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The Role of the State in Managing and Forestalling Systemic Financial Crises: Some Issues and Perspectives

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Abstract

This paper reviews recent state interventions in financial crises and draws lessons for crisis management. A number of areas are identified where crisis management could be strengthened, including with regard to the tools and instruments used to involve the private sector in crisis resolution (with a view to reducing the recent enhanced role of official bailouts and the associated moral hazard), to allow for the orderly resolution of systemically important financial firms (to make these firms “safe to fail”), and with regard to achieving better integration with ex ante macroprudential surveillance. The paper proposes the establishment of high level systemic risk councils (SRCs) in each country with responsibility for overseeing systemic risk in both tranquil times and crisis periods and coordinating the activities of key government ministries, agencies, and the central bank.

JEL Classification: G01, E58 and E01

Contents

1. INTRODUCTION

This paper reviews recent state interventions in financial crises with particular emphasis on the Asian crisis experience in the late 1990s and the current turmoil. Based on these experiences, this paper outlines a number of lessons for the state's role in crisis management even while recognizing that the modalities of crisis resolution invariably differ across countries and crises. The first section (Section 2) reviews the state's role as an ex ante and ex post protector of the financial system and the problems in seeking to pre-commit to crisis management strategies. The next section (Section 3) reviews the official responses to the financial crises that struck the region in the late 1990s and the ongoing global financial turmoil. For ease of exposition, crisis management is considered during the three key stages of any crisis—stabilization and containment, asset write downs and absorption, and rehabilitation and normalization—with different tools and instruments at the forefront of each stage and different state entities in the driver's seat. Following this, the next section (Section 4) outlines a number of broad principles or lessons that can help guide crisis management and argues for expanding the tools available to involve the private sector in crisis resolution, creating procedures to allow for the orderly closure of systemically important financial firms, and integrating more closely *ex ante* and ex post systemic risk oversight. Finally, the last section (Section 5) argues for the creation of high-level systemic risk councils (SRCs) in each country that would oversee systemic risk in both tranquil and turbulent times, coordinate the roles of various state bodies, including the central bank, and ensure a holistic approach to systemic risk management and containment.

2. ROLE OF THE STATE IN FINANCIAL SAFETY AND SOUNDNESS

It is widely accepted that the state[1] should play an important role in ensuring the safety and soundness of financial systems. This role is seen as deriving from the important functions that financial systems perform and the large negative spillovers and externalities that can arise when financial systems come under stress.[2] Arguably, it is these negative spillovers and collateral damage—and the possibility that they could be large enough to severely impact the performance of the real economy—that lie behind the recent increased attention to systemic risk beyond the traditional focus on risk at the level of individual institutions, markets, and financial instruments.[3]

The role of the state as the protector of the financial system is traditionally seen as encompassing two distinct but interrelated elements (Barth et al (2006)). The first, and most visible, involves the establishment by most countries of comprehensive systems of financial

[1] Here, and in what follows, the state is used to refer to all the various official bodies with responsibility for the financial system. Normally, this would include financial supervisors and regulators, deposit insurance agencies, ministries of finance, and crisis resolution agencies, as well as central banks.

[2] For further discussion, see any financial sector text such as Ghosh (2006) or Schinasi (2006).

[3] The reference here is to the recent increased interest in macroprudential surveillance. For further discussion, see Brunnermeier et al. (2008).

regulation and supervision.[4] Even though these systems will have a number of objectives, their key focus has traditionally been on ensuring the smooth and efficient functioning of financial systems, and avoiding the build up of "excessive" risk. The supervisory and regulatory systems can be viewed as representing the *ex ante* component of the state's protective role in so far as they are intended to help forestall financial crises before they occur. At least up until recently, these frameworks tended to focus on risk at the level of individual institutions and markets and did not consider the risk of the system as a whole. Implicitly, at least, the view was that if risk was appropriately managed at the micro level then the entire financial system would be safe.[5]

The second element involves the creation of mechanisms to manage situations when risks materialize and substantial chunks of the financial system become impaired (crisis management systems). Arguably, the intellectual justification for these mechanisms is not as well developed as that for *ex ante* supervision and regulation. The case for state intervention in crisis management is generally seen as being based on a set of collective action problems that prevent markets from achieving a "good" equilibrium during a crisis and the state's monopoly on the provision of the ultimate liquidity in the system (Hoelscher and Quintyn 2003; Boorman et al. 2000; Ghosh 2006; Schinasi 2006). Typically, key components of crisis management systems include mechanisms to provide liquidity to key segments of the financial system, the state's ability to credibly guarantee certain liabilities and assets, and powers to restructure, shift around, and write down troubled financial assets and liabilities.[6] Especially in the case of systemic crises, the power to introduce extraordinary procedures is frequently also available and the perimeters of crisis resolution mechanisms may be expanded as necessary. Given the close relationship that frequently exists between distress in the financial and the (nonfinancial) corporate sectors, systemic crisis resolution mechanisms may also include "special" procedures for corporate debt workouts.[7]

The holy grail of how best to perform the *ex ante* and ex post protector of the system role remains elusive, contributing to the large number of costly financial crises in recent years.[8] Notwithstanding substantial agreement on broad principles, the way in which the supervision and regulation of financial systems should best be conducted remains under debate: the appropriate perimeters of financial regulation have not been clearly identified; financial system procyclicality remains a problem and may have been exacerbated by regulatory and accounting practices; both funding and market liquidity risk remain difficult to control; and dealing with low-probability, high-impact events (tail risk) continues to be very difficult.[9] In addition, there are important operational issues about how best to deal with risk at the level

[4] Also important are efforts to strengthen the robustness of financial markets and reduce the systemic risk of payment and settlement systems. See Schinasi (2006) for more details.

[5] This is an example of the fallacy of composition. See Brunnermeir et al. (2008) for additional examples of the fallacy of composition in the context of the financial system.

[6] For a discussion, see the International Monetary Fund (IMF) studies by Hoelscher and Quintyn (2003) and Collyns and Kincaid (2003).

[7] The so-called London Club approach is an example of such an approach and was used during the 1997–1998 Indonesian financial crises. See Adams, Litan, and Pomerleano (2000) and Pomerleano and Shaw (2005).

[8] See Barth, Caprio Jr., and Levine (2006) and Brunnermeier et al. (2008).

[9] For further discussion, see Brunnermeier et al. (2008).

of the system as a whole (systemic risk) and how the traditional micro focus on supervision and regulation should best incorporate systemic risk considerations that result from significant interconnections and spillovers within financial systems, or the effects of common shocks.[10] There are also questions about whether the agencies assigned responsibility for the oversight of systemic risk will be given real powers or have to rely on the bully pulpit to keep systemic risk under control.[11]

How systemic crises should best be managed also remains elusive and the recent increased interest in strengthening macroprudential surveillance has not been matched by a revisiting of systemic crisis management.[12] Instead, as discussed in the next sections, only very broad principles have been developed to guide crisis management, and there are few if any "rule books" that provide a step-by-step account of how things might best be done.[13]

Coming out of the current turmoil, account must also be taken of the possible perception that the boundaries of the state's role in crisis resolution have expanded enormously and that virtually any intervention, bailout or guarantee is acceptable in the event of the risk of extreme tail events. Needless to say, this perception (whether right or wrong) can store up problems for the future unless it is credibly addressed.

A key difficulty in crafting boundary rules for systemic crisis management is the problem of time inconsistency.[14] Time inconsistency implies that the crisis management policies it is optimal to announce in advance of a crisis will not necessarily be optimal once the crisis has struck. In these circumstances, the announced policies will lack credibility, as markets will know that they may not be followed in the heat of a crisis. Moreover, given a desire on the part of many policymakers to maintain flexibility in their responses to crises, there is a resistance in many countries to the adoption of rigid "rules" that would limit policy responses. Rather, the preferred approach in many cases has been to strengthen the *ex ante* supervision and regulation of the financial system—and, in particular, of entities judged to be too large to fail—while implicitly recognizing that systemically important firms might need to be bailed out should a crisis occur (Schinasi 2006). Partly to deal with the moral hazard implications of such an approach, it is not uncommon for policymakers to maintain a degree of constructive ambiguity about their policies toward crisis management and bailouts. Whether, and to what degree, such an approach is the right one is a point of contention. There is a risk that the vast expansion of the boundaries of state intervention during the current turmoil will make the moral hazard problems even more difficult, as it seems to be increasingly recognized that virtually any intervention might be adopted in the next crisis.

