LESSONS FROM THE NORTHERN ROCK EPISODE

David G Mayes[1] and Geoffrey Wood[2]

Abstract

We consider the lessons that might be learned by other countries from the problems with Northern Rock and the reactions of the UK authorities. We ask whether the surprise of the run on the bank came because economic analysis did not provide the right guidance or whether it was simply a problem of practical implementation. We conclude it was the latter and that as a result other countries will want to review the detail of their deposit insurance and their regimes for handling banking problems and insolvency. The relationships between the various authorities involved were shown to be crucial; were a similar problem to occur in a cross-border institution the difficulties experienced in the UK could be small by comparison.

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Up to September of 2007, the authorities in the UK, and most private sector observers there, thought that the idea of a bank run on a solvent bank, with pictures of distressed depositors queuing in the street, was something that occurred in other parts of the world, such as South America, and not something that could happen at home. After all it had been nearly 150 years since the last significant bank run (on Overend, Gurney, and Co. in 1866) and the London market, particularly through Bagehot, had developed the ideas ,which most other financial centres have followed, of an effective Lender of Last Resort to help banks which are illiquid but can offer adequate collateral. The UK was much slower to adopt deposit insurance, a device intended among other purposes to prevent bank runs, but such arrangements were in place and were more generous than in much of the rest of the European Union, as prescribed under EU law. Thus, according to the ideas of Diamond and Dybvig (1983), depositors should not have felt any need to rush for their money when a bank seemed to be in difficulty - they were protected, and by more than one means.

This article deals with the experience from the run on Northern Rock, a substantial and venerable depository institution, which in theory should never have occurred. We do not document the crisis itself as this has been done in House of Commons (2008) and an extensive article by Milne and Wood (2008), to which the reader can refer, but focus in the implications.

[1] Adjunct Professor, Europe Institute, University of Auckland, level 4, 58 Symonds Street, Private Bag 92019, Auckland Mail Centre, Auckland 1142, New Zealand, d.mayes@auckland.ac.nz, +6493723681.
[2] Professor of Economics, Cass Business School, 106 Bunhill Row, London, EC1Y 8TZ, UK, g.e.wood@city.ac.uk +442070408740.

Northern Rock had been growing rapidly and pursuing an aggressive funding strategy, relying heavily on wholesale markets. Far from the being a secret it was an announced strategy by the management and hence as a public and supervised institution such risks should have been priced and prudential limits applied if needed. Although its loan book had been growing rapidly, it was generally believed that its loans had been granted prudently; it was generally judged that Northern Rock was solvent. Indeed the Chancellor of the Exchequer made this solvency explicit in justifying the loans and facilities granted to the institution.

While temporary special funding may have been inevitable given the unusual distortion to wholesale markets, this is something the safety net and the lender of last resort facility in particular are designed to handle and their mere existence, let alone use, should have provided the confidence depositors and investors required. But they did not. Moreover, this lack of confidence extended to those who might recapitalise Northern Rock, to the extent that improved impossible on terms that seemed fair to the government and hence ended up with the bank being taken into temporary public ownership.

We ask whether it is Bagehotian theory and/or its practice that was at fault, and how both of these should be adjusted to prevent such unnecessary lapses in financial stability occurring again. There has been a substantial enquiry into the events. That is still continuing. Both authors have contributed to it. There has also been considerable recrimination as the various parties involved try to blame each other. The UK Treasury, the Bank of England and the Financial Services Authority issued a Discussion Paper to invite submissions on how the system, particularly with regard to deposit insurance, should be reformed. Following that they made joint proposals that the Chancellor of the Exchequer presented to Parliament at the end of January on how the framework might be strengthened (Bank of England *et al*., 2008). Just prior to that, on Saturday 26th January, the House of Commons Treasury Committee produced its report and recommendations on the issue.[3] We draw not simply on our own evidence but on the contributions of others.

Our findings are that the theory seems to stand up well but that the practice has revealed several useful lessons about the operation of Lender of Last Resort, co-ordination in crises, and the importance of avoiding liquidity losses to depositors, all of which have important implications for the conduct of policy in the future and the design of deposit insurance schemes in the UK and more widely in Europe. In particular it has become clear that the idea that depositors will be satisfied as long as they get access to their deposits within a few weeks or months as required under present legislation is highly erroneous. It also demonstrated again that the Lender of Last Resort has to act

[3] *The Run on the Rock*. House of Commons Treasury Committee, Fifth Report of Session 2007-08, Vol.1, 26 January 2008. This Report, which only focuses on the implications for the UK has many recommendations that are broadly in line with the conclusions drawn in this article. The differences are minor and essentially reflect institutional features of the system in the UK that may not apply in other countries.

promptly and supply such funds as are needed against a wide range of collateral in a manner which exudes confidence. In this case a central bank has to act as a bank. It has to take a rapid decision whether to lend to or to close an institution and having decided it needs to act firmly to support that decision and minimise the losses to society. This involves taking a risk. It is also clear that the response to deal with public unease has to be swift, unified and credible. Moreover, the temporary public ownership of the bank is a response already thought appropriate, particularly in the United States when a suitable buyer cannot be found, both in the interests of minimising any costs to the taxpayer and in maintaining stability and confidence. In UK it was viewed as a failure of the system rather than as the effective operation of the safety net.

