

FINANCIAL SECTOR DISTRESS AND POLICY MAKING

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©2014

International Academic Journal of Information Sciences and Project Management (IAJISPM)

Received: 15th September 2014

Accepted: 7th October 2014

Full Length Research

Available Online at: http://www.iajournals.org/articles/iajispm_v1_i3_63_121.pdf

Citation: Banjo, M. (2014). Financial sector distress and policy making. *International Academic Journal of Information Sciences and Project Management*, 1 (3), 63-121

International Academic Journals

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ABSTRACT

The purpose of this thesis is to attempt to determine how policymakers should respond to incidents of financial crisis. It finds that during such times policymakers are faced with two critical tasks. These are to identify and appropriately address the issues critical to the crisis and secondly to ensure the sector reaches a new equilibrium. It finds the first task to be important given the resource constraints of policymakers and distinguishes it from addressing the causes of the crisis. The thesis also suggests that to address the second task it is important the

policymakers understand three fundamental pillars of financial sector stability and development. The importance and precise nature of these tasks are illustrated using evidence from the Asian Financial Crisis and the U.S. Savings and Loans Crisis. In addition to identifying these tasks, the thesis proposes policymaking frameworks to address each of the identified tasks. These frameworks are developed from a critical reading of the relevant literature and a study of the cases reviewed.

Key Words: *financial sector distress, policymaking*

INTRODUCTION

A Financial sector crisis may be loosely defined as a situation that occurs when financial sector problems and weaknesses reach very severe levels. It is an issue of concern to policy makers and broader society because its impact and consequences extend beyond the financial sector. This is the case because the financial sector plays a central role in a nation's economic system, influencing the price and availability of credit and acting as a trustee of the wealth of a nation's citizens. At the time of writing, the effects of financial crisis are well illustrated by the sub-prime mortgage crisis in the United States. A crisis, the extent of which is not yet know, which has already severely affected home ownership and consumer expectations and contributed to expectations of an economic recession. An important question and the central question to this thesis is how should policymakers respond to financial sector distress? This question is asked in the belief that the costs and impact of financial sector problems and weaknesses can be significantly mitigated by good policymaking.

The Financial Sector, Change and Policy

A starting point for this thesis is an understanding of the nature and function of the financial sector. The term financial sector refers to a wide variety of actors and systems. However, it may be generally defined as the system by which resources, in the form of money, are allocated from savers to borrowers within an economy. It includes actors such as banks, insurance companies, hedge funds, investment banks and the government. A commonly used broad classification of these actors is to divide them into banks and non-bank financial institutions (NBFI). Alternatively, they may be classified as either deposit taking or non-deposit taking institutions.

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Financial sector actors make use of mechanisms such as deposit services, direct lending, lending guarantees, securities markets and regulation to facilitate resource allocation and ensure system stability.

An understanding of the importance of the financial sector begins with the observation that productive ability and opportunity are not evenly distributed throughout the economy (Goldsmith, 1969). This observation suggests that segments of the economy may possess the opportunity to engage in productive enterprise but may lack the economic ability to do so. The opposite situation also exists, where individuals with economic ability lack access to productive opportunities. The financial sector performs the role of allocating economic resources from those with excess ability to those with productive opportunities. Through this action, the range of productive enterprises within an economy is multiplied and the benefits shared. Furthermore, identifying and evaluating productive opportunities is an activity of considerable risk and cost. Therefore, an important function of the financial sector is its ability to act as a cost effective intermediary between segments of society with excess productive ability and those who lack the ability to pursue their productive opportunities.

A most important question to be answered prior to reading this thesis is whether or not policymakers should intervene during financial sector crisis or distress. A review of incidents of systemic banking crises in 69 countries in the 1970s, 1980s and 1990s by Caprio and Klingbiel (1996) reveals a measure of government intervention in every case. This comprehensive survey covers developing and developed countries with financial sectors of varying complexity and clearly establishes a historical precedent for policy intervention. However, beyond this precedent this thesis finds two prominent justifications for policy intervention in financial crises. These are the management of systemic risk and a management of the costs of the crisis.

Systemic risk may be defined as risk that affects all the participants in a financial system. In managing systemic risk the primary concern of regulations is to manage institutional liquidity and solvency as well as preserve investor confidence. The government's role in achieving these aims may be contractual or discretionary (Baltensperger, Dermine, Goodhart & Kay, 1987).

Contractual intervention results from programs such as deposit insurance and government management of the payments system. In these cases government and the private sector have a clearly outlined relationship and parameters for policy intervention. A pertinent example of the management of such systemic risk is found in the resolution of the Savings and Loans Crisis where over 1,000 institutions were shut down by federal regulators. The government may also intervene to manage systemic risk at its own discretion. This type of intervention ranges from concessionary lending to institutions to mandated changes in ownership and may be in response to criminality or a need to alter the regulatory environment (Caprio & Klingbiel, 1996). However, such intervention begs the question of when a risk may be termed as being systemic. The answer to this question leads to the issue of the costs of the crisis.

It appears that a consideration of the perceived or actual costs of financial sector distress provide a fundamental rationale for policy intervention. In the survey provided by Caprio and Klingbiel (1996) they find that the costs of financial crises are commonly between 10%-20% of GDP but may be as high as 80% of GDP. The presence of such high economic costs has often motivated policy responses.

This may occur out necessity as only the government has the resources to address such large scale financial difficulties or strengthen investor confidence. Additionally, the close link between the financial sector and the real sector¹ of the economy has often necessitated intervention in the financial sector in order to protect the real sector. It is the case that government concern over issues such as social welfare, unemployment, poverty and housing will precipitate financial sector intervention.

Additionally, policymakers are faced with the political costs of their inaction. As illustrated by the Asian Financial Crisis civil unrest is a possible consequence of grave financial sector problems. It should also be noted in considering the costs of financial crisis that there is a cost associated with time. As noted by Goodhart (1987) a delayed response to problems may allow a “risky situation to turn into a loss making state”. A fact exemplified by the Savings and Loans Crisis in which a delay in the taking appropriate action multiplied the costs of resolution by at least six times.

After providing a rationale for policy intervention in the face of financial sector distress it is natural to ask how this policymaking should proceed. This is the concern of this thesis. It is also natural to question the efficacy of policy in times of financial sector distress. However, this is not a question that this thesis attempts to answer. The thesis seeks to identify the critical tasks of policymakers in times of financial crisis and provide a framework to accomplish these tasks. It does not presuppose a particular policy outcome and accepts inaction, reduced regulation, increased regulation and the support of market mechanisms as valid outcomes of this process.

REVIEW OF THE LITERATURE

Purpose of the financial sector

A primary consideration of the available literature is the establishing the rationale for the existence of the financial sector and policies to support its stability and development. This is done primarily by detailing the connection between financial sector development and economic growth (Bagehot, 1873; Schumpeter, 2002 [1911]; Goldsmith, 1969; McKinnon, 1973; Levine, 1997). The early theoretical foundations of this connection are found in the work of authors such as Bagehot (1978) and Schumpeter (2002, [1911]). Bagehot (1978) puts forward that large pools of funds need to be accumulated so that they can be allocated towards worthwhile investments. A

¹ The ‘real’ sector of the economy is a term used to describe all sectors of the economy excluding the financial sector.

proposition he makes while having in mind the need for investment in large capital projects. This line of thinking is continued in the work of Schumpeter (2002, [1911]) who explicitly identifies the role of banks as an intermediary between the suppliers and the users of funds. This represents an early emphasis of the importance of financial intermediation to economic development. Schumpeter (2002, [1911]) in his work indicates that financial intermediation, by pooling and allocating funds, promotes entrepreneurship and innovation which are necessary components of economic growth. In his contribution to the literature, Goldsmith (1969) explains that the need for such a system of intermediation arises because there is an unequal distribution of productive ability and opportunity within society. He argues that the best social outcomes are generated by transmitting productive resources to those with the ability and opportunity to make the best use of them. Further to this, Goldsmith (1969) makes the assertion that efficient intermediation by improving the allocation of resources will cause economic growth even without a change in the store of available productive resources, such as land, labor and technology. This link between intermediation and economic growth remains a mainstay of the literature with authors such as Tompson (2000), Chowdhury (2003) and Kwon (2004) putting forward theoretical and empirical evidence in support of this relationship.

Importantly, the literature does not limit a discussion of financial intermediation, development or reform to banks alone. In addition to banks, non bank financial institutions, capital markets and equity markets are viewed as intermediaries of funds between savers and users of funds. Goldsmith (1969) puts forward such a broad view of the financial intermediaries in his discussion of the sale of primary and secondary securities as part of the intermediation function of the financial sector. A similar view is also apparent in the works of Levine and Zevros (1998), Galetovic (1998) and Echeverri-Gent (2004) who examine aspects of the development of equity markets. Additionally, Hahn (2005) emphasize the development of non bank financial sector intermediation; stating that it frees up bank lending for smaller and less credit worthy borrowers. This broad view of the financial sector as an intermediary is also apparent in the often cited work of McKinnon (1973) who examines the linkage between capital markets, macroeconomic factors and economic development.

The stated linkage between financial sector performance and economic growth found in the literature is the result of several factors. One such factor identified by research is the availability of economies of scale (Goldsmith, 1969; Becsi & Wang, 1997). Economies of scale arise when an increase in the scale of an activity improves the efficiency and effectiveness of that activity. In the financial sector this arises because an increase in the scale of operations of financial intermediaries allows any costs and risks incurred to be spread over a large pool of users of the system. This makes them a cost effective channel for resource allocation. Additionally, as a repository for investor funds they command a pool of resources able to accommodate investment opportunities of varying sizes and maturities in a way that individual investors are incapable of doing. Closely linked to these factors is the observation in the literature that financial intermediaries possess greater risk management capabilities than individual investors. This arises

because these institutions through specialization develop an expertise in the management of financial risk. As described by Goldsmith (1969) and Levine (1991) part of the risk and liquidity management capability of financial intermediaries stems from their ability to create secondary securities and a market for them. Additionally, the risk management capability of intermediaries also includes the ability to identify investments, evaluate their expected yields and monitor the activities of borrowers (Goldsmith, 1969; Galetovic, 1998). These factors are critical to ensuring investors are willing to have their funds allocated to other segments of the economy. The importance of managing the risks faced by investors is further emphasized by Becsi and Wang (1997) and Levine and Zevros (1998). These authors, in a discussion of liquidity management, observe that there exists a natural maturity mismatch between investment for long term economic growth and the short term investment preferences of investors. They explain that the ability of a society to make the long term investments necessary for economic growth is in part dependent on intermediaries' ability to manage the risk associated with this mismatch in preferences.

A further support for the link between financial sector development and economic growth is derived from endogenous growth theory. Endogenous growth theory suggests that diminishing returns can be deferred and economic growth sustained through investments in human capital that result in knowledge creation, innovation and new technology (Bencivenga & Smith, 1991; Becsi & Wang, 1997).

It is proposed that as long as investment is financed by external capital², intermediation plays a significant role in economic growth. Galetovic (1998) explains that knowledge based growth occurs whenever an entrepreneur has an idea which in time will generate an economic benefit. However, in the short term, individuals often lack the resources to finance these ideas and must seek external financing. Chowdhury (2003) makes the same observation but extends the explanation to include small and medium sized enterprises, which he states as being an essential part of sustained economic growth. It is the ability of financial intermediation to remove this financing constraint on businesses and individuals that supports economic growth and increases the rate of growth. It may also be inferred from these theories that this relationship to economic growth is enhanced whenever financial institutions are identified as readily accessible sources of external financing.

Alternative views of the relationship between the financial sector and economic growth are presented in the literature. Firstly, there is a discussion of the negative impact of financial sector repression, underdevelopment and expansion on economic growth. An interesting part of this discussion relates to the dangers of rapid growth in the financial sector. McKinnon (1973) puts forward evidence that the imprudent expansion of financial activities can lead to adverse economic consequences. This is said to arise because an imprudent expansion of financial sector

² External capital is a term used to refer to funds that are not sourced from savings or retained earnings but some external source.

activity leads to a misallocation of resources that will retard economic growth. This view is supported by a very large body of work on financial crises, their causes and consequences (Caprio & Klingbiel, 1996; Brownbridge & Kirkpatrick, 1999; Kwon, 2004).

This body of work covers centuries of economic development across the globe. A leading work in this area is that of Caprio and Klingbiel (1996) who provide a global comparative study of financial crises, their causes and the instituted policy responses. It is clear from these studies that imprudent financial sector expansion is strongly correlated to financial sector and broader economic problems. Another view of the impact of the financial sector on economic growth is provided by Kwon (2004) who observes that financial sector development and efficiency acts as a check on the macroeconomic policy of government. This argument would appear to be supported by McKinnon (1973) whose work pays great attention to the importance of macroeconomic policy to capital markets and their development. The basis of this argument being that a strong economy needs a stable financial sector which in turn demands good macroeconomic policy.

The literature appears to attach two qualifiers to the relationship between financial sector operations and economic growth. Firstly it is noted that the link between financial sector development and economic growth may not be easily established in the short term (Nyawata & Bird, 2004). This appears to be a natural result of the time necessary for economic investments to generate returns. Additionally, it is acknowledged that it is difficult to establish causality in the relationship between financial sector development and economic growth (Goldsmith, 1969). This difficulty arises because economic growth spurs on financial sector innovation and development which in turn promotes further economic growth. This dependency makes it difficult to clearly establish causality. Nonetheless, the literature provides considerable empirical support for its theoretical positions. Goldsmith (1969) shows a positive relationship between his measure of financial development and economic growth.

He found this relationship to hold in his sample of 35 nations over a period of 100 years. Complementary findings in the literature are those of DeGregorio and Guidotti (1992) and Galetovic (1994) who add that there are variations in the correlation between financial development and growth depending on the economic development of the nations considered. They find that stronger positive correlation exists among nations in the earlier stages of development. In addition to this, Lecsi and Zervos (1998) find that stock market liquidity and bank development can positively predict economic growth. This they find in a sample of 47 countries between 1976 and 1993. Becsi and Wang (1997) note that the finding of Lecsi and Zervos (1998) support their theory of endogenous growth by finding a significant positive correlation between bank credit and productivity growth as well as bank credit and physical capital. Importantly, these results are found to be robust even when controlling for political factors. In terms of the gains to be had from financial sector development, Friedman and Click (2006) estimate that improvements in intermediation increase economic growth by 1%-2% on

average The literature notes however that the impact of financial sector development on growth is dependent on regulatory and macroeconomic factors (Roubini & Salai-Martin, 1992). The importance of the prevailing environment on the effectiveness of the financial sector is reinforced by the findings of Galetovic (1994) who observes negative correlations between financial sector lending and economic growth. This finding is made in a sample in which improper regulation is known to have given banks an incentive to lend excessively.

The financial sector and social welfare

An element of the literature that is important to a full understanding of the role and importance of the financial sector is the examination of the link between financial sector development and social welfare. In this segment, the focus of research is to link the financial sector actions and operations to an improvement in outcomes for the poorest members of society. This includes the works of authors such as Sheahan (1997), Morduch (1999), Jalilian and Kirkpatrick (2005) and Spencer and Wood (2005). The literature notes that market failures arising from moral hazard, poor investment selection and information asymmetries lead to restricted credit provision. Furthermore, the credit that is extended is given only to those with significant stocks of personal wealth (Jalilian & Kirkpatrick, 2005). This state of affairs promotes income inequality by extending credit only to those with means of internal financing and not those with productive opportunities that are in true need of external financing. The literature identifies those in greatest need of external financing as the poorest members of society and small to medium sized enterprises (Morduch, 1999; Spencer & Wood, 2005). This is a problem exacerbated in developing countries where the financial sector is fragile, more prone to crisis and less able to engage with large portions of the productive economy (Spencer & Wood, 2005). In countries where the financial sector is more developed a greater proportion of these members of societies can access credit.

There is existing support for the link between financial sector development and improvements in social welfare. Current empirical evidence shows that financial development not only aids economic growth but has a positive impact on poverty reduction (Jalilian & Kirkpatrick, 2005).

These authors note that these gains are initially offset by an increase in inequality resulting from market frictions such as transaction costs. However, it is shown that in the long term this inequality disappears and that the distribution of wealth would be significantly altered by a lack of financial development (Jalilian & Kirkpatrick, 2005). The impact of the financial sector on a nation's poor is underscored by evidence that the cost to developing nations of financial crises between 1980 and 1990 was equivalent to all international aid given to them since 1950 (Spencer & Wood, 2005). This would seem to suggest that part of the benefit of strong financial sector performance to social welfare outcomes lies in its ability to preempt the costly diversion of resources to remedy economic distress. Other empirical evidence shows that financial

intermediation to aid the poor has a better cost-benefit ratio than other forms of aid to the poor (Morduch, 1999).