[10] See Brunnermeier et al. (2008) and Bank for International Settlements (BIS) (2009).

[11] See recent comments by Bank of England Governor Mervin King (2009).

[12] Rather obviously the tools and instruments used to manage systemic crises have expanded enormously during the current turmoil, but on an ad hoc basis (BIS 2009). In addition, some countries, such as the US, have been exploring ways to formally expand their crisis management tools.

[13] See Boorman et al. (2000) for further discussion.

[14] The problem of the time inconsistency of optimal policies is well known in the field of monetary economics. See Kydland and Prescott (1977).

3. FINANCIAL CRISIS MANAGEMENT

The key features of the Asian financial crisis and the ongoing international turmoil have been extensively documented.[15] Suffice it to note that both episodes have introduced major challenges for policymakers in the region, even though the current turmoil has thus far had much smaller effects on the region's financial systems than the crisis of the late 1990s.[16] As the current crisis is not over, however, some of the spillovers may still be felt and the situation may become more difficult for the region.[17] Most notably, if growth remains subdued for an extended period, there is a risk of a gradual buildup in impaired assets, with associated strains on bank balance sheets; in addition, the recent rapid credit growth in a number of countries in the region may lead to a weakening of financial systems (Asian Development Bank [ADB] 2009a; International Monetary Fund [IMF] 2009a,b).

The epicenters of the 1997–1998 financial crisis were the financial systems of a number of Asian economies that had extended excessive credit without due regard to risk.[18] Not only were the crises in these countries extremely severe, they were also multifaceted in that they frequently involved balance of payments problems, domestic and external debt crises, financial system distress, and, in some cases, political upheaval. In addition, the crises involved complex interactions and spillover effects within and across countries in the region. The costs of the crisis were extremely large, whether measured by (estimates of) the output losses incurred or the fiscal costs of financial sector bailouts, and by some measures not all the economies have fully recovered.[19]

Consistent with the pattern of many other emerging market crises, the Asian financial crisis waspreceded by huge inflows of private capital and was triggered by both a sharp pullback of capital (sudden stops and reversals) and market doubts about the sustainability of relatively tightly managed exchange rate regimes (currency speculation). Even more than 10 years after the crises, key features of the crisis management strategies adopted—most notably the use of so-called high interest rate defenses, the handling of some bank closures, and the resort to capital and other direct controls—remain highly contentious.[20] Also, in characterizing the policy responses in the worst affected economies (Indonesia, Republic of Korea (hereafter Korea), Malaysia, and Thailand), it is arguable, except in the case of

[15] The references on both crises are numerous and still growing. The Asian financial crisis is well covered in various IMF reports and papers—including Boorman et al. (2000)—while the key features of the current turmoil are discussed in IMF (2009a,b,c,d), BIS (2009) and ADB (2008, 2009a).

[16] Among countries in the region, Japan's banking system would appear to have been one of the most significantly affected. For the most part this has been the result of sharp declines in local equity markets spilling over on to bank balance sheets rather than direct exposure to the financial products at the centre of the crisis in the US and Europe. See IMF (2009b).

[17] See Pomerleano (2009).

[18] Even though most of the region was affected, Indonesia, Korea, Malaysia, the Philippines, and Thailand were at the heart of the crisis. Japan was still dealing with the effects of the bursting of a real estate bubble at the time of the Asian crisis. See Boorman et al. (2000).

[19] See ADB (2009b) and Adams (2008) for a review of East Asian banking systems 10 years after the crisis.

[20] See Boorman et al. (2000) and Adams (2008).

Malaysia, which did not turn to the IMF for financial assistance, whether ownership of the crisis resolution strategies belonged to the countries involved or to the IMF.

The center of the ongoing turmoil is the United States (US) financial system (and those of some European countries) and the crisis was the result of excessive extensions of credit and leverage to finance booms in both real estate and consumption spending. Reflecting the role of the originate and transfer model of finance, extensive short-term funding by the shadow banking system, and the opaque nature of a number of the complex securitized products created, the spillovers from difficulties in one small sector of the US financial system (the subprime market) to the rest of the system and to other countries have been relatively large.[21] In the early stages of the crisis, counterparty risk rose sharply in response to uncertainty about which entities were holding impaired assets that were hard to value, and many short-term funding markets effectively dried up (Bank for International Settlements [BIS] 2009; Brunnermeier 2009). Such market seizures led to an expanded role for the state as a market maker during the current turmoil in addition to its more traditional roles as a guarantor and lender of last resort (Buiter 2009).

As in the case of many emerging market crises, the US crisis was preceded by large capital inflows, albeit with official rather than private capital inflows playing a very significant role. Unlike many emerging market crises, the US crisis was not triggered by a pullback of these inflows.[22] Rather, the triggers were spillovers from the problems that began to emerge in the real estate market in 2006 as the US housing bubble began to burst. Official capital inflows to the US remained strong or increased through 2009 as a result of the international reserve currency role of the dollar and its safe-haven status.[23] The bill is still rising on the costs of the crisis, but they are likely to be very high in terms of output foregone and government budgets.[24] Moreover, had the global financial system imploded late in 2008, the costs would have been considerably higher.

Whereas Asia was at the epicenter of the late 1990s crises, it has largely been at the periphery of the current turmoil. This is a reflection of the fact that the current crisis erupted in the US and the financial spillovers to the region thus far have generally been relatively small. This has been the result, inter alia, of limited direct exposure to the "toxic" products and institutions at the centre of the crisis, a general strengthening of conditions and risk management in regional banking systems, and much stronger external macroeconomic fundamentals (ADB 2008; BIS 2009; Adams 2008). Spillovers, however, have recently been increasing.[25] For the most part, the spillovers have been the result of real trade linkages and the high export orientation of many Asian economies. Only for a short period in late 2008, when international credit markets began to seize up, did foreign currency liquidity pressure

[21] See the IMF's World Economic Outlook and Global Financial Stability Reports for 2008 and 2009 (IMF 2008c, 2009b).

[22] See Reinhart and Rogoff (2008) for a discussion of the behavior of capital flows during traditional emerging market crises.

[23] Indeed, there were even problems of a shortage of US dollar liquidity early in the crisis that led to the creation or expansion of US Federal Reserve currency swap lines. See BIS (2009).

[24] See the IMF's Global Financial Stability Report of 2008 and 2009 for "real time" estimates of the cost of the crisis.

[25] See the discussion of the ADB's Asia Economic Monitor in 2008 and 2009 (ADB 2008b, 2009a).

become a significant issue for some countries in the region.[26] In line with global markets, however, regional equity and bond markets have seen sharp corrections. Looking forward, the slowdowns in growth in the region resulting from the turmoil will have effects on regional financial systems with systemic risk implications that will depend importantly on the "shock absorbing" capacity of the capital and other cushions in the region.[27]

Reflecting the key differences between the late 1990s crises and the current turmoil, crisis managers in the region have thus far faced very different challenges during the two episodes. Most importantly, whereas the 1990s crises called for the adoption of wide ranging measures to manage collapsing financial systems in several countries, the key challenges during the current episode for the most part have involved taking preemptive measures to reduce crisis spillovers and efforts to keep credit flowing.[28] Exceptions are the cases of Korea and Indonesia, which had US dollar liquidity shortages in late 2008 that needed to be addressed, and Japan, where banking system exposure to falling stock markets has been high (BIS 2009). In addition, towards the end of 2008 there were some short-lived pressures in a number of interbank markets in the region associated with spillovers from the Lehman's bankruptcy.

A range of orthodox and unorthodox measures has been taken to stabilize advanced country financial systems during the current turmoil, and the state has assumed explicitly or implicitly an important market maker role (Buiter 2009). Some of the measures taken in the advanced countries—such as the resort to blanket guarantees and the nationalization of parts of financial systems[29]—inadvertently may have added to pressures in the region by encouraging withdrawals of foreign currency liquidity. At the same time, especially in the case of countries in the region with a strong foreign bank presence, there were spillovers to domestic financial markets and institutions from distressed foreign financial firms, especially in the wake of the Lehman's failure in late 2008. As a result, officials in the region have been "living on the edge" responding to the potentially adverse consequences of spillovers from foreign banks and institutions, and responding to measures taken by the advanced countries to stabilize their financial systems (BIS 2009; IMF 2009a).

