistan and Iraq conflicts (Beinart 2010; Isikoff and Corn 2006; Owen 2007, 2008; Scheuer 2007). Iraq provides a particularly instructive case. The Iraq invasion is perhaps the greatest British foreign policy fiasco for at least seventy years. It dwarfs even the Suez disaster of 1956, since its duration, damage and magnitude have been much greater — especially in the suffering inflicted on the people of Iraq where it is estimated more than 100,000 Iraqis have died. It is only comparable to the succession of military disasters which led to the fall of the Chamberlain Government in 1940. The public case for intervention in Iraq involved the manipulation of intelligence evidence assembled in secrecy in a way that combines hubristic judgement and detachment from the detail of evidence before invasion which was carried over into indifference towards operations afterwards. The Butler inquiry's verdict on New Labour's style of sofa government is understated but nevertheless devastating:

"...we are concerned that the informality and circumscribed character of the Government's procedures which we saw in the context of policy-making towards Iraq risks reducing the scope for informed collective political judgement"

(Butler 2004, para 611)

The decision processes which led to intervention, as detailed by Lord Butler's inquiry, show a pattern of casualness and informality characteristic of what Owen (2008) calls 'hubristic incompetence': a situation where elite political leaders have the self-perception that they are missionaries or heroes, endowed with powers to do good and take the correct decision without necessarily engaging with the intricacies of policy detail. From Owen's perspective, Tony Blair's personal hubris was such that he believed he personally could not act badly, which diminished constraints on his behaviour; just as his belief that he could not lie led him to frequently shade the truth. If this seems far fetched, consider Blair's own evidence to the presently in progress Iraq inquiry where he presents himself (without apology) as a leader whose duty – and indeed personal capacity - was to make a judgement in an uncertain world:

"As I sometimes say to people, this isn't about a lie or a conspiracy or a deceit or a deception, it is a decision, and the decision I had to take was, given Saddam's history, given his use of chemical weapons, given the over 1 million people whose deaths he had caused, given ten years of breaking UN Resolutions, could we take the risk of this man reconstituting his weapons programmes, or is that a risk it would be irresponsible to take? *I formed the judgment, and it is a judgment in the end.* It is a decision. I had to take the decision, and I believed, and in the end so did the Cabinet, so did Parliament incidentally, that we were right not to run that risk, but you are completely right, in the end, what this is all about are the risks"

(Iraq Inquiry 2010, italics added)

This style of political leadership should not be treated as the manifestation of a particular personality type, nor should it be reduced – as Owen (2008) attempts – to biological phenomena such as the resetting of the dopamine system. They should instead be understood in an organisational and institutional setting which weakened political control and democratic accountability.

It is possible to identify two key processes which empowered hubristic modes of leadership after the 1980s at political and regulatory level, and which contributed significantly to the crisis in the late 2000s. The first is the increased delegation of economic policy such as interest rate setting, utility and financial regulation and trade policy to a newly empowered technocratic elite. This has had the effect (superficially, at least) of depoliticising economic decision making by moving it beyond the reach of democratic control (Peck and Tickell 2002). This dual process of centralisation and devolution allowed political leaders to concentrate on big picture ‘strategy’, leaving tedious evidence and detail to subordinate technicians. This devolution created hubristic political detachment, and also provided a handy alibi once the crisis hit, as politicians like Brown could urge the country to view the crisis as a technical malfunction in a global system rather than the political failure of an attempt to take the politics out of finance (and many other objects of policy).

The delegation of economic oversight and regulation to an unelected technocratic elite similarly removed checks and balances within bureaucracies and encouraged hubristic detachment at the top of key regulatory institutions. During the late 1990s and 2000s this pattern was reinforced by a series of regulatory and organisational changes. New Labour empowered elite technocrats insofar as the detail of monetary policy through interest rate setting was the responsibility of an expert Monetary Policy Committee at the Bank of England and financial regulation became the responsibility of an independent Financial Services Authority. Brown’s 1997 decision to devolve interest rate setting to the Bank of England with a remit to keep inflation below 2 percent empowered the Bank’s Monetary Policy division at the expense of the Financial Stability division, who also ceded banking and securities oversight duties to the newly created FSA. This unbalanced the Bank of England by recalibrating internal status hierarchies around monetary concerns and expertise within the institution (see also Pomerleano 2010); and also encouraged stronger divisions between what, following Dunleavy (1980), we might term ‘organisational’ elites and ‘professional’ experts. The new monetary policy remits drew the Governor and other senior Bank employees into elite policy making circles in Whitehall, producing a new cadre of senior organisational operators connected to key opinion formers, politicians and their advisors. This led to increasing hubris as King’s speeches adopted the trite, reassuring language and bland generalities that are normally the preserve of a front bench politician. This could be contrasted with, for example, a professional expert like the Bank’s Andrew Haldane whose speeches are typically academic style lectures accompanied by detailed exhibits to elucidate the complexity of market developments which require a nuanced approach to emergent problems and possible solutions. Through a succession of speeches in the mid 2000s, King celebrated the boom and emphasised the role played by capital market liberalisation, globalisation and sound monetary policy in creating the underlying conditions for the ‘NICE’ (non-inflationary, consistently expansionary) decade. By mid 2007, despite sounding a note of caution about more risky, complex derivatives, his commentary on financial innovation was equally positive:

“Securitisation is transforming banking from the traditional model in which banks originate and retain credit risk on their balance sheets into a new model in which credit risk is distributed around a much wider range of investors. As a result, risks are no longer so concentrated in a small number of regulated institutions but are spread across the financial system. That is a positive development because it has reduced the market failure associated with traditional banking – the mismatch between illiquid assets and

liquid liabilities – that led Henry Thornton and, later, Walter Bagehot to promote the role of the Bank of England as the “lender of last resort” in a financial crisis.”

(Mervyn King, Mansion House Speech, June 2007)

If hubris dominated Bank of England decision making, examples of ineptitude, casualness and a more general lack of professional scepticism are reported about the operations at the FSA (e.g. FT October 11 2007; 12 November 2008; and see also FSA 2008). Whilst this is currently conservatively understood as the result of a low levels of remuneration and poor recruitment at the FSA, the lack of rigorous oversight cannot be entirely divorced from the general political pressures that emanated from the practice of ‘light touch’ regulation and the confidence of operators like King about the benefits of market self-regulation. In many ways the assertive connection in elite policy circles between non-inflationary growth and *laissez faire* financial markets meant the Bank and the FSA, while often organisationally divorced, were ideologically united in deferring to the *metis* of the markets.

The paradox is that hubristic detachment from detail is in part the result of a division of labour between politicians and technocrats which empowered a new style of organisational expert like Mervyn King who failed to engage with the detail of financial innovation in a New Labour world where electoral competition continued, but it was not possible to throw the (technocratic) scoundrels out. But this intellectual detachment and political insulation is however a secondary problem because catastrophe would not have been averted anyway by reworking the division of labour between politics and expertise and installing more conscientious, professional experts. Financial innovation set practical limits on the capacity of outside experts to understand and manage finance, even with new data or different conceptual approaches. Financial innovation had taken (or rather had been allowed to take) the form of ‘bricolage’, which improvised complex latticeworks of obligation and exposure that were both impossible to govern and had outcomes that were practically incalculable.

Section 3: Bricolage and ungovernability

In many policy spheres, the detachment of politicians and technocrats has few consequences for them or us because the result of disengaged ineffectuality is benign neglect of a range of issues which never register on the agendas of governance. In regulation of the financial sector this was not the case because detachment was interrupted by a series of inter-related crises which prompted inquests into the ineffectuality of regulators and requests for the re-regulation of finance. In our view, most of the inquests and requests do not engage with the crucial point about the interaction between the form and scale of financial innovation and the technical possibility of governing finance. In this section, we argue that innovation in the form of bricolage has produced a financial sector which was technically ungovernable before the crisis and beyond technocratic reform afterwards. We make this case by focusing on four consequences of innovation – volume, complexity, opacity and interconnectedness – which when combined are the basic conditions of technical ungovernability. Furthermore we argue that this is aggravated when regulation ceases to be an external constraint and becomes an input for future improvisation by creative bricoleurs.

There is much of interest here in the confused and confusing discussions of re-regulation since 2008. First, the regulatory elites who were responsible for the policy debacle have avoided the criticism and public humiliation which was heaped on bankers like Fred Godwin or Dick Fuld who were blamed as the pilots at the controls of the crashed companies. The regulatory elites instead sidestepped opprobrium and offered themselves as saviours, suggesting new fixes to prevent further accidents. Mervyn King, for example, reinvented himself as a stern critic of the banking system and advocate of Glass Steagall like reform. And as previously noted, the Bank of England’s house intellectual Andrew Haldane (2009)

reconceptualised system breakdown using epidemiological analogies which offer clear technocratic solutions. Neither relinquish the socio-technical idea that the crisis is an error or aberration in a system that normally functions satisfactorily. The premise we are asked to accept is that the technocrats who did not see the crisis coming are now repositioned and better equipped to meet the challenge of future disturbances. The elephant in the room is whether finance in its current form is simply beyond technocratic control anyway.