In the literature the nature of the impact of the financial sector on welfare outcomes is classified as being either direct or indirect (Spencer & Wood, 2005). Indirect assistance refers to the manner in which financial development leads to an accumulation of savings, an improvement in risk management and better resource allocation which in time benefits a nation's poor. However, Sheahan (1997) and Spencer and Wood (2005) note that social welfare outcomes are generally not an explicit target in financial liberalization programs but are rather an expectation that derives from theory (Spencer and Wood, 2005). Furthermore, it is noted that in the short term, economic liberalization programs can have negative effects on the poor (Sheahan, 1997). The concept of direct assistance refers to the benefit accruing from specific financial sector policies and practices that are targeted at the disadvantaged.

The literature identifies offerings such as savings schemes, insurance programs and the extension of micro credit as examples of this. Kirkpatrick (2005) notes that financial development targeted at the poor and small to medium sized businesses can increase employment, productivity and earning capacity as well as reduce the vulnerability of these groups to economic risk and crisis. The literature goes on to note that direct assistance is a support to education, health and gender equity (Morduch, 1999; Kidder, 1999; Spencer & Wood, 2005).

In discussing direct assistance an important focus of the literature has been the area of microfinance. This field examines the extension of very small loans, as small as \$50 in developing nations, to a nation's poor. The literature notes that successful microfinance schemes takes advantage of lessons from the informal financial sector to develop lending mechanisms (Morduch, 1999; Schreiner, 2001). These mechanisms generally take advantage of community social assets such as group dynamics and leadership structures (Morduch, 1999). The importance of social assets in lending to the poor is highlighted in the literature by first observing that problems related to poor information, transaction costs, poor regulation, poor technology and discrimination are major hindrances in the extension of credit to the poor (Spencer & Wood, 2005). The aforementioned social assets allow a reduction of the impact of these obstacles through mechanisms such as peer selection, peer monitoring, progressive lending, highly regular payments and the use of collateral substitutes (Morduch, 1999; Kidder, 1999). It is in this way that microfinance institutions are able to directly extend the benefits of intermediation to disadvantaged groups. A shortcoming of microfinance institutions highlighted in the literature is their dependence on subsidies to remain solvent.

This is found to be linked to an inability or unwillingness to pass the full cost of intermediation unto borrowers. This raises questions about the sustainability of microfinance institutions, their validity as recipients of donor funding and the impact of passing on the full costs of intermediation to borrowers. A concern made especially valid when viewed in terms of the risk

of moral hazard in financial institutions. Current evidence from around the globe shows that microfinance techniques can be effective. It shows that these institutions provide external financing at a cheaper rate than available alternatives and have the potential to remain solvent even when borrowers pay the full cost of lending (Morduch, 1999). Nevertheless, the view of the literature appears to favor models for financial development that include the provision of direct assistance to the poor. These models are of particular relevance given that they are favored by government and it is clear that government policy can act as an effective support to these institutions (Bamfo, 2001).

Criticisms of financial sector reform

The review of the literature presented to this point highlights the rationale for financial sector development and reforms aimed at an improved financial sector. However, it is important to note that there are criticisms leveled at the acts of financial sector reform and liberalization. A first point of criticism lies in the observation that financial sector liberalization can increase economic instability and may not provide the expected benefits (Osborne, 2001; Brownbridge & Kirkpatrick, 1999; Kwon, 2004). This criticism suggests a favoring of greater government controls and policy to regulate the outcomes emerging from the financial sector.

Furthermore it is put forward that financial sector reform limits the autonomy of governments and encourages contractionary macroeconomic policy (Osborne, 2001). This criticism arises from evidence that developing countries who have undertaken financial sector reforms continue to experience financial crises (Caprio & Klingbiel, 1996). Cull (2001) notes that in a sample of 19 nations subject to World Bank led financial sector reforms only 5 countries could classify programs as successful. This is a view reinforced by the opinion of Osborne (2001) who states that speculative capital flows make financial crises inevitable. He argues that this is particularly true for developing nations about whom relatively higher levels of uncertainty exist. Therefore the only way to avoid these negative consequences is to limit financial sector liberalization and development. A response to this criticism is also present in the literature. It is to observe that resulting economic weaknesses are short term phenomena that result from the costs of economic adjustment (Brownbridge & Kirkpatrick, 1999; Kwon, 2004). The literature suggests that this weakness can be offset by the institution of broader economic and social reforms to ease the friction of the transition period (Gupta, McDonald, Schiller, Verhoeven, Bogetic & Schwartz, 1998).

A second criticism of financial sector reforms is leveled at the proponents of financial liberalization in developing countries, such as the Organization for Economic Cooperation and Development and the IMF. Authors such as Schoenholtz (1987) raise concerns that the motives of the IMF and such institutions are not to the benefit of developing nations but instead favor donor nations. This view arises in part from the structure of such institutions in which voting rights are proportional to total funds contributed (Officer, 1990).

This leads to the assertion that there is an inherent bias against developing nations (Officer, 1990). This view is also bolstered by the evidence that benefits touted in reform programs have often failed to materialize in developing nations (Galli, 1990; Bird, 1996). It is also alleged that these reforms have failed to adequately consider the needs of the poor (McKinnon, 1973). Instead the reforms are said to have been narrow and to have ignored important development issues such as gender equity and their influence on economic outcomes (Nyamu – Musembi, 1996). It is the view of this paper that these points of criticism do not speak against the need for financial sector reform. Instead they are criticisms of the nature of financial sector development efforts and highlight issues about the importance of the broader environment in which the financial sector operates.

The nature of less developed financial systems

This paper now turns to a review of the portion of the literature concerned with the history of financial sectors in developing nations. This part of the literature is useful not only as a review of structures in developing nations. It is also useful to give an understanding of the spectrum of government relationships with the private sector and is perhaps best viewed as a history of financial sector development. In dealing with this issue the literature commonly begins with highlighting the ideological backgrounds of these states. The majority of developing states around the globe have a history of statist governance (Borish & Ding, 1997; Boone & Henry, 2004; Cook, Hababou & Liang, 2005). This is to say that they are nations in which there was a dominant ideology of tight government controls over the economy, its direction and its performance.

In this system, the financial sector was viewed as a crucial element of economic control and government power (Nyawata & Bird, 2004). This resulted in government dominated ownership, nationalization and control of financial institutions (Borish & Ding, 1997; Boone & Henry, 2004; Cook et al, 2005). In a review of financial institution ownership structures, Boone and Henry (2004) note that 60% of bank assets in Sub-Saharan Africa were owned by government. They also note that in the 1960s and 1970s almost all banks in North Africa were nationalized. These authors observe that the extent of government control is better understood by observing that although some governments did not directly own financial institutions they often owned their parent companies or exerted influence through other relationships. It also appears in the literature that a very narrow view of the financial sector was common. This meant that banking institutions were the dominant focus of regulation and control with little emphasis placed on the development of capital markets and a regulatory environment favorable to non-bank financial institutions (NBFIs) (Echeverri – Gent, 2004; Hahm, 2005). This is a feature that is also evident in nations which did not employ a statist ideology.

In addition to government ownership of institutions, several other mechanisms were used to maintain government control of the financial sector. These included government policy to direct

lending, interest rate ceilings, portfolio restrictions, exchange rate controls and capital reserve requirements (Nyawata & Bird, 2004). These mechanisms are also present in more developed financial sectors to varying degrees. However, in developed financial sectors their purpose is to ensure system stability and not to advance government policy.

It can be gathered from the literature that by being under the explicit policy direction of government, the financial sector tended to respond predominantly to political rather than economic stimuli (Tompson, 2000; Kwon, 2004). This is exemplified by the case of South Korea in which large industrial conglomerates, referred to as 'chaebol', were regarded by the government as being 'too big to fail'. This resulted in policy that directed that banks lend to them, regardless of their economic performance. This policy was supported by subsidies to the 'chaebols' and government bail outs of banks whenever there were loan defaults (Tompson, 2000; Kwon, 2004; Hahm, 2005).

Another prominent feature of these financial sectors was the limited availability of credit. One reason for this was the use of interest rate ceilings as a regulatory tool. The imposition of an artificial interest rate ceiling on lending meant that restrictions were placed on the financial sector's ability to price risk. On the other hand interest rate restrictions on borrowing limited the financial sector's ability to attract funds. A first consequence of this was that it often meant that the real rate of interest earned was negative, meaning that in real terms institutions would run at a loss³. A second consequence of this restriction was that credit was not extended to several parts of the economy that were relatively less credit worthy. This is likely to have encouraged a concentration of lending in narrow segments of the economy, a problem worsened by government restrictions on 'acceptable' portfolio investments. Chowdhury (2003) observes that the segments worst affected by this tightening of credit were small businesses and poor borrowers, who are the groups in greatest need of external financing. The high capital reserve ratios imposed on banks also contributed to a tightening of credit.

This was the case because institutions were prevented from lending a significant portion of available savings. This was a problem worsened by the fact that the prevailing economic uncertainty and underdevelopment of supporting mechanisms already gave banks an incentive to increase their capital reserves (Friedman & Click, 2006). The extent of credit tightening is measured by Friedman and Click (2006) who observe that the liquid assets held by banks in the United States is 6% of total deposits. This translates into credit creation that is 168% of Gross Domestic Product (GDP). This is in contrast to liquid assets equal to 50% of deposits held by banks in developing nations, translating into credit creation that is just 49% of GDP.

An important financial sector control relates to restrictions on the use, value and dealings in foreign currency. The control of this macroeconomic variable is prominent in the literature both for its impact on the operations of financial institutions and its prominence in several financial

³ The real rate of interest = nominal interest rate – inflation rate

crises among developing nations (McKinnon, 1973; Caprio & Klingbiel, 1996; Brownbridge & Kirkpatrick, 1999). Although strict exchange rate controls extend beyond the financial sector, they greatly influence the financial sector as they govern international cash flows. Exchange rate controls determine the price of foreign currency and control the financial sector's ability to manage international risks. In discussing its role in financial crises, authors note the magnitude of costs to be borne by institutions and the government when faced with adverse foreign exchange movements (Berg, 1999; Brownbridge & Kirkpatrick, 1999). An instructive example is that of the Asian financial crisis. In the countries worst affected by this economic downturn currency values experienced up to four times less variation than was permitted by OECD countries (Baig, 2001).

Additionally, at the onset of the crisis the government of Thailand spent \$33 billion in an effort to protect the value of its currency (Nanto, 1998). Despite these efforts, the Thai baht proceeded to lose half its value over the next six months (Radelet & Sachs, 1998). This and other evidence has led to the prominence of a discussion of exchange rate controls in the literature. It is worth remembering that the Bretton-Woods system and the Gold Standard used by the United States and other nations are reminders of the prominence of exchange rate controls in financial sector development. In this thesis, it is sufficient to identify the prominence and consequences of exchange rate controls without entering into a much deeper discussion of their rationale.

The most frequently noted consequences of government controls are a dominance of short term bank lending, a focus on lending to government, high collateral requirements, frequent bank bailouts and underdeveloped risk management capabilities (Caprio & Klingbiel, 1996; Chowdhury, 2003; Friedman & Click, 2006). In addition to identifying these shortcomings, the literature also provides a measure of the costs of financial sector mismanagement to developing countries. These costs are economic, social and political in nature and in this review are organized around the ideas of moral hazard and adverse selection. This organization is based on the fact that a reading of the literature reveals them as important root causes of the observed costs.

Moral hazard, in regards to financial institutions, may be defined as the likelihood of imprudent action when an actor in the sector views themselves as being indemnified from the consequences of their action. It is a problem that leads to imprudent actions and their accompanying costs.

The definition of moral hazard presented here is consistent with authors such as Krugman (1998), Brownbridge & Kirkpatrick (2000) and Hahm (2005) who cite a connection between such a belief and the Asian financial crisis of the mid-nineties. In the countries worst affected by the crisis, these authors outline a history of government protection of poorly performing institutions both in the financial sector and other segments of the economy. This implicit government guarantee is put forward as part of the reason why advanced international markets were willing to lend excessively to local financial institutions (Brownbridge & Kirkpatrick,

1999). Berg (1999) outlines that in the end it was the entrusting of large capital inflows to weak financial institutions that led to the Asian Financial Crisis. The economic costs of this crisis included the loss of millions of jobs, net capital flight in excess of \$100 billion and a \$117 billion IMF economic rescue package to three of the worst affected countries (International Monetary Fund, 1999). Additionally, in countries such as Japan, South Korea, Thailand, The Philippines and Indonesia individuals at the very highest level of government were removed from office. The affected governments were also forced into rapid changes in policy focus, goals and resource allocation. Another manifestation of moral hazard is in excessive lending to state owned enterprises (SOE) in the belief that the state will guarantee repayment on loans (Borish & Ding, 1997). This excessive lending has often been to the detriment of private sector alternatives. The moral hazard problem has also led to the underdevelopment of risk management capabilities. The risk management skills necessary in modern financial markets are unnecessary in an environment of explicit or implicit guarantees.

However, they are essential to financial sector efficiency and proper operation. In discussing the problem of moral hazard it is important to understand that it is linked to government involvement in the financial sector and not the level of development of the sector. As will be discussed later in the thesis moral hazard is prominent when financial sector agents are presented with skewed regulatory incentives as was the case in the United States Savings and Loans crisis of the 1980s.

The problem of adverse selection describes a situation in which financial institutions make sub-optimal investment decisions. Although some level of adverse selection is to be expected due to risk and uncertainty, the literature identifies higher levels of adverse selection in developing nations. In financial institutions a measure of this problem is derived from the size of the 'bad loans' portfolio, referred to as the non-performing loans portfolio. Caprio and Klingbiel (1996) report that during the Savings and Loans financial crisis in the United States, 'bad loans' represented 4% of total bank loans. Barseghyan (2006) notes that the excessive 'bad loans' responsible for a decade long recession in Japan amounted to about 8% of bank loan portfolios. In developing nations, Caprio and Klingbiel (1996) routinely note 'bad loans' amounting to and exceeding 50% of total loans. Finding a remedy to a 'bad loans' crisis is necessary to ensure financial sector stability. The most common policy response has been to bail out financial institutions (Caprio & Klingbiel, 1996; Borish & Ding, 1997). These bail outs have included government financed restructuring and recapitalization of financial institutions (Chowdhury, 2003). The cost of these undertakings have been as much as 6% of GDP in Ghana, 10% of GDP in Hungary, 25% of GDP in Senegal and 55.3% in Argentina (Caprio & Klingbiel, 1996).

Furthermore, the OECD estimates that China will have to spend in excess of \$200 billion in addition to some \$283 billion already spent in order to resolve the 'bad loans' owned by state banks (Lague, 2006). Although estimates of the political and social costs of these crises are not readily available, it is easy to imagine that such large economic costs will result in similarly large social welfare and political costs. A possible explanation for the higher levels of adverse

selection in developing nations seems to arise from recalling the prominence of government directed lending in developing nations. This view is supported in the literature by Hahm (2005) who notes that government policy in Korea encouraged banks to support and bail out large industrial conglomerates that were deemed 'too big to fail'. This policy gave little regard to the poor performance of these conglomerates. Similarly, Huang (2005) notes that prevailing government policy in China during the 1990s mandated that private sector loans be at least 20% more expensive than those to state owned enterprises. A consequence of which was that only private sector investments that could provide a relatively high return could be accepted. These investments are by nature also those with the highest risk. Furthermore, the literature notes the link between adverse selection and an underdeveloped risk management capability in the financial sectors of developing nations (Osborne, 2001). Osborne (2001) observes that a lack of risk management expertise and supporting structures, such as reliable information and the rule of law, hinders decision making and compounds the 'bad loan' problem.

Financial sector reform and the external environment

The segments of the literature covered to this point detail the benefits of financial sector development, the history of financial sector operations and the costs of its underdevelopment. Another undertaking of the literature is to identify areas for and objectives of financial sector reforms. Financial sector reform is a term used to describe the redesign of financial systems, predominantly in developing nations, to support stability and growth. The importance of this literature to this study lies in the fact that it is thought useful to answer questions related to the transition of financial systems from turmoil to a state of equilibrium.