Consider now the approaches taken to the management of systemic crises. Even though we focus mainly on the current crisis and the Asian financial crisis, a number of references are also made to other crises. Most importantly, the lessons drawn about crisis management come from the full range of crisis experiences and hence include what are typically seen as the "successful" experiences in countries such as Sweden and the less successful experience of Japan following the bursting of its asset price bubbles (Boorman et al. 2000).

To facilitate exposition, the stages of crisis management are broken down into three phases. Even though there is necessarily some overlap between the phases, the breakdown facilitates the analysis of the key decisions that need to be made at critical points during crises and the roles of different instruments and state bodies. The three phases are: stabilization and containment, asset write-downs and absorption, and rehabilitation and

[26] Notably, Korea and Indonesia as discussed in the IMF's World Economic Outlook and Global Financial Stability Reports (IMF 2009a, 2009b).

[27] See Pomerleano (2009) for a guarded assessment of the implications of the slowdown for regional banking systems.

[28] Across the region, some pressures have been evident in short-term interbank markets related to arbitrage across different funding sources. See BIS (2009) for further discussion.

[29] See the IMF's Global Financial Stability Report (IMF 2008a) and BIS (2009).

normalization.[30] In making the breakdowns, the intention is not to suggest that crisis management is a clean and structured process that proceeds in clearly defined stages. Nor do most crises necessarily move step by step along a clear straight-line road map. By their nature, financial crises are messy and disorderly with many unpredictable developments (Hoelscher and Quintyn 2003). Every crisis, however, involves a number of critical stages during which certain key decisions need to be made and the breakdown facilitates the consideration of the key decisions.

Stabilization and Containment Phase: This is the first and, arguably, the most important phase for systemic crisis management. Except in those instances where a major crisis erupts completely unexpectedly, crises frequently begin with the emergence of pressures in particular segments of financial systems or in particular financial institutions (the "tremors"). Hence, for example, in the case of Thailand's 1997–1998 financial crisis, difficulties emerged as early as 1996 in a number of local finance companies that had extended excessive credit to the commercial real estate market. Korea began to see pressures in some of its merchant and commercial banks early in 1996 and 1997, well before its major crisis erupted later in the latter year (Boorman et al. 2000). Alternatively, in the case of the current turmoil, the warning signs began to emerge in the sub-prime segment of the US real estate market in 2006 as default rates began to increase (ADB 2009; IMF 2008a, b). Even though the emergence of these problems can be seen ex post as the starting points for the full-blown crises, they are frequently not seen in such terms at the time they emerge. Either because the sectors facing difficulties are seen as too "small" to have large spillovers, the excesses in these sectors are not judged to be symptomatic of wider problems, or as a consequence of political unwillingness to confront reality (the "denial" phase) a relatively common response is to regard the first problems as "isolated". As I argue later, there is a need to address directly the shortcomings in systemic risk oversight that frequently led to a failure to correctly assess the systemic risk implications of the early "tremors."

At some point, the difficulties in particular segments of the financial system no longer remain contained. The crisis becomes systemic and an arsenal of policy and other instruments begin to be deployed to stabilize the financial system. Key policy and other policy instruments that can be employed at this stage include central bank liquidity support operations, partial and blanket government guarantees of deposit and other liabilities and, in some instances, the use of direct measures such as deposit freezes, bank holidays, and capital controls.[31] In many instances, these measures are also complemented by government communication strategies that seek to calm the markets and convince them that the situation will be brought under control. And if balance of payments pressures accompany the financial crisis—as was the case during the Asian financial crises—the government may seek the assistance of the international financial institutions or regional partners (Boorman et al. 2000; Adams, Litan, and Pomerleano 2000).

Numerous issues arise with regard to the roles of different policy instruments to contain the crisis during the first phase, and there will be a need for a relatively high degree of coordination between various state agencies and the central bank in assessing and responding to the problems. Typically, central banks will play a major role as suppliers of

[30] This is essentially the breakdown used by a number of IMF studies, albeit with somewhat different terminology used. See Hoelscher and Quintyn (2003), Collyns and Kinkaid (2003), Boorman et al. (2000), and Laeven and Valencia (2008).

[31] For further discussion see the IMF studies by Hoelscher and Quintyn (2003) and Collyns and Kincaid (2003).

domestic currency (and, perhaps, foreign currency) liquidity [32] but finance ministries, supervisory and regulatory bodies, and deposit insurance agencies may also play important roles. Generally, liquidity support operations are at the forefront of the initial efforts and will be undertaken by the central bank implying that it absorbs the risk. Key operational issues include whether standing liquidity facilities are sufficient including whether stigma effects limit their use), the terms and conditions for the liquidity provided (including collateral and counterparty requirements), and whether the central bank is able to channel the liquidity to where it is needed in the system (Hoelscher and Quintyn 2003; Boorman et al. 2000). As evidenced during the current turmoil, some of the advanced countries, including the US, found it necessary to expand the counterparties eligible to use lender last of resort facilities as liquidity seized up in both the capital markets and the banking system.[33] And new facilities were created in some instances either to address stigma effects or to allow liquidity to be channeled to where it was needed.

Generally, the challenges associated with getting liquidity to where it is needed can be addressed under the flexibility provided by the "exceptional" circumstance provisions of many central bank charters and, as necessary, new regulation or legislation can be enacted.[34] Both during the current crisis and during the Asian financial crisis, central banks were generally able to provide domestic currency liquidity to where it was needed even though in some cases this called for the "flexible" use of existing facilities and, in some instances, the liquidity was provided to institutions not usually covered under lender of last resort. Generally, the technical ability to inject domestic currency liquidity is not a problem except, perhaps, in currency unions or where there are relatively rigid currency board type arrangements, which limit domestic currency issuance.[35]

In practice, a key challenge in providing liquidity support is to ensure that it does not compromise the overall macroeconomic policy stance. What this means is that the central banks must have the tools to sterilize injections of liquidity to ensure that monetary and exchange rate policy are not compromised (liquidity recycling). The importance of sterilization depends on the scale of the liquidity support provided and the nature of the financial crisis. During the early stages of the current turmoil, major central banks appear to have been able to sterilize their liquidity support operations through a range of relatively standard monetary operations.[36]

Conversely, during the Asian financial crises, sterilization operations were very important given external sector weakness and the so-called high interest rate defenses judged necessary to support the external sector (Adams 2003). A failure to fully sterilize liquidity support in Indonesia in the context of heightened concerns about the state of the banking

[32] Either using own reserves or by activating currency swap lines as during the current global crisis. See World Economic Outlook (IMF 2008 d) and BIS (2009).

[33] World Economic Outlook (2008 d).

[34] Alternatively, central banks can lend through established channels and then encourage lending to where the liquidity is needed.

[35] Even in the case of currency boards, however, special funds may exist that can be used to provide liquidity and/or the currency may initially be over backed. See Collyns and Kincaid (2003).

[36] Including Operation Twist type operations in the US.

system arguably was a major factor in fueling a collapse of the currency and a sharp increase in inflation in 1998.[37]

Additional important issues in liquidity provision include the conditions under which liquidity is provided and when the support should be backstopped by other measures. Even though there appears to be widespread support for the so-called Bagehot principles for the lender of last resort function—lend freely at penal rates against good collateral—systemic crises frequently lead to departures from these principles. Even though prudence might dictate that liquidity support should only be provided to solvent institutions, it is very difficult in practice to distinguish between solvency and liquidity problems in the heat of a major crisis (Boorman et al. 2000). Very often, major crises tend to call for central banks to loosen their collateral (and hair cut) requirements and it may not be feasible to charge distressed financial institutions penal interest rates. Generally, as evidenced by the current crisis, the scale of central bank liquidity support can become very large and the credit quality of central bank balance sheets can deteriorate sharply, especially in circumstances where the central bank seeks to circumvent breakdowns in financial intermediation (BIS 2009).

Generally, countries do not rely exclusively on liquidity support, except in the very short run before there is time to introduce other measures. Key complementary or alternative measures are the provision of partial or blanket government guarantees to the financial system or the introduction of direct controls on withdrawals from the banking system. As these measures typically require changes in government policy and may have implications for taxpayers, it is normal for finance and other ministries to play a key role in their introduction. At the same time, critical input and cooperation has also typically been required from a range of supervisory and regulatory agencies and deposit insurance funds in order to help assess the solvency of different financial institutions.[38]

Notwithstanding the existence of deposit insurance funds, a common response in many crises is the introduction of "blanket" guarantees that expand the scope of deposit insurance coverage. By providing confidence that deposits (and, perhaps, other liabilities) will be covered by the state, policymakers intend to avoid wholesale or retail bank runs and reduce the pressure on the lender of last resort function. All the countries at the center of the Asian financial crisis eventually introduced blanket deposit guarantees. In the case of Indonesia, the blanket guarantee was introduced very late following bank runs in late 1997 (Boorman et al. 2000). During the current turmoil, the United Kingdom was slow to impose a blanket guarantee for the banking system and only did so following the run on Northern Rock Several countries in Asia have used blanket guarantees during the current turmoil so as to limit contagion or in response to similar moves by their neighbors as discussed by the ADB Monitor (ADB 2008b).

