HONG KONG INSTITUTE FOR MONETARY RESEARCH

THE GLOBAL CRISIS: FATAL DECISIONS – FOUR CASE STUDIES IN FINANCIAL REGULATION

Leo F. Goodstadt

HKIMR Working Paper No.33/2009

November 2009

The Global Crisis: Fatal Decisions – Four Case Studies in Financial Regulation

Leo F. Goodstadt

Hong Kong Institute for Monetary Research

Trinity College, University of Dublin

The University of Hong Kong

November 2009

Abstract

This paper uses four case studies to review the performance of the Anglo-American regulatory 'culture'. In the decade before the global financial crisis, American and British officials were almost identical in their analysis of and non-interventionist responses to identified threats from changing financial conditions in Asia; dependence of new financial products on the insurance industry; shortcomings of the rating agencies; and excesses in their property markets. They now acknowledge these past policy errors but continue to resist consumer protection and other reform initiatives.

Keywords: Asia, China, Derivatives, Insurance, Credit Ratings, Property, Consumer Protection

---

The views expressed in this paper are those of the author, and do not necessarily reflect those of the Hong Kong Institute for Monetary Research, its Council of Advisers, or the Board of Directors.

1. Introduction

In the forums that seek to apportion blame for the turmoil that has overtaken the world's financial markets since 2007, the officials entrusted with responsibility for the stability of monetary systems and financial institutions have largely escaped retribution. To some extent, they owe this immunity to the exceptional nature of the disaster. The global crisis has proved so protracted and so intractable that informed public discussion has focused on day-to-day crisis management. The urgent issues have been the financing of business survival – the availability and cost of bank credit, in particular – and executive emoluments. In debates about the appropriate response to the continuing crisis, the sharpest divide has been 'ideological': the merits or otherwise of fiscal rather than monetary remedies.[1]

Nevertheless, central bankers and financial regulators have their accusers who are determined to hold them to account for the destruction of institutional assets and personal wealth on a scale unmatched since the Great Depression 80 years earlier. The most serious charge made against these officials who presided over monetary affairs is that they were warned of the threats to market stability but failed to intervene, regardless of their legal powers or their public duty.

> The financial crisis …[was] rooted in the refusal of regulators, lawmakers and executive-branch officials to heed warnings about risks in the system and to use their powers to head them off. It is the result of antiregulatory bias and deregulatory zeal — ascendant over the last three decades, but especially prevalent in the last 10 years — that eclipsed not only rules and regulations, but the very will to regulate. (New York Times 2009)

Under indictment here is the Anglo-American regulatory 'culture' which reflected a wider political consensus that extended well beyond the officials themselves. Markets were regarded as capable of regulating their own affairs, and there was a conviction that government intervention would inevitably hinder economic progress.

This 'culture' is reviewed in the companion working paper: 'The Global Crisis: Why Regulators Resist Reforms' (HKIMR No. 35/2009). Its analysis suggests that the 'culture' emerged from the response of American and British regulators to a shift by financial institutions from New York to London during the early 1970s in search of a less interventionist environment. For the United States, the exodus was a serious economic loss. For the United Kingdom, the influx was a mixed blessing. The expansion of its financial markets had brought with it a potential liability for the stability and solvency of these newcomers. As the paper explains, the two countries quickly saw the advantages of regulatory consultation and coordination.

---

[1] A notable example of the polemic is Krugman (2009).

A longer-term incentive came with the worldwide trend towards deregulation and globalisation in that decade and the 1980s which was accompanied by widespread financial instability. Badly hit was the Third World, which 'experienced a continuous history of severe banking crises'.[2] As the two largest financial markets, New York and London were heavily exposed, which provided the two countries with a powerful motive to join forces in persuading governments to promote financial stability while pursuing market liberalisation. The companion working paper traces how these joint American and British efforts led to the Basel endeavours and the construction of an international framework within which to improve and harmonise national standards of financial regulation. Basel itself became a forum in which the Anglo-American 'culture' could spread. The foundations of this 'culture' were the shared economic assumptions which became the dominant intellectual force driving economic reforms and market liberalisation worldwide. The Anglo-American 'culture' retains its dominance, the paper explains, thanks to a political consensus that has remained intact despite the global crisis and which allows American and British central bankers and financial regulators to retain their leading role in policy making.[3]

This starting point for this paper is whether complaints about the adverse consequences of this Anglo-American 'culture' are valid. This limited focus seems justified by IMF data. These statistics indicate that the damage sustained by the American and British banking systems exceeds that suffered by the rest of the world during the global crisis. According to the IMF, the two countries account for 58 per cent of total writedowns by the world's banks for 2007-10. Cumulative losses on loans and securities are estimated at 8.2 per cent for the United States and 7.2 per cent for the United Kingdom, compared with a global average of 5 per cent. Losses apppear to decrease considerably with 'distance' from the New York and London markets.[4]

The analysis that follows will focus on four areas in which major malfunctions of the financial markets occurred. It will ask how aware were central bankers and financial regulators of these problems as they were emerging and what rationale these officials offered, both before and after the onset of the global crisis in 2007, for not taking remedial action. As far as possible (and unless otherwise indicated), information about regulatory policies and their implementation is derived from public statements made by the officials responsible.

---

2 'The liberalization agenda often included steps like removal of administrative controls on interest rates, bank by bank credit ceilings, rules for the allocation of credit to preferred sectors or borrowers, limits on new entry, and even opening the capital account… The enthusiasm with which liberalization was adopted in many countries in the absence of necessary institutional underpinnings left financial systems facing largely uncharted territory'. In the period 1976-96, 'developing countries' suffered 59 banking crisis for which 'the average cost was over 9 percent of GDP'. (Carpio and Honohan 1999: 44, 49)

3 For example, the good standing of both the Chairman of the Federal Reserve Board and the Governor of the Bank of England has received formal affirmation despite the global crisis. See US Treasury (2009) and House of Commons (2008c: 4).

4 Estimated writeoffs are: 5.1 per cent for 'other mature Europe' banks; 3.6 per cent for Eurozone banks; and only 2.1 per cent for Asia's banks. It should be noted that there is a considerable difference in the incidence of the losses among specific sectors of American and British banking, with London's overseas portfolio hit particularly hard. (IMF 2009: 10, 60*)*

2. The Regulators' Role

In the current debate over what changes should be made to regulatory policies and practices to take account of the global crisis, central bankers and financial regulators insist that their intervention in business affairs should continue to be as minimalist as possible. They claim that regulation increases moral hazard and encourages investors and executives to act less prudently and efficiently because they will assume that the government will be rescue firms from the consequences of their own mismanagement. The case studies presented below will suggest that the regulators' respect for moral hazard before 2007 facilitated the self-destructive business practices which led to the extensive market scandals and corporate collapses of the global crisis.