In the literature, technological change and its impact on the international environment is put forward as an important driver of financial sector reform. It notes that technological advancements have vastly changed the pace of international capital flows and supported the dominance of private funds in international investment (Makin, 1999; Osborne, 2001; Boyd, 2002). A fact that leads to ever increasing penalties for financial sector misdeeds. The international movement of private capital in search of high returns is one that demands more information, more clarity and more certainty (Boyd, 2002). Furthermore, international institutions such as the European Union (EU), World Trade Organisation (WTO), IMF, World Bank, OECD and western donors continue to be drivers of financial sector reform (Kwon, 2004). They have regularly included financial sector reform as a condition placed on borrower countries and as a key element of broad reform programs (Berg, 1999; International Monetary Fund, 1999). Reform has also emerged as a requirement for ascension to bodies such as the OECD and EU, which authors observe has proved a strong incentive (Borish & Ding, 1997; Kwon, 2004).

The literature gives a clear indication that the international environment is one that is agitating for reforms and development in the financial sectors of developing nations. Critical to financial sector development is the macroeconomic environment of developing nations. Developing

nations appear to be more likely to suffer from macroeconomic weaknesses such as high inflation, fiscal imbalance and high levels of public sector debt (Tompson, 2000; Chowdhury, 2003). Other macroeconomic factors such as tight exchange rate control and current account deficits intermediated through banks are also significant (Brownbridge & Kirkpatrick, 2000). The fact that developing nations suffer from relatively weaker terms of trade and have a relatively higher percentage of GDP concentrated in primary production is also important (Caprio & Klingbiel, 1996). This is because these economies are more vulnerable to shocks in commodity markets which will ripple through the financial sector. However, the literature lists these macroeconomic factors not as obstacles to reform but important influences on the effectiveness of reform. The ability of these factors to contribute to financial crises and affect the broader economic climate are put forward as ever present considerations. The discussion of the legal environment surrounding financial sector reforms is put forward in a similar vein, with a clear emphasis on its being critical to effective reform. Identified in the literature are the areas of contract law, bankruptcy law and laws that relate to the use of collateral (Friedman & Click, 2006).

In the literature, the political economy surrounding reforms is a subject of frequent discussion. Authors such as Nevile (1997) and Boone and Henry (2004) discuss the relationship between the political environment, the structure of the financial sector, implemented reforms and the pace of reforms. This is well exemplified by Japan's financial sector which is regulated by multiple government ministries in addition to the Bank of Japan. The result being that reforms to privatize Japan Post, the world's largest bank, were for years mired in political wrangling and indecision (Nevile, 1997). In the case of Bolivia, the reforms implemented between 1985 and 1989 led to a 500% increase in deposits. However, at the next election the uncertainty over the incoming government led to the mass withdrawal of deposits (Boyd, 2002). Importantly, Osborne (2001) and Nyawata and Bird (2004) observe that the financial sector is viewed as one of the 'commanding heights' of the economy, making it vital to government control and economic influence. This has often meant that there has been a lack of political will to implement financial sector reform (Borish & Ding, 1997). This is in part the reason why financial crises have often been necessary catalysts for the acceptance of reform programs (Berg, 1999; Brownbridge & Kirkpatrick, 1999). The political economy of financial sector reform includes the interests of current owners, state owned enterprises and industry groups who benefit from the current system (Boyd, 2002). These powerful groups often have little incentive to support reforms as their existence is guaranteed by government policy and behavior (Boyd, 2002). The consensus in the literature appears to be that on the whole the political environment places significant restraints on financial sector reforms.

Emerging from a review of the state of the financial sector in developing nations and the environment in which reforms take place is an identification of a set of general threats to effective reforms. It is made clear that weaknesses in the rule of law and governing institutions are of concern. Osborne (2001) uses as an example the exploitation of systems by Russian elites

in the late 1990s and government mismanagement that led to its defaulting on debt payments. These weaknesses are compounded by the fact that most regulators lag the financial sector in developing knowledge and expertise in an ever changing environment. Friedman and Click (2006) cite as an example the common practice, in developing countries, of evaluating credit worthiness based on collateral rather than expected future revenues. This distinction leads to credit being withheld unnecessarily or advanced inappropriately. These authors also note an underdevelopment of information disclosure services as a threat to reform. In developing nations, they note that credit bureaus cover only about 10% of the population as compared to 90% of the population in developed countries (Friedman & Click, 2006). In developed countries, issues related to information disclosure and transparency dominate the debate. This is an issue of importance because information forms the foundation of the risk management capabilities essential to the financial sector. Furthermore, information acts to minimize the problems of moral hazard and adverse selection discussed earlier. A final consideration to be highlighted is that reforms to liberalize markets leave them prone to speculative attacks (Boyd, 2002). Liberalization leads to an expansion of credit and financial activity and the literature notes the importance of financial discipline, prudent regulation and expertise in guarding against speculative attack (Boyd, 2002).

Aims of financial sector reform

Firstly, the literature places an emphasis on developing the intermediation function of the financial sector (Tompson, 2000; Chowdhury, 2003). Intermediation is presented as the primary function of financial institutions, with its benefits a point of consistent emphasis. Flowing from this, the need for financial intermediaries to offer a broader range of products is identified. In particular the development of consumer finance is identified for development (Chowdhury, 2003). The need for improved regulatory oversight is a further point of emphasis in the literature (Caprio & Klingbiel, 1996; Tompson, 2000; Boyd, 2002; Chowdhury, 2003). The literature identifies a need to improve the coverage and quality of regulatory supervision (Chowdhury, 2003). This is in addition to improvements in accounting and reporting standards, as well as their enforcement (Caprio & Klingbiel, 1996; Tompson, 2000; Boyd, 2002). Boyd (2002) goes on to highlight that financial sector weaknesses are also linked to a lack of risk management expertise. This view is supported by Osborne (2001) and Chowdhury (2003) who note the presence of widespread balance sheet mismanagement in financial sector problems. They cite an over exposure to large borrowers and short term liability bias as evidence of this lack of expertise in the Asian Financial Crisis. The literature also makes it clear that reforms should incorporate the privatization of financial institutions (Borish & Ding, 1997; Boone & Henry, 2004; Cook et al, 2005). The importance of this process may be understood by observing that government influence is believed to be an important cause of moral hazard and adverse selection issues. In providing support for this position, Cook et al (2005) note that experience shows that public banks continue to perform poorly even when reforms have led to significant improvements among private banks.

Although not a financial sector specific process, the literature identifies the importance of legal reform in the development of financial institutions. Friedman and Click (2006) identify the priorities for developing nations as being the improvement of laws relating to contract law, bankruptcy and ownership of collateral. This view point is supported by the findings of Caprio and Klingbiel (1996) who record that bankers in the Ivory Coast cite a weak legal framework as a reason for not extending credit to borrowers.

It is clear from the literature that most developing nations are taking significant steps towards economic reforms. There is a clear move away from the use of state socialism as an economic ideology and towards economic liberalization and more market based economies (Osborne, 2001; Bingman, 2006). Financial sector reform has been a part of these economic liberalization programs and has broadly involved the simultaneous reduction of economic regulation and improvement of prudential regulation (Brownbridge & Kirkpatrick, 1999). However, in proposing and evaluating financial sector reforms it has been important in the literature to examine the environment in which reforms are taking place.

The process of reform

In addition to the work presented to this point, the literature devotes time to a consideration of ideas and recommendations for reform. These recommendations go beyond the type of reforms necessary and speak to the manner in which a process of reforms should be carried out. A prominent recommendation is that due consideration be given to the pace of reforms (Osborne, 2001; Kwon, 2004). It is noted that the benefit of quickly instituted reforms is rapid progress towards desired outcomes while slower reforms promote stability.

Tompson (2000) observes that necessary financial sector expertise, experience and confidence cannot be legislated into existence suggesting that there are limits to the speed of reforms and that there are necessary supporting mechanisms to bring about effective reforms. Tompson (2000) emphasizes the importance of viewing reforms as a medium to long term undertakings. A view supported by the opinion of Kwon (2004) who views rapid financial liberalization as a major contributor to the financial crisis. However, these views are tempered by authors such as Nevile (1997) and Boone and Henry (2004) who discuss the political economy of reform. They put forward the importance of maximizing all available opportunities for reform. The fact that several developing nations have often embarked upon incomplete and unsuccessful reforms lends credence to this view. These opposing considerations lead Boyd (2002) to propose the view of reforms as comprising two generations. The first generation focused on liberalization and market opening and a second generation focused on stability and reduced volatility. Boyd (2002) calls this an approach of deregulation and re-regulation. All things considered, it appears that the literature suggests the swift implementation of reforms with a constant emphasis on mechanisms to enhance economic stability.

A second recommendation emerging from the literature is the entrusting of reforms to independent bodies. A point of constant emphasis in the literature is the independence of regulatory authority. This independence is exemplified by the economic team set up by Paz Estensorro in Bolivia between 1985 and 1989. The autonomy granted to this group resulted in Bolivia's 'Nuevo Politica Economica' that included sweeping financial sector reforms.

The absence of political interference allowed the newly established Superintendent of Banks to strictly adhere to banking standards and remove implicit government guarantees. The result was an increase in investor confidence evidenced by a 500% increase in deposits and 300% increase in lending (Boyd, 2002).

The literature also seems to indicate the need for a 'holistic' approach to financial sector reforms. It is noted that often financial sector reform is limited to specific segments of the financial sector. This has most often been a focus on the banking segment of the financial sector; a view that has led to regulatory imbalances (Hahm, 2005). In addition to regulation of banks and NBFIs, the development of capital markets is seen as an important goal of financial sector reforms (Hahm, 2005)

Additional recommendations in the literature are embracing bank owners and managers as stakeholders in reform; targeting both the formal and informal business sector and paying heed to the value of local government support (Coleman, 1992; Thomas, 1992; Caprio & Klingbiel, 1996).

TARGETING THE CRITICAL ISSUES - A LESSON FROM THE ASIAN FINANCIAL CRISIS

Economic background of the region

The countries most affected by the Asian financial crisis were South Korea, Indonesia, Thailand, The Philippines and Malaysia (Makin, 1999). Leading up to 1997, these countries had experienced a long period of strong economic growth fueled by an orientation towards exports, sound macroeconomic management and political stability (Bird and Milne, 1999). In recognition of the strong and sustained economic performance of these nations they were often referred to as 'tiger' economies and heralded as part of an Asian economic 'miracle'. This history of strong economic performance is presented in Table 5.1 which shows annual GDP growth rates for the five nations mentioned. It should be noted that in nominal terms these economies had rebounded to experience 'high' growth by 1999/2000. However, this was not the case as the 'high' numbers merely reflect modest positive growth after a period of negative growth. In comparison to the figures, global GDP in this period averaged 3.11% and the United States experienced economic growth of only 3.89% (United States Department of Agriculture, 2007).

Table 1: Annual GDP growth rates (%)

	Thailand	Indonesia	Malaysia	Philippines	South Korea
1994	8.99	7.54	9.21	4.39	8.54
1995	9.24	8.40	9.83	4.68	9.17
1996	5.90	7.60	10.00	5.85	7.00
1997	-1.37	4.70	7.32	5.19	4.65
1998	-10.51	-13.13	-7.36	-0.58	-6.85

Source: United States Department of Agriculture- Economic International Macroeconomic Data Set

Central to the economic performance of these economies was an influx of foreign capital. It was estimated that at the peak of their growth these countries received close to half of global investment capital to emerging markets, receiving an estimated \$100 billion in 1996 alone (Brownbridge & Kirkpatrick, 1999 ; Kwon, 2004). This capital influx was predominantly from private sector investors and international aid made up a relatively small part. Estimates of foreign bank lending to these economies show that at the end of 1996 these economies had over \$250 billion in foreign bank lending in their economies.

This is a sum equivalent to 25% of the combined GDP of these nations. Additionally, this foreign investment and lending was absorbed predominantly by the domestic private sector and not local governments (Brownbridge & Kirkpatrick, 1999). In each of the affected countries, the financial sector acted as the dominant conduit for this investment, it actively borrowed internationally to fund an expansion of credit domestically. It is reported that bank lending in these countries grew by between 12% and 18% per annum between 1990 and 1997 (Makin, 1999). At this time, banking activity continued to be supported by close links to government, through ownership agreements and ‘special’ relationships (Makin, 1999). Additionally, the growth in lending was fueled by a process of financial deregulation that saw an expansion of banking activities and a reduction of regulatory restrictions (Brownbridge & Kirkpatrick, 2005). Makin (1999) estimates that during this period of growth and liberalization, total debt in Thailand reached 248% of annual GDP. Bird and Milne (1999) report figures for the ratio between bank lending to the private sector and GDP that suggest that the growth of private sector indebtedness to banks outstripped GDP growth. These estimates illustrate the prominence of credit expansion over this period of growth. It should be noted that they do not include the substantial lending carried out by other private sector agents and non bank financial institutions. A better understanding of the figures presented in Table 5.3 is given by comparing them to similar estimates for OECD countries. It is estimated that the ratio of banks claims on the private sector to GDP are approximately 55% in Japan, 60% in the United States and 65% in the United Kingdom (Bird & Milne, 1999). As this transpired in the private sector, the public sector maintained fiscal surpluses, a low level of debt, moderate inflation and tight exchange rate controls (Makin, 1999; Brownbridge & Kirkpatrick, 1999).

Table 2: International Bank Lending to Asian Economies at End 1996 (US\$ Billion)

	Thailand	Indonesia	Malaysia	Philippines	South Korea
U.S. Banks	5.0	5.3	2.3	3.9	9.4
Japanese Banks	37.5	22.0	8.2	1.6	24.3
E.U Banks	19.2	21.0	9.2	6.3	33.8
Total	70.2	55.5	22.2	13.3	100.0

Source: Makin (1999)

Table 3: Ratio of Bank Claims On Private Sector to GDP (end of period)

	Thailand	Indonesia	Malaysia	Philippines	South Korea
1990	65	46	71	19	100
1995	98	53	85	38	137
1996	102	55	93	49	141
1997	116	61	108	57	145

Source: Bird and Milne (1999)

Table 4: Percentage Change in Net Domestic Credit 1990 – 1996

U.S.A	Thailand	Indonesia	Malaysia	Philippines	South Korea
13%	55%	22%	70%	177%	16%

Source: Bird and Milne (1999)

Evolution of the crisis

Economic growth and relatively high domestic rates of interest led to large capital inflows, most notably from banks in Japan (Brownbridge & Kirkpatrick, 1999; Kwon, 2004). These large capital inflows were then intermediated by local financial institutions and it is here that the origins of the crisis lie. The process of intermediation was characterized by lending practices such as insider lending and a concentration of lending in areas such as real estate and government endorsed borrowers (Berg, 1999; Brownbridge & Kirkpatrick, 1999; Kwon, 2004). Additionally, financial intermediaries did not directly manage all their maturity and exchange rate risk. In the case of maturity risk, strong economic performance was generating high returns that made international lenders willing to ‘roll over’ short term loans. This allowed domestic institutions to rely heavily on short term borrowings to finance long term projects (Kwon, 2004). It is noted here that the use of short term borrowing to finance long term investment is not inherently bad. However, it must be recognized that it is a borrowing source that requires a high degree of institution and market liquidity. It is also a markedly more risky activity when borrowings are in a foreign currency that may fluctuate in value. In the case of these Asian economies, interest rate risk was not managed entirely by financial institutions as they operated

under a fixed exchange rate system. In such a system the government controls currency supply and demand to eliminate almost all fluctuations in currency value. This activity creates a situation in which very little risk is associated with foreign currency transactions, leading banks to refrain from managing the currency risk on their foreign borrowing (Brownbridge & Kirkpatrick, 1999).

