Adjustments to the Basel-II Framework for Prudential Control as Suggested by the Current Financial Crisis

Siqiwen Li and James Juniper
School of Economics, Politics and Tourism
The University of Newcastle

Abstract: Government initiatives to promote full employment are necessitated by downturns in private sector activity that are either triggered off or compounded by financial crises. As a new regulatory system designed for maintaining financial stability, Basel II has received endorsement from the financial industry for its characteristics of risk sensitivity and flexibility. However, other features may serve as a better explanation for this approval. These regulatory features of Basel II help to overcome the dichotomy between direct government command on one hand and self-regulation on the other. This paper will draw on two theoretical notions to evaluate Basel II; one of these is "reflexivity" (Aalders and Wilthagen, 1997), while the other is regulatory "responsiveness" (Braithwaite and Ayres, 1992). In evaluating the effectiveness of Basel II, the paper will examine changes that have occurred in the financial system including the use of CDOs, in the context of the subprime crisis.

0. Introduction

In the middle of 2007, the "bubble" in the U.S housing market finally burst, due primarily to excessive and reckless lending in the subprime mortgage market. Unfortunately, this was not the end of the story; it was just the beginning of a "storm" in the financial markets. By early 2008, the credit crunch descended and companies and individual investors desperately faced the difficulties of refinancing their investments. Bankruptcy became their last call. Then recently, bad news about the performance of the four largest investment banks in U.S shocked the world. Contemporaneously with these developments, the new global capital regime for banks, known as the Basel II framework, came into force both within the G10 and in signatory countries such as Australia. This raises the obvious question of whether this new capital adequacy regime will require major modifications to prevent similar crises in the future?

In 1988, the BIS (Bank of International Settlement) issued the first Capital Accord (Basel I), which determined core capital provisions by risk-weighting assets and converting off-balance sheet assets to on-balance sheet equivalents. During the second half of the 1990s, with the development of actively traded financial instruments such as derivatives, a better regulatory capital regime was required to deal with the subsequent changes in risk management practices and technology. The BIS's Basel II framework was designed to ensure soundness and stability of the international banking system and provide for improved risk management by establishing greater alignment between the actual risk profile and the profile determined by regulatory requirements.

To evaluate how much the Basel II Accord contributed to the crisis in financial markets, this paper will first briefly review the history and design of regulatory strategy, tracing moves away from direct and stringent forms of government intervention. However, rather than presuming moves towards self-regulation, it will focus on the regulatory strategies to overcome the dichotomy between governmental systems of command-and-control on one

hand and voluntary self-regulation on the other. This paper will draw on a series of attributes associated with two widely discussed notions – "reflexivity" and "responsiveness" – to assess their congruence with the Basel II Accord. The second section of the paper will discuss the changes that have occurred in the financial system. This discussion will review adjustments that have occurred in the system of prudential control. The third section of the paper will examine transformations in the nature of banking activity after the process of deregulation began. These changes include the appearance of structured finance products such as securitised assets. Based on this discussion, the fourth section of the paper will explore the causes of financial instability in relation to these recent market events. The last section of the paper will consider the implications for regulatory reform of financial markets, using existing components of the Basel II regime as a benchmark. For reasons of brevity, the focus of the paper will be on systems of prudential control rather than on broader issues of corporate governance. Nevertheless, it is clear that effective prudential controls must be complemented by robust and potent governance mechanisms.

1 Regulatory features of Basel II and "Responsive Regulation"

1.1 Theories on regulating the financial system

For a long period, the design of regulatory strategies has been characterised by an oscillation between two approaches. On one hand, direct and comprehensive forms of government intervention were advocated. It was common for Keynesian policy makers to embrace top-down forms of "command-and-control", given their conviction that market failures associated with uncertainty and instability were unavoidable, even for well-developed markets. Activist forms of stabilisation policy, which were intended to reduce the amplitude of the business cycle, were complemented by extensive interventions in the financial system.

On the conservative side of political economy, authors such as Pigou (1936) and Hayek (1979) believed that governments and other monopolistic elements were the main sources of market "abnormality". Accordingly, they argued that there was a need to restrain arbitrary action on the part of government.