One area where the theory does have to be revisited is transparency. Accessing emergency lending facilities needs to be viewed as a reassuring sign. As a result of many of the modern reforms of monetary policy, there is a wide gulf between normal liquidity operations and actions when that market mechanism does not supply what one or more institutions may need. The summer of 2007 has also shown up wider problems when normal sources of liquidity dry up. In the last 20 years the focus of prudential regulation and financial market structure has been on capital adequacy. This last year has emphasised the need for attention to adequate liquidity. The lesson needs to be learned so the problem is not repeated but we do not see present circumstances as justifying a major increase in supervisory regulation. Indeed the substantial changes entailed by the adoption of Basel 2 may have taken some of the attention away from the fundamental principles of which the events of this summer have reminded us.

However, the Northern Rock experience has been a fortunate opportunity to focus attention on an area that governments in particular have not thought in need of serious attention, for it has done so without causing important losses. While shareholders have lost a lot of value and may well lose more before the incident is closed, it is unlikely that the losses will spread elsewhere in the system. The incident could have been far worse. Northern Rock is a domestic institution focused strongly on the retail housing sector. It could have been a major multifunction bank and it could have been an institution with strong cross-border activities. Here the current arrangements are far less satisfactory – if co-ordination between the ministry of finance, the central bank and a single unified supervisor did not work as intended, what would the chances be where several such institutions were involved and none had the real power to act and give confidence to depositors?

We set out how the wider problems that fortunately did not occur should be addressed in this review of policy in the UK, and how they should be emulated elsewhere, particularly in the EU. There is already plenty written on the event itself and on the problem, so we concentrate on just five issues:

- Problems thrown up in the exercise of the Lender of Last Resort/ emergency liquidity assistance function
- Why the form of deposit insurance chosen did not prevent a run
- Why was there not more action earlier?
- Keeping a failed institution operating
- Problems of co-ordination

These form Sections 2, 3, 4, 5 and 6 of the paper respectively. However, we begin with one over-riding issue 'certainty'.

1 Certainty

Many things will be uncertain when considering a potential problem or risk for a bank but there are features of the way in which the safety net is expected to work which should give confidence to all those involved and hence reduce any panic, assist the chance of an orderly private sector solution before the problem becomes far advanced, and ease the task of the authorities in putting things right if they do nevertheless go wrong. An important ingredient of effective crisis resolution is that people are clear in advance about what is going to happen. People need to be clear in their own minds about the steps the authorities are going to take. And of course this alone is not enough. The steps laid down in advance need to be credible not simply in the sense that people believe they will be followed but also in the sense that they believe these steps will bring any crisis to a conclusion.

Typically authorities are cautious about being too prescriptive in advance, as all crises are different (otherwise we could head them off) and important parts of the decision making process will be dependent on the specific events. For example, while one can describe the possible routes to recapitalisation of a bank that has made serious losses, it would not be possible to set out in advance what will work best in a particular case. However, there are some aspects on which the rules can be clear but which. At least four such aspects can be identified:

- If there are liquidity or related failures in normal market financing the central bank will provide unlimited lending against acceptable collateral to all institutions which can provide such collateral.
- Managers and shareholders must know that there will be no bailouts (government open bank assistance) by the taxpayer. If a bank gets to the point that it cannot continue without recapitalisation it will either be closed, if this is the least cost solution, or taken over and resolved by the authorities in a way that keeps the critical functions operating
- Insured depositors will have no material break in the access to their funds
- The regulatory authority is compelled to intervene early and take increasingly strong action as capitalisation falls

The first of these is the classic version of the standard Lender of Last Resort function. The traditional concept needs expanding in two respects. The Northern Rock episode has taught us that funding problems may not simply be at the short end of the market. Longer-term financing can also dry up. It is normally argued that the central bank should lend at a premium over the market otherwise the private sector would always seek to transfer the worst risks onto the central bank at what is effectively a subsidised rate. As we discuss later, whether this premium should represent a ‘penalty’ or just be thought of as a standard facility should the market not function properly has turned out to be very important in the Northern Rock case. Access to “special” central bank funding has in recent years been viewed as a ‘failure’ by the institution that needs to take up the funding. Thus instead of being seen as a success for the operation of the safety net the action is viewed as if the bank had fallen, hit the ground and been seriously if not terminally injured. Thus the impact was much closer to what would have happened if the central bank had refused to lend and hence in effect told Northern Rock it would have to undergo compulsory resolution procedures because they thought it was either insolvent or would inevitably become so.

The shortage of liquidity, not just in the UK but also in the euro area and the US, has illustrated a further well-known issue. If the central bank is to increase liquidity successfully this may very well involve effectively lowering interest rates. Although it may be possible to avoid a general fall in rates across the yield curve, these moves could clearly conflict with a monetary policy based purely on the control of inflation.

