Avoiding the Next Crisis

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The present crisis is evolving by the minute and anything written about it is likely to be out of date by the time it is published. This note therefore focuses on the lessons we can learn to avoid such crises in the future.

Every crisis is in some sense different, as on the whole society is quite good at learning the direct lessons from previous examples. However, in many other respects financial crises are very much the same. In reflecting on the Nordic crises of the 1980s and 1990s Mayes et al. (2001) listed seven characteristics:

- a major regulatory change that opens both buyers and sellers to new opportunities and risks of which they have little experience
- a period of rapid economic growth
- a rapid rise in asset prices
- a weak framework for supervision
- a tax regime that encourages borrowing
- unsustainable macroeconomic policies
- a substantial adverse shock

While this is not an exact description of the lead up to the present crisis, with the "originate and distribute" model of banking representing the new opportunities and risks, it is near enough to pose the question of 'Surely we should have seen this coming?' However, with hindsight this is true of virtually all crises, the build up looks extreme and unsustainable, with various commentators offering notes of caution on the way up.

In the light of this experience the best that can be offered for crisis avoidance is a series of characteristics in the system that lean against the causes that have just been outlined. However, that is only half the picture. The system can also be designed to make the reaction to problems less dramatic, as a crisis is a combination of an excessive build up and a major reversal, where a drastic loss of confidence matches the excess confidence on the way up. If the problem can be dealt with efficiently, then the drastic reversal may be avoided despite serious shocks. This provides the traditional balance between a well-structured, prudential framework on the one hand and an efficient safety net on the other. However, in some respects the two can work against each other. If financial institutions believed they will be saved if things go really wrong then they may be less cautious, thereby increasing the chances of a disaster. There therefore needs to be a very careful incentive structure to guard against this form of moral hazard, as set out in Beck (2003), for example, in the case of deposit insurance.

This note deals with these two aspects in turn, with the emphasis lying on the construction of an effective incentive-compatible safety net.

Encouraging prudential behaviour

Most of the lessons for prudential regulation from the present crisis are being learnt without the need to make fundamental changes to the framework of regulation. Both banks and the authorities realise the mistakes that were made in measuring risks, particularly with respect to liquidity in its broadest sense and with regard to the degree to which risks transferred off the balance sheet still lay with the originator and were not properly accounted for. As a result both parties will be much more cautious over leveraging, will be much more careful in trying to measure the riskiness of more complex derivative products and will be much more concerned to take account of the risk that has been moved from its primary location. Taken together therefore we can expect both a substantial contraction of the banking industry in the short run and a much more cautious approach in the future until the memory fades.

Insofar as banks have been taken into public ownership or have received substantial injections of taxpayer funding, particularly in the form of preference shares, the traditional pattern of external regulation

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by the authorities and operation by the private sector is broken. The authorities can now influence such banks much more directly. While it is unlikely that governments will want to get involved in detailed management it is inevitable that they will have a say on the strategy of the institutions and hence a clear step towards conservatism can be expected. Indeed in the European case, the European Commission (2008) guidelines on how such intervention should be undertaken includes (§27) that there shall be safeguards such as "behavioural constraints ensuring that beneficiary financial institutions do not engage in aggressive expansion" and that a restructuring plan should be submitted within 6 months.

The existing framework under Basel II gives ample scope to decide on what capital needs to be held and how risks should be addressed under pillars 1 and 2. Rating agencies and internal rating systems will radically change their procedures to try to avoid committing such large errors in the future. Liquidity buffers were never addressed with the same vigour as capital buffers by the Basel Committee and we can expect that this lapse will be corrected over the coming few years. Since leverage has also proved a problem, one can expect pressure to introduce leverage ratio constraints in addition to other capital buffers.