In 1997, against the backdrop of the conditions outlined in the previous paragraph, there was a collapse in the real estate market in Thailand. It was the case that the easy access to credit had led to rapid growth in commercial real estate investment and prices. This had led to the accumulation of a surplus of up to 6 years worth of commercial real estate development. This abundance of supply led to a sharp reduction in occupancy rates and a depression in real estate rents and prices (Bird & Milne, 1999). The downturn in the real estate market had a ripple effect throughout the economy. It led to an increase in borrower defaults to banks who had concentrated lending in commercial real estate concerns. This led to a reduced desire to invest in the Thai economy and correspondingly a reduced desire to hold the Thai currency, the Baht. However, under the prevailing system of exchange rate controls the government supported the high value of the Baht which triggered speculative attacks on its value in currency markets (Laurence, 1999). In a failed attempt to prop up its currency Thailand's government spent \$33 billion of its foreign currency reserves but within a year the Baht had lost 60% of its value (Nanto, 1998; Bird & Milne, 1999; Laurence, 1999). These attempts at exchange rate control increased speculative activity and reduced investor confidence. The weakening currency and investor confidence combined with the losses suffered by foreign lenders to domestic banks led to capital flight from Thailand. The weakening of the Baht meant that exports from Thailand began to become relatively cheaper than those from Malaysia, Indonesia and other regional exporters. A situation likely worsened by the fact that these governments also maintained strict currency controls. However, there is scant evidence that these proved to be significant economic factors. Nevertheless, the loss of investor confidence represented by the severe depreciation of the Baht proved significant for other countries in the region. Investors fearing similar losses in neighboring countries began to withdraw their funds and fueled currency speculation that led to currency crashes in Indonesia, The Philippines, Malaysia and South Korea. It was the case that each currency lost close to half of its value in a matter of months (Bird & Milne, 1999). In understanding this series of events it helps to note that the same groups of foreign lenders were prominent in each affected nation (Kirkpatrick, 2005). This meant that losses in any country affected their ability and willingness to weather economic difficulties in other countries.

Costs

The loss of investor confidence led to capital flight in excess of \$100 billion within a period of less than a year. Estimates suggest that net private inflows to the affected countries declined from over \$60 billion in 1996 to \$19.7 billion in 1997 to -\$46 billion at the resolution of the crisis in 1998 (Kwon, 2004). It bears remembering that the vast majority of these cash inflows were from

private creditors to domestic financial institutions and not from aid agencies or public funding. Furthermore, only about 20% of total capital inflows were equity investments. This suggests that they were funds that were not part of binding long term political or economic agreements. This suggests that investors were able to and inclined to remove their funds at the earliest opportunity (Bird & Milne, 1999; Kirkpatrick, 2005). Additionally crippled by a high number of non performing loans⁴, several financial institutions within the region were compelled to close (Brownbridge & Kirkpatrick, 1999). In Thailand 56 finance companies were closed and 6 banks were nationalized.

The government of Indonesia closed down 26 banks and intervened in another 44 while attempting to manage a run on surviving institutions. The South Korean government closed down 16 of 30 merchant banks and intervened in some measure in the other 14. It is estimated that by 2003 up to 787 financial institutions had been merged or closed down (Laurence, 1999; Brownbridge & Kirkpatrick, 1999; Hahm, 2005). Although these numbers may seem small when compared to the United States, it should be noted that these financial sectors have a much smaller number of institutions. An examination of central bank records shows that at the time of the crisis Thailand had only 30 banks and South Korea had less than 50 while the total number of banks and other financial institutions in Indonesia was less than 200. These figures would suggest that one can conservatively estimate that at least a quarter of the institutions in these nations ran into serious hardship. In the rest of Asia, the financial crisis led to a 10.4% drop in the Hong Kong stock index. Additionally, in January of 1998 Asia's largest investment bank, the Hong Kong based Peregrine Investments, collapsed as a result of its investments in Indonesia (Washington Post, 1998). The fear of speculative attacks also caused bank lending rates to be inflated to as high as 300%, to reduce the outflow of funds (Washington Post, 1998).

The broader economic costs of the financial crisis may be inferred from expressing the costs of financial sector recapitalizations and bail outs as a percentage of GDP. Brownbridge and Kirkpatrick (2000) report that bank recapitalizations and bail outs were as much as 19% of GDP in Indonesia and 30% of GDP in South Korea and Thailand. Additionally, these countries also saw their rates of economic growth retarded to a point of negative economic growth.

Mishkin (1999) reports that GDP growth in the region declined from an average of 7% per annum in 1996 to 4.6% per annum as the crisis began in 1997 to -7% at its resolution in 1998. This decline in economic growth also led to reduced involvement of firms from the region in the international economy. Bridges (1999), in examining the impact of the crisis on the European Union (EU) observes that the South Korean firms Daewoo and Hyundai stopped plans to open manufacturing plants in the United Kingdom. Furthermore, this region was responsible for some \$8 billion annually in foreign direct investment (FDI) to the EU that was significantly curtailed. As alluded to earlier, costs were also incurred as a result of very large reductions in currency

⁴ Non-performing loans are loans that are in some state of default.

values. Bird and Milne (1999) suggest that currency markets over reacted to economic occurrences, compounding the significant costs incurred. Remembering that the affected nations lost at least half the value of their currencies implies a doubling of the cost of imports within a period of 12 months. Additional costs would also have been incurred by the governments who would need to replenish, at much higher costs, the foreign exchange reserves expended in protecting the value of their currencies. In fact such was the impact of the financial crisis that during this period Japan, which was the largest regional lender, announced that its economy was in a recession for the first time in 23 years (Washington Post, 1998). The Japanese financial sector displayed such weakness that the United States Treasury and Federal Reserve were prompted to intervene to support the Yen and the Japanese government established a \$228 billion financial sector stabilization plan (Washington Post, 1998). The impact on the United States economy of the deepening crisis was sufficient for the Dow Jones, at different times during the crisis, to have trading suspended and experience its third largest daily loss (Washington Post, 1998)

In the worst affected nations it is also clear that significant social and political costs were incurred. Laurence (1999) explains that the financial crisis resulted in rapid unemployment, food shortages and civil unrest (Laurence, 1999). Additionally, it is the opinion of Bridges (1999) that this financial crisis pushed millions of citizens back below the poverty line. The Washington Post (1999) reports that the IMF economic restructuring program in Thailand cost 30, 000 white collar jobs and that prices of staple foods increased by as much as 80% in Indonesia. A set of circumstances perhaps well illustrated by the case of Indonesia in which the severe economic downturn led to such significant civil unrest that the authoritarian regime that had ruled for more than three decades was ended. Similar regime changes were experienced in South Korea and Thailand where Kim Dae Jung and Chuan Leekpai were brought into office on a wave of discontent and dissatisfaction with the governments' responses to the crisis.

Analysis of causes

A prominent part of the literature on the Asian Financial Crisis is a discussion of why it happened. This segment of the literature invariably recognizes the crisis as the result of internal pressures and not external shocks. This is to say that factors such as changes in international markets that might have affected the price and costs of exports were not responsible for the crisis. A second point of agreement in the literature is that these internal pressures originated from the private sector rather than issues with the government. This is to say that the affected nations preserved sound macroeconomic fundamentals with no concerns over issues such as sovereign debt and fiscal impropriety.

A final point of uniformity in the literature is found in that the crisis was centered on the financial sector (Laurence, 1999). As put forward by Brownbridge and Kirkpatrick (2005), when crisis is not caused by macroeconomic factors it is likely the result of a run on institutions or

moral hazard and information asymmetry in the financial sector. A summary of the cause of the crisis as presented in the literature is that it was the result of imprudent financial sector operations fueled by imprudent government dealings with the financial sector. It is put forward that the crisis was the fruit of credit risk⁵ in the financial sector that resulted from poor regulation in nations with a preponderance of political rather than commercial lending criteria (Bridges, 1999). This credit risk was characterized by a concentration of lending among a small group of borrowers while relying on narrow profit margins (Bird & Milne, 1999). These activities were fueled by inadequate regulatory supervision and improper institution relationships with borrowers and the government (Bird & Milne, 1999; Makin, 1999). Government ownership of banks, guarantees against insolvency and improper responses to the large capital inflows and credit expansion are considered important explanatory factors in the Asian financial crisis. This view of the cause of the crisis is appealing because it provides a link between the state of the financial sector and the resulting problems. This explanation also accommodates the role of the regulatory environment of the financial sector in the occurrence of a crisis. Therefore, a view of the cause of the financial sector problems focused on imprudent lending, institutional weaknesses and government imprudence appears most appropriate. This is a view of the financial crisis that is rooted in the moral hazards of the system, its design and its operation.

This would suggest that the critical issues facing policymakers was how to adjust the financial system to remove sources of moral hazard.

However, this thesis finds that a critical and necessary observation is that the problems experienced in the financial sector had a strong and immediate impact on currency values. It is important here to understand that foreign investors are concerned with ensuring a return on their investment (credit risk) and preserving the value of that return when translated to their home states (currency risk). In light of these observations the crisis may be characterized as a run on domestic banks by foreign lenders. Although, it may be argued that capital flight from Thailand was the result of changed economic conditions after the real estate bubble burst it is difficult to make a similar argument for the other affected nations. In the other countries it appears that economic conditions remained unchanged. That is to say that capital flight from the region seems to have resulted from an expectation of economic hardship rather than actual economic hardship. This is behavior consistent with a traditional run on local banks by depositors. As pointed out by Diamond and Dybvig (1983) expectation that a bank will fail leads to a withdrawal of deposits which cause the bank to become illiquid and ultimately to fail. This can occur irrespective of the actual health of the bank as changed expectations become self fulfilling prophecies. This characterization of the financial sector problems suggests that primary goals of policy should have been to address the credit risk and currency risk of foreign investors. This does not downplay the importance of other institutional or environmental factors but recognizes that the existence of these factors had previously allowed the financial sector to stay in equilibrium.

⁵ Credit risk – risk occurring as a result of default by borrowers

It is the view of this thesis that while the problem of moral hazard may have contributed to the financial sector's problems it does not explain the level of international contagion experienced.

Other characterizations of the cause of the financial crisis, although not common, exist in the literature. One such view that is found to be unacceptable is that the economic problems were a result of unavoidable diminishing returns to investment (Bird & Milne, 1999). Although consistent with neo-classical economic growth theory this view gives no indication as to why the economic down turn occurred at the time it did. Similarly, the view that the crisis resulted from speculative external capital is rejected because it does not explain why speculation occurred. First of all, it is unlikely that currency speculation could occur without the support of underlying factors. Secondly, capital investment in this region had been sustained at a high level for many years, which is not consistent with speculative investment. This view also does not explain why one did not see an inflow of capital as regional investment became relatively cheaper to foreigners. The thesis does however acknowledge the role played by currency speculation in the financial crisis. It is held that currency speculation, while not a cause of problems, played a role in deepening the problems and facilitating regional contagion.

Policy responses

This section sets out to examine the nature of policy responses to financial sector problems in the affected nations. It does not focus on analyzing the efficacy of policy but tries to determine if the policies enacted were appropriate given the underlying causes.

The discussion of causes presented above suggests that the crisis was caused by a run on banks by international investors. Investors who faced credit risk as a result of weaknesses in the financial sector and faced currency risk due to a weakening currency. It is these two issues that policy responses should have sought to address.

The policymaking of the affected nations is not an issue of deep coverage in the literature. In the case of the Thai government, an extensive policy response was implemented. It is reported by the Japanese Ministry of Finance that emergency decrees were put in place to facilitate financial sector restructuring. These included the power of banking regulators to compel the financial institutions to write down capital, raise new capital and change its executives to government appointees. The primary purpose of these laws was to protect the public interest from the large losses being experienced. There were also amendments to the Bank of Thailand Act to reaffirm the government's commitment to guarantee depositor and creditor funds through the Financial Institutions Development Fund (FIDF). As part of this restructuring process the Property Loan Management Organization (PLMO) was established to provide liquidity to financial institutions and purchased impaired real estate loans (Bird & Milne, 1999). In a similar vein, the Secondary Mortgage Corporation (SMC) was established to purchase and securitize retail mortgage loans. The Financial Sector Rehabilitation Authority (FRA) was also set up to oversee the resolution of

impaired institutions, including the sale of assets and resolve all dealings with depositors and creditors. This sale of assets was facilitated by the Asset Management Corporation (AMC) which bid with other market participants for assets and bought those assets unwanted by the general market, under special tax privileges.

The Ratanasin Bank was also set up as a “good bank” to manage the good assets of impaired institutions (Bird & Milne, 1999). In addition to these institutional changes, restrictions on foreign ownership were loosened. A 10 year window was opened in which foreign ownership in financial institutions could be raised from 25% to 49% and later to 100%. These moves represented sound policy making in terms of policy breadth and depth and were supported by aggressive implementation with no apparent regulatory forbearance. It is also clear that these policies addressed the issue of credit risk, by eliminating depositor losses and minimizes creditor losses. However these policies failed to prevent the worsening problems and stem the rapid devaluation of Thai Baht, which hit its lowest value in January of 1998. Similarly extensive emergency restructuring is not known to have taken place in the other affected nations. In the case of South Korea, the government appears to have continued with its historic approach of regulatory forbearance (Kwon, 2004).

Another policy response to the crisis was a sharp increase in short term interest rates. This was a policy instituted by Thailand, South Korea and Indonesia. In Thailand this involved an increase in interest rates from 12% to 20%. This was an identical increase to that put in place in South Korea but was less than the 60% offered in Indonesia (Bird & Milne, 1999). This policy, consistent with economic theory, was aimed at stemming the capital outflow by offering high rates of return to investors. It was hoped that the opportunity to earn a high return would reduce and potentially reverse capital flight. However, even these high rates of interest could not stem the capital flight from the region.

The policies mentioned to this point were all in addition to a continuing strict exchange rate controls. Although, each nation eventually allowed its currency to float freely the governments of Thailand, Malaysia, The Philippines, Indonesia and South Korea all attempted to prop up the value of their currencies. This was a direct attempt to address problems related to currency risk but proved highly unsuccessful. Individually and as a group these nations spent billions of dollars in advancing this policy but could not prevent continued and severe currency depreciation.

Another prominent change in government policy was a willingness by governments to allow insolvent institutions to fail (Laurence 1999; IMF 1999). This was a significant policy move given the historically close relationship between financial institutions and government. It not only represented the loss of government guarantees on operations but represented the government’s relinquishing of significant economic control. Reduced government control was also evident in policies to liberalize exchange rates and allow much greater market related

fluctuations (IMF, 1999). Also, surviving financial institutions were recapitalized and new prudential regulation and supervisory processes and structures adopted (IMF, 1999). The strengthening of the operating environment of the financial sector also included changes in the broader legal environment. These included the allowances for foreign ownership mentioned above and a strengthening of bankruptcy, insolvency and debt restructuring legislation (Bird & Milne, 1999; Laurence, 1999). A final point of note is that in the resolution of the financial crisis, the IMF played a prominent role.

It provided both technical expertise and the necessary funding to bail out the financial institutions and economies of the worst affected countries, except Malaysia⁶. However, the IMF involvement is generally viewed as having had mixed results.

The review presented to this point suggests that, at least in some countries, the root issues of credit risk and currency risk were addressed. In addition to this were concerted efforts to reform the financial systems to ensure future stability. These policy efforts appear consistent with a view of the crisis caused by moral hazard but were unable to significantly mitigate or resolve the problems in the financial sector.

THE FLOW APPROACH – TARGETING THE CRITICAL ISSUES

The Policymaking Problem

A critical proposition of this chapter is that policymakers face a difficulty in identifying and addressing the issues critical to an incidence of financial sector distress. This proposition is based on two important observations. The first is that policymakers face resource constraints. It is the case that policymaker ranging from industry regulators to legislators are constrained by their monetary resources. If this were not the case there could be a universal bail out of institutions and easy remedy to economic hardship. The second resource constraint faced by policymakers is that of time. It is the case that the solutions to complex problems require time to be developed, implemented and be effective. However, in this time it is likely that problems may rapidly worsen and the costs of prolonged financial sector distress are very high. The second observation that supports this proposition is that not all problems manifest during financial sector distress are critical to the crisis. A review of history highlights a variety of problems that may manifest during times of financial sector distress. These include, large financial losses, widespread institution failure, high unemployment, rising costs of credit, widespread home foreclosures, currency devaluation, interest rate risk, credit risk, erosion of investor confidence, stock market devaluation and rising inflation. Each of the aforementioned issues warrants serious consideration from policymakers and may be addressed through policy.

⁶ It was the determination of the Malaysian government that its problems could be resolved internally

However, not all of these issues are critical to an incidence of financial sector distress. It will be the case that if the non-critical issues are addressed first financial sector distress will continue and likely worsen. This is a task that is complicated by resource constraints and the fact that each problem affects the political, economic and social constituents that the policymakers represent. As was highlighted in the previous chapter policymakers in the Asian crisis addressed a variety of important issues. However, their failure to address the issue critical to their particular problems led to the failure of policy to mitigate the impact of the crisis.

Following the discussion just presented it should be clear that the task of identifying which issues to prioritize, allocate resources to and attempt to resolve is an important one for policymakers. It is the aim of this chapter to propose a framework that simplifies this task. It is worth recalling that this work proceeds in light of the previous discussion on the justification for government intervention in the financial sector. An identification of the critical issues in a time of financial sector distress does not automatically suggest a need for government intervention.