In response to this negative assessment of intervention, neo-liberal processes of self-regulation were advocated. From a historical perspective, what is often championed as a new "paradigm" of economic theory and policy-making (Einar and Amund, 2005) simply reflects a return to type (Hayek, 1979).

In their search for a "third way", many policy-makers and academics have argued that neither spontaneous forms of self-regulation nor a command-and-control approach are satisfactory. As a result of this search for a "third-way" approach to regulation, two notions have come to the fore. On one hand, the "Responsive Regulation" which is based on the notion of "responsiveness" has been proposed by Braithwaite and Ayers (1992). On the other hand, Aalders and Wilthagen (1997) have introduced the similar notion of "reflexivity". In the next section of the paper, each of these attributes of third-way" policy will be examined.

1.2 The notions of 'Reflexivity" and "Responsive Regulation"

The notion of regulatory responsiveness was first applied by Nonet and Selznick (1978) in the field of legal philosophy, who talked about the need for "responsive law" during regulatory transition periods. Their concept of "responsiveness" was characterised by certain elements including flexibility, a purposive focus on competence, participatory citizenship, and negotiation, which were subsequently taken over by researchers who used them as guides for the design of regulatory strategies. The basic idea behind responsive regulation is that governments should be responsive to the conduct of those they seek to regulate, while

decisions to escalate should respond to assessments about the effectiveness of self-regulation. Where formalist approaches define problems and responses in advance on the basis that agents are both rational and consistent, responsive regulation is not consistent but operates on the basis that agents can generally be persuaded towards compliance. A distinction is drawn between virtuous, rational, and irrational actors, so that appropriate interventions can be applied ranging from persuasion, through deterrence, to ultimate incapacitation. For Aalders and Wilthagen (1997), who work within a socio-cybernetic framework, reflexivity is characterised by systems monitoring, which compensates for limited inspectorate capacity through the development of internal monitoring systems. However, the uptake and effective operation of these systems must be ensured through legislative enforcement, public disclosure, the use of countervailing powers; the presence of intermediary structures such as industry networks, the promotion of corporate social responsibility (achieved through the internalisation of external goals and values), co-regulation, and the deployment of market-oriented regulatory tools backed by market transparency and full information.

These two notions of reflexivity and responsiveness can be woven together once it is recognised that a more foundational dichotomy can be established between mechanisms that *spread the burden* of regulation beyond the direct sphere of government (i.e. via systems monitoring and the use of tripartism and intermediary structures); and mechanisms that *achieve responsive enforcement* (i.e. by implementing a credible and invincible regulatory response initially induced through the enforced internalisation of external goals). Each of the aspects described by Aalders and Wilthagen (1997) will now be applied to an evaluation of the Basel II regulatory framework.

1.3 The Congruence between Basel II and the Attributes of "Reflexivity" and "Responsiveness"

This section of the paper discusses the extent to which the Basel II system of prudential controls incorporates the attributes of 'reflexivity' and 'responsiveness. First, it considers mechanisms that spread the regulatory burden. Second, it examines procedures that aim to achieve responsive enforcement.

1.3.1 Spreading the Regulatory Burden

1.3.1.1 System monitoring

The first factor contributing to a spreading of the regulatory burden is system monitoring, which compensates for limited inspectorate capacity through promoting the internalisation of goals and objectives. Inspectors (drawn in this case from the Reserve Bank of Australia and APRA) are supposed to monitor and regulate the operation of self-control systems and, subsequently, intervene at the system level. One indication of successful internalisation in the Australian Banking system is the rising organisational power and prestige of those with responsibility for risk management. Due to APRA initiatives, the board membership of many financial institutions is becoming better educated about the strategic implications of the new prudential requirements. It was noted above that, for success, system monitoring should be backed by legislative enforcement, public disclosure, and countervailing power. These aspects will be further discussed below.