The fundamental problem from a technocratic perspective is that financial innovation does not progress in an orderly, predictable and rule-bound fashion; it does not take the form of scientific experiment or grand plan, but rather takes the form of what Levi-Strauss termed 'bricolage' (Engelen et al 2010). Our definition of financial innovation as *bricolage* differs from orthodox understandings. For mainstream finance authors innovation and financial market practice are always driven by rationalities of a scientific kind. Financial innovation is viewed as the application of scientific formula inducted from experiments and applied in markets by financial engineers. Bricolage on the other hand, rather than producing events from structures of formal knowledge, involves the creation of structures out of events; it is innately improvisatory and the structures built are without a central, guiding, scientific rationality. For Levi-Strauss, "...the 'bricoleur', builds up structures by fitting together events, or rather the remains of events, while science, 'in operation' simply by virtue of coming into being, creates its means and results in the form of events, thanks to the structures which it is constantly elaborating and which are its hypotheses and theories" (Lévi –Strauss, 1966: p. 22).

On the surface, the idea that financial innovation is bricolage may appear incongruous and implausible when there is widespread use of economic models in, for example, pricing options (Black Scholes), measuring risk exposure (Value at Risk), or producing structured derivative products (Gaussian copula models). To this we would make two responses. First, the models used are diverse and involve improvisation by reflexive market actors (Haug and Taleb 2009; Beunza and Stark 2009; MacKenzie 2003). Haug (2006) for example lists 60 models for pricing options alone. Furthermore, financial innovation offers market participants a broad choice of instruments to perform identical tasks. Merton (1995) lists eleven strategies for taking a basic leveraged long position on the S&P500 alone, which ranges from the mundane (buying stock on margin) to the more elaborate (using total return swaps to gain synthetic exposure to the return profile of the index whilst paying LIBOR). This all suggests that the models are not plans or blueprints which format behaviour, but more a suite of adaptable resources that can be drawn upon selectively to meet market opportunities that present.

Second, if financial models are a resource not a plan, that is also because they are just one of many components that make up the trading strategies of the industry. For this reason it is important to extend our definition of financial innovation to incorporate new strategies, services, processes and organisational constructs (see Frame and White 2004). New economic formulas and products are often important, but so too is the way in which those formulas and products are integrated into new and different strategies which reconfigure structures. Indeed it is often the case that the same formulas and products can be embedded within entirely different strategies. To take a simple market related example: MacKenzie (2010) convincingly demonstrates how the low default correlation assumptions that underpinned ABS CDOs created a fatal arbitrage opportunity as CDOs bought risky ABS tranches from which they produced reams of AAA-rated paper. But banks responded differently to this event. Some, like Merrill Lynch, Citi, Bear Stearns and UBS, bought (or retained) this paper and financed it with cheap repo loans, booking a profit on the spread between the lower, short term borrowing rates on the repos and the higher yield on the securities. This practice led to an explosion in the size of the repo market, which grew to around \$12 trillion (Gorton 2010), and huge exposures between investment banks and insurance companies like AIG and US-based

monolines (Milne 2009). Other banks by late 2005/early 2006 were less interested in 'originate and hold' spread-based strategies and more concerned with exploiting information asymmetries. Goldman Sachs, for example, on their \$1bn sub-prime backed 'Timberwolf' CDO, allegedly went short on the securities sold to investors, which infamously included one of Bear Stearns now defunct hedge funds (Reuters 24 April 2010). On their Abacus CDO, Goldman allowed a client hedge fund to select the underlying collateral for the deal, who subsequently shorted the securitised structure. In both cases the same models are integrated into divergent strategies with different goals. The outcome is new and diverse meso configurations of instruments, practices and market relations constructed from events. And those new structures in turn become the events for improvisation in the next phase of bricolage (see Engelen et al, forthcoming for extended discussion).