Based on past experience, blanket guarantees have never been a complete solution and, even when they work to install confidence, can imply very high fiscal costs.[39] Moreover, in circumstances when they call into the question the sustainability of the macroeconomic framework, blanket guarantees may have the unintended consequence of shifting financial pressures into fiscal and external problems.[40]

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[37] See Boorman et al. (2000).

[38] The degree of cooperation required from deposit insurance agencies will depend on the nature of their role and whether they have supervisory functions in addition to a pay-box role. See Hoelscher and Quintyn (2003).

[39] For further discussion see Collyns and Kincaid (2003).

[40] Iceland's experience stands out during the current turmoil (Buiter 2008) as well as that of Indonesia during the Asian financial crisis (Boorman et al. 2000).

Key operational issues with blanket guarantees include the scope and breadth of their coverage (and, in particular, whether they should only cover certain bank liabilities), whether foreign as well as domestic banks should be covered, and the degree to which financial sector supervision is strengthened, or levies are imposed, so as to help prevent the covered institutions from misusing the guarantees. No one size fits all approach describes the range of actions taken during the current or earlier crises even though in broad terms—and especially during the current turmoil—there has been a tendency for blanket guarantees to be widely used and to be relatively broad in scope. During the current turmoil, some developed ountries have also guaranteed not only bank deposit liabilities but also some of the liabilities of nonbank institutions such as money market funds.[41]

Not only are substantive issues about how and when the guarantees will be scaled back raised, there are important implications for moral hazard. More than 10 years after the Asian crisis, both Thailand and Indonesia still had not fully removed their blanket guarantees even before the current turmoil erupted and depositors in these countries had limited incentives to monitor bank behavior.

As in the case of liquidity support, experiences show it is critically important that blanket guarantees do not compromise the overall macroeconomic framework. Given the potentially huge fiscal costs, blanket guarantees can easily raise questions of fiscal sustainability and, in the cases of heavily dollarized economies or where the guarantees cover external currency funding, may also threaten external sustainability (Collyns and Kincaid 2003). Based on these considerations, best practice in the case of low intensity financial crises has typically been to use blanket guarantees very sparingly, and to employ them only after losses have been imposed on the stakeholders of troubled institutions.[42] Clearly, however, the situation has been much more difficult in the case of fast moving systemic crises; as noted, the tendency has been for blanket guarantees to be widely used during recent crises. It is possible that their widespread use during the current crisis—especially in the case of countries at the periphery—has been a necessary “tit for tat” to the adoption of blanket guarantees in other economies.

Even though blanket guarantees may be introduced to lessen the possibility of bank runs, their introduction can also play a potentially important stabilizing role by signaling that the state is prepared to absorb at least some of the financial system losses. As a result, guarantees can represent an initial critical stage in the process of allocating and distributing losses across different stakeholders and making clear that particular claimants (such as depositors) will be protected. Needless to say, the earlier blanket guarantees are introduced, the less likely it is that the state will have a full accounting of the scale of potential losses it will be covering and the fiscal implications. By drawing a line in the sand—and indicating that the state will cover some of the losses—blanket guarantees can, however, play an important stabilizing role provided the fiscal and other resources are judged to be there to cover the (as yet, unknown) losses. By signaling that certain deposits will be protected, the state, of course, is also making clear that other claimants, including capital owners, may not be covered.

Finally, should liquidity support and government guarantees not be sufficient to stabilize the financial system, the state may impose direct controls on the withdrawal of funds from financial institutions and, in extremis, impose bank “holidays.” Even in the cases of very severe crises, these have typically been used as measures of last resort not only on account of their potentially damaging effects on confidence and efficiency but also because they can be very hard to administer. Realistically, however, it is important to recognize that some direct controls are frequently used during crises—as was the case during the Asian financial

[41] See the Global Financial Stability Reports (IMF 2008a, 2008b, and 2009).

[42] See Boorman et al. (2000).

crisis—but typically as a backstop to front line efforts to control the crisis. As discussed by Collyns and Kincaid (2003), such measures have been used on a number of occasions in Latin America, including in the Argentine crisis early this decade.

Drawing together the key elements, the stabilization and containment phase of crisis management includes potentially important roles for the state in terms of liquidity support, the provision of guarantees, and the possible use of direct controls. Arguably, the key challenges in this phase have been to strike the appropriate balance across measures, ensure the required degree of coordination across the relevant government agencies and the central bank, and ensure consistency within a sustainable overall macroeconomic framework. At the same time, many of the key decisions have required a robust understanding of the sources of systemic risk (which may be changing over time) and an assessment of how various measures affect the stability of the system. Two general conclusions that can be drawn are (i) that there is a tendency in most crises not to view the initial tremors as signals of a major crisis, and (ii) that domestic liquidity support and guarantees may be used very extensively as the first key line of defense. Arguably, a failure to diagnose the systemic nature of the tremors can delay the adoption of a coherent crisis management strategy and may have lead in some crises to delayed responses and an excessive reliance on liquidity support as in Indonesia in 1997–1998 (Boorman et al. 2000, Adams 2003).

Asset Write Downs and Absorption: Once the economy is stabilized (if not before), a comprehensive crisis management strategy is required to write down impaired assets, deal with troubled institutions, and, eventually, bring more capital into the financial system. Based on crisis experience, the modalities of such strategies differ widely across countries as a result not only of differences in legal and political systems but also the nature of the crisis (in particular, whether it is an external as well as a domestic financial crisis), whether the financial system is mainly bank or capital markets based, and the authorities' preferences as regards economic stability and growth. In addition, the macroeconomic health of the state and its access to domestic and foreign currency funding may also influence importantly the approach adopted.

One key shortcoming is that the state will often take a very long time to come up with a coherent and proactive crisis management strategy. This is arguably one of the key lessons that the IMF has drawn from its crisis management experiences (Hoelscher and Quintyn 2003; Boorman et al. 2000; Collyns and Kincaid 2003). And, typically, a key turning point in addressing the financial sector problems in many crises occurs when the authorities develop a comprehensive forward-looking crisis management strategy. Before such time, measures taken can be largely reactive and ad hoc in nature. Moreover, to the extent to which the problems in the financial system are not addressed, and banks and other financial firms are inadequately capitalized, there is an ongoing risk banks may "gamble for resurrection", and that impaired asset problems may increase further.

From a narrow economic perspective, the optimal strategy to crisis resolution might appear to be one that involves taking the losses implied by the crisis as quickly as possible (hitting the floor) with a view to allowing for a speedy bounce back. For a variety of reasons, however, the process of absorbing losses typically takes several years—even in the success case of Sweden in the early 1990s[43]—and the authorities invariably face numerous tradeoffs in resolving a number of complex burden sharing and collective action problems. Experience shows, however, that the fact that the process may take several years does not obviate the importance of coming up with a crisis management strategy as early as possible (Hoelscher and Quintyn 2003 Boorman et al. 2000).

[43] See Ingves, Seelig, and He (2006).

Various government agencies and ministries are involved during the second stage and the role of the central bank in providing emergency liquidity support may start to be reduced. Alternatively, as has been the case during the current turmoil, central banks in some countries may assume a key role in allocating credit in response either to generalized credit crunches or to breakdowns in some aspects of the financial system "plumbing". And there may be efforts by central banks to act as market makers. A number of central banks in Europe and the US have arguably played an unprecedented role in the current turmoil in seeking to circumvent the effects of perceived or actual breakdowns in credit provision. As a result, there have been large changes in the size and composition of central bank balance sheets during the current turmoil (IMF 2008a,b,c; BIS 2009).