1.3.1.2 . Intermediary Structures and Tripartism

The second factor relates to intermediary structures, which could include trade unions, industry networks and OH&S committee. Similarly, "responsive regulators" advocate a "tripartite" approach under which government, industry and public interest groups (PIGs) are conceived to act as supports for a responsive agenda. They may function as channels of

indirect regulation, when contacted and adequately informed by regulatory agencies. On one hand, they could act as obstacles to government regulation in defence of the enterprise; on the other hand, they could encourage managers to adopt more "rational" forms of risk management. In playing the role of "guardians of the public interest", members of intermediary structures must cooperate both with industry and market participants (Aalders & Wilthagen, 1997). One obvious example of such structures in the Australian banking system would be networks formed to benchmark progress and to implement appropriate versions of Value at Risk (VaR) software. In this regard, banking industry associations may also play a limited intermediary role. Under "responsive regulation", industries are encouraged to consider not just private interest but also the public interest. PIGs thus become an acknowledged third player in the regulatory game, acting as "eyes" watching over the whole process from a distance. At the same time, market incentives—to be discussed below—are brought into the regulatory process within an environment of public disclosure to ensure a more sensitive and effective form of surveillance and control (Braithwaite and Ayres, 1992).

1.3.2 Responsive Enforcement

Under responsive regulation, there is no universal or unique approach to enforcement. Some degree of flexibility is built in to Basel II under provisions for market disclosure. While market responses may serve as a first stage of enforcement, APRA can call on more specific, case-by-case forms of intervention as required.

1.3.2.1 Corporate Social Responsibility

Under Basel II, the regulatory response will initially be induced through the enforced internalisation of external goals, as embodied in the internal modelling capacity of individual banks. On one hand, through the application of internal rating-based (IRB) approach, banks can reduce their capital adequacy requirements. On the other hand, they can tailor their modelling approaches to the particular constellation of market, operational, and credit risks to which they are exposed. To prevent excessive arbitrage activity, regulators must design an "optimal" risk-weighting system. However, if externally applied risk-weighting rules were the only instrument, the risk-weighting system would be unresponsive to variations in risk exposure. Ideally, an "optimal" risk-weighting system should be based on the "true" or "best" available measure of risk, which must accordingly respond to the bank's actual risk profile. However, "best" measures of this kind are difficult to construct. If supervisors specify risk buckets that are too broad, then the bank's expertise will be applied to regulatory arbitrage. On the contrary, if risk bucket specifications are too narrow, then the incentives for developing expertise in risk assessment would be reduced (Benink and Wihlborg, 2002). Through internal monitoring, the risk measurement system will hopefully be more congruent with the real risk profile.

1.3.2.2 Market Discipline

The market-oriented regulatory tool could be considered as an alternative to a "one-size-fits-all" process of government regulation: one that is backed by market transparency and requirements for disclosure of full information (Wilthagen and Ayres, 1997). Here, disclosure relates specifically to the degree of conformity with the requirements of capital adequacy as set by banking supervisors. In the past, direct regulatory supervision alone was deemed to be an effective instrument for inducing banks to hold sufficient capital, but Basel II confirmed the role of market discipline as a necessary supplement for ensuring adequate provision of capital. With a series of evolutionary developments in financial markets, banks have acquired more sophisticated tools for managing and transferring risk, including through securitisation and the use of credit derivatives (Kwan, 2004). In the light of these changes, regulators have argued that levels of subordinated debt would act both as both a primary information signal

under market discipline and as a technological mechanism affording greater flexibility in meeting capital adequacy requirements, (Federal Reserve Board, 1999). The sensitivity of information derived from subordinated debt levels will, it is claimed, provide a warning signal even when a bank is "healthy".

To evaluate the contribution of the Basel Accord to the current crisis the next section of the paper will review what has happened in financial market over the past decade. It will focus on both changes in prudential control and the transformation in bank activities.

2 Transformations in the Financial System

2.1 Changes in Prudential Control

During the pre-deregulation period, the interest rates that banks could charge on loans and pay on deposits were tightly controlled within narrow bounds. Banks were subject to directives on the overall quantity of loans and there was moral persuasion in relation to industries to which loans should or should not be made. Furthermore, financial institutions were highly specialised, with trading banks lending to business, saving banks to households, and with finance companies providing more risky property loans and consumer credit. However, due to the growth in non-bank financial institutions (NBFIs) and off-balance sheet activity regulators came to the view that the banks were excessively controlled, as reflected in relative declines in their profitability relative to the new NBFIs. Some commentators argued that excessive control had hampered innovation, making it hard for creditworthy borrowers to get loans (Battellino, 2007). These views lead to the promotion of a neoliberal "free market" model based on financial deregulation that would supposedly enable the banks to compete more effectively with their non-bank counterparts.