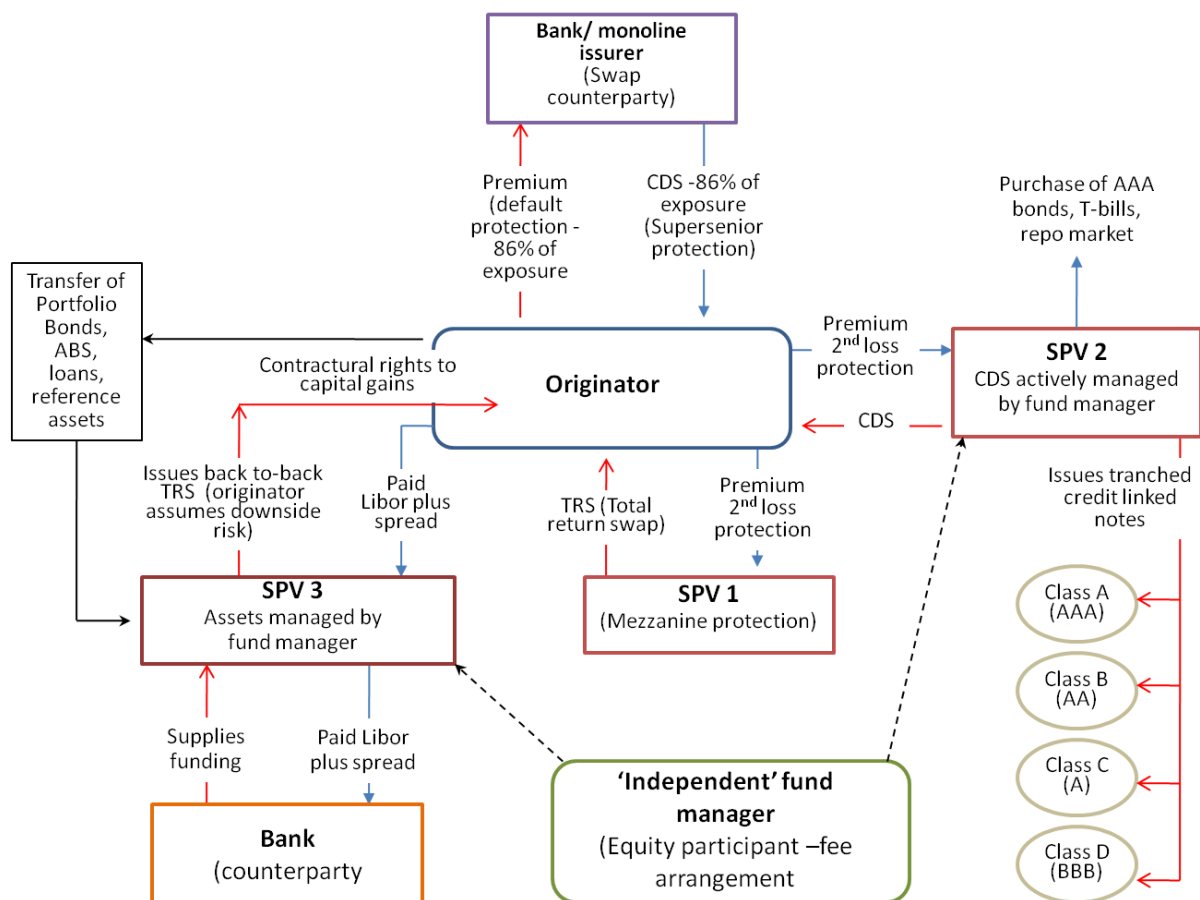
To this general point about bricolage we would add a more specific point about regulation – that of the heterogeneous components of strategy, regulation itself is usually a fundamental part. This is a crucial destabilising condition for those seeking to impose technical control. In the standard case of industry regulation, the characteristics of the activity are fixed or slow to change so that regulation can be conceived of as an external constraint on the activity. There are of course secondary feedback effects, as under the EU's CAP which, until recent reforms, paid subsidies per head of stock which encouraged more small sheep but did not create a new activity called hill farming. But in the case of financial regulation, innovation ensures that activity characteristics can morph through and around events including regulation, which becomes a primary input. This was the case with credit derivatives where Basel I and II capital adequacy accords became intrinsic to the developments of the CDO industry. Under the Basel capital adequacy accords, a credit default swap became a legitimate instrument to remove the credit risk from the balance sheet and thereby reduce the amount of capital that a bank needs to hold to offset that risk – from 8% of the asset value to 1.6% for their exposure to other OECD financial institutions. This regulation became an event from which new structures like partially funded synthetic CDO were built, driven by regulatory capital arbitrage and the consequent possibility of improving ROE, enlarging bonuses and creating shareholder value.