However, it is also clear that Basel II is seriously deficient in at least two respects. First, even at the time, there were strong reservations about its procyclicality. The system of capital buffers systematically allows capital cover to fall as asset values inflate and confidence within the system grows in an upturn. Conversely, as asset prices and ratings fall in the downturn, there is a major need to replenish capital just at the time when it is most difficult and expensive to do so. It is clear that the whole approach to buffers has to change, encouraging capital provision in an upturn and permitting weaker capital cover as the risks are revealed in the downturn. In this way there will be both more cover for adverse events and an easier ability to weather them. The means of doing this have not as yet been fully worked out, but incentives such as dynamic provisioning in Spain give an indicator of ways that they might be achieved. Similarly there is the suggestion by Kashyap et al. (2008) that banks might be able to take out capital insurance, which provides a more orderly (and cheaper) way of obtaining capital in a crisis than a fire sale – provided that the insurer itself can withstand a whole rush of claims at the same time.

Second, it is also clear that the process of stress testing has to be changed as it seriously underestimated the consequence of a general downturn in the economy and in financial confidence. Some of this requires a new approach to models. The macroeconomic models typically employed were not capable of generating extreme events. DSGE models, for example, deliberately try to represent the normal equilibrating process across the economic cycle and do not encompass what is effectively a regime shift when confidence is suddenly eroded. Such regime switching models and more sophisticated treatments of expectations formation have been developed (Sargent 2001; Branch and Evans 2008) and more realistic tests can be expected in the future.

However, the main incentive for prudential behaviour is not going to come from a set of prudential regulations that comprehensively seek to lay down minimum conditions that banks must apply to avoid endangering the financial stability of the system. It will come from the self-interest of those involved in financial markets themselves.

This form of market discipline will be exercised through a variety of routes (Llewellyn and Mayes 2003) but the most prominent are equity and uncollateralized (junior) debt. Falling share prices relative to the industry average or widening premia for borrowing from the market are clear signals of disquiet. Banks could be required to issue subordinated debt at regular intervals so that there is a relevant price (Calomiris 1999). However, for these signals to have an effect, management or alternative management in the sense of a merger or acquisition has to respond (Bliss and Flannery 2002).

It seems to be very difficult to put together a set of incentives for those running the bank to act directly in the interests of the shareholders. Frequently the incentives to management can be seen as very one-sided, encouraging the taking of large risks in the hope of increasing the value of share options and having generous exit arrangements if a manager is forced out before completion of a contract. Worse than this, many of the upside gains may have virtually nothing to do with the management's actions and may simply reflect the consequence of a general rise in asset prices in the market. They may also be too short term and allow a manager to exit before the longer-run consequences of his actions are felt. It is widely thought that the remuneration of the chief management of banks has got out of

hand in recent years and needs reform (Sinclair et al. 2008), and this has been an explicit target where banks have been nationalised or subject to major public sector share purchase.[1]

However, the market for corporate control itself does not appear to work very well in much of the banking sector, as many banks have large market shares in particular markets where takeovers by other banks would fall foul of the competition authorities. Where it does not, the resulting leverage to effect the purchase can bring down the institution in a subsequent, as illustrated by the Royal Bank of Scotland, Fortis and HBOS. Clearly this circumstance needs to change and market discipline needs to become more effective. The disclosure of information under Pillar 3 of Basel II appears to do relatively little in this regard and although extensive it does not cover some of the more obvious indicators of risk management as revealed under the New Zealand disclosure regime since 1996.

Lastly there will be considerable pressure to extend the boundary of regulation. In the United States this has already expanded to include investment banks since they have either been closed, purchased by banks or decided to become banks themselves. In Europe the boundary is already much wider, with most institutions treated like banks. However, there is pressure to extend the coverage to hedge funds and even sovereign wealth funds. Rules governing the behaviour of agents are also likely to be tightened as in some countries they contributed to the granting of poor quality mortgage advances.

Pushing the boundary ever further out has obvious disadvantages as it limits the scope for financing more risky but higher return enterprises by those who can afford to take the risk and it pushes such activities into obscurer arrangements and limits intermediation. The overall consequence would be to reduce the potential rate of growth of the economy.

In one sense it is easy to define where the boundary should be drawn. If the failure of an institution (under the rules that govern it) would threaten financial stability then it should be inside the regulatory boundary. Not only does the social cost justify it but the advantages accrued by the protection from disorderly failure offers a countervailing benefit. However, recent events have shown that it is not possible to treat institutions individually and it is necessary to worry about the aggregate if many get into difficulty at the same time. Hence it is both the extent of the sector and the size of individual institutions within it that will be of concern.