In many respects the second bullet point is the most important. Shareholders and the management need to have as strong an incentive as possible to find a solution that keeps the bank going, otherwise they will, respectively, undoubtedly lose the entire value of their shares and their jobs. For the incentive to be strong the authorities need to have a credible way of handling a failing bank that will not cause problems for the financial system, whether the failure be actual insolvency or resolution without recourse to open bank assistance. But this will only be possible if the appropriate legal framework exists to intervene and make such a resolution. Furthermore, as the last point emphasises, the authority responsible needs to have a matching incentive to place heavier requirements on the bank to change, and to prevent actions that either heighten the risks or transfer the losses from the shareholders and directors to the depositors and unsecured creditors.

2 Issues for Emergency Liquidity Assistance

Thus far in the Northern Rock case it appears that the Bank of England has been able to step in successfully, with the support of the government, and lend against acceptable collateral so that the bank has been able to continue in business. Although it has not as yet been possible to find a long-term private sector solution and the government has had to step in and take over ownership, it has been possible to offer collateral despite the major withdrawal of retail deposits. The House of Commons (2008) Report has been critical of various aspects of what has been done (paragraphs 10 – 27 of their conclusions and recommendations) and earlier, decisive and well-managed intervention might indeed well have avoided the bank run and entailed a much smaller package of loans and guarantees. However, at the time some features of the situation inhibited this. We focus on just two.

– Does transparency impair the effectiveness of the operation?
– Is it possible to avoid what has been described as ‘stigmatisation’ in the sense that the mere fact of using such facilities act as a major depressant to the standing of the bank, rather than improving it?

2.1 Transparency

One of the major difficulties about a potential banking crisis is that unless the problem and the solution are effectively revealed at the same time then the problem is highly likely to become a crisis. Otherwise anyone who feels they may be exposed will attempt to limit their possible loss. The ideal solution is no doubt pre-emption. If it is possible for management, directors or the authorities to realise that there is a problem and head it off by some form of recapitalisation or reorganisation that gives general confidence then the uncertainty is removed. No rush is required to limit the losses; indeed, precipitate action is likely to lead to greater losses for those who take it.

Achieving this pre-emption necessarily requires having not just the potential problem but the discussion over its solution kept confidential. Since keeping confidences of this form when large sums may be at stake is asking a lot it is reasonable to wonder if it is possible.[4] In any case, as House of Commons (2008) makes clear, all firms including banks have a duty to reveal to shareholders anything that is likely to have a material impact on the value of their shares. In his evidence, the Governor of the Bank of England made it clear that he would have preferred to keep the fact that the Bank was lending to Northern Rock confidential, but while his reasoning is clear, the practicality of the conclusion must surely be in doubt.

If one were to compare lending under an emergency facility with other sources of funds for banks then a measure of anonymity would be normal. Fluctuations in retail funds would not be identified and nor would the particular counterparties in short-term markets unless these presented

[4] As Milne and Wood (2008, pp.19-25) explain, it was clear on Monday 10th September, 2007, that Northern Rock would need to access emergency financing from the Bank of England. However, it was not planned to release the information and the details of the package until Monday 17th September. However, the market got wind of the operation by Thursday 13th and despite efforts to bring forward the announcement the action was 'leaked' by the BBC that evening. Thus instead of a clear, measured and reassuring statement by the authorities it was journalists who chose what to say and a run ensued. This run was only brought to an end by the announcement of a government guarantee, something that had not been part of the intended package.

problems of concentration risk or exposure to related parties. Hence it is arguable that collateralised lending from the central bank could similarly be kept confidential. However, as a matter of practicality, and indeed of legality, this seems unlikely, except in the very short term. The question therefore is how to handle the disclosure rather than how to work at avoiding it.

It is perhaps most suitable to look at experiences over mergers and acquisitions, as the revelation of emergency liquidity support appears to lead people to reappraise their holding of bank shares. Such a revelation will certainly encourage competitors to hope that they can acquire some or all of the business at a favourable price. The share price of both potential acquirer and acquiree can vary very considerably once it is known or rumoured that discussions are taking place. It is really only in the case of a private company that the discussions can be kept reasonably quiet. The share price of Northern Rock performed fairly predictably, declining steadily at least six months before the crisis broke by a total of nearly 50% (chart 1). It then dropped by a further third in just a few days.

Such fluctuations in share prices are inevitable as they reflect the entire future stream of potential earnings for the holder. This does not imply that depositors should be facing any similar fluctuations in their prospects. Indeed experience in the US suggests that troubled banks are likely to increase the interest they pay on retail deposits. This therefore requires that the process has to have a credible safety net built into it.