The improvisatory nature of this kind of bricolage where regulation is an input creates unprecedented problems for regulators in the 2000s because its consequences create four new challenges in the form of volume, complexity, opacity and interconnectedness. These will now be considered in turn.

In terms of *volume*, many recent innovations, particularly in swaps markets, are designed to manufacture risk and leverage, rather than hedge risk or manage the costs associated with disclosure legislation and tax. If risk is tradable and leverage magnifies returns, then derivatives are a key way through which the financial sector generates its own feedstock synthetically, and provides new opportunities for volume and return. This, rather than risk management, was often the principle reason for bank and other financial actor's interest in options and futures where premium and margin were used to speculate on price movements in financial markets. Total return swaps or credit default swaps make it possible for financial actors to gain (levered) exposure to the return profiles (and risks) of particular securities, indexes etc without necessarily dedicating the resources to buy them outright. For example, the purchase of \$100 million of asset backed securities would normally require the commitment of \$100m cash. But the same result can be achieved via a credit default swap where a trader could sell insurance on the security, and charge a premium aligned with the interest payments on the underlying securities. The CDS requires no funding other than any collateral required by the buyer, which is substantially less than the \$100 million required to buy the securities outright. Thus the CDS seller has a synthetic levered position, without ever buying the underlying securities. For this reason, as Das (2010) points out, it was possible for CDS volumes to exceed four times the value of the underlying bonds and loans by the end of the boom, with multiples in currency and interest rate swaps much higher.

Those volumes are now so large as to be fundamentally destabilising because they make control through technical management much more difficult. The notional value of contracts outstanding on Over The Counter (OTC) derivative markets increased 950 per cent from \$72,134bn in June 1998 to a peak of \$683,814bn by June 2008, before falling back to \$614,673bn by the end of 2009. Measured comparatively, OTC contracts outstanding grew from around 2.4 times global GDP in 1998 to roughly 10 times by the end of 2009 (BIS and World Bank data). The value of OTC derivatives outstanding in the 2008 peak were the equivalent of everything produced on earth for the previous twenty years (Duncan 2009). When exposures exceed multiples of global GDP, as we will demonstrate later in the argument, the sheer weight of finance becomes difficult to control at national level where regulation is primarily located.

If these levels of exposure make governing finance difficult, then governability is further reduced by *complexity*. Complexity takes two forms: at the level of the product and at the level of the market relations around the product – though there is some difficulty in drawing a clean line between the two. At the level of the product, CDOs moved from relatively simple cash or ‘true sale’, balance sheet-oriented structures in the late 1990s to actively managed, synthetic, arbitrage-oriented structures by the mid-2000s. As the models became more complex, so too did the market relations around them. Exhibit 1 shows a fourth generation hybrid CDO that combines both cash and synthetic securitization. It is actively managed throughout its life by two SPVs: SPV3 creates and manages a portfolio of reference assets that are not totally derived from the originating bank’s balance sheet, whilst SPV1 and possibly SPV2 buy and sell credit default swaps to try to boost the overall arbitrage profits. Total return swaps and credit default swaps provide both protection and augment (or preserve) returns from the reference portfolio of assets, in theory diversifying the sources of protection purchase. Reference assets managed by SPV3 can include mortgage backed and other asset backed securities, but may also involve both long positions in derivatives like credit default swaps. Portfolio creation and management also necessitates a need for access to a liquidity fund via a bank counterparty and a fund manager. As early as 2001 the Economist reported that “The chairman of American Express, Kenneth Chenault, was man enough to admit ... that his outfit "did not fully comprehend" the risk underlying a portfolio of whizz-bang investments known as CDOs.” (The Economist, July 26, 2001). If senior market actors privy to the marketing literature of early stage CDOs, struggled to comprehend what was going on with relatively simple CDO structures, it is not hard to see why regulators one level remove and without the same levels of guidance might struggle in 2007 to understand the points of vulnerability and what might go wrong.