[1] See, for example, the Banking Bill introduced in the British House of Commons on 7 October 2008 for reforming banking regulation – http://www.publications.parliament.uk/pa/cm200708/cmbills/147/2008147.pdf.

Correcting problems without a crisis

As noted in the previous section, the most important part of problem correction should be effected by the usual market mechanisms before banks ever become a concern to the authorities. However, if that fails the safety net needs to have two main characteristics:

- a mandatory programme of structured early intervention and resolution
- a credible regime for depositor protection.

The principal purpose of a mandatory programme of structured early intervention and resolution (SEIR) is to try to ensure that should a problem occur it can be resolved rapidly without recourse to public funding and without threatening financial stability. But it has a secondary purpose as an incentive to all those with a claim on the bank to act in advance of any mandatory scheme instituted by the authorities. The mandatory scheme will restrict the choices, force action to a tight timetable and in general look to the interests of the creditors and taxpayers.

Prior to the present crisis only a few countries, including the United States, Canada and Mexico had a clear SEIR framework in place. Most countries had less formal and more discretionary approaches for handling problems. While it has been clear from the recent problems that the authorities are prepared to act rapidly, it has been far less clear at what stage they would act and whether many claimants do better by waiting or seeking a private sector solution at an early stage. Such uncertainty is likely to cause losses. Compared to what was intended in advance, far more of taxpayers' money has had to be used in propping up the financial sector. While the safety net seems to be working in the sense of avoiding a damaging system-wide collapse, it has not operated as early and efficiently as hoped. Similarly, whilst almost all OECD countries (and many others) have had deposit insurance regimes in place, the current turmoil has shown that in general they have not been appropriately structured to handle a serious prob-

lem. The United Kingdom has seen the first open bank run since 1866, with Northern Rock in September of 2007. A year later the EU has advocated doubling the size of protection for individual depositors and several countries have felt impelled to introduce widespread guarantees to protect all retail deposits.

An SEIR regime

If an effective regime for acting on problem banks early and resolving them with minimum cost to society is in place, this in itself can act as an incentive to prudence if it has an appropriate structure. Instead of allowing the descent to a normal company insolvency where costs are high and creditors may have to wait over a decade for a final pay out (as in the case of BCCI, for example), such a structure involves increasing constraint on shareholders and management by the authorities as capital falls and ultimately taking the bank away from them while it still has some value and resolving it immediately in a cost-minimising manner. Shareholders and management are therefore likely to want to find a "voluntary" private sector solution before being forced into actions by the authorities.

The present crisis has emphasised the need for intervention early and the need for very rapid action. The traditional triggers for intervention that exist in the United States, where SEIR was pioneered (Benston and Kaufman 1994), have been shown to cut in too late. Liquidity shortage, not capital shortage, precipitated the collapse of banks – although of course lack of liquidity is normally the immediate cause of bank closure, as it is liquidity that determines whether they can actually meet their obligations on a particular day. Indeed, as Peek and Rosengren (1997) pointed out, action in the United States was in any case normally triggered earlier by other adverse signals generated by the CAMELS and other assessments of banks' condition. Clearly, therefore, one lesson that has to be learnt from the recent experience is that the triggers need to be earlier and involve a wider range of verifiable measures so that there can be little scope for debate with the authorities (Moe 2008; Mayes 2008).

The second major lesson from the present crisis is that the scope for emergency lending by central banks for banks facing liquidity problems has had to be much larger than previously thought. Traditionally the 'lender of last resort' function involves the central bank injecting sufficient liquidity into the market that any problem stemming from the failure of a normal source of liquidity in the market can be overcome, provided that the banks have adequate collateral to offer. (As a last resort such lending is normally offered at a premium.) In the Northern Rock crisis in the United Kingdom in August and September 2007, the Governor of the Bank of England claimed that it would not be possible to provide enough lending to the market to enable Northern Rock to obtain adequate funds (and hence that any lending had to be specifically to that bank). A year later, however, funding needed to act on a more general problem was provided (Mayes and Wood 2008). The scale of collateralized lending required has had a major impact on central bank balance sheets and required a shift from short-term lending for a week or so to longer-term lending and a commitment to provide such facilities for an extended period of time until the crisis plays itself out. It has also become clear that financial support in the event of liquidity problems has had to be extended outside the traditional definition of banks – into investment banks in the United States and in some respects into insurance. More institutions are vital to financial stability than many had thought. The fact that central banks can do this will provide added confidence in the financial system.