Unsecured creditors of a company normally try to protect their positions if there is information that the company may be in trouble, thereby reducing the credit available and increasing the company’s costs, thus exacerbating the problem. For non-financial suppliers a bank is no different from other companies. But in the case of a bank, funds are an essential input to the business itself hence the need for central bank support facilities. In most industries customers do not face large losses, or where they do have to put up large advance payments, insurance is usually available, as in the travel industry. Non-insured depositors and subordinated debtholders need to know that they will not suffer losses however the discussions work out, if they are not to try to close out their positions. This means that they either have to feel assured that the solution will not involve closure or that, in the event of closure, they will not face losses. This would entail more than the normal deposit insurance and something more like a blanket guarantee; although, if it appears that bank closures can normally be achieved before capital is exhausted, this will itself reduce the pressure. It is, however, noticeable in cases brought in the US against the FDIC following closures that uninsured depositors are often among the most active. It is they who can complain that the authorities have not done all they might to minimise their loss. As in the case of Northern Rock it was the drying up of traditional markets that precipitated the crisis: markets were already acting to protect their position. Once those most likely to be informed react then the others are wise to follow if this may reduce their potential loss. It thus seems inevitable that banks will face a more drastic problem than nonfinancial companies from the removal of funding in the event of a suspected problem.

Opacity at the time can only be justified in terms of reducing losses to those who are exposed and can be explained after the event when the information is no longer sensitive. If those involved know there will be full ex post revelation even if in confidence to an inquiry then this will be an incentive to take actions as if they were transparent at the time. Otherwise, if shareholders and unsecured creditors are exposed to increased losses through the failure of the authorities to reveal what actions were taking place even though the authorities hoped to avoid them, they will face litigation.

Our central point here is that if the bank cannot be saved there should be prompt closure while the bank is still solvent. If that is done, then no depositor, whether insured or uninsured, loses money.

2.2 Avoiding the stigma

There is a dilemma in designing support facilities. If it is expected that they will be used fairly regularly and have little in the way of a downside other than a small penalty then they will become a normal part of the market. If on the other hand they are rarely used then their use will imply that something drastic has happened.[5] The Bank of England in its evidence (to the Treasury Select Committee) voiced concerns over the moral hazard that could emerge if obtaining emergency lending were seen to be too easy. Part of the problem is that there is no grey area where a bank with a small problem can use a small amount of a facility. It is either using it or it is not.[6] Further, when central banks charge a margin over other sources of funding, there is not normally a gradation in the price, except in the terms under which they will accept decreasing quality of collateral. The extent of the haircut is likely to rise only with the risk attached to the security taken.

There is thus a problem with taking a simplistic view of any moral hazard. Deterrents only work when they deter. Once a facility has to be used despite a deterrent in the form of a penalty, circumstances change. Any deterrence then relates to other market participants. It is arguable that once such a facility has to be used, then additional liquidity should become widely available, in case there should be any problems of contagion. If the deterrent is so strong that it effectively destroys

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[5] The Bank of England's standing facility that permits eligible banks to borrow overnight from the Bank of England against eligible high quality collateral at a penalty over the market rate was used 19 times in the period between July 2006 and August 2007. While this facility is intended as an automatic means of correcting any market problems or 'errors' by banks it use has been a source of unfavourable remark in the media as explained in the Bloomberg release on 30th August 2007, available at http://www.bloomberg.com/apps/news?pid=newsarchive&sid=af7IkE90mKik.

[6] In some respects this is analogous to exchange rate crises. Interest rates will rise slowly in the country at risk of a devaluation (the so-called ‘peso problem’) but it is only at the end that the exchange rate itself falls away.

the bank using it, then the point is lost.[7] The financial and reputational penalties therefore need to be sufficiently large that banks will not normally access 'emergency' facilities and having accessed them will wish to re-establish normal facilities as soon as possible but not so large that they push the bank under. The additional liquidity in the market as a whole, along with the implication that the central bank thinks that the troubled bank has adequate collateral, should help the system work effectively. The difficulty with a Lender of Last Resort function nowadays lies to some extent in the name – probably even more so with its Eurosystem equivalent 'Emergency Liquidity Assistance'. Since the function is intended to be used under circumstances when an institution with eligible collateral cannot obtain funding from the market, it should be taken to imply that there is something wrong with the market rather than with the borrowing bank. It is partly for this reason that it is argued that the more normal LOLR function should be exercised in the form of exceptional loans to the market as a whole. Thus in the Northern Rock case, when it looked as if the market was drying up the appropriate stance would have been to step into the market to try to fill the gap, so that Northern Rock would have been only one of a number of borrowers and it would have become more difficult to identify it as being the sole beneficiary.

The trouble with any such action in the market is that it could be quite expensive for the central bank. In the case of Northern Rock it would have been arguably impossibly large (House of Commons, 2008, p.45) It would certainly be impossible after the event, if there was no collapse, to demonstrate that the cost was necessary. That could only be achieved by failing to act and seeing the crisis emerge. In this particular instance central banks had become bothered by the way in which markets appeared to be drying up in consequence of the problem of losses on the back of the sub-prime market in the US. The problem was that not only was it a guess as to what the extent of the loss was but that it was not clear where it was concentrated. Thus it was difficult to judge what the exposure of any counterparty might be, and indeed what your own exposure might be, especially since the original exposure might be several layers deep in repackaging.