A strong case can be made that all regulatory activities have an effect on business behaviour because they create an environment in which investors and executives identify what sort of conduct the legal authorities will condone and what they will penalise. This process goes beyond the threat of criminal penalties or civil liabilities. Baumol has argued that it is 'the rules of the game that determine the relative payoffs to different entrepreneurial activities' and that 'at times the entrepreneur may even lead a parasitical existence that is actually damaging the economy'. These 'rules' are set by a variety of pressures including government policy, statutory and regulatory requirements and their enforcement. (Baumol 1990: 895, 899, 917) When regulators are reluctant to use their legal powers to prevent such abuses and they disregard business innovations that create products harmful to their purchasers, investors and executives have a clear indication of how nominal the penalties for misconduct will be in practice.

In the contemporary world, the behaviour of entrepreneurs and executives is not the only cause for regulatory concern. Corporate structures have become 'flatter, rely more on teamwork and less on hard rules and narrow job descriptions'. Supervision of the average employee's day-to-day operations, whether by senior management or by official regulators, often seems remote. Currency traders working for international banks, for example, have been depicted in one academic study as operating 'in a domain that is not subject to national or international legal regulation' and having a 'part-employee/part-entrepreneur pay structure'. The result is that 'traders keep track of their profit and loss balance with practically every trade', the authors report, and 'their worth is explicit not only to themselves but also to their supervisors, at every moment in time'. The clear impression left by this research is that apart from the individual's profitability, oversight of employees' conduct has to be random rather than regular, and they are shown to be free to develop patterns of behaviour which are in breach of such rules of conduct as have been prescribed for them. (Centina and Bruegger 2002: 906, 910-1, 939, 942-4)

The Anglo-American 'culture' has not adjusted to this radical change in business practice. In their response to the lessons of the global crisis, American and British officials cannot reject entirely the case for improved oversight of individual financial institutions. But they insist that the regulatory priority must be 'the financial system as a whole… not just its individual components' and that the aim should be to control 'systemic' risk. (Bernanke 2009a) The distinction being made here is 'between the regulation of *structure* and the regulation of *conduct*'. That is: 'Regulators may be concerned with the way the market is organized (structural regulation), or with behaviour within the market (conduct regulation)'. (Kay 1988) In the events that led up to the global crisis, this paper will show, the major damage was caused by 'behaviour within the market' – the imprudence of mortgage institutions in the subprime market, for example, and the incompetence of ratings agencies. The structure of the market has been a lesser problem, and most 'structural' problems, the official record indicates, could have been remedied by the regulators.

3. Asia's Early Warning

The regulators' preference for non-interventionism seemed to be vindicated by the robustness of the global financial system and the sustained momentum of world economic growth in the wake of the Asian financial crisis of 1997-98. Its consequences were truly catastrophic for the region. Asian economies suffered 'far more dramatic falls in output and employment than the major developed countries have faced' since 2007. (Turner 2009b) This event was, in fact, the first unambiguous signal that the markets could not be trusted to generate global prosperity with minimal financial volatility.[5] The implications of that painful episode for global stability were largely ignored, however.[6]

Several sources of instability that contributed to the downturn in Asia's fortunes at the end of the previous century were to reappear as prominent features of the global crisis. In the 1990s, financial institutions took a highly optimistic view of the new Asian opportunities, and the region was hailed as an 'economic miracle'. (World Bank 1993: 1-2) Its glittering performance seemed to promise large profits and attracted substantial inflows of foreign investment.[7] International banks showed a considerable appetite for assets throughout Southeast and East Asia with little regard for the risks involved. The profits proved fragile and often illusory, as a World Bank survey of 5,550 publicly-listed corporations in nine East Asian economies covering the period 1988-96 was to demonstrate.

> Ex-post, it has become clear that the operational performance of East Asian corporates was indeed not as stellar as many had thought and in fact involved investment with high risks... This poor performance and risky financing structures of East Asian corporates were, however, not notably featured among observers

[5] For a belated acknowledgment of the parallels with the current global crisis, see Bernanke (2009a).

[6] Among the regulators' challenges during the Asian financial crisis, which were to prove no less menacing in the current global crisis, were the poor quality of corporate information and the severe pressure on bank credit triggered by sharp falls in share prices. (Clark 2000 and Clementi 2001)

[7] This topic is analysed in some depth in World Bank (1995). See also Guitián (1998).

> writing on East Asia prior to the financial crisis. Quite the opposite, East Asian corporates were considered an important contributing part of the East Asian miracle and were generally viewed upon as very competitive and adept at exploiting new market opportunities, and consequently attracted considerable amounts of foreign capital. (Claessens and Djankov 1999)

Reckless disregard for Asian business realities persisted. ‘Even the most sophisticated operators in global financial markets’ were prepared to go on lending ‘well after the increased risks in the region were generally apparent’, a prominent economist warned. He identified the increasing use of structured derivatives by global banks as contributing to this perverse behaviour. In the aftermath of the Asian financial crisis, these products were described as a serious threat to financial stability in terms that foreshadowed their subsequent contribution to the making of the current global crisis.[8]

> It is the role of most derivative packages to mask the actual risk involved in an investment, and to increase the difficulty in assessing the final return on funds provided’ for the primary lenders and for market regulators. The incentives motivating such [products] provide little support for the common belief in the self-regulating nature of private capital markets in terms of risk assessment or of their ability to allocate capital efficiently.

4. Asia’s ‘Revenge’

The disregard for reality was especially evident in the case of China. Here, an economic liberalisation programme was making the country the Third World’s most attractive location for foreign direct investment even though state controls and national and provincial five-year plans remained prominent features of the business landscape.[9] Foreign bankers preferred to dispense with the costs and complexities of undertaking rigorous due diligence. The temptation to cut corners was particularly strong when investing via ‘international trust and investment corporations’ (ITICs) and similar bodies. These had been established with special exemptions from normal state controls so that they could help to accelerate economic development.[10] Foreign financial institutions assumed that since the ITICs were entities established and owned directly by central and local governments, they would have the status of government borrowers, which would relieve their foreign partners from the burdensome regulations usually imposed on foreign investments. This assumption was to prove painfully misconceived.[11]

In late 1998, the Guangdong International Trust and Investment Corporation (GITIC) was discovered to be virtually insolvent, with liabilities estimated at over USD4 billion. The Chinese government declined to authorise its rescue. (Financial Times 1999) Foreign bankers now learnt that insolvent ITICs were not

8 The analysis in this paragraph, together with the accompanying quotation, is drawn from Kregel (1998: 678, 679, 690).

9 An excellent analysis of China’s domestic and international financial situations in this period is provided by Lardy (2003).