However, collateralized lending by central banks has by no means provided enough support, and governments have had to step in with loans, guarantees and outright purchase (nationalization) of financial institutions facing insolvency. The nature of these interventions, some of which have involved on the spot innovations, has shown that the system needs rethinking in many countries. It is not that tools cannot be found nor that most of them have been used before but simply that a coherent approach is needed if taxpayer costs and any possible moral hazard are to be more limited in future. The United Kingdom has addressed this directly in a new bill placed before parliament (see footnote 1) where it seeks the power to be able to direct transfers and takeovers (to willing recipients), form bridge banks or nationalize banks in order to provide the smooth resolution of a troubled institution without the need for shareholder approval. Similar powers exist in other countries, where the key ingredient is that there has to be a special resolution regime for banks and not the application of normal corporate insolvency law.

Such regimes can take many forms (Mayes et al. 2001; Mayes and Liuksila 2003) and the New

Zealand regime is of particular interest as noted in the next section as it can be applied across borders. The essential ingredients are that all banks must be structured in such a way that if they cannot be allowed to cease normal operations, as this would challenge financial stability; it must be possible for the authorities to step in and restructure them into a viable institution within the same working day so that no contracts are broken and depositors get uninterrupted access to their funds. In New Zealand this occurs through a process described as "bank creditor recapitalization". As soon as the Reserve Bank, as the responsible supervisor, determines that intervention is needed, a statutory manager is appointed who takes over from the shareholders, and makes a valuation of the claims on the bank, which are then written down sufficiently in order of increasing seniority until successful recapitalization is achieved. The bank then reopens under statutory management the following day and the claimants, who include the depositors, receive a tradable claim on the assets reflecting the size of the writing down.

Nationalization and the formation of bridge banks are different routes to the same end. Nationalization keeps creditor claims whole while taking over from the shareholders, while a bridge bank is effectively a temporary nationalization of the whole or essential part of the failing bank (with the remainder of assets and liabilities being placed in receivership). Only a few countries place an explicit requirement on the authorities to minimize some specific form of loss, e.g. to the deposit insurer. Indeed, in the United States, the choice of resolution method lies with the deposit insurer and a specific systemic risk exemption has to be invoked in order to be able to take wider losses to society at large into account. This requires the approval of the Federal Reserve, the Comptroller of the Currency and the Secretary of the Treasury and has not yet been invoked. (Although it probably would have if the $700bn plan for buying toxic assets had not been put in place.)

In order to prevent the same problems in the future we can expect to see other countries implement explicit objectives and sufficient powers to implement SEIR, particularly the components relating to resolution.

Deposit insurance and wider guarantees

This financial crisis has revealed that many of the characteristics of actual deposit insurance round the world do not meet the concerns for which it was set up. Traditional deposit insurance is designed to protect the normal size of deposits of ordinary people. However, "normal" deposits are now often above the insurance limit and hence many depositors are exposed. Deposit insurance is also designed as a confidence boosting device for the financial system as a whole, so that people do not rush to withdraw their deposits from sound banks at the first hint of trouble as this would bring them down as well. As the Northern Rock case in particular revealed, even the UK's relatively high limit (more than double the EU required minimum) only protected around 90 percent of depositors and a much smaller proportion of deposits.

Second, it has only now been realised widely that people want continuing access to their deposits. In the EU insurers are only required to pay out within three months (and this is renewable twice). Given the extent of transactions that cannot be met with the cash that happens to be in people's pockets at the time of failure, it makes sense to withdraw one's deposit to maintain liquidity even if the eventual payout will be in full, hence nullifying the attempt to use insurance to stop a run. The EU is now advocating three days as the desirable limit. While the New Zealand requirement of access the following day may be ideal, people may be able to accept the loss of a handful of days (the United States aims at a week).