It is not very helpful to look at the particular source of the problem on this occasion, in that the problem next time is unlikely to be the same. Nevertheless, the separation of the exposure from that of the direct lender to the borrower with a problem is likely to be instructive. Traditional banking supervision should work well with the direct relationship, even where retail loans are very much a commodity. Banks and their supervisors will be aware of the extent of exposures to particular sectors of the market and supervisors will be able to compute aggregate exposures in the market. At a remove from this, the calculation may be more difficult. Furthermore, a bank that has

[7] It has in any case been argued that the literature tends to take an unjustifiably pessimistic view of bankers' behaviour and that there is little evidence of more risky behaviour when there is a safety net or improvement in the safety net among advanced countries.

onsold the risk will have altered its own exposure even though the exposure still exists in the market.

Traditional banking supervision is not well adjusted to this sort of market risk. Yet those charged with financial stability have to consider what they would do in the event of such market collapses. The traditional role of the central bank is in quite narrow markets, where its resources are sufficient that it can make a noticeable difference. This is, perhaps, therefore another example where those involved in financial stability find themselves faced with responsibility but without the power to avert the problem. It will only be those who can exercise some regulatory control over the market who will be able to act in these circumstances. Of course if the central bank is itself the regulator then the problem is again internalised.

3 Deposit insurance

The Northern Rock episode has highlighted two issues over deposit insurance that have remained dormant in recent years, and a third which is still unresolved. The first is that it is often argued with insurance that if the insured are open to some loss in the event of a claim they will take more care in avoiding exposing themselves to risk. This argument has not been widely applied in practice, but the UK has been a counter-example, in ensuring only 90% of allowable claims above a £2,000 minimum. The second is that unless all deposits are insured to their full value there will always be some people facing a potential loss; these can be expected to run on the bank in the event of probable difficulty. In the main these will be large depositors, who may have their deposits on terms which cannot be broken in a hurry without the consent of the bank – something it is not likely to give in a time of difficulty. There is thus a question of where any dividing line can be drawn which excludes some depositors or parts of deposits without inducing a run or other financial disturbance that the authorities find unacceptable. Issues of equity might affect that choice. The reaction of the UK government has been to consider raising the limit to £100,000, which at £35,000 was already higher than in most other EU countries and embraces most ordinary depositors.[8] That must lead to considerable food for thought for other EU countries. However, and against that proposal, it has been argued in the report of the Select Committee that the limit could well stay at that level (covering as it does a little over 90% of sterling bank deposits) and that the concerns of larger depositors would better be met by prompt closure The argument was that below £35,000 one might view deposit insurance as in effect a form of social insurance, protecting the "widow and orphan", and that larger depositors as well as possibly having the knowledge to watch the behaviour of their bank would have access to other sources of funds for short tem needs.

[8] The proportion quoted in House of Commons (2008) is 96%, so the increase would involve only a small number of depositors. Of course better protection may result in a general increase in the size of bank deposits.

The third concern is over the length of the period during which access to depositors funds might be interrupted (Kaufman, 2007). Standard deposit insurance protects people against loss of their deposits. In Europe, unlike the US, it does not usually address the issue of whether they also face losses from being unable to access their funds for an extended period of time. In the EU the requirement is that people should be paid out in full within three months, although it is possible for this deadline to be postponed for two further periods of three months.

It is possible for normal transactions to operate, albeit with difficulty, when banks are closed, as is evidenced by the Irish banking strike. In that particular case, people were prepared to accept endorsed cheques as payment and retail outlets, particularly bars, were able to operate a form of secondary market among people they knew.[9] However, this is not likely to work in the case of a failed institution[10]. Any acceptable claims would need to be on some viable entity.

Furthermore in advanced financial markets many people will quickly start having problems if standing orders and direct debits are not honoured. People's credit ratings could quickly fall. While power and telephones may not be cut off rapidly in the face of unpaid accounts, society in general has tended to become less trusting and it may be difficult to get temporary credit except under extortionate terms until the next salary payment can be cashed. Hence if insured depositors feel they will be in serious difficulty if a troubled institution fails, they will still want to withdraw at least some of their deposits to tide them over the period of difficulty – and once making such a withdrawal it might well seem sensible to withdraw the entire balance at the time – just in case. This would therefore generate a run even though there would be no prospect of actual loss of funds.[11]

This is in principle a problem with a straightforward solution as the period without access could be made very short. If there is a direct handover that keeps the business operating, as in the case of a bridge bank in the United States or the appointment of a statutory manager in New Zealand then the issue does not really arise at all as there will be no material break in access. However, if the institution does shut then the relevant accounts have to be transferred. Experience in the US suggests this can be quite rapid, certainly for access to a proportion of the account, while the exact eligibility of the whole balance is being established. However, easily effecting such transfers requires either access by the new provider to the failed bank's computer systems or that the accounts are structured in such a way that their wholesale transfer is readily possible. In the case of anything other than a small bank this would require both extensive requirements on how banks organise their account handling systems and substantial advance preparation involving interaction

[9] The proportion of dishonoured claims when the cheques could actually be presented turned out to be quite low. It is not clear that levels of trust and honesty are anything like as high these days.
[10] It is also likely that it would work only in a small country.
[11] It is noticeable that the run on Northern Rock was not primarily a flight from bank deposits into cash but a transfer of deposits from a bank thought to be in trouble to other major banks thought to be 'safe'.

with the deposit insurer or whoever it is will effect the transfer. This required extra steps in the US (FDIC, 2006).