Broadly speaking, there were two major aspects to this the new era of financial deregulation: the first being macroeconomic in nature characterised by such policies as the floating of the exchange rate and the full implementation of the tender system for selling debt to the public. The second aspect impacted on financial intermediaries, primarily the banks. The major policy changes included the abolition of both interest rate controls and credit guidelines, and the entry of foreign banks, which was designed to increase competition in the domestic market. This aspect of financial deregulation received the most criticism, because it was argued that increased competition actually forced banks to change their activities and increase their appetite for risk, in an environment of heightened financial innovation. Further, there was a widespread belief that this contributed to a surge in credit that contributed to a subsequent boom and bust cycle in asset prices (Macfarlane, 1995). During the period of deregulation, a few large consolidated banks, nicknamed "supermarkets", were formed with activities spanning almost every form of investment in the financial market including the securitisation market, mortgage brokerage and electronic banking. Relaxed regulation enriched banks and triggered a willingness on the part of investors to consume credit products. In turn, governments are encouraged to fight inflation aggressively by adopting high interest rate. In response to periods of tight-money, financial institutions become willing adopters of financial innovations, which make the supply of credit ever more elastic.

Prudential controls implemented during the deregulation era both responded to, and helped to transform financial institutions. The next section of the paper addresses these changes in bank activities brought about by financial innovation.

2.2 Changes in the Nature of Banking Activity

The deregulation of the financial market promoted increasing flexibility in both asset- and liability-management, while a combination of lax oversight and unprecedented competition

contributed to dramatic growth in the broader financial market. The most obvious sign of these changes—a marked transformation in the role of banks—is discussed in section 2.2.1, while the development of new financial products is the theme of section 2.2.2.

2.2.1 The Shift from Financial Intermediation to Brokerage

In past decades, banks have mainly acted as financial intermediaries between households and firms, a role which made them a central institution of post-war economic growth. The "middle man' banks organised the overall savings-and-investment process by transforming short-term and volatile deposits primarily sourced from households into long-term loans to companies requiring financial resources for investment purposes. However, governments play a more fundamental role because they are the sole creators of net financial assets in the economy. Transactions between banks, households and firms net out to zero. When governments run continual surpluses they are destroying the wealth of the non-government sector.

In moving from intermediation to brokerage, banks now operate by bringing together investors, borrowers, providers of securitised assets, those offering hedging services, providers of insurance on mortgages and other securitised assets (Gorton and Winton, 2002). After the opening of the commercial paper market to the banks' NBFI rivals, banks started to lose their advantage. Therefore, banks became increasingly active as players in the structured finance market. The fee income for originating loans now accounts for a large proportion of bank profits. In functioning as collateral in contracts with borrowers, securitised assets help to dramatically reduce capital adequacy requirements. However, each form of securitisation has the potential to become a source of financial fragility.

2.2.2 Structured Finance Products

As a "market-oriented" financial practice, securitisation activity is highly sensitive to changes in the market and depends heavily on liquidity (Wray, 2008a). By converting non-marketable credit instruments into publicly traded securities securitisation can allow the financial institutions to continue to initiate mortgages even when their funding capacities are low, which implies the absence of limits to credit creation on the part of banks. Moreover, the active involvement of banks in the securitisation market has partly been driven by the need to supplement fund income with fee income (Wray, 2008b:3).

Securitisation increases the dependence of banks on the originate-to-distribute (OTD) model, which separates the banks' initiating activities in the securitisation process from their capital holding activities. Undoubtedly, securitisation has operated to spread bank risk more broadly to whoever can handle it on the market. For instance, in the case of one of the most "popular" securitisation products—Collateralised Debt Obligations (CDOs). CDOs are created by carving the cash flow from the underlying asset into various categories or tranches, each possessing different risk characteristics and distributions.

While bankers, investors and even credit rating agencies enjoyed new prosperity from the securitisation market, the seed of instability were being sown. In the next section, the paper explores some of the causes of financial instability, which resulted in the recent market turmoil.