Exhibit 1: Partially funded synthetic CDO structure

These CDOs are difficult to understand in retrospect, and would be virtually impossible for regulators to understand *ex ante*. This related *opacity* of finance is therefore a third challenge to regulators. The opacity of finance is not just the flipside of its complexity, because opacity owes much too fair value accounting vagaries and the widespread use of off-balance sheet Special Purpose Vehicles domiciled in tax havens. Because most derivatives are traded ‘over the counter’ and as such are effectively bespoke, there is no large, central secondary market from which mark to market valuations might be inferred. For this reason, paradoxically, there is an over-reliance on the valuation models of the institutions that generate the securities, to price those securities (ICAEW 2009). Perversely, this ‘mark to model’ privilege is used to avoid taking write-downs in the absence of market liquidity. This was the case in early 2007 when sub-prime defaults rose and banks initially refused to write-down the value of their mortgage backed securities because their models apparently indicated there was no problem, much to the frustration of hedge funds who had shorted those structures (Lewis 2010). Valuations then ‘went to zero’ very quickly as the artifice of valuation disintegrated in the crunch of August 2007 (Smith 2010). If valuations provide no price signal to regulators of emerging risks and problems until it is too late to make ameliorative interventions, then this opacity is a major control problem. This control problem is also exacerbated by the growth of the shadow banking system, as off balance sheet entities domiciled in the Cayman Islands and elsewhere mean exposures are increasingly sheltered from the probing eye of regulators who can only follow the chains unto they vanish from sight.

Readers up to this point might acknowledge that these developments pose significant tests to technocratic management, but don’t necessarily undermine the case for it, provided regulatory reform is ambitious enough. Our response is that the fourth challenge, *interconnectedness*,

makes technocratic responses to financial crisis increasingly futile. Interconnectedness takes two forms: the concentration of relations and exposures between core financial institutions, and the exposure of national governments to their own domestic financial industry or, as we are now discovering, to the financial sector of foreign sovereigns.

In terms of the interconnectedness of financial institutions, the combination of higher volumes with growing industry concentration (see Crotty 2007) has resulted in the creation of a fragile, complex latticework of exposures and obligations between systemically important banks. By 2009, a company like J.P. Morgan had derivatives exposure of \$78,545bn in a total market valued at \$614,673bn. According to the Q4 2009 Office of the Comptroller of the Currency bank trading and derivatives report, the notional value of derivatives held by US commercial banks is \$212,800bn (p.1). Of the 1030 US commercial banks that submitted their derivatives exposure, the top 5 claimed 97% of this notional value. Such concentration is quite staggering. An important qualification is that many industry observers argue that the size and risks associated with such exposures are reduced by netting: a bank may be long default risk in one market, and hedge by going short if industry conditions change. But post-netting exposures are still very large, and we would add that for netting to proceed in an orderly fashion, institutions would need to have minimal exposure to counterparty risk. If swaps are two-sided contracts, and if the other counterparty does not or cannot fulfil their contractual obligation, then the contract is worthless and the hedge disappears – as many banks found out to their cost when the monolines blew up - and with it goes any apparent benefits of netting.

The combination of the four challenges - volume, complexity, opacity and interconnectedness - ties large, systemically important banks together in a compact which assures mutual self-destruction in the event that one collapses: if one goes, all go. The post crisis discussion of clever firms like Goldman who went short sub-prime or canny chief executives, like Jamie Dimon at J P Morgan misses the central point that on Wall Street all the major investment banks were roped together as Bear Sterns and Lehman lost their footing. Nobody would have looked clever if Bernanke and the FED, or in the UK case Brown and Darling, had not then intervened in September 2008 to prevent domino collapse at massive ongoing cost to the public finances. At the point of bailout, volume, when intertwined with complexity, opacity and interconnectedness, becomes a massive problem for national politicians, regulators and ultimately the taxpayers, savers and benefit recipients who will foot the bill.

Post 2008 events demonstrate that, after bricolage, a national banking system in a small, open country can have liabilities much larger than the mobilisable assets or revenue raising powers of their national governments. This is the case in small economies like Iceland and Ireland where banking assets to GDP ratios rose to over 800% and both are now effectively unable to meet banking bailout costs. But, as exhibit 2 shows, several medium sized countries like the UK and France are not far behind with banking assets to GDP ratios of 4-500% Here, the costs of backstopping the banks increase public indebtedness which requires expenditure cuts, and tax rises which will, most likely, move such economies away from the growth path necessary to pay down public debt. Growing internal distributive conflict is paralleled by international disagreements about who bears the cost of bail puts because international cross holdings of sovereign and bank debt complicate the solution of default which confuses the identity of creditor and debtor.