The process of regaining access to deposits needs to be swift and automatic. If people have to file claims or the authorities have to assess whether the depositor simultaneously has liabilities that could be offset against the deposit (as would normally be the case in an insolvency) the process will be drawn out and hence will not work. Such simplicity comes at the cost of increasing the burden on the other claimants on the bank, including of course the deposit insurance fund, which succeeds to the claims of the insured depositors (or at least the insured part of them).

As Hupkes (2004) has pointed out, only part of a bank's functions needs to be transferred to a new entity if financial stability is to be maintained. Many of the other activities can be allowed to cease and will readily be picked up by the rest of the market at relatively low cost to those who are affected. They may involve a small loss from a broken contract and incur extra costs in recontracting but these will not amount to either severe hardship or the generation of knock-on failures and personal bankruptcies.[12] Hence the costs of organising the transfer of accounts need not add anything significant to the costs that would otherwise be incurred in insolvency, as these normally approach around 10% of the capital value that can be recovered. The main distinction is likely to be over who bears them. In the case of insolvency, the shareholders are wiped out and then the creditors bear the loss in increasing seniority. For transferring deposits, some of the costs will have been incurred by the firm and therefore borne by its customers and shareholders. However, some will have been incurred by the deposit insurer and hence will be incurred by the rest of the banking system, or possibly by the taxpayer if that is how it is financed. Collateral damage through contagion in both the financial and real sectors will of course be much more widely borne in either case. The key feature, however, is that maintaining the function - allowing holders continuing full access to their insured deposits - does not entail that the troubled bank itself has to be kept in being, (although that is one possible route).

Most countries are a long way away from having such arrangements in place as failure is a very rare event. Even providing access to insured deposits in quite small failed banks has in practice proved difficult (Moe, 2007). The problem is balancing the costs of making the arrangements with the chance that they will be needed. Until the Northern Rock episode most European countries

[12] Hüpkes suggests that a function of a bank is critical if it is essential to the functioning of a financial market, if failure would have serious adverse consequences for the financial system and the real economy or if the function cannot readily be recreated by another provider without substantial loss to itself and others in the financial system. As it stands, these are all amorphous concepts and would need to be translated into concrete terms. In theory it is possible to identify who are the essential players in the financial system – in payments, settlement, securities holding etc – and to set out which functions and providers will need to keep in operation. Of course it may be in the interests of these providers to get themselves identified as such even if this then has consequences in the form of a more zealous supervisory regime. The criticality in itself will tend to convey an offsetting financial advantage as it reduces the possibility of loss.

would have judged the costs of implementation too high. Now that it is clear that there could be a run as a result, the balance will have changed markedly.

This will therefore come to a helpful wake up call to other deposit insurers, particularly in Europe, who can take the opportunity to implement systems that enable a rapid payout. However, this brings with it concomitant issues to be resolved. For example, if all deposits in a particular class are insured it makes it much easier to have a swift payout as the need to check whether an account is eligible or establish what portion of it is covered is greatly reduced. If, however, there need to be checks to establish whether the account holder has other accounts that need to be aggregated in determining what funds are insured or their needs to be a check on the residence status of the account holder to establish eligibility then a swift resolution will be more difficult, or the nature of the ongoing computer checks in the failing bank will need to have been more comprehensive.

This leads back directly to the first two issues raised in this section – whether to have coinsurance and where to place the dividing line, if any, between insured and non-insured deposits. The implication of the Northern Rock experience is that coinsurance does not work. In the first place it does not appear to lead to any more careful behaviour by depositors. Studies in New Zealand, where there is no deposit insurance, suggests that the normal depositor pays no attention to the vulnerability of their bank. Bank deposits are regarded as safe. There have been no bank failures in the memory of most depositors, so the risk is treated as nonexistent.[13] In any case it is never clear what the authorities would do in the event of the failure of a major bank, even where there is no explicit insurance. It seems unlikely that a government, in a country with a three-year electoral cycle such as New Zealand has, would want to see large numbers of its citizens losing money in such a failure, even if their losses given default are by no means total. The temptation to provide at least some recompense and to load the cost on future generations will be enormous. Thus such countries almost certainly have implicit insurance, however strong the current rhetoric is to the contrary.

Northern Rock illustrates this point clearly. The Chancellor of the Exchequer felt obliged to give a blanket guarantee. Thus although insurance was ostensibly partial and up to a limit, in practice it was total and without limit. Given the reaction on the basis of partial coverage, it is not surprising that the UK is planning revisions to its deposit insurance scheme. The interesting issue now is how other countries will react. They have not had the problem themselves, so in many cases their systems are untried. What do their depositors really believe? It is difficult to answer such a hypothetical question directly. It is also difficult to assess it indirectly by looking at behaviour. It is

[13] Even in the case of finance companies, where there have been several failures over the last year, it is not clear that depositors associate higher risks with higher (better) interest rates. Thirteen finance companies failed between mid 2006 and the end of 2007, with about 1.5bnNZD of deposits between them, which is around 0.5% of the total in the financial system.

difficult to see whether there is much in the way of self-insurance. Typically depositors do not hold very large sums in their insured accounts but invest the money not needed for transactions purposes in other higher earning savings vehicles within the bank, many of which will not be insured. Of course much of their savings will be held outside the bank altogether, in forms that have various levels of security. It may therefore be possible to see how people have reacted when the degree of insurance or security has changed.