10 A good summary of the ITICs, their history, role and problems can be found in Solomon Smith Barney (1998).

11 The legal situation had changed in 1995, a fact ignored by foreign bankers. See Taube (2002: 103).

regarded as state entities under Chinese law. Loans to ITICs which had not been made in full compliance with state exchange control regulations were at risk of being categorised as unlawful and, therefore, unrecoverable. (Keenan 1999) In response to overseas lobbying on behalf of the foreign investors, Chinese officials insisted on strict respect for legalities, a message underlined by the then Prime Minister.

> "If Chinese companies cannot afford to pay their debts, they must apply to the People's Bank of China and court to be made bankrupt," Zhu [Rongji] said. "The Chinese Government will protect the rights and interests of foreign creditors according to the law." (Zhu 2000)

GITIC's insolvency was followed by the collapse of similar vehicles in many other parts of the country and by defaults on the samurai and other foreign bonds issued by a dozen or so ITICs. (Bloomberg 2000) The government decided on a radical overhaul of these institutions, purging firms engaged in unauthorised activities and arresting corrupt officials. By 2004, only 59 of the 240 ITICs originally established were still in business. (Xiao 2001; Xia 2004)

These financial scandals did not hinder China's breakneck growth. The continued expansion of the global economy led to massive trade surpluses for China and other emerging economies. The flow of capital was now reversed, with Asian funds flooding into Western assets. Ironically, Asia's economic success later came to be viewed as a significant factor in the financial woes of the United States and Europe. American and British officials claimed that the 'growth of significant global imbalances over the last decade' – particularly from 'newly emerging countries, like China' – was a major cause of financial instability.[12] (Darling 2009: EV366) This allegation was tantamount to self-incrimination as it was an acknowledgment that the much vaunted American and British financial markets could not absorb these inflows efficiently.

Officials from both countries attributed the breakdown in the good sense expected of the markets to 'the ex-ante excess supply of global savings over investment, which pushed real interest rates on safe assets to historically low levels, reinforced by loose monetary policy'.

> This 'savings glut', as Chairman Ben Bernanke christened it, was in part the result of high national savings rates in some Asian emerging economies, especially China, which despite high investment rates, chose to export capital rather than import it, as standard theory would lead one to expect... One factor behind the high level of savings by the emerging market economies was their experience during the 1997-8 Asia crisis, when several countries were forced to tighten policy sharply in the face of a 'sudden stop' of capital inflows from abroad. Thereafter, a strategy of relying on domestic savings to finance investment and the accumulation of a substantial war chest of foreign reserves looked more appealing. (Bean 2008: 2-3)

---

[12] It should be noted that there is a less compressed and more objective listing of the external factors: 'Large current account surpluses accumulated in the oil-exporting countries, Japan and some other east Asian developing nations, while fiscal and current account deficits grew in the US, UK and some members of the Eurozone'. (FSA 2009: EV 456)

But this shared American and British version of Asia's involvement in the global crisis will not do. Unexplained is the most striking market failure in the prelude to the global crisis: the inability of the American financial system in particular to accommodate free flows of capital from overseas.

The net volume of foreign savings received by the United States quadrupled as a share of GDP from 1995 to reach around 6 per cent of GDP in 2006. Properly invested, these inflows would have been highly beneficial, the Chairman of the Federal Reserve Board has stated.

> Unfortunately, that was not always the case in the United States… Financial institutions reacted to the surplus of available funds by competing aggressively for borrowers, and, in the years leading up to the crisis, credit to both households and businesses became relatively cheap and easy to obtain. One important consequence was a housing boom in the United States, a boom that was fueled in large part by a rapid expansion of mortgage lending. Unfortunately, much of this lending was poorly done, involving, for example, little or no down payment by the borrower or insufficient consideration by the lender of the borrower's ability to make the monthly payments. (Bernanke 2009b)

Regulatory intervention could have corrected this mismanagement, the Chairman added in conclusion, but the American regulatory system was not up to the task. The market, left to its own devices, was unwilling to halt the imprudent lending.

On the Federal Reserve Board's own analysis, incompetent bank lending and defective regulation in the United States combined to transform a benign inflow from overseas into toxic assets through which contagion was exported to world markets. But there was another regulatory failure. 'The global imbalances were the joint responsibility of the United States and our trading partners' America's chief central banker has stated, but not enough effort was made to resolve the situation 'although the topic was a perennial one at international conferences'. (Bernanke 2009a) His British counterpart has made an almost identical confession. (King 2009: 15) A serious threat had been identified well in advance of the global crisis, but the world's central bankers and financial regulators had failed to give it the priority which it deserved.

5. Mismatched Insurance

By the start of the current century, the Bank of England had identified the potential dangers created by the growing popularity of derivatives, and of credit default swaps in particular. The main source of these products was a handful of the larger international banks. Their principal purchasers were insurance companies, and credit derivatives (notably collateralised debt obligations) were being transformed into products close to insurance contracts. A British official warned that the market suffered from a lack of transparency and considerable uncertainty about what the fate of these products might be in a crisis.

More serious still was the growing inter-dependence of the banking and insurance industries, whose basic businesses were radically different.[13]

> … the credit transfer business is bridging the lending, securities and insurance markets. Contracts in banking, on the one hand, and insurance markets, on the other, are in some respects different animals. An insurance contract, for example, is not typically a commitment to timely payment; whilst timing is of the essence in securities markets.