All this logically suggests that national governments should now be trying to restrain financial bricolage by any and all measures, like Tobin tax, which make chain and circuit transactions less attractive. But this kind of technical intervention against bricolage is politically unattractive for many national governments which have one way or another become dependent on their financial sector, so that contraction or exit of the local industry has unacceptable consequences for a rentier nation. If we consider the case of the UK, in the

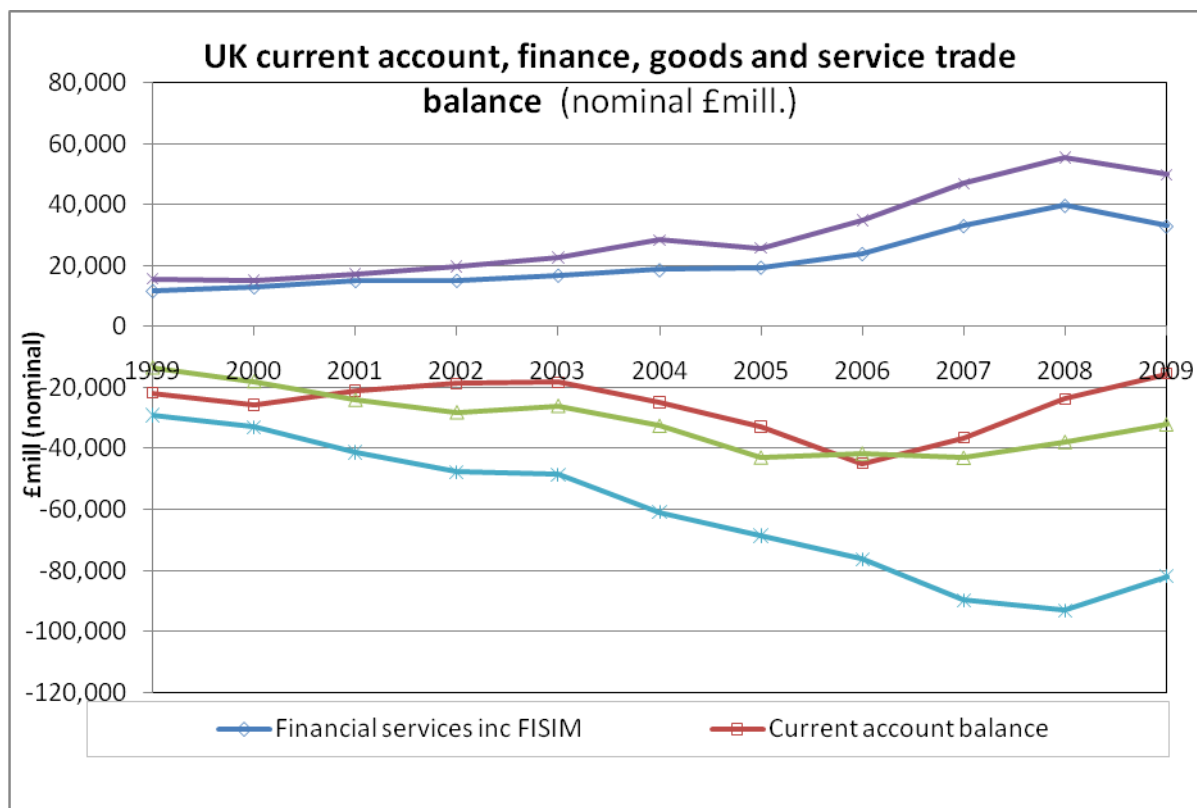
Alternative Banking Report (2009) we demonstrated that the finance sector makes a negligible contribution to new job creation and a modest overall contribution to tax revenues. The finance sector's own PR story is an exaggeration but successive British governments will still hesitate before adopting policies which shrink the size of the finance. As exhibit 3 shows, in a declining country which has let manufacturing go, the UK is heavily dependent on financial surpluses to prop up the balance of trade. Between 1999-2009 financial exports including FISIM grew from £15,021m to £43,852m, whilst imports rose from £3,252m to £10,933m resulting in a growth in financial services trade surplus from £11,769m to £32,919m. This growth was vital considering the trade in goods balance fell from -£29,051m to -£81,875m over the same period, demonstrating that financial trade surpluses are necessary to keep the total trade and services balances at a steady and sustainable (but still negative) level. This point will not be lost on politicians and regulators because the issue that confronts them is whether growth from elsewhere might replace possible losses from finance. We should also expect a considerable lobbying effort from finance who will emphasise their value to the UK economy and attempt to soften re-regulation in line with industry concerns, in the absence of democratic pressures for regulators to act otherwise.