A little can be judged by the pricing of deposits and other unsecured instruments for the bank. Granlund (2003) for example has shown that there is a considerable discount for banks in Germany where banks are generally seen as likely to be acquired by other banks in the event of actual or near failure rather than being allowed to collapse. However, this tells us about the market's view of the likelihood of implicit insurance (whether through public or private sectors) not about the views held by individual holders of retail deposits, and it is those who will constitute a run in the sense of politically unacceptable queues outside banks. Larger and better informed creditors/depositors will of course also run on the bank, and earlier than their retail counterparts. However, this run does not take the form of an apprehensive queue outside the building and is completed by the normal course of telephonic and electronic transactions – or rather the lack of them as lending lines are not renewed.

The Northern Rock episode is thus likely to end coinsurance by depositors and may lead to some implicit insurance schemes becoming explicit if the incentive effect does indeed appear to be near zero. However, this is unlikely to apply to cases where the coinsurance is between the taxpayer and the banking system, although it may alter the nature of the funding. Most deposit insurance schemes have limited or no funding and hence implicitly rely on state funding to tide them over should there be a major disaster. Deposit insurance schemes are predicated on there either being no claims or at least only small claims relative to the total stock of deposits. Clearly the private sector may find it difficult to recapitalise the insurance fund after a big shock that causes consequent losses all round the financial sector. The government is then faced with a choice when a bank insolvency looms – should it provide temporary (it hopes) loans to a troubled institution to stop it failing through a run or should it provide temporary loans to the deposit insurance fund because it did not prevent the failure?

The issue of where to draw the dividing line between insured and uninsured deposits is also difficult to decide if the outcome in a run is purely in the behaviour of different depositors. Clearly, for a deposit of a particular type the depositor is more likely to run the larger the deposit, so introducing dividing lines is merely likely to alter the length of the queue. Some deposits have a built in time delay, so that they cannot be removed immediately. Although typically banks enforce this by not paying interest on days before the withdrawal equivalent to the notice the customer is supposed to give, in the case of trouble they would be likely to enforce the letter of the agreement and insist that the customer wait, which will in practice mean that those depositors get drawn into the insolvency proceedings. Whether that would affect the length of the queue is debatable. People would no doubt turn up in hope.

The initial idea behind deposit protection was to cover the normal range of balance of ordinary people who could not expect to be adequately informed about the state of their bank to manage their own risks[14]. The current required minimum limit in the EU of €25,000 is of this order of magnitude and would cover the full value of most retail bank deposits. However, many deposits now exceed that so it is arguable that there are reasons for protecting some higher deposits, partly because of the size of the shock to the financial system from their loss and partly because of the lack of information for the private individual. Our point is different. In the EU the insured limits vary and the UK is even now clearly above the average. Given that banks can compete across borders in the EU and if they choose to do so by means of branches their deposits are insured by their home country, this could have a considerable impact on competition for retail deposits if customers were to begin to feel that banks might be fragile. Larger deposits could gravitate to the regimes with higher protection. While not currently an important consideration in practice, this could become a feature that adds to the fragility of the financial system in times of stress. Although the impact is in the case under discussion muted by the fact that the UK is not in the euro area, this could lead to a general reappraisal of the appropriate level of deposit protection in other competitor countries.

One other source of difference among deposit insurance regimes is the degree to which they are pre-funded. If the deposit insurer is to be able to act immediately on insolvency to give people access to their deposits, this implies that it must have immediate access to funds. While in principle this could occur as a standing facility from the banking system, it might look more plausible if it had its own funds or access to a public line of credit. The UK pay-as-you-go arrangement could have made a rapid payout difficult. An additional argument in favour of pre-funding is that banks are more likely to fail in times of general economic distress, and it would not be sensible to demand additional funds from the banking system when it is thereby stressed anyway. Getting the funds in good times would be more prudent.[15]

4 Getting Earlier Action

[14] That at any rate was the idea in comparatively recent times. When the first country to introduce deposit insurance, the USA, did so in 1933 the intention was to act a substitute for the lender of last resort in its role of preventing contagious bank runs.

[15] Of course this is by no means the end of the issues. If there is prefunding then banks will pay the equivalent of premiums given the size of their deposit base. It is arguable that those that appear a higher risk should pay a higher premium. Indeed the knowledge that regular review of premiums takes place could be a factor encouraging an earlier purchase of a troubled bank before the costs rise.