The implementation of any crisis resolution strategy will generally take a relatively long time. Most obviously, it is difficult to move very fast in writing down impaired assets because there will typically be considerable uncertainty in the heat of the crisis about how much assets are worth (price discovery) and in finding buyers. And, at least in the case of major systemic crises, the value of virtually all assets may be impaired to some degree. Uncertainty about asset values arose during the Asian crisis experience in the late 1990s, which was predominantly a bank-based crisis, and continues to bedevil the management of the current crisis in the US and Europe where capital markets have been more important and the market (were it to be working) could play a potentially important price discovery role.

Conventionally, valuing bank loans is difficult because loans are typically held on bank balance sheets and are not traded (even if there is some potential to trade the underlying collateral) (Boorman et al. 2000). As the ongoing crisis in the US and Europe has demonstrated, however, even securities that are traded under normal conditions can be difficult to value in circumstances where market liquidity dries up and the models that have been used to value them are no longer working. In such circumstances, neither marking to market nor marking to model may be viable approaches.[44]

Another reason it is difficult to move rapidly is the existence of negative feedback loops. As financial crises are inevitably preceded by excessive credit creation, there is a need for a period of deleveraging. Typically, deleveraging will require asset sales that will tend to depress asset prices, which will require further deleveraging and so on. A vicious knife-edge process can easily occur in which the process becomes destabilizing. Unfortunately, there are no easy solutions to this problem and, in practice, quick decisions based on limited information need to be made about how to navigate around the instability. In practice, it is not uncommon for crisis managers to value some assets at their medium-term fundamental levels rather than at distressed crisis prices as a partial solution to knife edge instability, and to not move too rapidly in requiring distressed asset sales. Alternatively, as during the current crisis, practices such as mark to market may be suspended with a view to helping limit the adverse feedback loops (IMF 2008a,d; BIS 2009).

The likelihood that the markdown of impaired assets will lead to some financial institutions becoming insolvent will also tend to slow down the process. Allowing all insolvent institutions to close immediately would be damaging for systemic stability, and the approach that is often taken is to only close down those whose "departure" would not create large adverse spillover effects. As I argue, below, such an approach—loosely described at too big or interconnected to fail—can create enormous moral hazard problems if the "owners" of these institutions are bailed out and are not somehow required to take losses. The difficulties underscore the importance of strengthening crisis resolution frameworks to allow for necessary interventions and allocations of losses to owners while keeping systemically important financial firms afloat until such time as they can gracefully be wound down (as discussed in the next section).

[44] Ingves (2009) and Global Financial Stability Report (IMF 2008a).

The process of valuing bank loans during a crisis can be extremely difficult and is usually assigned to the supervisors of banks working in close cooperation with bank management and staff. In many cases, asset management companies (AMCs) may also be set up to play a role in valuing bank loans as part of an effort to shift these assets off bank balance sheets (the "good bank-bad bank" approach).[45] Practice varies across countries and crises, and a key challenge has typically been to try to establish "fair" values for assets in stressed conditions. Given that banks and (private) AMCs will have different objective functions, price discovery can be very difficult when they are used to value assets (Boorman et al. 2000; Ingves (2009), Ingves, Seelig, and He 2006). This conflict can be avoided to some extent when intervened banks sell their impaired assets to government owned AMCs but it is then important to avoid situations in which the AMCs overpay for assets and implicitly help recapitalize the banks by the back door. As during other crisis resolution stages, a high degree of transparency and independence has been found to be desirable in valuing impaired assets as noted, in particular, by Boorman et al. (2000) and Ingves, Seelig, and He. (2006).

Considerable work has been undertaken to determine whether one particular approach to AMCs works better than others. With a view to having the market play as large a role as possible in asset valuation, some countries have relied on set ups in which the AMCs are private and bid for impaired assets at "market" prices.[46] Others have favored approaches in which the AMCs are set up by the state with clear bank resolution mandates. In some cases, AMCs have been centralized and in other instances, decentralized (Adams, Litan, and Pomerleano 2000). While unambiguous conclusions about which approach is preferable are generally not possible to make, it may be very difficult for fully market based solutions to be used when there are wide differences in view about the value of impaired loans.[47]

As the ongoing crisis has demonstrated, the process of valuing securitized assets can be extraordinarily difficult in circumstances where there is uncertainty about underlying asset values. In such circumstances, private buyers may be encouraged to bid for such assets to facilitate price discovery through explicit subsidies on risk taking.[48] To this point, however, a proposed variant of such an approach that has been set up in the US—the private public partnership—has not yet been used and appears increasingly likely to fall by the wayside.

Following loan write-downs, banks or financial firms are often split into different groups according to their solvency and viability. Three main groupings are often identified: (i) firms that are adequately capitalized, (ii) those that are undercapitalized but which are potentially

[45] Numerous mechanisms and structures typically play a key role during the second phase. In many crises, new vehicles such as asset management companies (AMCs) may also begin to play a role as efforts are made to deal with impaired assets. Very often these AMCs are creations of the state but their precise structure and ownership as well as their funding and mandates tend to differ across crisis experiences. And, whereas some countries have created very centralized AMCs to which all banks can transfer impaired assets, some countries have created decentralized AMCs that are linked directly to particular banks. See Adams, Litan, and Pomerleano (2000).

[46] See Ingves, Seelig, and He (2006) for further discussion.

[47] Ingves, Seelig, and He (2006).

[48] This is a reference to the public-private partnership in the US that was set up to price impaired loans and securities.

viable over the medium-term, and (iii) those that are both undercapitalized and nonviable on account either of a lack of a profitable business model or an inability to raise fresh capital in the market.[49] In some cases, as in the US and Europe during the current turmoil, the classification of banks and other financial firms might also be based on stress tests in which their solvency or need for fresh capital is determined by the government on the basis of their ability to absorb various shocks (IMF 2008b, 2009a; BIS 2009).

Generally, banks and institutions in the third "no-hope" group would be intervened quickly and, when systemic risk is not judged to be large, closed immediately, albeit with arrangements typically made to transfer their guaranteed deposit liabilities to a viable institution. Where systemic risk is judged to be high, some banks and firms in this group may be kept afloat for a while, however. Banks in the second group would typically be encouraged to raise private capital but if this is not possible may receive injections of official capital. Banks in the first group may escape official intervention. Of course, for these approaches to be adopted, the state must have authority to intervene in the troubled institutions. As illustrated by recent experience, the state will frequently have "special" powers to intervene in certain financial institutions such as banks but may not have the authority in the case of other financial institutions, even where they are judged to be systemically important. As I argue in the next section, the boundaries of crisis resolution regimes need to be expanded to allow necessary crisis resolution interventions in all systemically important financial firms.

As both the Asian crisis experience and the current turmoil have shown, there are a range of issues about the type of capital to be injected by the official sector (common or preferred equity[50]), whether and under what conditions some kinds of debt may be converted into equity, and the exit strategies for the official sector from any temporary nationalizations (as discussed below). As in other areas, there is no one-size-fits-all answer. Injecting preferred equity can be optimal in situations where it is possible that common private capital may be encouraged into the sector; in some cases, preferred equity injections are made pari passu with private capital. At least until the current turmoil, best practice in the case of insolvent firms was generally to write common equity to zero before injecting any official capital. It is not clear that all countries have followed this practice during the current turmoil as national authorities in a number of countries have sought to follow private capital-friendly solutions to getting more capital into the financial system (IMF 2008a, b; BIS 2009).

Key operational questions also concern the basis on which institutions intervened by the state should be operated (and by whom) and the conditions that banks receiving public monies (preferred or common equity) should be asked to meet. Based on experience, best practice in the former area tends to suggest that intervened banks should be run on commercial grounds with a view to minimizing losses, and then privatized or closed down as soon as feasible without creating systemic risk (Collyns and Kincaid 2003). In some cases, independent managers with banking experience are put in charge of these banks, whereas in other cases, their supervisors may be put in control. Experience suggests that the intervened institutions should be protected from political influence and patronage.

Generally, injections of public capital into potentially viable banks—whether in the form of preferred or common stock—should be accompanied by time bound conditionality as regards restructuring and, in some cases, by the requirement to raise private capital. More controversially, some countries have sought to require recapitalized banks to undertake new lending. Experience suggests, however, that such requirements should generally be used sparingly as the resumption of new lending too quickly may delay the return to financial

[49] See Hoelscher and Quintyn (2003).

[50] For further discussion see the Global Financial Stability Report (IMF 2008a).

health. As evidenced during the current turmoil, however, there may be strong political pressure for banks that receive public monies to engage in new lending.