The Flow Approach

This approach to targeting problems is based on two principles. The first is an understanding that the financial sector is a system characterized by the manner in which funds flow through it. As discussed in earlier chapters, it is a system that exists to collect, transform and transfer funds from those with excess productive ability to those with productive opportunity (Bagehot, 1873; Schumpeter, 2002, Goldman, 1969). The flow of funds in this system begins with savers and investors who transfer funds to intermediaries who transform and transfer them to borrowers who make use of them in the real sector of the economy. This is illustrated in Figure 1. The second principle is an understanding that when faced with financial sector distress policymakers are faced with an identifiable set of critical issues. These are defined as issues which demand a resolution if actors in that segment of the financial sector are to continue participating in the system.

The Flow Approach is an approach to policymaking which suggests that when faced with financial sector distress policymakers must prioritize the critical issues for the constituency that is furthest 'upstream' in the flow of funds. This is based on the rationale that the lack of financial sector participants further 'upstream' prevents activity among participants further 'downstream' in the flow of funds. This does not suggest that problems 'downstream' are less important or do not need to be resolved. However, it suggests that problems 'upstream' demand a more urgent resolution.

It is useful at this stage to recall that the first step in policymaking during financial sector distress is deciding if it is in fact necessary. The discussion of the reasons and conditions for policy intervention are outlined in the first chapter and will not be repeated here. However, the practical implication of that discussion is that it may mean that certain actors in the flow of funds are unimportant from a policymaking perspective. Depending on the nature, causes and distribution

of costs in the financial sector distress certain actors/constituencies may not warrant policy consideration. This may be exemplified by the S&L crisis in which policy responses aimed at its resolution made little attempt to assist borrowers and the real sector of the economy.

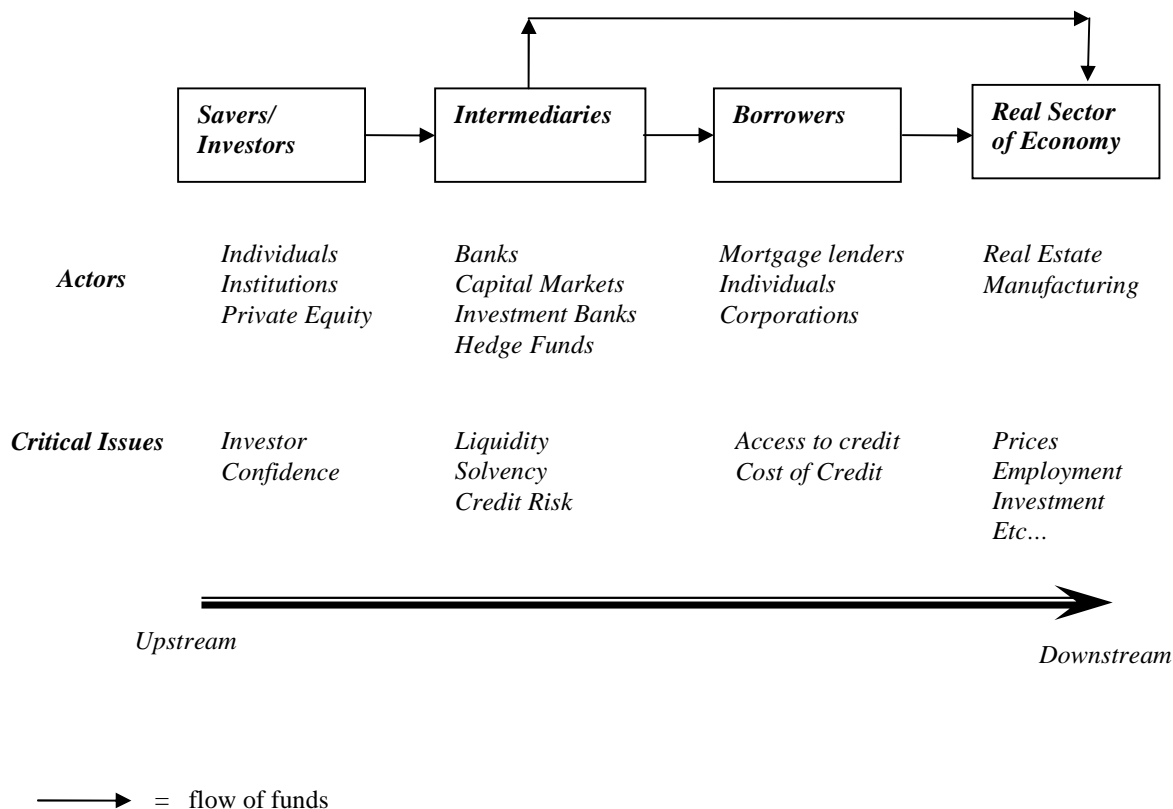


Figure 1: Flow of Funds in the Financial System

Illustrating the Approach

The purpose of this section is to apply the Flow Approach to a set of financial crises to examine as a preliminary test of its usefulness. The crises to be used are the Asian Financial Crisis and the U.S Sub-prime Mortgage Crisis. The first is used as a follow up to discussions presented earlier and the second as a means of giving preliminary recommendations for an ongoing event.

Figures 2 and 3 identify sets of important issues facing the financial sector in the aforementioned crises and some of their implications. This identification of issues and their implications is a critical first step in the Flow Approach. An understanding of these issues and their implications means that policy to resolve or mitigate them can be enacted. In this process, policymakers ensure that the issues furthest ‘upstream’ are prioritized and addressed.

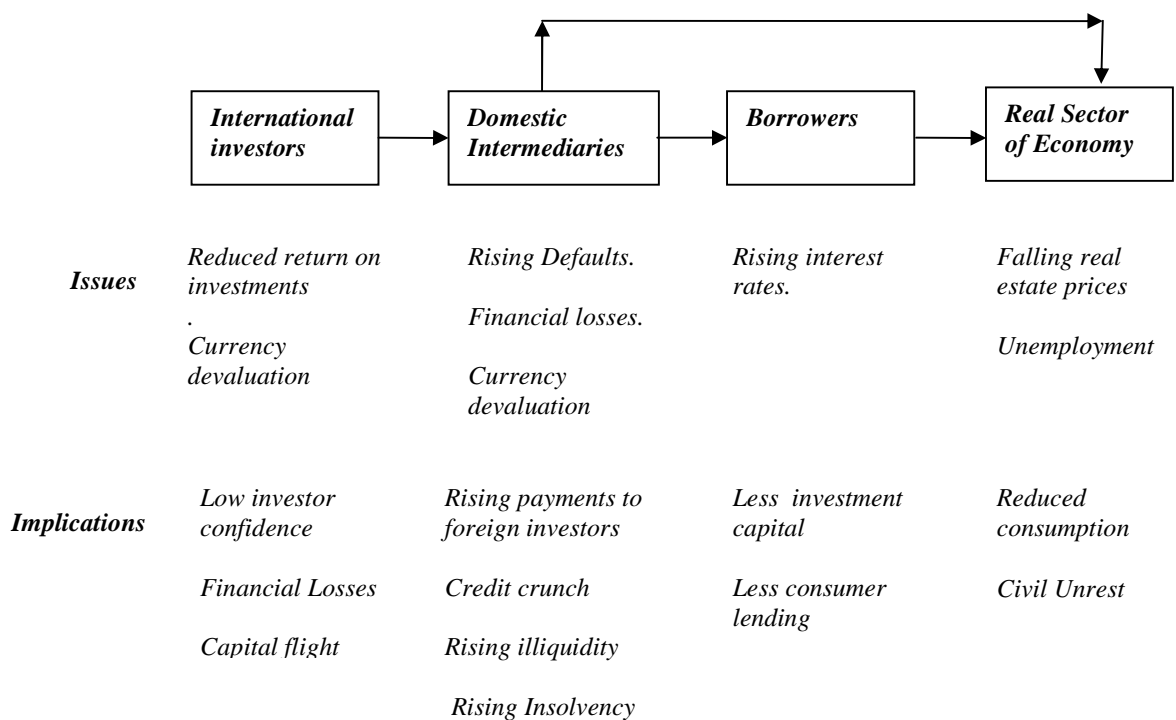


Figure 2: The Flow Approach and the Asian Financial Crisis

This section will not repeat the discussion of the Asian crisis presented in Chapter 3, except to note that Fig 2 captures the need to address the currency risk of international lenders. In discussing the implications of Fig 3 one may observe that this approach suggests that addressing the home foreclosures affecting individuals is not a primary concern of financial sector regulators. It also suggests that steps to maintain investor confidence should override the concerns of individual financial sector intermediaries. It is the position of this thesis that this is consistent with the policies being enacted in reality. This is illustrated by policy responses to the issues of the Bear Stearns Corporation. It was the initial position of the Federal Reserve Bank and Department of Treasury to make funds available to address liquidity problems faced by Bear Stearns. However, the depths of the problems discovered led to the forced sale of Bear Stearns. This forced sale was in an effort to preserve investor confidence in the financial sector and was prioritized over initial plans to address issues related to Bear Stearns’ liquidity and solvency. It must be noted that at the same time no federal policy exists that adequately or uniquely addresses home foreclosures. It is also important to note that the Federal reserve has repeatedly reduced interest rates. This serves to illustrate that while this approach helps to identify and prioritize problems to target it does not speak against addressing other problems that may exist.

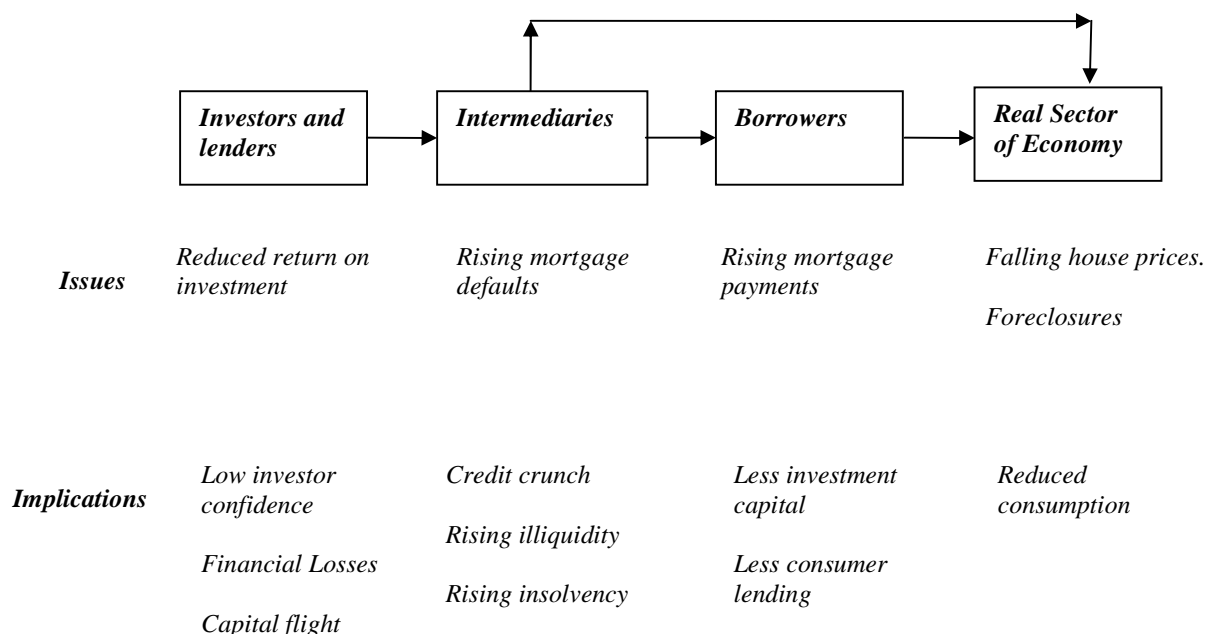


Figure 3: The Flow Approach and the U.S Sub-prime Mortgage Crisis

MAINTAINING EQUILIBRIUM – A LESSON FROM THE U.S SAVINGS AND LOANS CRISIS

The Costs of the Debacle

The United States Savings and Loans crisis was a phenomenon that played out throughout the 1980s. In 1980 Savings and Loans (S&L) institutions had net income amounting to \$781 million. In 1981 this figure was - \$4.6 billion, rising slightly to -\$4.2 billion in 1982 (Federal Deposit Insurance Corporation [FDIC], 1997). In the first 3 years of the decade, 118 S&L institutions controlling \$43 billion in assets had been closed down at a cost to the regulators of \$4.2 billion (FDIC, 1997). This can be compared to the preceding 45 years during which only 143 S&L institutions controlling \$4.5 billion in assets had failed, at a cost to regulators of \$306million (Barth, Bartholomew & Bradley, 1990; FDIC, 1997). Also in the first 3 years of the decade, at least 415 S&L institutions controlling \$200 billion in assets were insolvent. It is in fact estimated by the FDIC (1997) that in the first few years of the 1980s the S&L sector saw its net worth decline from 5.3% to 0.5% of industry assets.

By the end of the decade 1,200 S&L institutions had been closed at a cost to regulators of over \$42 billion (Barth et al, 1990). At resolution, The U.S Department of Treasury estimated the present value of the costs of the crisis at \$160 billion and The General Accounting Office (GAO) of the U.S. Government estimated a total dollar cost, including interest, close to \$370 billion (Zimring & Hawkins, 1993). In comparative terms this exceeds the \$70 billion cost of the Apollo space program and would amount to at least \$500 for every man, woman and child in the United States today (Zimring & Hawkins, 1993). In 1989 although the S&L industry still controlled \$1.25 trillion in assets it had a net worth of -\$17.6 billion and their government insurer had reserves of -\$75.6 billion (FDIC, 1997).

Beyond the monetary costs of the crisis at resolution, observers such as Shoven, Smart and Waldfoegel (1992) and the FDIC (1997) note that for years the actions of S&L institutions had driven up the cost of funds for all financial institutions and driven down lending activities. Sennello (1995) also points out that additional costs were incurred by the non-depositor creditors of banks. Sennello (1995) points out that at the resolution of the crisis, creditors such as landlords and employees had their contracts repudiated with no compensation or equitable relief.

The History of S&Ls⁷

In order to better understand the environment and conditions that led to this crisis one must review the history of S&L institutions. S&L institutions, together with Mutual Savings Banks and Credit Unions make up a group of financial institutions commonly referred to as 'thrifts'. Although similar in function to traditional commercial banks, thrifts differ in purpose and regulation.

At the inception of these institutions, a key differentiating characteristic was that they were 'mutual' institutions and owned by their depositors, although some state charters allowed stock ownership. As a class of institutions, S&L institutions were established with the primary purpose of encouraging personal savings and financing home ownership. As a result of this their primary asset class was mortgages and their primary liabilities were deposits, with their return on mortgages being used to pay interest to their depositors. In return for government support of this mission and deposit insurance, S&L institutions were subject to tight regulatory controls (Pontell & Calavita, 1993). Some of the most significant of these controls were restrictions on the range of investments made by S&Ls and Regulation Q which imposed a ceiling of 5.5% on interest paid to depositors. This regulation of interest rate is a key component of understanding the events to be described.

Overseeing the S&L industry was The Federal Home Loan Bank Board (FHLBB), also known as the Bank Board, which was the primary regulator. The FHLBB was established in 1933 by the

⁷ The history of S&L institutions provided here relies on an unpublished but publicly available timeline of the S&L crisis provided by the FDIC

Federal Home Owner's Loan Act to charter and regulate S&L institutions. The FHLBB operated through a system of 12 regional banks, these banks were government sponsored enterprises and not a part of the federal budget. They were owned by their member institutions and were initially established to extend credit to S&L institutions at below market rates but saw their powers increased in 1985 to include a supervisory role (Pontell & Calavita, 1993). The extension of such powers saw the head of each regional bank empowered to act as the principal supervisory agent for their region.

The FHLBB regulatory network included its Office of Examination and Supervision (OES) which as a separate entity hired bank examiners and carried out institution examinations. However, OES had no supervisory or decision making powers and findings were reported back to the FHLBB system for action. The function of deposit insurance was provided by some state governments but primarily by the Federal Savings and Loans Insurance Corporation (FSLIC) which reported to the FHLBB. At the start of the 1980s the FSLIC insured about 4,000 state and federally chartered S&L institutions with assets of about \$604 billion (FDIC, 1997). The FSLIC raised its funds by charging premiums to S&L institutions. These premiums were equal to 1/12 of 1 percent of institution deposits (Pontell & Calavita, 1993). The state deposit insurance programs insured a further 590 S&L institutions with assets of about \$12 billion.