3 Instability of the Financial System

Economists such as Hyman Minsky argue that financial instability derives from the underlying nature of capitalism itself. Minsky focuses on the relationship between the banking system and investors, highlighting the possibility of financial fragility developing during upturns in the business cycle. As households and firms become more optimistic and confident they rely more heavily on external finance, take on investment opportunities that are characterised by increasingly deferred "break-even" times, and acquire less diversified

investments. These choices gradually transform a "sound" financial structure into a "fragile" one. (Minsky, 1992). To clarify this process Minsky distinguished between three financial positions: hedge, speculative and Ponzi. For Hedge positions, cash inflows exceed cash outflows in each period. Interest payments can be covered by cash inflows over a wide range of interest rates. In speculative positions, agents must borrow funds over the short run to meet some of their non-interest obligations. For Ponzi positions, agents must also borrow funds in the short run to cover their interest-related obligations.

As economic growth continues, the proportion of speculative and Ponzi units increases within in overall financial structure. When governments adopt tight monetary policies due to anxieties about asset price inflation (or alternatively, when agents become more anxious about the growing financial fragility and increase their preference for liquidity), the resulting contraction in effective demand transforms positions that were previously hedge into speculative, speculative into Ponzi, and Ponzi positions into bankruptcy or administration.

The global financial market and the economy experienced a long period of stable growth before the recent market turmoil. During this period, banks, mortgage insurers, hedge funds, and residential property developers adopted increasingly fragile financial positions. The resulting financial upheaval soon extended beyond the property market to encompass the highly volatile share market and banking sector, with many banks mutual funds, insurance companies, and investment banks forced into bankruptcy. However, the seeds of the crisis were largely sown by the changes in bank activities and prudential control previously described.

Securitisation has been a central element of the dynamics of recent financial turmoil. One of the reasons is that the "originate-to-distribute" (OTD) model that banks relied on as a means of funding and risk dispersal actually encouraged the erosion of margins of safety, encouraged irrational risk-taking activities, and encouraged an optimistic belief that the economy would continue to grow without let or hindrance (Knight, 2008). As we have seen, under the OTD model, originators do not hold the loans on their balance sheet nor do they hold regulatory capital to guard against these risks. This reduces the incentive for them to be concerned about borrowers' ability to pay and, at the same time, increases their exposure to market downturns. The easing of limits to the issue of mortgages has coincided with a loosening of creditworthiness checks over the holders of securitised assets. The seeds for growth in underlying default risk have thus been sown. In the housing market, borrowers are often reluctant to reject offers of loans that may become unaffordable for them (Wray, 2008a). When interest rates rise, the holders of the assets that have been securitised may be forced to sell; a process which directly leads to a dramatic fall in the prices of the resulting securities.

Another aspect that has exposes the securitisation process to criticism is its long chain character. Modern securitisation involves quite long chains of production. There is considerable distance between ultimate investors in collateral and holders of the originating liability. This longevity is responsible for adverse incentives along the securitisation chain, which contributes to lax monitoring of risky activities, and ultimately to a deteriorating in credit underwriting. The multiple-tranche characteristics of securitisation allow pools of various liabilities to be engineered in diverging ways, particularly through credit enhancement. The investors in the higher rated tranches (i.e. AAA rating) thus have few incentives to undertake serious due diligence because they primarily rely on the rating for their investment decision. The lower rated tranches are normally re-securitised, with the burden of borrower scrutiny passed along the chain to investors who might have a problem analysing the credit quality of what they are buying. Here, the analytical difficulty resides in the complexity of the instruments employed in the securitisation process (Knight, 2008).

After the subprime crisis, questions have been asked about the reliability of risk management procedures and techniques for the risk rating, especially in regard to the need for "checking the natural tendency for declining credit standards in a boom". (Wray, 2008b:2) Whalen (2007) argues that external rating agencies, which rely on fee-based income paid by issuers of securities, have been pressured to issue ratings that make assets more marketable.

The second question is directed at the statistical techniques used by ratings agencies. The statistical models employed to evaluate risk have been criticised for their backward-looking nature, especially when the market is at the peak of its prosperity phase. In fact, this is not just the flaw of models used by credit rating agencies as the statistical models used by banks and their supervisors are also based on data generated from previous periods. In the aftermath of the subprime crisis, significant downgrades were made on a variety of externally rated CDOs, even those belonging to AAA tranches.