British officials realised how this mismatch between the two industries' models for managing risk 'can give rise to cash flow and liquidity implications which, for bankers and others in the financial markets, are potentially highly disruptive'. There was also a mismatch in regulatory régimes which allowed banks to evade official supervision through 'using credit risk transfers to insurance subsidiaries, or asset securitisation sales to third party insurers, or credit insurance and derivatives sold by insurers'. The case for the regulators to become involved was convincing. But British officials resisted intervention. They were more worried about the damage that could be caused by 'a call for harmonisation of regulation or a blind assertion of the need for a completely level playing field'. Instead of urging preventive action, the official recommendation was confined to a call for re-examination of the issue. (Large 2003: 4-5)

American central bankers were even more complacent about allowing banking institutions to become dependent on the insurance industry through its role in the development of the derivatives market and credit default swaps. An official review in 2002 identified 'the increasingly active portfolio management of credit risk, by both banks and insurance companies' as the driving force behind the credit derivatives market, but played down fears of the influence of 'regulatory capital arbitrage'. American officials were convinced that credit derivatives were proving a force for stability. The evidence in support of this reassuring conclusion was based on market perceptions during major corporate collapses earlier in the new century. These products appeared to have 'spread the credit risk associated with these large borrowers' who had defaulted. Officials argued that this was now a mature market, whose participants had 'understood the risks and been willing and able to bear them'.

This official review offered the recommendation that 'the regulators should continue to insist that banks manage their counterparty credit risk prudently, [which] includes paying attention to potential concentrations of counterparty credit risk'. But this reassurance was not meant to lead to any concrete measures because, it was claimed, the regulatory process itself was more a peril to progress than a protection for the public.[14]

[13] The analysis in this paragraph, together with the quotation, is drawn from Clementi (2000)

[14] The analysis of the American outlook, together with the quotations, is drawn from Ferguson (2002)

> However, just as important is ensuring that regulators keep enough distance from the markets to give financial innovations such as credit derivatives a chance to succeed. The new market for credit derivatives has grown largely outside of traditional regulatory oversight, and as I have described, evidence to date suggests that it has made an important contribution to financial stability in the most recent credit cycle.

The Anglo-American consensus could not have been more explicit on the merits of keeping regulation away from the banking-insurance relationship. An unintended but foreseeable consequence was the catastrophic collapse in 2008 of AIG, the world's biggest insurance corporation.

6. Misleading Ratings

Among the parties on whom central bankers and financial regulators wish to place a large share of the blame for the global crisis and its market disasters are the rating agencies (which became subject to United States regulation only in 2006). 'The Big Three credit rating agencies have failed investors', a senior American regulator has declared, 'The largest rating agencies awarded their highest ratings to complex debt instruments that were undeserving of investment grade status'. But the misinformation, which played such a calamitous role in the prelude to the global crisis, was not a new phenomenon. This official described the rating errors that have come to light in the current crisis as one more instalment in a long line of flawed assessments that he traced back to the Orange County scandal in the 1990s. His list included the investment grade status which 'Enron, WorldCom, Parmalat, and many other companies earlier this decade' retained right up to their bankruptcies. (Casey 2008)

In 1999, the Basel Committee had endorsed the use of credit-rating agencies as a way of standardising the treatment of risk and an effective strategy for dealing with the proliferation of the 'special purpose vehicle (SPV) issuing paper secured on a pool of assets' earlier in that decade. At the same time, the Committee drew attention to 'concerns about the incentive and consequential effects of a more extensive use of external assessments… on the agencies themselves'. It emphasised that both the regulators and the individual banks should accept responsibility for 'the quality of the assessment source and methodology'. (Basel 1999: 13, 26, 36) But this caution was ignored in practice. The rating agencies were widely assumed to be capable of setting the standards with which financial institutions would have to conform in order to defend their market reputations; and the regulators were expected to undertake their own rating exercises. (Redak 2006: 199-200) It quickly became apparent that reliance on rating agencies would aggravate rather than reduce the bond markets' difficulties in assessing risk.[15]

[15] 'Just as Basel I created incentives for behavior in the financial markets which undermined the intent of the initial Capital Adequacy Accord, the political economy of bond rating… may be the weakest link in the Basel II proposals'. This comment is from a useful summary of the ratings agencies' historical role in American and other financial markets, together with a prescient review of the dangers inherent in the expanded role which the Basel arrangements conferred on them. (King and Sinclair 2003: 346-9, 351-4, 358)

Officials had been aware of the growing threat posed by reliance on unregulated ratings agencies well before the start of the global crisis. A British central banker, for example, had analysed how the growing dependence on the agencies' assessments could increase instability especially 'in the case of collateralised debt obligations [where] whole categories of assets are dependent on their rating'. He stated that the agencies' 'increasingly public significance raises calls for them to be regulated'. Once again, however, the official preference was not to intervene out of fear that 'attempts to do so could actually create additional moral hazard, particularly in today's compensation orientated society'. 'If rating agencies were regulated', he asked, 'who would you blame if mistakes are made: the rating agency, the regulator, or both?'. (Large 2004: 14-5)

The obvious question is why this state of affairs was tolerated for so long. Plainly, the markets themselves were at fault. They were not performing with the wisdom that the Anglo-American regulatory 'culture' took for granted. Regulatory officials now point out that whatever the shortcomings of the agencies and their analytical techniques, their assessments were never intended to replace the investor's own due diligence. (Bair 2008a) Financial institutions holding derivatives and similar products ought to have carried out their own credit reviews. However, in a world of increasingly esoteric products, officials also explain, financial institutions were tempted by the apparent efficiency of contracting out this responsibility to specialists employed by professional rating agencies, especially as in-house expertise to investigate the financial engineering was expensive to hire. In the event, the agencies proved no more successful than the individual corporation in overcoming 'the highly complex information problems underlying some securities'. Their recommendations had disastrous consequences for investors in the global crisis. (Jenkinson 2008: 10-11)

The professional misjudgments were compounded by mismanagement and misconduct within the agencies. The Securities and Exchange Commission has reviewed the past record of the three largest agencies, which issue 98 per cent of all ratings and receive 90 per cent of the industry's revenue. This investigation uncovered extensive evidence of serious malpractice and gross conflicts of interest. (Casey 2008)

7. Property Bubbles

The immediate shock that started the collapse in market sentiment and the financial crisis that followed in 2007 came from the United States property market and its high-growth, subprime mortgage products. The Securities and Exchange Commission has declared that the rating agencies' failures were particularly culpable in this affair.