Problems emerge

The period from 1967 to 1979 witnessed significant increases in interest rate volatility. In this period, inflation ranged from 3% to as much as 13.3%. This volatility was in part due to oil prices which doubled in 1979 and sent inflation into double digits for the second time in five years. However, S&L institutions were limited in their ability to respond to these environmental factors. As a result of Regulation Q they could not increase the rate of return paid to investors in line with inflationary pressures, leading to an exodus of depositor funds that and a reduced ability to make loans. Furthermore, this loss of funding could not be mitigated by increased earnings from alternative investments as S&L institutions were restricted to investments in mortgages.

Over time, this process of disintermediation with rising inflation would be occasionally followed by a process of reintermediation when inflation subsided. However, this cash flow uncertainty led to a severe decline in the earnings of S&L institutions. A decline worsened by the facts that S&L institutions were locked into low interest mortgage loans from previous decades and that the Federal Reserve was raising domestic interest rates to combat inflation. The raising of domestic interest rates was particularly troublesome as it led to increases in foreclosure rates as well (Pontell & Calavita, 1993). The environment for S&L institutions was made even more hostile by the emergence of money market funds that were able to offer higher rates of return than the S&L institutions. Therefore, at the turn of the decade S&L institutions operated in an

environment in which their return on assets fell below the cost of their liabilities⁸, they faced increased competition from other segments of the financial sector and they remained under strict regulatory control. In this early period the only reprieve given to the S&L industry was the Financial Institution Regulatory and Interest Rate Control Act of 1978 which allowed them to invest 5% of assets in each of land development, construction and education. The intent of this law was to allow S&L institutions to operate more efficiently and profitably by not being locked into low return mortgages alone. This offered very limited relief in the face of severe hardship and did not stop a continued decline in the net worth of the industry and a rise in insolvencies. It is important to note that to this point weakness in the S&L industry is simply the result of interest rate risk. This is an important observation for evaluating the nature of policy responses to the S&L crisis.

Deregulation

In recognition of the deteriorating state of the S&L industry, the 1980s began with concerted efforts to deregulate the industry. The Deposit Institution Deregulation and Monetary Control Act of 1980 (DIDMCA) aimed at eliminating distinctions between depository institutions. The most important provisions of DIDMCA were to remove interest rate ceilings and increase the deposit insurance provided to S&L institutions from \$40,000 to \$ 100,000. These provisions proved to be very significant events in the S&L industry and aimed to allow S&L institutions to competitively attract funds. The impact of the removal of interest rate restrictions on attracting funds is most obvious as it allowed S&L institutions to offer depositors competitive rates. However, the increase in deposit insurance coverage was also very significant. Its role in attracting funds is perhaps best understood by first observing that at the time the average S&L deposit account amounted to only \$6,000. Additionally, the initial bill proposed an insurance cap of \$50,000 but after “off the record” deliberations in committee this was increased to \$100,000. The significance of the rise in insurance to cover accounts of up to \$100,000 lies in the fact that it meant that institutional investors could invest tranches of up to \$100, 000 in S&L institutions and have all their deposits insured. This point is reinforced by the fact that the bill was only endorsed by the U.S League of Savings Institution, the S&L industry lobby, after this increment (Pontell & Calavita, 1993). As a result of these changes to insurance and interest rate policy Pontell and Calavita (1993) report GAO estimates of a 400% increase in brokered deposits between 1982 and 1984. That is to say that there was a four fold increase in the amount of funds independent investment brokers allocated to S&L institutions.

In addition to DIDMCA other regulatory changes were enacted in line with the philosophy of deregulation. The FHLBB reduced the net worth requirement for insured S&L institutions from 5% to 4% of total assets and removed limits on the amount of brokered deposits accepted. The FHLBB also allowed in 1981 the issuance of “income capital certificates” by troubled S&Ls.

⁸ A phenomenon known as an Asset-Liability Mismatch

These certificates were the equivalent of promissory notes and were bought by the FSLIC, the cash inflow improving the institutions solvency. Furthermore, the 1981 Federal Tax Reform Act spurred real estate investment and supported mortgage lending. In 1982, the FHLBB further reduced the net worth requirements for S&Ls to 3% of assets and removed a mandate for the use of Generally Accepted Accounting Principles (GAAP) and put forward the use of the more lenient Regulatory Accounting Principles (RAP). Although GAAP had the shortcoming of recording book values rather than market values, RAP was more lax in that it used historic and not current book values to define an institutions present day solvency (White, 1993). Around this period the Bank Board also took steps to lower the stock ownership requirements for S&L institutions. Previously, S&L institutions pursuing a structure of stock ownership needed at least 400 stockholders with at least 125 coming from the local community. Furthermore, no stockholder could hold more than 10% of stock and no controlling group hold more than 25% of stock. The new standards allowed for a single owner who could purchase an S&L institution with land and real estate rather than cash. This reduced ownership requirement led to an influx of new owners and conversions from mutual to stock charters. These new owners included dentists, carpet salesmen and several real estate developers (Mayer, 1997; Pontell & Calavita, 1993).

These policies and the philosophy of deregulation increased the ability of S&L institutions to compete in financial markets. The policies also provided some efficiency gains through reduced regulatory and compliance costs and increased competition from new entrants. Another major regulatory event of the early part of the decade was the enactment of the Garn-St Germain Deposit Institutions Act of 1982. This act allowed federally chartered S&L institutions to diversify their activities and eliminated all remaining deposit and interest rate ceilings. In doing so it established limits on loan to value ratios and the extent of asset diversification. The act allowed for 40% of assets in commercial mortgages, 30% in consumer loans, 10% in commercial loans and 10% in commercial leases. An immediate consequence of this legislation was the mass abandonment of state charters in favor of federal charters with greater investment freedoms (Pontell & Calavita, 1993). This agitated a competitive response from state regulators who sought to retain existing and attract new S&L institutions. In response, state regulators gave S&L institutions even greater liberties than the federal government. In states such as California and Texas, S&L institutions were allowed to invest 100% of their assets in any kind of venture (Mayer, 1997). In addition to this authors suggest that state regulators adopted a more lenient stance towards new market entrants. Pontell and Calavita (1993) report that in California 60 new thrifts were chartered in the first 6 months of a change in regulation.

Despite deregulation all is not well

Deregulation had the result of aggressively expanding the assets of S&L institutions. In the period from 1982 to 1985 the assets of S&L institutions expanded from \$686 billion to \$1, 086 billion, with 465 newly chartered institutions (FDIC, 1997). In some states S&L institutions grew particularly quickly with many Texas S&L institutions growing at between 500% and 1000% per

annum (Pontell & Calavita, 1993). This growth in assets was also accompanied by major changes in the composition of the asset portfolio of S&L institutions. In 1978 over 80% of the typical S&L asset portfolio was invested in mortgages a number that had declined to 56% by 1986. However, the numerical growth in assets was matched by growth in the liabilities of S&L institutions. This led to a situation in 1983 where, despite lower market interest rates, a tenth of the industry which controlled a third of assets was insolvent by GAAP measures. In line with the more lenient RAP standards, 225 S&L institutions were insolvent in 1986. Such was the creeping malaise in the S&L industry that it effectively destroyed state deposit insurance mechanisms. For example, the failure of the Home State Savings Bank of Cincinnati Ohio created a situation where the anticipated depletion of state insurance funds led the governor to shut down all Ohio S&L institutions. In Ohio, only those institutions qualifying for FSLIC insurance were allowed to reopen. Similar events occurred in the state of Maryland, costing the state \$185 million. Regional failures became common place throughout the United States with S&L institutions bidding up the prices for deposits and taking large investment gambles which were not paying off. A weakening housing market further accelerated the deterioration of the S&L industry for the rest of the decade.

After the failure of more than 1,000 institutions and the loss of billions of dollars the end of decade long debacle was heralded by the enactment of Financial Institution Reform Recovery and Enforcement Act (FIRREA) by President Bush in 1989. The bail out plan for the S&L industry included the imposition of capital requirements and the re-regulation of risky asset classes (Azar, 1990). FIRREA also abolished the regulatory system of the FSLIC and FHLBB, creating in its place the Office of Thrift Supervision (OTS) and transferring deposit insurance responsibilities to the FDIC. FIRREA also created the Resolution Trust Corporation (RTC) which was entrusted with the dissolution of insolvent S&L institutions.

Causes

The position of this thesis is that the S&L crisis was caused by a moral hazard problem. The moral hazard arose as a result of a regulatory environment in which insolvent institutions were rapidly deregulated under a guarantee of federal deposit insurance. This thesis does not discount the role of interest rate and credit risk but believes they hold limited explanatory power. Firstly, it is deemed best to view interest rate risk as the precipitating event for the events that transpired. This view is taken because thousands of S&L institutions were able to manage their interest rate risk and continue as viable enterprises. This suggests that while interest rate risk helps explain the initial state of the S&L industry it does not explain the subsequent events that comprise the crisis. Secondly, it is the position of this research that were it not for the moral hazard problem credit risk could have been avoided. The credit risk problem arose from imprudent S&L lending which was the result of the moral hazard problem.

Additionally, it was the same weakness in industry supervision that created the moral hazard problem and delayed the detection of credit risk issues (Anderson, 1991). A reading of the review presented above presents two central themes. The first is that policy addressed the initial problems faced by the S&L industry. DIDMCA, The Garn – St Germain Act and other regulatory measures deregulated S&Ls and gave them the ability to address the interest rate risk that was the initial cause of their problems. Additionally, deregulation also allowed the industry to competitively attract and invest funds in a competitive financial sector. However, it is clear that policy makers failed to give due consideration to the question of how their policies had affected the balance of the S&L industry. Specifically, policy makers failed to strengthen the mechanisms for supervision in the S&L industry. Instead, there appears to have been a systematic weakening of the regulatory environment in which these thrifts operated. These institutions which had previously operated in a relatively less complex environment under very strict supervision were allowed to increase the complexity of their operations with minimal supervision. This was the equivalent of letting loose in the big city without his nurse a sickly child that had grown up in the countryside. This thesis finds that it was this failure to make policy in a holistic way that precipitated the financial crisis. More specifically, the S&L crisis was precipitated by the failure of policy makers to strengthen the regulatory framework of the industry.

THE NATURE OF THE POLICYMAKING FAILURE

The unintended consequences of a failure to strengthen supervision

The argument can be made that the unintended consequence of policies aimed at S&L industry deregulation without strengthened supervision was an environment more accommodating of mismanagement, malpractice and criminality. This argument may progress by first examining the impact of regulation on creating the moral hazard problem. This was the result of the simultaneous lowering of net worth requirements while increasing deposit insurance. The net worth requirements of S&L institutions were first altered in 1980 by the DIDMCA which changed the requirement from 5% to a range of 3%-6%. DIDMCA also increased federal deposit insurance for S&L institutions from \$40, 000 to \$100,000. This was reinforced in 1982 by a provision of the Garn-St Germain Act which stated that the only required reserves were those satisfactory to the FSLIC. The Garn –St Germain Act also empowered S&L institutions to offer higher rates of interest and invest in a broader range of assets. This gave license to all S&L institutions, including those of questionable solvency, to invest more aggressively than before while placing less of their own capital at risk and receiving double the federal deposit insurance. Additionally, new ownership requirements did not place limits on lending to institution insiders (Pontell & Calavita, 1993). The result of this basket of regulations was an environment in which S&L institutions could take risks for which they would incur only a small fraction of the costs. The moral hazard created by the regulations outlined is easily illustrated by imagining an institution currently insolvent and with no capital reserves.

However, under the backward looking RAP standards it can satisfy the solvency requirements of the FSLIC and continue operating. This institution due to the removal of interest rate and ownership restrictions is also able to attract new depositors and investors, to whom it can offer a federal guarantee on their investment. Having secured these funds, the institution then finances the risky real estate development of its new owner, who gained ownership by virtue of equity held in another real estate development. Such an operation can be carried out secure in the knowledge that success would result in profits and in the case of failure all concerned could walk away.

Another unintended consequence of regulatory change was a prevalence of poor management as a result of changes in ownership laws. The purpose of a change in ownership laws, apart from being consistent with a philosophy of deregulation, was to help recapitalize an ailing industry. In allowing S&L institutions to more readily issue stock and allowing concentration of ownership it was likely expected that new investment would be attracted into the S&L industry. This was in fact one of the direct consequences of these regulations. Kroszner and Strahan (1996) estimate that change in ownership laws resulted in a cash inflow of \$10billion into the S&L industry. However, a failure to adequately supervise new entrants and owners had negative consequences. Firstly, it attracted owners who did not have an expertise or commitment to the management of financial institutions. The new owners attracted by the S&L industry included dentists, carpet salesmen and several real estate developers who were not equipped to run these institutions (Mayer, 1997; Pontell & Calavita, 1993). A lack of expertise was an important factor because the S&L industry was facing severe problems with the weakest institutions in greatest need of external help.

Given the realities of the industry it would have seemed important to ensure that weak institutions were managed by capable individuals and protected from opportunistic owners. The fact that there exists a strong correlation between S&L institutions that took advantage of relaxed ownership laws and those pursuing the most risky growth strategies indicates the costs of attracting poor ownership. Secondly, as observed by Strahan and Kroszner (1996), new owners unduly profited from S&L institutions. These authors note that institutions which took greatest advantage of relaxed ownership laws also paid out the highest dividends. Such decisions reduced retained earnings, making S&L institutions more dependent on investment capital and deposits which were more costly to attract for an industry facing serious problems.

Another unintended consequence of policies enacted was that they led to an increase in the costs of operations of S&L institutions. Shoven, Smart and Waldfogel (1992) describe an environment in which institutions bid up the rates of return offered to attract new depositors and investors. This is exemplified by Empire Savings and Loans, an institution that grew from \$13million to \$300 million in assets in two years. This was the result of following a strategy of offering 1% higher return than the market on its certificates of deposit. Although one may argue that prices are merely the result of supply and demand such an argument is insufficient. In understanding

the reasons for concern with this situation it is important to recall that the reason for problems in the S&L sector was an asset-liability mismatch. Therefore, S&L institutions bidding up their own costs irrespective of market conditions would once again lead to a situation where the costs of obligations exceeded the return on assets.

In order to avoid such a situation S&L institution would have to seek out investments offering higher rates of returns which are by nature more risky. It is thought that greater regulatory oversight would have monitored the risk of investments and better monitored the asset-liability mismatch, which started the crisis. A final consequence of the failure to strengthen supervision in the S&L industry was the presence of criminal behavior. It is a particularly damning indictment of the S&L industry and its regulators that investigations by the GAO into the largest failed thrifts discovered that criminality existed in every case (Anderson, 1991). It is also reported that over the course of the crisis, the FHLBB referred over 10, 000 cases for criminal investigation with over 800 offenders being convicted, 77% of whom had received jail sentences by 1992 (Pontell & Calavita, 1993; Calavita & Pontell, 1994). The prevalence of criminal activity was such that in 1989 the Justice Department allocated \$75 million annually for 3 years to investigate the S&L crisis (Calavita & Pontell, 1994). As well as individual institutions engaging in fraudulent activities, there exists evidence that S&L institutions colluded to evade regulators. One such example is that of a group of institutions in Texas that routinely traded bad loans between themselves once they were aware they faced regulatory review. This paper acknowledges that criminal acts result largely from the moral and ethical failings of individuals. However, the prevalence of fraudulent and other criminal activity is characteristic of failings in the regulatory environment.

The initial state of the regulator

As mentioned earlier, the regulator for the S&L sector was the FHLBB. At the beginning of the 1980s, FHLBB examiners were subject to restrictions on employment and remuneration consistent with the OMB's budget. As a result the FHLBB often lost examiners to S&L institutions and banking sector regulators, who were allowed to pay 20% -30% more than the FHLBB. A situation compounded at the start of the decade by the OMB's reduction of the budget allocation for FHLBB supervisory staff. In addition to staffing difficulties, the mandate of these examiners was not to check for system soundness and stability but to check for S&L institution adherence to regulation (FDIC, 1997). In 1980 the FSLIC had \$6.5 billion in reserves with 43 insolvent institutions controlling \$400 million of industry assets (FDIC, 1997).

Deregulation and the regulator

As policy responses to the problems in the S&L sector were instituted by Congress, the FHLBB similarly changed its regulation of S&L institutions. However, unlike the legislative responses, the FHLBB's policies were not aimed at addressing the underlying problems in the S&L sector which were interest rate risk and the disintermediation of funds. Instead the policy stance of the

FHLBB seems to be better characterized as a reduction in standards for soundness and stability and regulatory forbearance.