A third question relates to the internal rating systems of banks themselves. Under Basel II framework adopted by the Australian government, most small and medium sized banks only have accreditation for the standardised approach, which relies heavily on external rating agencies. Even some of the big banks which have accreditation for an IRB approach still combine internal and external ratings in ways that depend on the consideration of cost and benefits.

In addition to these concerns about risk management and rating, reforms to governance and regulation must focus on the disconnect between banks acting as brokers, those offering securitised assets, the actual originators of the assets that are going to be securitised, and those providing hedging and insurance services in relation to the assets. Any rating or risk management system will fail when this kind of disconnectedness becomes commonplace. The current financial crisis should serve to dispel any notion that decisions were made by the relevant parties based on rational choice criterion within an environment of costless, accurate, and symmetrically distributed information. Yet the original decision to deregulate mortgage markets was predicated on assumptions just like this. Any regulatory reform must be grounded in more realistic insights into the bounded and profoundly limited nature of decision-making in real-world financial markets.

The causes of financial instability are complex with various causal factors combining together. Accordingly, proposed reforms to prudential control must also be multi-faceted. Changes in prudential controls (over financial brokers who use securitised IOU's) will need to be matched by complementary changes in corporate governance (to influence those who generate IOUs, those who securitise them, those who insure them, and those who provide quality ratings). The following section of the paper will address the implications of the above analysis for regulatory reform, describing (in fairly broad terms) some of the adjustments that may be required to the existing Basel II framework.

4 Implications for Regulatory Reform in the Financial System

Since the turbulence occurred in the subprime market, regulators, investors and industries have been highly concerned about solutions for helping the financial market recover. As discussed below, interventions can be proposed in regard to oversight, information disclosure, and improvements in the quality of ratings.

4.1 Strengthening Oversight

Improved supervision of the structured finance market is crucial, especially in regard to securitisation products like CDOs. A sound prudential monitoring system should also promote effective forms of interaction between supervisors and industries. This is necessary for

communication over improving the scenarios used in stress testing; dealing with home-host country issues of supervision, and the adequate recognition of counterparty risk, interest rate risk and liquidity risk under different jurisdictions.

Supervisory authorities from various countries must establish a better negotiation platform to resolve these issues. In particular, supervisors from countries adopting the Basel II framework and countries not adopting the Basel II framework should establish consensus on certain issues that relate to risk weighting under the different systems.

4.2 Enhancing Information Disclosure

Enhanced information disclosure is desirable. Agreement on standardisation is necessary to make disclosure about complex financial processes more reliable and understandable for market participants. While stronger requirements for information disclosure about securitised assets will no doubt be welcomed by the markets, nevertheless, the details of such disclosure requirements have not yet been fully determined.

4.3 Enhancing the Accuracy of Quality Ratings

Both the weakness of statistical models and the dangers relating to the profit-driven nature of ratings activity must be addressed. APRA (Australian Prudential Regulatory Authorities) promotes a series of requirements for the recognition of credit rating agencies for prudential supervisory purposes, and they are working on developing a mapping process, which aims at eliminating the uncertainty from multidimensional ratings chosen by some large size financial institutions. Banks, having a well developed internal rating system, having the opportunity to use their internal rating based risk estimates under Basel II framework would give them more flexibility and platform to generate more sensitive results. However, as many banks are still driven to use external rating agencies, it is likely these agencies will remain an influence over banking activity for a considerable length of time.

4.4 Adopting simpler structured finance products

The BIS (Bank of International Settlement) sets a higher risk weighting for complex structured financial products like re-securitisation and synthetic CDOs under the Basel II framework. Supposedly, the intention of this approach is to make the banks adjust their risk appetite by reducing their exposure to these products. While many difficulties in assessing risk are directly related to the complexity of securitised products, newly issued CDOs appear to be reverting to simpler 'plain vanilla" types—single tranche rather than more complicated synthetic CDOs with better collateral and more subordination. (Knight, 2008) The promotion of more standardised, less complicated products, with shorter chains, will undoubtedly help to reduce future volatility in financial markets.