> …the CEO of Moody's, told a meeting of the firm's managing directors that the subprime market "was a slippery slope." He said that what happened in 2004 and 2005 with respect to subordinated tranches was

> that firms in the credit rating industry “went nuts” and that “[e]verything was investment grade. It didn't really matter.” (Cox 2008)

The Commission has described the origins of the sub-prime debacle as excessive enthusiasm for ‘the noble goal of broader home ownership’ that led ‘to a range of bad policies and dangerous lending practices’. The most notorious were ‘the “no-doc” loans in which borrowers not only did n’t have to disclose income or assets, but even employment was n’t verified’. (Cox 2008)

Initially, it seemed that a downturn in the American property sector would be manageable. In 2006, total mortgage-backed assets had accounted for only 7.4 per cent of the aggregate value of assets issued on the world’s securities markets, while non-agency, sub-prime mortgages accounted for less than 1 per cent of the total. (House of Commons 2008b: 17) A British regulatory official felt able that year to issue what amounted to an unconditional assurance that the economic and financial indicators were robust not only for the American and British economies but for global markets as well, with no danger of financial instability. (Gieve 2007: 7-8)

This optimism was shattered when American mortgage defaults became an international issue on August 9, 2007 after the French bank, BNP Paribas, revealed that ‘three of its investment funds were no longer able to value a series of complex financial instruments backed by so called “sub–prime” residential mortgages in the United States’. (House of Commons 2008b: 5) Overnight, the collapse of institutional as well as depositor confidence had been transformed from a regional American disaster into a worldwide calamity.

A British regulatory agency’s post-mortem on the global crisis has provided what is perhaps the best summary of how the collapse of sub-prime mortgages and other securitized products came to wreak such global havoc.

> … the new model of securitised credit intermediation was not one of ‘originate and distribute’… [but]‘acquire and arbitrage’ [which] resulted in the majority of incurred losses falling not on investors outside the banking system, but on banks and investment banks themselves… with financial sector assets and liabilities in the UK and the US growing far more rapidly as a proportion of gross domestic product than those of corporates and households. (FSA 2009: EV 457)

As with so much of the global crisis, this market downturn had been a disaster waiting to happen. The United States subprime mortgage crisis began as a typical property bubble in which bank loans financed increased competition for real estate. The new (higher) property prices allowed the banks to expand their lending on these property assets in line with their new valuations. As with most bubble markets, monetary policies were facilitating lower real interest rates, which further stimulated bank lending while loan quality deteriorated as the property market boomed. (Demyanyk and Van Hemert 2009: 5)

Evidence was already accumulating at the turn of the century that American real estate had 'taken on some of the characteristics of a commodity market'. An important factor was a change in investment management fashions that dated back to the 1980s. Portfolio theory had begun to raise the weighting of real estate because of the opportunities it provided for pension funds and investment companies in particular to diversify their asset allocations. By 2000, the mortgage market was described by careful academic researchers as 'much more sophisticated in managing and pricing interest rate risk, prepayment risk, and credit risk'. However, the high-growth subprime sector was identified as an obvious source of instability, leading the academics to forecast that 'default rates will rise sharply' if house prices dropped. Nevertheless, its overall finding was that 'the industry is better positioned than it was a decade ago to withstand a substantial national downturn'. (Case 2000: 132-3, 136, 144)

American officials, in their inquest into how the good intentions behind the drive to finance an expansion of home ownership could go so disastrously wrong, have been candid about their own culpability. In 2002, the regulators now point out, the capital weighting for triple and double-A rated asset and mortgage-backed securities was substantially reduced. As a result, 'the same dollar of capital could now support as much as five times the volume of these triple-A securities'. 'In retrospect', the Federal Deposit Insurance Corporation has admitted, 'regulators may have unintentionally, encouraged banks to bet heavily on a new class of non-transparent securities'. (Bair 2008b)

While the American subprime market was able to expand at a spectacular rate, the comprehensive data available on its performance meant the market's professionals and its regulators had ample warning of the rising risks from mortgage-based securities well before 2007. In 1995, its volume had totalled USD65 billion of which 30 per cent was securitised. In 2005, market volume reached USD500 billion, with a securitisation rate of over 80 per cent. But business growth now depended on lending to new cohorts of retail customers of diminishing credit-worthiness In the next two years, delinquencies in this market increased by 50 per cent, ruining many mortgage institutions and triggering global panic in 2007.[16] Much of the rise in delinquencies can be attributed to a decline in the standards of screening for loan applicants that, in turn, was linked to the increasing ease with which mortgages could be sold down to third parties. In short, a deterioration in due diligence among purchasers of securitised subprime mortgages encouraged a rise in the volume of lending to higher-risk customers for mortgages. (Keys 2008: 1, 5, 28)

The dangers created by property bubbles had been reviewed by British regulators well ahead of the subprime disaster. A Bank of England official had claimed in 2002 that real estate collapses in the 1970s and 1990s had made his colleagues particularly alert to property markets as 'barometers of economic conditions and potentially also the source of financial risks; and even, in extreme cases, financial crises'. His analysis, however, took a benign view of the American trend towards greater securitisation of mortgages. His general conclusion was that 'new instruments and structures have the potential to deliver

[16] Data on the declining quality of these mortgages and their market impact are from Bair (2008c).

a better match between borrowers' and lenders' preferences'. He acknowledged, nevertheless, that 'new financing techniques give rise to new risks – for borrowers, lenders and policy makers'. His response to this uncertain situation was to do little more than 'seek to identify potential problems'. (Clementi 2002: 2-3, 4-5)

As things turned out, there was a heavy price to pay for the lack of concern among British regulators about the property market. The United Kingdom's banking system suffered its own property meltdown in 2007 after the collapse of Northern Rock. This bank's unsustainable business model relied on short-term market funding to finance mortgages which went to increasingly unqualified and undocumented applicants, in much the same way as American sub-prime mortgages did. A 2008 parliamentary inquiry reported that while the directors of Northern Rock 'pursued a reckless business model which was excessively reliant on wholesale funding', 'the regulatory authority systematically failed in its regulatory duty'.

> The [Financial Services Authority] did not supervise Northern Rock properly. It did not allocate sufficient resources or time to monitoring a bank whose business model was so clearly an outlier… the FSA appears to have systematically failed in its duty as a regulator to ensure Northern Rock would not pose such a systemic risk, and this failure contributed significantly to the difficulties, and risks to the public purse, that have followed. (House of Commons 2008a: 35)

8. Protecting the Public

In their response to the global crisis, a persistent theme of the policy-makers is a warning that this crisis will lead to campaigns for more stringent regulation, which would cripple the future growth of the vital financial services sector. (Gieve 2009: 70) The regulators' rearguard action has been made necessary by what may prove a lasting legacy of the global crisis: the community's disillusionment with the market's ethics and the public's mistrust of appeals to moral hazard.