Exhibit 2: Top 6 Bank assets to GDP (%) and bank assets per capita (US\$), 2007, selected countries

	GDP (US\$, 000s)	Population (000s)	Aggregate bank assets of top 6 banks (US\$000s)	Aggregate bank assets to GDP	Aggregate bank assets per capita (US\$)
France	2,121,475,000	61707	8,805,886,701	415.1%	142,705
Germany	2,925,667,000	82247	6,286,500,638	214.9%	76,434
UK	2,181,900,000	60975	10,995,443,626	503.9%	180,327
USA (commercial banks)	14,010,800,000	301621	7,151,775,000	51.0%	23,711
USA (investment banks, top 5)	14,010,800,000	301621	4,271,680,000	30.5%	14,162

Source: Bankscope database

Exhibit 3: UK current account, finance, goods and service trade balance (nominal £mill)



Financial innovation has resulted in greater interconnectedness between major banks, and the scale of those exposures now tethers the fortunes of national governments to the performance of their banks. This combination of scale and fragility paradoxically hands greater economic and political power to financial institutions whose threatened collapse or exit constrains policy makers in terms of options and implementation. After the finance sector has inflicted great damage, nothing which threatens the industry is being seriously considered; and that outcome is a judgement on our technocrats and their political sponsors.

Conclusion

The argument so far implies that we are not living through a financial crisis caused by some socio-technical malfunction which experts can identify and fix. We are living through compounding political disasters, the product of an elite debacle, that comes after a massive misjudgement about the character and consequences of financial innovation. Technocratic elites and their political sponsors have failed in their first duty as public servants which are to protect the citizenry from predatory capitalist business which privatises its gains and socialises its losses. The scale of the socialized losses is as large as to be nearly incomprehensible, if we include the loss of output in a finance led recession as well as the direct costs of bail out. On Haldane's (2010) most recent calculations the static (direct and indirect) cost of the financial crisis is approaching 10% of global GDP, or around \$5-6tn. Calculated dynamically and assuming that some of the damage is permanent, then costs could run to one to five times the global GDP of 2008. The interim result is public expenditure cuts which are beginning to bite in countries like the UK, and bailouts of Greece and Ireland that

have failed to stabilise the euro zone. The future is one of intensifying intra-national and international distributive conflict, with unpredictable political consequences

But if such grand harm was permitted by detached politicians and regulators, it is too much to suppose that they can now make things better by improving their technical capacity to monitor, understand and control finance. Their earlier hubristic misjudgements have, as is the way with debacles, had semi-permanent, hard to reverse consequences. The assumption that markets know best and that tough regulation is unnecessary and their political belief in the social value of growth in financial services will not disappear overnight because they are deeply engrained ideologically and institutionally. These were the assumptions that allowed finance to grow and become more complex to the extent that it is now technically ungovernable and yet politically powerful. The triangular relation between finance, technocracy and elected politicians is increasingly one where the ostensibly independent technocrats and politicians are hostages of the financial sector (where the hostages have a bad case of Stockholm syndrome). Under such conditions the issue is not a technical one about preventing future crises but a democratic issue about public control of our economic and social futures (after all, what else are we voting for?).

Against this background of growing turmoil and technocratic and political irrelevance, our analysis should be read more as an attempt to clarify the problem and open out debate than to prescribe precise solutions. That debate must begin by asking a different question to the one that currently dominates current academic and policy documents: 'how do we fix finance and prevent future crisis?' Instead we should begin by debating how we begin to bring finance under democratic control. This involves asking two questions. First, what do we want finance to do in the kind of capitalist economy in which we live? Second, what do we mean by democratic political control and what processes and procedures should now be used to check the power of an independent technocracy and the abdication of our political classes? Finally all of this requires us to revise our account of recent history, in particular to think again about what came after Thatcher and Regan. The current crisis is a direct consequence of the anti democratic drift, which continued under New Labour in the UK and President Clinton in the USA. These administrations gave the technocracy a role that experts should not have. In the 2010s, as in the 1970s, we now see the limits of a settlement which brought apparent prosperity for a couple of decades but is now disintegrating, but now threatens to unravel under the weight of its own excesses. So the question is: what does more democratic control and the subordination of the technocrats mean and require in a new conjuncture?

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