Between them these difficulties have contributed to the situation where countries have largely felt unable to allow any banks to fail as their insurance systems would not succeed in maintaining financial stability. On the one hand, they have bailed out the banks themselves either by buying preferential shares or buying or guaranteeing the assets that have been difficult to sell at a reasonable price. On the other, they have issued blanket guarantees to creditors including depositors to stop them withdrawing or refusing to offer further credit. Bailing out the bank itself and its existing shareholders, even if there are restrictions on future transactions offers an unfortunate incentive for the future. The same could be said for junior creditors. However, for depositors it is unlikely that the problem for the future will be so large. Most depositors thought that they were fully protected in the event of a general crisis anyway or that their deposits were with a bank that was "too big to fail".

Deposit insurance is really designed for problems with individual small banks when there is no general threat to the system. Indeed the hope is, in Western Europe at any rate, that it will hardly be used at all as

the sorts of banks that get into trouble will normally be purchased by larger banks. As a result, deposit insurance has not been effectively tested in many countries. If insurance limits are to be raised and the system geared to cope with the simultaneous failure of more than one large bank, it would become impossibly expensive if the system is to be funded so that it can credibly pay out without recourse to the taxpayer. Such a cost would be counter-productive, although it might be reasonable to offer people the option of paying explicitly for insurance of larger deposits.

Clearly there needs to be a rethink of what constitutes a "normal" deposit, and something of the order of three times GDP per head or $75,000–$100,000 seems to fit that bill in the OECD countries (Campbell et al. 2008; Hoelscher et al. 2006). But the major need is to be able to rescind the blanket guarantees and move to a revised safety net where banks and their creditors do not rely in future on such guarantees to bail them out.

Handling cross-border problems

Although there has been a lot of pressure in Europe to try to address the problems of large cross-border banks, the response has been slow and there has been a general reluctance to enhance the existing network of national regulation in home and host countries with a higher level coordinated approach. Now we are seeing the consequences with the collapse of the three largest Icelandic banks, Kaupthing, Landsbanki and Glitnir, threatening the solvency of Iceland as a country. Other cross-border banking problems have so far been easier to resolve, with the French and Belgian authorities supporting Dexia and the Belgian, Dutch and Luxembourg authorities supporting Fortis, including the recently purchased ABN-AMRO. In these cases it was possible effectively to divide up the banks into their component national parts and let the national authorities handle them. Creditors of the Icelandic banks have not been so lucky as Iceland does not have the resources to handle all the claims for which it is liable. Under EU/EEA rules the home country is responsible for the supervision and deposit insurance of the parent bank and branches in all countries, while host countries are responsible for subsidiaries in their jurisdiction. The passport principle means that host countries cannot object to the structure of the banking group nor to the home country's supervisory actions. Not surprisingly there are now recriminations when one country is having to payout for another's errors. The EU needs to resolve this if it is to have a workable system in future with more cross-border banks.

There are two possible ways to go. One is to have a European level supervisor and resolution agency (a European Deposit Insurance Corporation, if one were to match the US model of the FDIC), while the other is to have much closer cooperation and joint responsibility particularly for prompt corrective action (Mayes et al. 2008). New Zealand has implemented a third way out of the problem, which is to insist that any significant bank operating within its jurisdiction (assets over $10bnNZ) must not only be a subsidiary so that it is a definable legal entity with adequate capital of its own in New Zealand but that it should be capable of running itself as a free-standing organisation before the end of the "value" day in which a problem strikes. While this is workable and attractive to small countries, it would eliminate some of the potential gains from economies of scope and scale that underlie the rationale of cross-border banks in the first place.

If the EU is not prepared to move to an EU-level system, major changes are required in the existing combination of national systems to ensure a common information base, joint responsibility and decision-making, and a similar range of corrective and resolution tools and powers and the right to use them to the joint instead of the purely national benefit. Maybe such changes are now more likely.

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