When the Securities and Exchange Commission's former Chief Accountant testified at a Congressional hearing on the failure of AIG, he declared that 'if honest lending practices had been followed, much of this crisis quite simply would not have occurred'. (Cox 2008) The range and value of the illegal and improper practices that had flourished with the rapid expansion of the derivatives market was remarkable. Involved were many of the most respected names in the international financial community. For example, after the failure of the USD330 billion Auction Rate Securities (ARS) market in 2008, UBS, Citigroup, Merrill Lynch and Bank of America, among others, were forced to reach settlements with their investors worth USD67 billion – 'the largest settlement sums in the history of the SEC'. (Walter 2009)

The financial markets' collapse slashed personal wealth drastically in 2008. In the United States, household net worth dropped by some 18 per cent, the largest annual fall ever recorded. Household net worth relative to disposable income fell from a ratio of some 6:1 to less than 5:1, 'erasing about a full year's worth of income in wealth'. The public no longer felt able to entrust its financial fortunes to the markets, and the prevailing mood of helplessness was movingly summed up by a central banker.

> Traditional rules of income and asset diversification appear to offer scarcer protection than generally advertised. As a result, households are questioning the route to financial security. Homeownership is no longer perceived to ensure low-risk capital appreciation. And assurances by investment managers to invest in "stocks for the long haul" are being subjected to intense scrutiny. (Warsh 2009)

The impoverishment of American families through the catastrophic decline in the value of their homes and personal savings has highlighted 'the link between protecting consumers from abusive products and practices and the safety and soundness of the financial system'. A leading regulator has called for 'a new independent financial product safety commission' on the grounds that 'products and practices that strip individual and family wealth undermine the foundation of the economy'. (Bair 2009)

The commitment to unfettered market freedom in the Anglo-American regulatory 'culture' meant that this proposal would encounter considerable opposition. The Chairman of the Federal Reserve Board defined the battle lines. He noted the public's mistrust of financial innovation, and he acknowledged that regulators ought 'to strive for the highest standards of consumer protection'. But he expressed alarm that 'innovation, once held up as the solution, is now more often than not perceived as the problem'. Regulators, in his opinion, must find a balance that protects the freedom of 'responsible innovation' despite public resentment at the havoc wreaked by 'subprime mortgage loans, credit default swaps, structured investment vehicles, which have become emblematic of our present financial crisis'. (Bernanke 2009c)

Calls for consumer protection create a potentially large political challenge to the 'culture' that has dominated the American and British regulatory environment for the last three decades. Public indignation has compelled other industries to accept regulatory intervention, most notably pharmaceuticals whose case against government oversight is at least as strong as that of financial services. The bulk of the pharmaceutical products that could cause concern are subject to strict testing before being marketed. They are prescribed and administered by trained professionals so that at every stage of their use, the purchaser of the product has access to expert advice and monitoring. Firms in this industry face severe reputational costs if their products prove unsafe, and the penalties for adverse results from their use can be punitive, especially at the hands of American courts. There is, in addition, the risk that over-cautious regulators could inhibit the development of new or improved products. Yet, the Food and Drug Administration cannot be abolished so long as successful litigation involving even the largest and most reputable manufacturers continues to reveal how they suppress unfavourable test results, suborn expert opinion and deliberately mis-sell products in order to maximise their profits.[17]

The debate in the United States about financial services and the proper balance between the pursuit of profits and the public's protection has been complex, with most regulatory officials resisting radical initiatives. 'The essence of our financial system is to let people take chances with their money', a senior official declared in 2009, 'and to enjoy most of the benefits and to endure most of the pain associated with taking those risks'. This assertion was strikingly frank, given the acute pain the public had suffered in the global crisis. 'From a policy perspective', she went on, the goal must be 'to let financial entities fail if they make bad decisions'.[18]

The Federal Reserve Board has fought back vigorously against demands for better protection for the public, claiming that its programme to defend the consumer is already very extensive. (Duke 2009) The American central bank's strategy seems to be to make the issue a postscript to its larger plans for regulatory initiatives dealing with the 'systemic' weaknesses that contemporary banking brings.[19] In the United Kingdom, too, regulatory officials do not want to be distracted from the task of controlling 'systemic' risk.[20] An important factor in the British government's cautious approach to reforms is the perceived loss of business opportunities for financial services that would follow increased regulation. (HMG 2009:140)

9. Conclusions

The analysis presented above (and also in the companion paper) indicates that not only were the potential financial shocks foreseeable but that they could have been prevented though appropriate intervention by the regulators. Indeed, central bankers and financial regulators themselves have identified the major areas in which they had the powers needed to halt what, in retrospect, can be labelled a process of self-destruction by financial markets and their participants. The Governor of the Bank England has pledged to preserve 'an institutional memory… so that the lessons from the crisis are not forgotten and those impediments to excessive risk-taking are not swept away once memories of the crisis recede'.

17 For details of the most important recent litigation (relating to anti-arthritic drugs, pain-killers and anti-depressants), see Saul (2008), Meier (2007) and Meier and Carey (2009).

18 A saving clause was added: 'If we cannot afford to have them fail, then they should be regulated so as to prevent imposing systemic risk'. (Tafara 2009)

19 Consumer protection was presented literally as 'a word' in concluding the Chairman's congressional testimony. (Bernanke 2009d)

20 Indeed, the British consumer's concerns have been parodied, a notable example being the reference to 'a nostalgic elegy for a past age of innocence and stability: with Captain Mainwaring back behind the desk in the branch at Walmington-on-Sea casting a censorious eye over any householder or small-business man silly enough to want to take on too much credit, while the wide boys of the City and Wall Street are free to speculate but well away from sober middle England'. (Turner 2009a)

(King 2009: 6) There are few signs, however, that officials – or their political masters – will be more proactive when faced with similarly perilous situations in the future.

Reluctance to intervene prior to the global crisis owed a great deal to 'cultural' preconceptions which convinced regulators that markets were best left to remedy their own deficiencies and that regulation actually did more harm than good. (The companion paper reviews this phenomenon in detail.) That 'culture' still commands political credibility in Washington and London, as well as widespread business support. Thus, there is little likelihood of dramatic regulatory initiatives to match, for example, the radical change in the mindset of central bankers that followed the crisis caused by the Herstatt Bank collapse in 1974. (Bond 2006) Two years after the start of the worst global crisis in modern financial history, the best that could be said in 2009 about prospects for reform was that 'an overhaul of international standards of bank regulation remains a clear but highly uncertain goal'.[21] (Cohen 2009)

[21] Dismay about the slow pace of reform has been voiced, albeit diplomatically, by the IMF Managing Director (Strauss-Kahn 2009).