Putting these various arguments together, the development of a comprehensive crisis management strategy is the key component of the second phase of crisis management. Among the various elements of this strategy, absorption and firm intervention are, perhaps, the most difficult. The role of the state is critical at many points: creating mechanisms for valuing assets; identifying and sharing losses across assets and institutions (including in many cases using AMCs); making key decisions as to which institutions will allowed to survive, perhaps, with the support of public capital; allowing for the orderly exit of other institutions through mergers and acquisitions, downsizing, or outright closure; and in determining how, by whom, and under what conditions intervened institutions and those receiving public capital are to be run.

Based on crisis experience, there are several key lessons that can be drawn about the second phase. The first is the importance of coming up early with a consistent forward-looking crisis management strategy. Given the complexity of the challenges faced, the implementation of this strategy will necessarily take time but developing the strategy early has typically been critical. The second lesson is that many of the decisions in the second phase have significant implications for which entities will bear the costs of the crisis and the required taxpayer support. Accordingly, the processes and the criteria used to assess asset values, solvency, and viability should be transparent, fiscal authorities should be involved to protect tax payer interests, and the agencies running intervened banks must be protected from narrow political and financial interests. In the absence of transparency and independence, distributing losses may be seen as rewarding the politically connected at the expense of the unconnected, and the credibility of crisis management may be seriously compromised. Finally, a third lesson is the need for the authorities to have the legal authority to intervene as necessary in systemically important financial firms to both keep them afloat, if this judged necessary, while at the same time imposing losses on their owners and, perhaps, other claimants. In short, crisis resolution regimes must provide the authorities with the ability to intervene and manage any systemically important financial institution, whether it is a bank or nonbank financial institution.

Rehabilitation and Normalization**:** The third and final phase involves the ongoing restructuring and strengthening of financial firms and the gradual unwinding and withdrawal of the special measures taken during the earlier phases of the crisis (the exit phase). Even though the state will continue to play a critical role in this stage—determined, in part, by the speed and manner in which it pulls back—the nature of its role will tend to evolve and become less hands on as temporarily nationalized financial firms are reprivatized, nonperforming loans and assets held by state run AMCs are slowly divested, and the central bank steps back from its liquidity and market support operations.

Even though the structure of the newly emerged financial system will generally be determined by the market, it will also be influenced importantly by changes in financial structure as a result of state actions during the crisis. In addition, as was the case following the Asian financial crises in the late 1990, the state may develop financial action plans to help guide the direction in which financial systems develop including, for example, with regard to the degree of concentration in the banking sector as well as seeking to grow local currency financial markets and the supporting infrastructure

Two key operational issues in the third phase concern the speed with which the state should pull back from its management of supported financial firms and how quickly impaired assets should be sold by state run AMCs. Even though there is a presumption that the moves in these areas should be rapid—related, inter alia, to the fact that governments are not generally good at managing financial firms and assets—there is generally a need to balance

several competing objectives.[51] And, in those cases where nonfinancial corporate restructuring is a key component of the effort, it has had to be recognized that such restructuring generally takes a long time to complete even under London Club approaches. Ultimately, it is the "quality" of the adjustments made that will determine the success of the restructuring efforts and "good" operational restructuring will necessarily take time (Adams, Litan, and Pomerleano 2000; Pomerleano and Shaw 2005).

Generally, states have sought to divest themselves of stakes in financial firms relatively rapidly. In those cases where firms have been temporarily intervened ahead of their orderly closure, the key steps have typically involved transferring some of their assets and liabilities to other institutions and/or mergers and acquisition of parts of their businesses with stronger firms. The argument for moving quickly in the case of these institutions is that their continued operation may create unfair competition for viable firms and may involve substantial taxpayer cost. Provided the firms can be unwound in an orderly manner, they are typically allowed to exit as soon as possible. Nationalized and viable banks will also need to be privatized, but the speed with which this occurs is also influenced importantly by how quickly their balance sheets can be cleaned up and by the availability of private capital. Moving rapidly can imply that these firms will be bought up at fire sale prices and can generate political backlashes.[52]

How rapidly the assets held by state AMCs are sold to the market involves balancing several competing objectives. With a view to maximizing recovery value (and minimizing taxpayer cost) governments may choose to avoid selling assets quickly and wait for markets to recover (Ingves, Seelig, and He 2006). Such approaches were quite common in the wake of the Asian financial crises and led to many AMCs being in operation several years after the crisis.[53] On the other hand, to the extent to which the state AMCs are sitting on a large stock of assets, the effect may be to delay the bottoming out of asset prices and their eventual recovery. Some balance is necessary between competing objectives.

4. CRISIS MANAGEMENT LESSONS

Reflecting differences in political, economic, and legal systems, as well as the nature and scope of different crises and the availability of different tools, a single template for crisis management cannot be outlined. There is no "Good Housekeeping" book on crisis management even though the crisis management experience does suggest that there are pitfalls to be avoided. In addition, it is not easy to place the approaches to crisis management into simple boxes such as "market friendly" or "state led" or "fast track" versus "slow track." Crises by their nature are highly complex, a mix of different approaches is usually taken to manage them, and there is not a single one-size-fits-all template to crisis management that can be transported across countries and over time. It is not possible, for example, to argue that it is always better for crisis managers to restructure the system quickly rather than slowly (the quality of the restructuring matters as much as the speed), that market rather than official decisions should play the largest role in picking winners and losers (very often markets are not working well during a crisis), that official guarantees should not be used (often they seem essential), or that temporary nationalizations of the financial system will not be needed In addition, perverse negative feedback loops during crises can imply knife-edge possibilities regarding systemic financial stability that need to be navigated around carefully on a case-by-case basis.

[51] See Ingves, Seelig, and He (2006).

[52] See Adams, Litan and Pomerleano (2000).

[53] See Asia Economic Monitor (ADB 2008 a).

Based on the crisis experience, it is possible nonetheless to note a number of broad but important lessons that can guide crisis management as well as some key areas where the strengthening of crisis resolution frameworks would be desirable. Arguably, the experience during the current turmoil, during which the scale and intensity of state support has been virtually unprecedented, makes it essential to revisit crisis management strategies to determine the appropriate boundaries for state intervention and address the moral hazard implications of the widespread use of official guarantees and bailouts.

Key general principles or lessons for crisis management that can be distilled from the very large number of recent crises are as follows.[54]

> Lesson I. The need for a correct early diagnosis of the nature of the crisis and the adoption of a consistent overall crisis strategy that has the support of the highest level of government;
>
> Lesson II. The importance of the crisis resolution strategy being cast within a sustainable macroeconomic framework;
>
> Lesson III. The need for the state to have adequate tools and instruments to intervene in the system where and when necessary;
>
> Lesson IV. The importance of recognizing losses, writing down impaired assets and facilitating the injection of new capital as needed;
>
> Lesson V. The importance of a high degree of transparency and independence in the key decisions regarding the allocation of losses, intervention of firms, and injection of official capital;
>
> Lesson VI. The need for the independence of the crisis management strategy from vested political and financial interests;
>
> Lesson VII. The need for a high level of cooperation, coordination, and information sharing among key state agencies, ministries, and the central bank;
>
> Lesson VIII. The need for a clear exit strategy for the orderly unwinding of extraordinary measures.

In what follows, a number of observations are made about these lessons and their implications. Before doing so, however, two general observations seem pertinent. The first is that all the lessons are deliberately cast within a relatively broad framework rather than involving very specific points. The key reason for adopting this approach is that it is very difficult to be prescriptive at the level of fine detail. There are several ways in which crises can be managed. The second pertinent observation is that, as with any "best practice" guidelines, the failure to follow the lessons does not usually translate into "costs" or "losses" that can be easily identified. Crises can be managed well and crises can be managed badly, but it will rarely be easy to specify the implications of not following particular lessons. That said, however, and as noted below, the lessons can be used to identify some critical areas where crisis management frameworks could be usefully strengthened.

As noted in the previous sections, a common mistake in the early stages of any crisis is to ignore the signals in the first tremors and respond to them in a relatively ad hoc manner. Arguably, the failure to correctly diagnose the systemic nature of the crisis at an early stage can delay the adoption of the appropriate measures to deal with the financial sector weakness, and can damage confidence as the problems worsen and spill over to other sectors. In addition, the misdiagnosis of the problem and the provision of extensive liquidity support and guarantees may risk overwhelming central banks and finance ministries. As a

[54] See Hoelscher and Quintyn (2003), Collyns and Kincaid (2003), and Boorman et al. (2000).

result, both monetary policy and fiscal policy can become overly expansive with adverse implications for the exchange rate and inflation. In addition, extensive liquidity support can lead to a sharp deterioration in the quality of the central bank balance sheet and the need to eventually recapitalize the central bank.[55] Based on these considerations, it is clear why it is important to correctly and quickly diagnose the systemic nature of problems and adopt a coherent overall strategy. A key component of such a strategy is to address in a holistic way the impaired asset and institutional problems in the financial system, and not rely excessively on temporary painkillers such as liquidity support, regulatory forbearance, and government guarantees.