The reduction in standards for soundness and stability begins in 1980 when the FHLBB reduced net worth requirements from 5% to 4% of deposits, falling to 3% of deposits in 1982. This reduction in institutional solvency standards was complemented by the continued use of a 20 year phase in rule to meet these requirements. Additionally the net worth of an institution was based not on current deposits but on a 5 year average of deposits. This basket of regulations created a situation in which a newly chartered institution required only \$2 million to leverage \$1.3 billion worth of assets in its first year. In addition to reduced net worth requirements, the FHLBB also proposed a change from GAAP to the more lenient RAP accounting standards. This change in accounting standards meant that an accounting assessment of the solvency and performance of S&L institutions reflected neither the current market value nor the present day value of their assets and liabilities (Barth, Bartholomew & Bradley, 1990). A fact that is even more remarkable given that assets and liabilities in financial markets change value regularly due to interest rates and the problems in the S&L industry were the result of an interest rate volatile environment. Furthermore, these lenient accounting standards allowed a more lenient treatment of “goodwill” in appraisals of capital. This saw the use of “goodwill” in assessments of the assets of S&L institutions increase from \$7.9billion to \$22 billion and represent 67% of total RAP capital. S&L institution standards of soundness and stability were further weakened by FHLBB regulations in 1982 that allow appraised equity capital to be counted as regulatory capital. This means that institutions could count equity appraised in their branches, corporate headquarters or other real estate to count towards their regulatory capital. The folly of this liberalization of regulatory standards is apparent if one considers the purpose of regulatory capital. In the first instance it acts as a buffer against the use of regulator funds to bail out failed institutions. Additionally, it reduces the moral hazard faced by institutions by ensuring that they risk the loss of their own funds. Therefore, allowing the use of equity as regulatory capital appears to be strange as only failing institutions have a need to liquidate assets but such institutions are rarely able to receive the full market value for their assets. Strangely enough, one of the few policy responses of the FHLBB that can be defended is its introduction of income capital certificates. These promissory notes issued by insolvent institutions were bought by the FSLIC to provide them with a cash injection. However, this is a limited defense as this was tantamount to lending money to a borrower with a known diminished capacity to repay. It is unclear what restrictions were placed on the use of the funds from these certificates but their impact was to provide a cash injection and improve the solvency of institutions, making them more attractive to depositors. This aim was also achieved through the Bank Board’s reduction of ownership requirements to attract new investors into the S&L industry. However, in the main the FHLBB introduced a basket of policies that appear inconsistent with their role as a regulator and appear to have accommodated weaknesses in the industry and weak institutions rather than strengthened supervision.

The appearance of weaknesses in the S&L industry also coincided with increased regulatory forbearance. Barth et al (1990) note that in 1982 1,178 institutions with assets of \$260 billion failed to meet the FHLBB’s net worth requirements. These institutions ranged in RAP net worth from -2 to 2% of deposits and -3.3 to 0.9% of deposits by GAAP measures. In 1984 the group of insolvent institutions totaled 1009 institutions controlling \$339 billion in assets (Barth et al, 1990). Between 1985 and 1988 although the number of insolvent institutions fell significantly, the number of insolvent institutions with a net worth of less than 0% increase five fold to 564 from an average of about 125.

At the same time the total assets controlled by insolvent institutions remained at about \$330 billion (Barth et al, 1990). This perhaps represents a consolidation of weak institutions. Over this period, the industry as a whole saw its average GAAP net worth decline from 2.8% to 0.4% and its average RAP net worth decline from 3.6% to 2.8%. These numbers serve to highlight that from 1982 to 1988 the number of insolvent institutions and their assets exhibited limited change. Additionally, from 1982 to 1985 the severity of insolvency among S&L institutions increased. Despite these observations it can be noted that the FSLIC exhibited seemingly high levels of forbearance up until 1988. This is illustrated in Table 1 which shows that during the period of rapid deregulation and worsening institutional weaknesses, 1982 - 1988, the FSLIC showed more regulatory restraint than in the preceding years. This appears odd given that in the preceding years S&L institutions had greater restrictions on investment risk and levels of solvency and capital adequacy. The FDIC (1997) reports estimates that the resolution of all insolvent institutions in 1983 would have cost \$25 billion. This suggests that regulator restraint proved particularly costly given that the eventual resolution of the crisis cost at least \$160 billion. This behavior read in the light of the liberalization of standards suggests that the FHLBB was operating in the hope that problems would resolve themselves.

Table 5: Mergers, Resolutions and Liquidations 1980 – 1988. Newly chartered 1980-1986

Year	FSLIC Assisted Resolutions	FSLIC Liquidations	Supervisory Mergers	Voluntary Mergers	# New FSLIC insured Institutions
1980	11	0	21	63	68
1981	27	1	54	215	25
1982	62	1	184	215	26
1983	31	5	34	83	47
1984	13	9	14	31	133
1985	22	9	10	47	88
1986	36	10	5	45	27
1987	30	17	5	74	
1988	179	26	6	25	

Source: Barth et al. (1990) and FDIC (1997)

Why reduced standards and regulatory forbearance? An examination of the reasons for this regulatory restraint helps advance the argument that a failure to strengthen sector supervision precipitated the financial crisis. It appears that during this period the regulatory authority lacked the capacity to enforce a strong regulatory environment. It should be noted that during the period of expansion of S&L activities it is widely reported that the supervisory function of the FHLBB was understaffed (FDIC, 1997). A problem likely worsened by the structure of the FHLBB in which regional supervisory agents were compensated by member institutions and federal examiners operated out of the OMB. A situation further worsened by the fact that federal examiners could only check for adherence to regulation and could only enforce compliance by making a report to the FHLBB regional system. Another reason for this regulatory restraint was the under capitalization of the FSLIC. In 1983, at which point it would have cost \$25 billion to resolve insolvent institutions, the FSLIC had only \$6.4 billion in reserves (FDIC, 1997). These reserves declined markedly for the rest of the decade till they reached -\$75 billion in 1988 (FDIC, 1997). This dearth of reserves is in part caused by the manner in which the FSLIC charged its premiums. Institutions had to pay 1/12 of 1 percent of deposits in order to receive FSLIC insurance. This premium did not take into account the risk of failure of these institutions, based either on their solvency or the risk of their investments. Over this troubled period, the FSLIC also exhibited a seeming unwillingness to confront the nature of its problems, contesting the results of an audit of its activities by the GAO.

A similar unwillingness to confront and address the dire state of the S&L industry is evident in the actions of Congress. This thesis' reasons for the inclusion of Congress in its argument for inappropriate support of supervision are two fold. Firstly, Congress was responsible for the deregulation of the S&L industry and secondly Congress was responsible for the activities of the FHLBB and the funding of the FSLIC. It is put forward here that Congress failed to strengthen the supervisory capacity of the FSLIC when assistance was requested by the FHLBB. Furthermore, Congress's failure to adequately recapitalize the FSLIC came in the wake of reports by the GAO, a congressional body, recommending immediate action.

In the August of 1985, the FSLIC had only \$4.6 billion in its reserves. Faced with mounting concerns about the S&L industry its newly appointed chairman, Edwin Gray, went before Congress to gain support for a recapitalization of the FSLIC. This was part of moves under his leadership to improve the supervisory framework of the industry. Prior to requesting recapitalization, Edwin Gray had raised the net worth requirements for established S&L institutions to 6% of assets, with 2% offset for prudent interest rate risk management. In the case of new institutions a 7% net worth requirement was put in place. This was in addition to his limiting brokered deposits to 5% of total deposits and requiring regulator approval for investments that were large relative to an institutions tangible capital. Chairman Gray had also begun the transfer of federal examiners from OMB oversight to that of the regional banks, thus avoiding budgetary restrictions. In the process examiners were empowered to identify

questionable loans and assets and require loan loss reserves be held by the 'offending' institutions.

These moves represented the most significant actions by the FHLBB in responding to the mounting problems in the S&L industry and its own failed policies. However, the recapitalization of the FSLIC did not take place till August of 1987 when it received a \$10.8 billion injection of funds. This facilitated the resolution of 205 insolvent institutions, controlling \$101 billion whose assets were packaged and sold to the highest bidder. However, at this point the FSLIC was insolvent with close to negative \$13 billion in reserves and its capacity to fully resolve problems in the S&L industry severely limited. Congress's delay in recapitalizing the FSLIC is particularly surprising given the information available to Congress. Firstly, in 1981, at the request of Congress, the GAO began to examine the S&L industry. It noted an increase in regulatory forbearance by the FSLIC despite mounting industry weaknesses. This was followed in 1985 by a report stating the S&L industry was facing very severe problems that went beyond interest rate risk. The GAO noted that the S&L industry reflected such poor asset quality that it was likely to affect the FSLIC (Anderson, 1991). In 1986, the GAO then reported that the FSLIC is facing a \$20 billion loss and follows this with a report in January of 1987 that declares the FSLIC insolvent by at least \$3.8 billion. In fact the recommendation of the GAO was a recapitalization in excess of \$25 billion to allow the FSLIC to resolve problems in the S&L industry (Anderson, 1991). However, the severity and urgency of these reports seem to have been ignored or misunderstood by Congress.

A critique of Congress must however be tempered by a recognition that the S&L institutions, the FSLIC and GAO were not in agreement on the scope of the problem or the nature of the response. The GAO reports that its estimates of problems with the S&L sector and FSLIC were contested by both the S&L institutions' lobby group and the FHLBB (Anderson, 1991). The FSLIC continued to contest the GAO's estimates up until the start of 1988. The nature of this disagreement is illustrated by the GAO's estimation that the FSLIC had lost \$11 billion in 1987. This was contested by the FSLIC which said a more accurate figure was \$2.8 billion (Anderson, 1991). This argument continued until the June of 1988 at which point a figure in excess of \$17 billion was agreed upon. Also agreed upon at this point was an estimate of the cost for the resolution of the ailing thrifts of between \$26 billion and \$36 billion. However, the question can be raised as to whether or not Congress placed too great a weight on the opinions of S&L institutions. As Edwin Gray prepared to leave office in April of 1987 he was summoned by a group of senators to explain the FHLBB's investigation into Lincoln Savings and Loans. This institution was owned by Charles Keating, a prominent campaign contributor. This unprecedented act by the senators leads one to question if the congressional ear was tuned in to the right voices during the policy making process.

Summary: Why the policy making failure?

The failure of policy makers to strength supervision in the S&L industry can be readily summarized. Firstly, it appears that there was a lack of proper understanding of the interrelatedness of aspects of the financial sector. It is clear that policymakers understood the need to address the problems faced by the S&L industry and allow it to cope with market place realities.

However, policymakers did not see the need to make changes in other areas of the financial sector to ensure it transitioned to a state of equilibrium. Secondly, it would seem that the S&L industry and its agents had too great an influence on the policy making process. The power of the S&L lobby in Congress is a fact well documented and was an undoubted influence on Congressional policymakers. Such was the power of the S&L lobby in Congress that the former chair of the Senate Banking Committee, William Proxmire, is reported to have told the head of the FHLBB in the Carter Administration not to tamper with their affairs (Mayer, 1991). It is also recorded by Mayer (1991) that the increase of deposit insurance to \$100, 000 from \$40, 000 was championed by Senator Alan Cranston from California, the second highest ranking Democratic leader. This same Senator when advised of problems in the industry and that it needed to shrink is said to have responded “I would do anything to prevent that”. Nash (1991) reports that such was the power of the S&L lobby that it was able to get Congress to reduce its contribution to the industry bail out to only \$5 billion from the \$15 billion suggested by the Reagan Administration. Additionally, the nature of the relationship between regional FHLBB banks and the institutions it regulated engendered conflicting interests. The FHLBB system which was responsible for regulation set up regional banks which were funded by the institutions they regulated and were tasked with facilitating their access to low cost funds. This system exempted regional banks from acting as supervisors till it was explicitly included in their mandate in 1985.

What could have been done?

In light of the problems discussed earlier in this chapter several recommendations can be made. The first and most important is that a strengthening of the regulator should have accompanied a strengthening of S&L institutions. Additionally, greater thought should have been given to the management of the change in the S&L industry. This includes controls on the nature and practices of new market entrants and continued monitoring of the asset – liability mismatch problem. In recognizing that S&L institutions were facing problems, the manner in which new entrants were run should have received strict scrutiny with limits on dividend payments and insider lending. In recognizing that risk and return are closely related, the regulators should have reacted to S&L institutions offering above market rates of return and the activities through which they attempted to achieve this. This perhaps would have led the FSLIC to tie its insurance premiums to the risks it faced.

THE PILLARS APPROACH – A FRAMEWORK FOR MAINTAINING EQUILIBRIUM

Competition

The value of competition is one that is highlighted in the literature. It is showcased in the academic literature and as a prominent component of efforts by the IMF and other international organisations to reform financial systems (IMF, 1999; Barth, Caprio & Levine, 2006). In examining its importance to the financial sector and its development several factors are worth examining. These include the link between concentration of ownership and the moral hazard problem, the economic benefits of competition and the benefits of new market entrants.

Moral Hazard

The nature of moral hazard considered here relates to the imprudence of action that arises when financial institutions are to a large degree indemnified from the costs of their actions. It is in effect an improper stewardship of investor funds due to a perception of government protection. The moral hazard problem is one that is well articulated throughout the literature. Authors such as Krugman (1998), Kwon (2004) and Hahn (2005) suggest it as a key factor in the Asian Financial Crisis and earlier discussions highlight its role in the S&L Crisis of the 1980s. The link between moral hazard and competition may be illustrated by the extreme case of a financial sector comprising of only one financial institution. In such a case the consequences of the failure of this institution include a run on banks, the loss of citizens' deposits, currency devaluation and the loss of payment systems for business. It is likely that faced with such costs, a government is likely to take significant steps to preserve the existence of this institution. This creates a moral hazard problem as the government's implicit guarantee of survival provides a subsidy for mismanagement, imprudence and poor decision making.

The moral hazard problem also extends beyond monopolistic or oligopolistic systems to include a concentration of ownership in the financial sector. In developing countries this has been in the form of government dominated ownership of financial institutions (Borsh & Ding, 1997; Boone & Henry, 2004; Cook et al, 2005). Historically, such government dominance has retarded the development of the financial sector. In the first instance, government ownership and control provides a clear guarantee of survival and leads to the moral hazard problem. Additionally, problems may arise when financial institutions are used as favoured policy vehicles.

In such a situation, although multiple market players may exist favoured institutions are protected from direct competition. This leads to the moral hazard problem because responses to political stimuli can dominate responses to economic stimuli which may lead to inefficient operation (Tompson, 2000; Kwon, 2004). Additionally, institutions have a greater incentive to seek political rather than market based remedies for problems.

Economic Benefits

The promotion of competition also results in certain economic benefits desirable in the financial sector. Whereas a consideration of the moral hazard problem is in an effort to avoid negative consequences there are clear benefits of competition. A key construct of economic theory is that competition results in lower prices. This results because different actors in the market seek to attract customers by offering the lowest prices (Stigler, 1968; Spence, 1977). This principle applies across all markets and it is reasonable to believe that increased financial sector competition will narrow spreads for borrowers and increase returns for investors. Additionally, competition also yields non-price benefits to consumers. Stigler (1968) illustrates this point by noting that in a price controlled environment, firms can still compete on service, quality and other factors. An element of this non-price competition is likely to involve financial innovation. That is to say that new products, techniques and expertise will be created to perform the intermediation of funds. Authors such as Schumpeter (2002, [1911]) put forward that the competitive activities of firms result in an environment that spurs innovation. This innovation leads directly and indirectly to economic growth.

As an example, innovations in risk management techniques such as the use of options contracts have helped safeguard the returns on intermediation which can be reinvested to spur economic growth. Furthermore, innovations in the secondary market for securities allow for increased credit creation to finance economic activity (Goldsmith, 1969; Levine 1991). Indirectly, innovation is a process of knowledge creation which is the key component of general economic growth and societal development, as discussed by endogenous growth theory (Bencivenga & Smith, 1991; Benci & Wang, 1997).