References

Bair, Sheila C. (2008a), Bear Stearns Mortgage and Structured Product Conference (17 January 2008). URL: http://www.fdic.gov/news/news/speeches/archives/2008/chairman/spjan1708.html

Bair, Sheila C. (2008b), Global Association of Risk Professionals (25 February 25 2008). URL: http://www.fdic.gov/news/news/speeches/archives/2008/chairman/spfeb2508.html

Bair, Sheila C. (2008c), testimony on the state of the banking industry before the Senate Committee on Banking, Housing and Urban Affairs (4 March 2008). URL: http://www.fdic.gov/news/news/speeches/archives/2008/chairman/spmar0408.html

Bair, Sheila C. (2009), testimony on Modernizing Bank Supervision And Regulation before the Senate Committee on Banking, Housing and Urban Affairs (19 March 2009). URL: http://www.fdic.gov/news/news/speeches/chairman/spmar0319.html

Basel Committee on Banking Supervision (1999), *A New Capital Adequacy Framework*, *consultative paper* (Basel, June 1999). URL: http://www.fsa.gov.uk/pubs/additional/cp030699.pdf

Baumol, William J. (1990), “Entrepreneurship: Productive, Unproductive, and Destructive,” *Journal of Political Economy*, 98(5).

Bean, Charles (2008), “Some Lessons for Monetary Policy from the Recent Financial Turmoil,” Conference on Globalisation, Inflation and Monetary Policy (22 November 2008). URL: http://www.bankofengland.co.uk/publications/speeches/2009/speech368.pdf

Bernanke, Ben S. (2009a), “Financial Reform to Address Systemic Risk,” Council on Foreign Relations (10 March 2009). URL: http://www.federalreserve.gov/newsevents/speech/bernanke20090310a.htm

Bernanke, Ben S. (2009b), “Four Questions about the Financial Crisis,” (14 April 2009). URL: http://www.federalreserve.gov/newsevents/speech/bernanke20090414a.htm

Bernanke, Ben S. (2009c), “Financial Innovation and Consumer Protection,” Sixth Biennial Community Affairs Research Conference (17 April 2009). URL: http://www.federalreserve.gov/newsevents/speech/bernanke20090417a.htm

Bernanke, Ben S. (2009d), “Regulatory Restructuring,” testimony before the House of Representatives Committee on Financial Services (24 July 2009).
URL:http://www.federalreserve.gov/newsevents/testimony/bernanke20090724a.htm

Bloomberg News (2000), *International Herald Tribune*, 8 August 2000

Bond, Ian (2006), “Managing a Bank-specific Crisis: A UK Perspective,” BBA workshop on managing a bank-specific crisis, (26 October 2006).
URL: http://www.bankofengland.co.uk/publications/speeches/2006/presentation061026.pdf

Carpio, Gerard and Patrick Honohan (1999), “Restoring Banking Stability: Beyond Supervised Capital Requirements,” *Journal of Economic Perspectives*, 13(4): 43-64.

Case, Karl E. (2000), “Real Estate and the Macroeconomy,” *Brookings Papers on Economic Activity*, 2000(2): 119-62.

Casey, Kathleen L. (2008), Remarks at the Commission Open Meeting (3 December 2008).
URL: http://www.sec.gov/news/speech/2008/spch120308klc.htm

Cetina , Karin Knorr and Urs Bruegger (2002), “Global Microstructures: The Virtual Societies of Financial Markets,” *American Journal of Sociology*, 107(4): 905-50.

Claessens, Stijin and Simeon Djankov (1999), “Publicly-Listed East Asian Corporates: Growth, Financing and Risks,” Paper Presented to Regional Conference on Asian Corporate Recovery: Corporate Governance, Government Policy (World Bank, 15 March 1999).

Clark, Alastair (2000), “Accounting Standards and International Financial Markets,” Institute of Chartered Accountants in Banking, Dublin (3 May 2000).
URL: http://www.bankofengland.co.uk/publications/speeches/2000/speech84.htm

Clementi, David (2000), “Crisis Prevention and Resolution – Two Aspects of Financial Stability,” South Bank University Centre for Monetary and Financial Economics (6 September 2000).
URL: http://www.bankofengland.co.uk/publications/speeches/2000/speech97.htm

Clementi, David (2001), “Banks and Systemic Risk – Theory and Evidence,” Bank of England Conference (23 May 2001).
URL: http://www.bankofengland.co.uk/publications/speeches/2001/speech130.htm

Clementi, David (2002), “Property and the Economy,” Chartered Surveyors Livery Company International Dinner (29 April 2002).
URL: http://www.bankofengland.co.uk/publications/speeches/2002/speech170.htm

Cohen, Norma (2009), “Regulation: Doubts over Political Resolve for Reform,” *Financial Times*, 5 October 2009.

Cox, Christopher (2008), Joint Meeting of the Exchequer Club and Women in Housing and Finance (4 December 2008).
URL: http://www.sec.gov/news/speech/2008/spch120408cc.htm

Darling, Alistair (2009), *Banking Crisis*, Vol. I Oral evidence (HMSO: HC 144–I, March 2009).
URL: http://www.publications.parliament.uk/pa/cm200809/cmselect/cmtreasy/144/144i.pdf.

Demyanyk, Yuliya S. and Otto Van Hemert (2008), “Understanding the Subprime Mortgage Crisis,” (5 December 2008).
URL: SSRN-id1020396[1].pdf

Duke, Elizabeth A. (2009), “Consumer Protection,” testimony before the House of Representatives Subcommittee on Domestic Monetary Policy and Technology, Committee on Financial Services (16 July 2009).
URL: http://www.federalreserve.gov/newsevents/testimony/duke20090716a.htm

Ferguson, Jr., Roger W. (2002), “Financial Engineering and Financial Stability,” Annual Conference on the Securities Industry, American Institute of Certified Public Accountants and the Financial Management Division of the Securities Industry Association (20 November 2002).
URL: http://www.federalreserve.gov/boarddocs/speeches/2002/20021120/default.htm

Financial Times (1999), *Financial Times*, 28 January and 22 April 1999.

FSA (2009), “Memorandum from the Financial Services Authority (FSA),” House of Commons Treasury Committee, *Banking Crisis*, Vol. II Written evidence (HMSO: HC 144–II, March 2009).
URL: http://www.publications.parliament.uk/pa/cm200809/cmselect/cmtreasy/144/144ii.pdf

Gieve, John (2007), “Uncertainty, Policy and Financial Markets,” Barbican Centre (24 July 2007).
URL: http://www.bankofengland.co.uk/publications/speeches/2007/speech321.htm

Gieve, John (2009), “Seven Lessons from the Last Three Years,” (19 February 2009).
URL: http://www.bankofengland.co.uk/publications/speeches/2009/speech377.pdf

Guitián, Manuel (1998), "The Challenge of Managing Global Capital Flows," *Finance and Development*, June 1998.