More generally, it is important to recognize that there can be important two-way feedback effects between financial sector difficulties, on the one hand, and monetary and fiscal policies, on the other. In some financial crises, the problems may be directly caused by macroeconomic policy weaknesses such as high and variable inflation or unsustainable fiscal policies and pubic debt (Boorman et al. 2000). In these cases, addressing the macroeconomic imbalances will be the sine qua non for addressing the financial sector problems. It is also possible, however, that macroeconomic policies were not part of the problem in the lead up to the crisis but subsequently become a problem. This is why the key features of the crisis management strategy, such as the amount of official assistance and government guarantees, need to be provided within the available amount of macroeconomic policy space.

Based on crisis experience, the key vulnerability in many crisis management strategies is the fiscal situation. This is due to the typically high direct and indirect costs of public sector bailouts and capital injections, the adverse effects on revenue and spending from the accompanying weakening of economic activity, and the costs of any fiscal stimulus measures adopted (IMF 2008b,c; BIS 2009). As discussed in the preceding section, these costs were very large during the Asian crisis and have been extraordinarily large during the current international turmoil. In those cases where the sizes of these costs threaten the sustainability of the fiscal situation, there will typically be adverse consequences for the cost of issuing public debt and both monetary and fiscal stability may be put at risk. Less common, but of equal concern, are situations in which crisis management strategies involve guaranteeing cross-border foreign currency loans or, in the case of dollarized economies, foreign currency deposits. In these cases, there may be both fiscal and external problems and it is critical to cast the crisis management strategy within a consistent and sustainable macroeconomic framework to ensure that systemic financial risk does not create excessive systemic fiscal or external risk (Collyns and Kincaid 2003; IMF 2008a).

It is also important for the crisis management strategy to be transparent and independent from political and vested interests. An analogy may be useful to understand the importance of transparency and independence. In many countries, regular bankruptcy and related procedures will typically involve a stay on creditor claims before losses are estimated and distributed across claimants (Adams, Litan, and Pomerleano 2000). Generally, the willingness of the concerned parties to go into bankruptcy proceedings, and for creditors to stay their claims, is based on the belief that the resolution process is fair and transparent, with established rules and procedures. The problem in a systemic crisis is that many of the resolution procedures may be done out of court without the regular legal protections. Essentially, approaches to absorbing and distributing losses during a systemic financial crisis will be like a large “out of court” bankruptcy proceedings. Unless the process is transparent and independent, it may easily be seen as inequitable and become subject to abuse.

The reason why cooperation and coordination among state agencies is critical is based on the desirability of the crisis management strategy addressing in a holistic way the

[55] This was the case in the Philippines in the early 1980s (see Boorman et al. 2000).

interrelated components of the crisis. And, during the crisis, there will also be a need for a high degree of cooperation in the regular assessments and evaluations of the strength and resilience of different parts of the financial system (using inputs from various supervisory and other bodies), the amount of fiscal and monetary space, and the chosen balance among different policy instruments. Arguably, many state agencies and central banks will need to be involved in these processes. From a public policy perspective, many of the decisions made in managing the crisis will also have implications for taxpayers, implying that ministries of finance should be involved at many points during the crisis. This is most evident in the case of instruments, such as government guarantees and bailouts, but can also arise in the case of central bank liquidity support that puts its balance sheet at risk. Arguably, many of the crisis support mechanisms will have actual or potential fiscal dimensions and should receive input from the ministry of finance.

Exit strategies are important for a number of reasons, and especially in circumstances where a range of extraordinary measures have been taken to deal with the crisis. Among all the aspects of crisis management, this is perhaps the area where the least amount of research has been done. At least in broad terms, the preferred approach is to unwind extraordinary measures as fast as feasible so as to return to normal market functioning. In practice, however, it is rarely clear when systemic risk has returned to a comfortable level and whether extraordinary measures should be unwound gradually or in a big bang. As a result, as was the case following the Asian crisis in the late 1990s, measures are frequently unwound slowly (Adams, Litan, and Pomerleano 2000). For example, in the case of some countries in the region, the blanket guarantees introduced during the 1990s crisis were still in place when the current turmoil erupted. Looking forward, significant challenges will arise when exiting from the exceptional and other supports introduced during the current turmoil (IMF 2008a 2009a; ADB 2008b).

Based on the earlier discussion, there are three aspects of crisis management that could usefully be strengthened. These concern: (i) the tools and instruments available to involve the private sector in crisis resolution, (ii) the ability to credibly impose losses on systemically important financial institutions while keeping them afloat, and (iii) the approaches used to identify and manage systemic risk.

The ability to involve the private sector in crisis resolution (and avoid bailouts) will depend ultimately on there being sufficient capital in the system to absorb losses. Accordingly, progress in this area is linked closely to ongoing efforts with regard to capital adequacy and ensuring that the capital involved is "real." In the case of banking, these efforts have, of course, been pursued in the context of the Basel Committee and, arguably, and notwithstanding certain shortcomings with the Basel II capital adequacy framework, progress is being made. The second key area in need of strengthening the tools and instruments available to deal with systemically important financial institutions. Arguably, the increased resort to guarantees, bailouts, and liquidity support during the recent crisis has reflected both the assessment that the systemic risk implications of allowing certain financial firms to fail are too high, and, in some cases, a lack of instruments to allow for their orderly unwinding. The longer-term consequences of such approaches for moral hazard are, of course, potentially disturbing. One possible approach, suggested, by Mervin King is that if an institution is judged to be too important systemically to fail, then it should not be allowed to operate.[56] Such an approach seems unlikely to be workable in practice, however, and could imply forgoing the economies of scale and scope of large financial institutions. Either because the problem of too large or too interconnected to fail is unlikely to go away, or because it is only during a crisis that it becomes clear who is too important to fail, an approach is needed to deal with systemically important firms that run into difficulty. One

[56] See speech by Bank of England Governor ,Mervyn King, Finance: A Return from Risk to the Worshipful Company of International Bankers, at the Mansion House, 17 March 2009.

possibility would be the "living will" approach in which systemically important financial firms are required to regularly draw up plans for their orderly termination as discussed inter alia by Mervin King and Buiter (2009). But this may not go far enough and would require a correct ex ante identification of systemically important firms. What would arguably be more desirable (and feasible) would be to set up crisis resolution systems in which the owners of systemically important financial institutions could be forced both to take large losses (and ultimately fail) even while the business operations of these firms could be wound down in a slow and orderly manner. In short, what would be required, as discussed by Buiter (2009), would be crisis resolution regimes in which the owners of systemically important financial institutions can be credibly allowed to take large losses while the firms are kept afloat until such time as they can be wound down without adverse systemic consequences. Or, alternatively put, these financial firms must be made "safe to fail." The key elements of such an approach would be: (i) the creation of special crisis resolution regimes in which the state is provided with flexible powers to intervene in a timely manner in all systemically important financial institutions (based on an ex ante or ex post determination of systemic importance) and, if necessary, keep them afloat; (ii) the existence of real [57] capital and other cushions in these institutions that are sufficiently large to absorb losses in extreme events and which can be written down even as the firms are kept on life support; and (iii) the ability to flexibly provide assistance to innocent bystander financial firms that are adversely affected by spillovers and collateral damage from the financial firms in distress. Very clearly, many details of such an approach need to be developed, but the approach has the potential for imposing credible market discipline, lessening moral hazard, and addressing the problem of too big or interconnected to fail.

An essential ingredient in crisis avoidance and management is the early detection and containment of systemic risk. [58] Against this background, there is an urgent need to strengthen the oversight and understanding of systemic risk. Since the current turmoil erupted, there has been a considerable amount of work on how frameworks for macroprudential surveillance could be strengthened and systemic risk better assessed. Hence, for example, taxonomies of several types of systemic risk situations are being studied, such as those related to large and interconnected players, common trading strategies of many small players, common funding and market liquidity problems, and the effects of common shocks. In addition, efforts are being made to strengthen the understanding of the links within financial systems during extreme events, using tools such as co-risk models and network models.[59] These latter models could be used to help identify the systemic risk implications of alternative crisis resolution strategies. Even though it is too early to assess their usefulness, the approaches carry the promise of enhancing the understanding of systemic risk and how it might best be managed.