An additional benefit of competition is that it helps minimise the risks inherent in the financial sector. Firstly, in a system with relatively few actors, there is a greater likelihood of collusion to engage in improper practice. This makes the tasks of regulation and consumer protection more difficult. However, competitive systems deter collusion and lead firms to act as checks on the activities of each other. Furthermore, it is worthwhile to observe that competitive systems minimise the chance of a collapse of or crisis in the financial system. This arises because the prevalence of independent actors suggests that errors by a group of institutions need not be replicated by other institutions. An example of this may be found in the sub-prime crisis in the United States between 2006 and 2007. Goldman Sachs, amidst widespread losses due to imprudent lending, reported record profits resulting from a prudent reduction in exposure to bad loans (Lewis, 2008). However, this view is tempered by understanding that even a group of nominally independent institutions may develop a 'herd' mentality when operating under identical regulation.

How much competition is sufficient?

An important question for the policymaker appears to be how much competition is desirable? It should not be argued that the financial sector should have no barriers to entry, as illustrated by elements of the S&L crisis. However, industry regulators and governments need to be concerned with issues such as the reputation, technical expertise and capital adequacy of any new market entrants. It therefore seems that the answer to the question lies in setting appropriate standards for entry. Any new market entrants able to meet those standards and take up an acceptable position in the market should not be unduly prejudiced against.

Supervision

An important support to financial sector soundness and stability is the presence and use of supervisory instruments and mechanisms. The need for such instruments and mechanisms arises because financial sector actors, like any individual or institution, are likely to make mistakes or act improperly. Therefore, supervision exists as a tool to mitigate the costs of errors and improper action (Brownbridge & Kirkpatrick, 1999b). Furthermore, an understanding that investor confidence underlies the existence and stability of the financial sector underscores the necessity for appropriate supervision. This means that supervisory instruments and mechanisms not only mitigate the costs of error and improper action but are necessary for the viability, stability and development of a financial system (Key, 1999; Chowdhury, 2003; Guide & Patillo, 2006).

In approaching the issue of supervision in the financial sector the ultimate goals are to ensure high levels of information disclosure and transparency and the adoption of appropriate standards. These goals are chosen because they allow the early identification, diagnosis and correction of problems and the subsequent institution of practices to prevent their future occurrence. These goals are thought to be best achieved in an environment comprising a government regulator and appropriate private sector mechanisms. The availability and efficient use of each of these elements is believed to form the necessary supervisory environment for a financial system

The Government Regulator

An argument can readily be made that the financial system needs codes of practice and rules of operations as necessary supports to its stability and development. The need for an overarching system of supervision that protects the interests of the users and institutions of the financial system readily suggests a role for government. However, the mere existence of bodies tasked with the supervision of the financial system is in not sufficient to ensure system stability and development. Guide and Patillo (2006) observe widespread inefficiency in the regulatory agencies in Sub Saharan Africa and Kwon (2004) describes similar weaknesses in South Korea. These examples indicate that regulator effectiveness is tied to certain important characteristics.

One such characteristic is regulatory independence. This term is used to describe the ability of regulatory body to operate without undue influence from political forces or actors within the financial system. This is important for two reasons, the first of which is that it endows the regulator with credibility.

This credibility is a necessary support to investor confidence and the attracting of funds from both retail and wholesale investors. The example of Bolivia is in this respect instructive as financial reforms in that country between 1985 and 1989 led to a 500% increase in deposits. These reforms were overseen by a group of economic advisors perceived to act independent of political concerns. However, at the next election, uncertainties about the incoming government led to the mass withdrawal of these deposits, illustrating the importance of preserving investor confidence (Boyd, 2002). The second reason is that it allows the regulator to make objective decisions. A condition that is necessary if the regulator is to be effective in supporting financial sector stability and development. This issue can be characterised in the same manner as the lender's moral hazard problem as presented by authors such as Krguman (1998) and Hahm (2005). A regulator that is not independent of government and financial sector stakeholders is likely to act imprudently and exercise excessive regulatory forbearance in response to stakeholder pressures (Guide & Patillo, 2006).

A useful framework for achieving regulatory independence is provided by Barth et al (2006). They suggest that a primary focus should be on the body to which the regulator is accountable. It is suggested that regulators accountable to a legislative body enjoy greater independence than those accountable to the executive branch. This is the case because deliberative bodies have a higher degree of internal checks and a dispersion of power that countervails an undue exertion of influence. However, experience suggests that even legislative bodies can err in their oversight of regulators. It is therefore important that policymakers understand that oversight aims to ensure regulator actions are prudent and in line with its mandate. However, oversight does not amount to directing the actions of the regulator. Furthermore, indemnifying the regulator from legal action from banks and providing the chief regulator with a fixed term in office are key supports to regulatory independence. Indemnifying the regulator and ensuring a fixed term in office support independence by minimising the ability of stakeholders to threaten or easily remove the regulator. It is thought that augmenting this framework with concerns for the manner in which the regulator is appointed and given resources form useful supports to regulatory independence.

In addition to independence it is important the government regulator have the power to take actions necessary to strengthen the financial system. The power to take the necessary corrective or punitive actions is a necessary complement to regulator independence. The powers that need to be given to the regulator are thought to encompass two dimensions. The first dimension is the power to enact broad changes to the financial sector in an effort to correct weaknesses and problems within the system. The second dimension is the power to establish rules of operation, outline preferred practices and enforce compliance. The need for the power to make broad

changes to the financial sector is perhaps best illustrated in cases of financial crisis where a need to restore the integrity of the financial sector exists. The work of Caprio and Klingbiel (1996) shows that in response to financial crises regulatory responses commonly include the enforced closure, recapitalization and restructuring of financial institutions. These actions go beyond issues of compliance and represent an altering of the financial sector landscape.

The need for such power is understood with recognition of the fact that the financial sector is constantly evolving and open to domestic and international pressures. Therefore, it is important that a supervisory body have the authority to make necessary changes to its structure. The power to establish the rules and enforce compliance is also a necessary mechanism to ensure the efficient operation of the financial sector. This power is important as a concern with the daily operations of the financial sector is necessary to ensuring its efficiency and stability. These powers may include the power to set and adopt standards, the authority to communicate with external auditors used by financial institutions and the use of financial penalties. The absence of either dimension of regulatory powers is believed to stand as a significant obstacle to effective supervision.

A final element alluded to earlier is the need for regulatory capacity. The term capacity is used to describe the need to endow the government regulator with the necessary resources to be effective. A review of international practice reveals two important components of regulatory capacity. The first component is the entrusting of regulatory activities to multiple bodies. This approach recognises that the financial sector is highly complex and comprises variety of dimensions and actors with unique characteristics, functions, operations, strengths and weaknesses. Therefore, the use of multiple regulators has the principal benefit of allowing each body to develop an expertise in regulating an aspect of the financial sector. Each regulatory body is entrusted with oversight of a segment of the financial sector and suitably empowered to deal with the relevant issues. The second component of regulatory capacity is ensuring that regulatory bodies are properly staffed to be effective.

Barth et al (2006) in a survey of regulatory bodies in 150 countries found a large amount of variation in the ratio of institutions to be supervised to qualified supervisory staff. This would suggest significant variation in the capacity of regulatory bodies to consistently monitor actors in the financial sector. However, given the importance of the financial sector and the potentially high costs of improper supervision such weaknesses should not be allowed.

Private Sector Mechanisms

In developing the framework for supervision it should be noted that the financial sector, its agents and supporting actors possess existing mechanisms that perform a supervisory role. It therefore seems reasonable that they should be part of any framework for supervising the financial system. One such mechanism is the use of credit rating agencies. Credit rating agencies

are organisations which collect and analyse information about corporations and sovereigns in order to make risk assessments about their operations. These risk assessments are used to overcome the information asymmetry between borrowers and lenders in capital markets. The nature of one's credit rating determines the range of credit avenues that one may use and the price one pays for credit. This means that credit rating firms collect in-depth information about firms seeking credit, who understand it is in their best interest to provide the necessary information. The international market for credit ratings is a competitive one and the success and value of these organisations depends on the quality and accuracy of their risk assessments.

The existence of such organisations lends itself to supervision of the financial sector. Financial institutions in developed countries can reasonably be expected to be regularly assessed for a credit rating. This implies a regular check on financial institutions who would want to avoid the costs associated with a poor credit rating. However, there are shortcomings in the use of credit rating agencies. Firstly, as noted by Guide and Patillo (2006), there is a dearth of credit rating agencies in developing nations. This poses a problem because international agencies may be unfamiliar with local conditions and may be susceptible to producing biased results. A second shortcoming lies in the fact that biased results may arise due to a moral hazard problem. This arises because credit rating agencies are paid by the firms that they rate. Such a bias may explain the willingness of credit rating agencies to facilitate activities in the U.S sub-prime mortgage market. However, despite these shortcomings they remain a useful mechanism for increasing information disclosure and financial sector transparency.

A second available mechanism is the use of external auditors by financial institutions. Submission to an external audit is a common business practice that involves a rigorous check of a corporation's financials by an independent group of reputable auditors. The use of such a group has two main benefits, the first being that it acts as a check on the financial activities of the firm and the second is that it lends credibility to the firm. However, one must note that an external audit is only useful if the results are reported to a body willing to expose wrong doing and ensure that corrective action is taken. This observation aids an understanding of how external audits may be a particularly useful mechanism for financial sector supervision. It is suggested by Barth et al (2006) that external audits perform a strong regulatory role when interaction between the auditor and regulator are facilitated. They suggest that a regulator's ability to request the results of an external audit or communicate directly with the auditor enhances the supervisory environment. Given these considerations the use of external audits is thought to be a useful private sector mechanism for enhancing financial sector supervision.

Operational Efficiency

The final pillar to be discussed in this chapter is that of operational efficiency. This term is used to refer to the need to either reduce costs or increase the productivity of assets and operations. Combining this idea with the observation that the primary purpose of the financial sector is the

intermediation of funds allows this concept to be characterised for policy makers. Firstly, the costs of intermediation primarily arise when borrowers do not repay lenders while the benefits arise from the extension of credit to borrowers. A financial sector that is able to fully extend credit while keeping default at a minimum is viewed as operating efficiently. It is noted that in running financial institutions there are costs related to staff, buildings, technology and other elements. However, these are primarily firm level and not system level policy concerns.

Credit Creation

Credit creation may be defined as the allocation of funds from savers within the economy to borrowers in the economy. As noted by early authors such as Bagehot (1978), Schumpeter (2002, [1911]) and Goldsmith (1969) economic growth is tied to the efficient allocation of funds to productive parts of the economy. This understanding suggests that the financial sector should endeavour to extend credit to as many viable ventures as it can identify. However, in practice this is not always the case and the financial sector unduly contracts credit. This is often to the detriment of small businesses and ‘poor’ borrowers who are those in greatest need of credit (Chowdhury, 2003). The act of withholding credit from investment is referred to as creating excess liquidity and is discussed by authors such as Friedman and Click (2006). They find that internationally, significant variations exist in the amount of excess liquidity in the financial sector. They note that the problem of excess liquidity is often worsened by high capital reserve ratios imposed on financial institutions by government regulators. An observation that highlights the importance of the supervisory environment to efficient intermediation⁹. In addition to regulation, intermediation may be impeded by market imperfection such as information asymmetries. Illustrative of this is Friedman and Click’s (2006) finding that the lack of private credit scoring agencies in developing countries contributed to excess liquidity. They find that some developing nations hold more than nine times the excess liquidity of the United States and created only a third as much credit, relative to GDP. In discussing the value of extending credit it is important to note that there may be unintended consequences of credit creation.

The extension of credit increases the indebtedness of a population and implicitly reduces its ability to service that debt. It is therefore important that lending be prudent. This point is illustrated by observing that financial crises such as the Asian financial crisis of 1997-98 US sub-prime crisis of 2006-08 were caused by the excessive extension of credit. The imprudent extension of credit and its consequences means that within this pillar exists the tension between increased credit extension and reduced adverse selection.

⁹ It should be noted that setting capital reserve ratios ‘too-low’ leads to a moral hazard problem because the institution has none of its own money at risk, as was the case with insolvent S&L institutions. Managing the tension between too little lending and moral hazard is an important task for regulators.

Reduced Adverse Selection

As alluded to previously, the process of credit extension is closely tied to an accurate assessment of a borrower's ability to repay. The act of extending credit to unworthy borrowers is here referred to as an act of adverse selection. As described earlier, the standard measure of improperly extended credit is the size of the Non Performing Loan (NPL) portfolio. An efficient financial sector is one that is able to keep the occurrence of adverse selection to a minimum. This is an important goal because adverse selection can result in very high costs to individual institutions and the sector as a whole. It was believed that bad loans that spurred a decade long recession in Japan amounted to about 8.5% of bank loan portfolios and as much as 10% of GDP (Barseghyan, 2006). In the Asian financial crisis of the mid-nineties bad loans were estimated at a third of all loans and the result was a loss of jobs for millions and the failure of hundreds of financial institutions (Brownbridge & Kirkpatrick, 1999). In evaluating the adverse selection problem it is important to note its relationship to the supervisory environment. A lack of expertise that leads to adverse selection or excessive credit extension leading to adverse selection can both be curtailed by adequate supervision.

As highlighted by Barth et al (2006) the regulatory requirements for entry into the financial sector form an important aspect of the supervision function. Additionally, capital adequacy and provisioning requirements reduce adverse selection by putting limits on the amount of credit created. In this discussion it is important to note that it is impossible to eliminate the problem of adverse selection. It is inextricably linked to any attempts at credit extension. Therefore, the focus should be on understanding its relevance, monitoring its prevalence and taking appropriate corrective measures.

Liquidity and Solvency

An assumption underlying the discussion of operational efficiency to this point is that financial intermediaries are liquid and solvent. Liquidity refers to the ability of a financial institution to meet its liabilities as they fall due. On the other hand, solvency refers to the institutions ownership of assets that exceed its liabilities. The absence of either one of these factors will place an institution in distress and pre-empts any concerns for the efficient operation of institutions.

CONCLUSION

The stated aim of this research undertaking was to develop an understanding of policymaking in the face of financial sector distress. It has concerned itself with understanding the nature of policymaking rather than evaluating the efficacy of policy. This is an approach that stemmed from a belief that effective policy is dependent on a good policymaking process. This concern led to the first focus of this thesis which is identifying what policymakers should do when faced

with a sector in distress. The thesis also undertook to take the additional step to determine how policymakers should go about their policymaking process.

The thesis set out to answer these questions by focusing on the literature relevant to financial sector reform. It is from a broad review of this literature that the question of what policymakers should aim to do was answered. The thesis set out to use the Asian Financial Crisis and the U.S Savings and Loans Crisis as illustrative cases of the identified aims of policymaking. Additionally, the thesis hoped to use these case studies to inform questions related to how policymakers should go about the policymaking process.

LIMITATIONS AND AVENUES FOR FURTHER WORK

The research conducted is not without its limitations or shortcomings. This suggests that there are areas in which work presented here can be advanced and improved upon. One such area is testing the robustness of the findings presented here. This thesis has focussed on only two financial crises. This suggests several areas for additional work. One such area is reviewing other financial sector crises to determine how prominent the policymaking failures identified are. Additionally, a review of other financial crises would allow for more robust tests of the Flow Approach. This is a limitation of this study but it is not thought to colour the results presented. This is the case because the two critical policymaking tasks were identified through a broad review of the literature. This leads to a belief that they are consistent across countries and conditions. Furthermore, the Pillars Approach and the Flow Approach are derived from theory in the general literature and not the literature on each financial crisis. This again leads to a belief that they may be generalized across countries and conditions.

Another limitation of this thesis is that it focuses only the literature relevant to financial sector reform. This has the benefit of deepening the understanding of relevant ideas and issues. However, it is a valid criticism to acknowledge that a broader literature on policymaking exists from which ideas could have been drawn. The potential relevance of that literature is accepted unreservedly. Therefore, the existence of this broader literature is viewed as potential grounds for an extension of the research in this study. Such an extension may be in terms of evaluating the efficacy of other policymaking approaches when applied to financial sector distress. Additionally, one may examine the way in which the policymaking approaches suggested here fit within the broader literature on policymaking. One may also consider the application of the ideas presented here to other industries or sectors in distress.

The work in this thesis is also limited by the limited discussion of the political economy of reform. It is the case that policymakers are exposed to a political environment and pressures that influence their decision making approach. It is clear from the literature that this also has an impact on the nature of policy responses. It has not been a goal of this research to specifically discuss this and suggest ways it can be overcome. The thesis has acknowledged its importance where it arose and made a simplifying assumption. This assumption is that in the face of very

large social and economic costs financial sector policymakers are able to overcome political inertia. As was demonstrated in the second and third chapters a perceived failure in policymaking often leads to political upheaval, which political actors would much rather avoid.

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