HMG (2009), *Reforming Financial Markets* (Cm 7667/2009).
URL: http://www.hm-treasury.gov.uk/d/reforming_financial_markets080709.pdf

House of Commons Treasury Committee (2008a), *The Run on the Rock Fifth Report of Session 2007-08*, Vol. I (London: HMSO, HC56-I, January 2008).
URL: http://www.publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/56/56i.pdf

House of Commons Treasury Committee (2008b), *Financial Stability and Transparency Sixth Report of Session 2007–08* (London: HMSO HC 371, March 2008).
URL: http://www.publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/371/371.pdf

House of Commons Treasury Committee (2008c), *Re-appointment of Mervyn King as Governor of the Bank of England Tenth Report of Session 2007–08*, Vol. I (London: HMSO HC 524-I, June 2008).
URL: http://www.publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/524/524.pdf

IMF (2009), *Global Financial Stability Report: Navigating the Financial Challenges Ahead October 2009* (Washington: International Monetary Fund, 2009).
URL http://www.imf.org/external/pubs/ft/gfsr/2009/02/pdf/text.pdf

Jenkinson, Nigel, Adrian Penalver and Nicholas Vause (2008), "Financial Innovation: What Have We Learnt?" Reserve Bank of Australia Conference on Lessons from the Financial Turmoil of 2007 and 2008, (14-15 July 2008).
URL: http://www.bankofengland.co.uk/publications/speeches/2007/speech321.htm

Kay, John, John Vickers, Colin Mayer and David Ulph (1988), "Regulatory Reform in Britain," *Economic Policy,* 3(7): 285 – 351.

Keenan, Faith (1999) "Finance: Picking up the Pieces," *Far Eastern Economic Review*, 6 May 1999.

Keys, Benjamin, Tanmoy K. Mukherjee, Amit Seru and Vikrant Vig (2008), "Did Securitisation Lead to Lax Screening? Evidence from Subprime Loans 2001-2006," (December 2008), EFA 2008 Athens Meetings Paper.
URL: SSRN-id1093137[1]

King, Mervyn (2009), "Finance: A Return from Risk," (17 March 2009).
URL: http://www.bankofengland.co.uk/publications/speeches/2009/speech381.pdf

Kregel, J. A. (1998), "Derivatives and Global Capital Flows: Applications to Asia," *Cambridge Journal of Economics*, 22(6): 677-92.

Krugman, Paul (2009), "Fighting off Depression," *New York Times*, 5 January 2009.

Lardy, Nicholas R. Lardy (2003), "The Case of China," in Chung H. Lee, ed., *Financial Liberalization and the Economic Crisis in Asia*, London: Routledge Curzon.

Large, Andrew (2003), "Convergence in Insurance and Banking: Some Financial Stability Issues," Mandarin Oriental Hotel (12 June 2003).
URL: http://www.bankofengland.co.uk/publications/speeches/2003/speech196.htm

Large, Andrew (2004), "Financial Stability Oversight, Past & Present," London School of Economics (22 January 2004).
URL: http://www.bankofengland.co.uk/publications/speeches/2004/speech212.htm

Meier, Barry (2007), "3 Executives Spared Prison in OxyContin Case," *New York Times*, 21 July 2007.

Meier, Barry and Benedict Carey (2009), "Drug Maker is Accused of Fraud," *New York Times*, 26 February 2009.

New York Times (2009), "It's the Regulations, Not the Regulator," *New York Times*, 18 March 2009.

Redak, Vanessa (2006), "Risks, Ratings and Regulation: Toward a Reorganization of Credit via Basel II?" in Peter Mooslechner, Helene Schuberth and Beat Weber, eds., *The Political Economy of Financial Market Regulation: The Dynamics of Inclusion and Exclusion*, Cheltenham: Edward Elgar Publishing Ltd.

Saul, Stephanie (2008), "Merck Wrote Drug Studies for Doctors," *New York Times*, 16 April 2008.

Solomon Smith Barney (1998), *Fixed Income – Local Government ITIC Credits*, 26 November 1998.

Strauss-Kahn, Dominique (2009), "Beyond the Crisis: Sustainable Growth and a Stable International Monetary System," Sixth Annual Bundesbank Lecture (4 September 2009).
URL: http://www.imf.org/external/np/speeches/2009/090409.htm

Tafara, Ethiopis (2009), "A Few Observations Based on International Regulatory Conversations," CESR Conference (23 February 2009).
URL: http://www.sec.gov/news/speech/2009/spch022309et.htm

Taube, Markus (2002), “Economic Relations between the PRC and the States of Europe,” *China Quarterly*, No.169: 78-107.

Turner, Adair (2009a), “The Financial Crisis and the Future of Financial Regulation,” The Economist's Inaugural City Lecture (21 January 2009).
URL: http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2009/0121_at.shtml)

Turner, Adair (2009b), “Priorities for the Reform of Global Regulation - Challenging Past Assumptions,” speech at IOSCO 2009 Tel Aviv (11 June 2009).
URL: http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2009/0611_at.shtml
URL: http://www.fdic.gov/news/news/speeches/archives/2008/chairman/spjan1708.html

US Treasury (2009), “The Role of the Federal Reserve in Preserving Financial and Monetary Stability: Joint Statement by the Department of the Treasury and the Federal Reserve,” (23 March 2009).
URL: http://www.treas.gov/press/releases/tg66.htm

Walter, Elisse B. (2009), testimony before the House of Representatives Committee on Financial Services 20 March 2009.
URL: http://www.sec.gov/news/testimony/2009/ts032009ebw.htm

Warsh, Kevin (2009), “The Panic of 2008,” Council of Institutional Investors (6 April 2009).
URL: http://www.federalreserve.gov/newsevents/speech/warsh20090406a.htm

World Bank (1993), *The East Asian Miracle. Economic Growth and Public Policy*, New York: Oxford University Press.

World Bank (1995), *Managing Capital Inflows in East Asia*, Washington: World Bank.

Xia, Bin (2004), *Renmin Ribao*, 27 July 2004.

Xiao, Xu (2001), *China* Daily, 20 October 2001.

Zhu, Rongji (2000), *China Daily*, 17 October 2000.