For the most part, the work program on systemic risk has been directed towards ex ante crisis prevention in the spirit, perhaps, that an ounce of prevention is worth a pound of cure. But very clearly, financial crises will invariably occur and there can be important payoffs in better managing them when they arise. Arguably, therefore, there would also be benefits to systematically addressing the links between systemic risk in normal times (*ex ante*), the particular crisis management strategies adopted (ex post) to deal with the realization of systemic risk, and how crisis management strategies influence systemic risk in the future. Hence, for example, efforts to understand the systemic risk posed by particular financial

[57] Note the emphasis on real capital, which could be Tier I capital as defined by Basel.

[58] A key recent example might be the Lehman's bankruptcy in late 2008. See BIS (2009) and IMF (2009a,b).

[59] See Athanasopoulou, Segoviano, and Tieman (2009), the IMF Global Financial Stability Report (2009a), Adrian and Brunnermeier (2008),), and Archarya (2009).

firms could usefully take into account the manner in which the crisis resolution regime will deal with such firms under stressed conditions and how spillover effects might be contained. In addition, account can usefully be taken of how alternative crisis management strategies will impact on systemic risk in the future through moral hazard and other effects. In short, account could usefully be taken of the two-way interactions between *ex ante* and ex post systemic risk oversight. And, arguably, assigning the same state entity overall responsibility for systemic risk may facilitate the linking of ex ante and ex post oversight. Under most current structures, such an assignment of responsibilities does not appear to be common (Davies and Green 2008).

5. SYSTEMIC RISK RESPONSIBILITY

This section addresses the issue of which state body should be assigned responsibility for the oversight of systemic risk. Based on the arguments in the previous section, a case can be made for assigning both *ex ante* (surveillance) and ex post (crisis management) oversight to the same state body and this is the approach assumed in the section. Which state body should have these dual responsibilities is not clear, however, and most countries currently involve a number of different state entities in decisions with actual and potential systemic risk implications.

Given their existing roles in macroprudential surveillance and crisis management, central banks might appear to be the natural candidates for a central role in systemic risk oversight. As documented by Schinasi (2006), ADB (2008 a, b), and Davies and Green (2008), many central banks already have mandates for macroprudential or ex ante systemic risk oversight and are well positioned to track the build up of risk on account of their "need to know" the markets in order to implement monetary policy. And, in many countries, central banks still play a role in the micro supervision of the banks. In addition, by virtue of their lender of last resort and other related functions, central banks frequently play a major role in systemic crisis management, as documented in previous sections. From these perspectives, at least, central banks would appear to be well positioned to assume the dual roles of both ex ante and ex post systemic risk overseers. Such a role would, of course, require them to more formally take on some new and broader responsibilities (as discussed below)—and might require that the roles of other state bodies in these areas be cut back commensurately—but an expanded role might be seen as a natural fit as argued by Mishkin (2009) in the case of the US.

Against the arguments for providing central banks with a central role in systemic risk oversight, there are a number of important caveats. These include the possibility that the role of a systemic risk overseer will distract central banks from their focus on monetary policy; lead to them becoming excessively politicized as many decisions will need to be made about liquidity and other forms of support to financial firms; and, more generally, that it might involve central banks in many actual or quasi fiscal activities.[60] Moreover, given that micro-based supervision and regulation in several countries has already been moved outside the central bank—in one or more variants of the mega or integrated regulator model (Davies and Green 2008)—the proposal might require partially reversing this shift as central banks will require comprehensive information on the financial system in order to perform their expanded mandates or information sharing agreements would be required with financial regulators.

Alternatively, the systemic risk overseer role could be assigned to a mega financial regulator (outside the central bank) but this would immediately run into the difficulty that the mega regulator does not normally have the lender of last resort function or the other tools central banks have to manage crises. While it might be possible to provide the mega regulator with

[60] This has clearly been the case during the current turmoil as discussed earlier in this paper and in BIS (2009).

a lender of last resort fund on which it can draw during a crisis, this could seriously impede the flexibility to respond to shocks. Another possibility would be to assign the responsibility for systemic risk oversight to the ministry of finance based, inter alia, on its taxing responsibilities. This, however, could create a similar missing policy instrument as well as information sharing problems with the central bank and/or regulatory bodies. In short, there does not seem to be a simple solution to the issue of which entity should play the role of overall systemic risk overseer.[61]

Against this background, I would propose a compromise structure in which a single new state body is created to assume overall responsibility for ex ante and ex post systemic risk oversight even as the implementation of key policies with systemic risk implications remains at the central bank, the ministry of finance, and relevant regulatory bodies. As envisaged, a high-level systemic risk council (SRC) would be established in each country that would have the ultimate responsibility for systemic risk oversight and for setting macro prudential and crisis management policies. Under the envisaged structure, relevant state bodies, such as regulatory agencies, would continue to play important roles in micro-based supervision and regulation, central banks would continue to serve as lenders of last resort, and deposit insurance funds would discharge their mandates. What would be different would be that the activities and actions of these agencies as they relate to systemic risk would be under the direction and control of the SRC. Effectively, the SRC would be the one-shop coordinating agency for systemic risk oversight and control.

The power of the SRC would derive from its vested authority to require other state bodies, including the central bank, to implement the macro prudential and crisis resolution measures regarded as necessary to contain or manage systemic risk.[62] To these ends, the SRC would need to have its own independent staff to assess and monitor systemic risk, be headed by an official with rank at least equal to the heads of relevant state agencies under its direction, and it would need to have the authority to request from other state bodies the information required to perform its functions.[63]

The key defining features of the SRC would be as follows:

> The SRC would be the ultimate point of responsibility for systemic risk oversight and management.
>
> The SRC would monitor actual and imminent threats to systemic financial stability and have the responsibility to determine the appropriate pre-emptive macro-prudential policy responses that would be implemented by other state bodies.
>
> The SRC would address unfolding systemic risks during crisis periods and have the responsibility for determining the macroprudential measures and state interventions required to address these risks in order to support financial stability.

[61] In addition, there is no experience with ex ante and ex post systemic risk regulation to identify the optimal institutional structure.

[62] In *ex ante* terms, these would include discretionary actions such as changes in capital requirements, stepped up macro prudential supervision, and more rules based approaches such as dynamic provisioning. Ex post , they would include decisions on how to respond to systemic stress and whether, for example, to bail out financial firms and/or provide liquidity support.

[63] Kawai and Pomerleano (2009a and 2009b) stress the importance of an independent view of systemic risk.

> The SRC would help coordinate the roles of the various state bodies and agencies as regards systemic risk (including the central bank) and help avoid duplication and overlap.

As envisaged, the SRC would be intended to address the key concerns that would arise in assigning systemic risk oversight to the central bank, while recognizing that several state bodies will invariably need to be involved in systemic risk issues. Most importantly, the SRC structure would help protect the monetary independence of the central bank and ensure that any quasi-fiscal actions (including the lender of last resort) that the central bank undertakes to contain systemic risk are implemented on behalf of the SRC with the risk borne by the SRC (and ultimately the government).[64] Beyond these advantages, the SRC would also be better positioned than the ministry of finance to decide when taxpayer funds should be used to address systemic risk concerns during a crisis. This is because the SRC, under its mandate, would be looking at systemic risk in deciding whether the use of public monies was warranted. And the establishment of the SRC would imply that the micro regulatory body (or bodies) would not need to focus on systemic risk or make decisions about the use of taxpayer funds in any bailouts during a systemic crisis.

Needless to say, the SRC would face a number of challenges in performing its mandate including those related to the fact that systemic risk oversight frequently involves the regular monitoring of markets in circumstances in which there are few dark clouds on the horizon. As with any other overseer of systemic risk, the challenge for the SRC will be to remain continually vigilant to the potential build up of systemic risk (while not sounding too many false alarms), to be able to take timely pre-emptive actions when risks appear on the horizon, and, in the event of crises, to be able to adopt a crisis management strategy that can contain systemic risk.

[64] There is no reason why the central bank could not undertake some “normal” lender of last resort lending in situations when systemic risk is not an issue. This could be achieved by the SRC allowing the central bank to undertake lender of last resort lending on its own account within pre-specified limits.

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