5 Conclusion

By its nature, capital regulation is prescriptive, thus Basel II cannot contribute much to current efforts at stabilising the financial market. Activitist fiscal policy will have a crucial role to play in both easing the burden of adjustment and promoting a more rapid recovery (Juniper and Mitchell, 2008). Government interventions of this nature help to stabilise consumption and investment in the private sector, thus assisting in the restructuring of balance-sheets (Wray, 2008a). Nevertheless, effective prudential controls and changes in corporate governance can assist in reducing financial instability over future cycles.

This paper has argued that longer term solutions will require more effective regulation and oversight of risk-taking activities in financial markets. Accordingly, supervisors, policymakers, the banking industry and market participants must work on developing new

technologies for improved measurement and management of risk, and better communication between various jurisdictions with responsibility for supervision. However, over and above this, governments have a renewed responsibility to act as employers of last resort during what will undoubtedly remain a volatile and difficult adjustment period.

Reference:

Aalders, M. and Wilthagen, T. (1997) "Moving beyond Command-and-Control: Reflexivity in the Regulation of Occupational Safety and Health and the Environment", *Law and Policy,* 19: 415-443.

Battellino, R. (2007) "Australia's Experience with Financial Deregulation". *China Australia Governance Programme.* Melbourne, Reserve Bank of Australia.

Benink, H. and Wihlborg, C. (2002) "Making it effective with stronger market discipline". *European Financial Management,* 8: 103-115.

Braithwaite, J. & Ayres, I. (1992) *Responsive Regulation: Transcending the Deregulation Debate,* Oxford, Oxford University Press.

Einar, T. D. and Amund, L. (2005) "What is the Neoliberalism", *Department of Political Science University of Oslo working paper.*

Federal Reserve Board (1999) "Using Subordinated Debt as an instrument of Market Discipline", *Working Paper of Study Group on Subordinated Notes.*

Gorton, G. & Winton, A. (2002) "Financial Intermediation", *The Wharton Financial Institutions Centre Working papers,* 02-28.

Hayek, F. A. V. (1979) "The Political Order of a Free People", Chapter 3 in *Law, Legislation and Liberty: A new Statement of the Liberal Principles and Political Economy.* London, Routledge.

Juniper, J. and Mitchell, W. S. (2008) "There is no financial crisis so deep that cannot be dealt with by public spending", Centre of Full Employment and Equity, Working Paper No. 08-10.

Knight, M. D. (2008) "Securitisation: was the tail wagging the dog?" *33rd Annual Conference of the International Organisation of Securities Commissions, Paris.*

Kwan, S. (2004) "Testing the strong-form of Market Discipline: the effects of Public Market Signals on bank risk", *The working paper of Reserve Bank of San Francisco No.67.*

Macfarlane, I. F. (1995) "Financial Deregulation and Financial Market", *Committee for Economic Development of Australia (CEDA) Conference.* Sydney.

Minsky, H. P. (1992) "The financial Instability Hypothesis", *The Jerome Levy Economics Institute Working Paper No. 74. Annandale-on-Hudson, N.Y.*

Nonet, P. & Selznick, P. (1978) *Law and Society in Transition: Toward Responsive Law,* PA, Octango Book.

Pigou, A. C. (1936) "Mr. J. M. Keynes' General Theory of Employment, Interest and Money", Economica, 3: 54-56

Whalen, J. C. (2007) "The U.S. Credit Crunch of 2007: A Minsky Moment", *The Jerome Levy Economics Institute Working Paper No. 92. Annandale-on-Hudson, N.Y.*

Wray, L. R. (1997) "Government as Employer of Last Resort: Full Employment without inflation". *The Jerome Levy Economics Institute Working Paper No. 213. Annandale-on-Hudson, N.Y.*

Wray. L.R. (2008a) "Financial Market Meltdown: what can we learn from Minsky?" *The Jerome Levy Economics Institute Working Paper No. 94. Annandale-on-Hudson, N.Y.*

Wray. L.R. (2008b) "Securitisation." *The Jerome Levy Economics Institute Policy Note No.2. Annandale-on-Hudson, N.Y.*