4.1 Prompt Corrective Action

The House of Common's (2008) report finds fault with the Financial Services Authority for not having acted sooner when it found that Northern Rock's funding model was extreme for the industry and opened it to considerable risks. Irrespective of whether the FSA was at fault in this instance, this raises a significant issue for supervisory intervention. In general if action is to be successful it should take place well before an institution would get into trouble, as changing course takes some time to implement. Thus if the FSA had begun to move strongly when Northern Rock's share price started slipping relative to the rest of the banking sector and criticism of its funding model became strong, it might have been possible to reorganise funding before the problem reached such serious proportions. However, this involves acting when a bank is clearly compliant with capital requirements[16] and when the criteria for action, such as known to be inadequate stress tests, are less obviously objective.[17]

Kaufman (2007) captures the essence of the problem by his emphasis on the word 'prompt'. Treatment of problems must normally occur through the private sector well before a bank starts meeting regulatory limits. Thus poorly performing or risk-taking banks should see their actions reflected in their share price (for example), so that either the existing owners change course or the assets are sold to new owners who believe they are able manage them more effectively. It should not be left to the last minute. However, the Northern Rock episode illustrates that this will not always be the case, and when the market realises that it has made a mistake, the readjustment will be sharp and substantial. In such circumstances the response has to be commensurately rapid. There is no opportunity to reflect. The procedures available therefore have to be capable of rapid activation.

Kaufman mentions three of them

- The authorities have to have the power to step into a troubled institution should it get too close to failure
- They have to be capable of forming a rapid judgement about the extent of the losses and the sensible action
- They have to be capable of acting fast enough to be able to assign the losses and keep the bank operating without a material break

[16] One awkward feature (for the FSA) of the Northern Rock saga is that shortly before the debacle the FSA actually eased capital requirements when a longer term report on compliance with Basel 2 was completed.

[17] Clearly some action was already taking place in the first half of 2007 (Milne and Wood, 2008, p.4). Northern Rock had slowed its lending growth and increased its liquidity but issued a profits warning in June. The FSA had considered Northern Rock's stress testing in visits in April and May 2007 but its granting of a waiver for Northern Rock to use the 'advanced approach' under Basel 2 in June was a contribution to Northern Rock increasing its interim dividend in July according to the chief executive's evidence to the House Commons Treasury Committee on 16th October 2007, Q689.

Furthermore if the bank does close

- The authorities have to be able to act fast enough to ensure that insured depositors have access to their funds without any significant break.

All of these not only have to be the case but to be generally believed to be the case. The depositors in Northern Rock needed to believe that there would be no problem of either losing their deposits or losing access to them. Had they done so then the chances of a run would have been much smaller. They are unlikely to be concerned whether their deposits are being funded by the deposit insurer or whether the accounts are being administered by another bank as long as they are protected against loss and the interruption that results in inconvenience or loss of credit reputation.

The well-known US rules for Prompt Corrective Action (PCA) for compulsory intervention and action form a good template for other administrations to consider, but the trigger points relate to undercapitalisation (Mayes *et al*., 2007). This is rather outdated in the framework of risk management envisaged in Basel 2. Trigger points should also be based on the requirements set out in Pillars 2 and 3 of the Accord and not just Pillar 1 on capital adequacy. The Basel 2 Accord, as embodied in legislation in the EU through the Capital Requirements Directive does indeed set out what should be considered under Pillars 2 and 3 but it does not embody a set of actions that the authorities in the member states are to take in the case of non-compliance. These are decided at the national level and do not in general have the force and urgency of the US PCA.

Risk management issues, as Northern Rock illustrates, are just as capable of driving a bank into difficulty as is undercapitalisation[18]. The problem is to formalise them - say in terms of the probability of default or the loss given default. [19] This clearly represents an area for urgent study by the authorities

5 Keeping vital functions of a failed institution operating

5.1 Investor of last resort

Governments face a serious dilemma if an institution that gets into trouble has to be kept open and operating if financial stability is to be maintained. While initial lending may be collateralised everyone knows that some form of guarantee exists beyond the collateral. That in itself may be sufficient and confidence will then be maintained even if the guarantee is never exercised. If the market is uncertain about whether the guarantee will be exercised then it will have to be exercised - as the uncertainty will lead to the rush to exit, yet another clear example of where 'constructive

[18] It has been remarked that shortage of capital kills slowly but that shortage of liquidity is like a bullet in the head.

[19] It is noticeable that the UK FSA has proposed in its review of liquidity requirements (FSA, 2007, p.37) that it should apply the same risk 'appetite' for liquidity as it does for capital, namely that there should be no more than a 1 in 200 chance of becoming insolvent in the coming year. Such measures could be PCA triggers.

ambiguity' does not work. The problem in these circumstances is to manage both the potential loss and the moral hazard.

A simple solution is to make no institution so large that it is 'too big to fail'. The Northern Rock episode 'helpfully' reveals that this boundary covers rather more institutions than many have predicted. In the US for example it is suggested that perhaps only some 10 institutions are too large to fail. Clearly in other countries the number will depend on the degree of concentration in the market. It remains that it is likely to be politically more difficult to allow institutions to fail than it is to allow them to fail without harming financial stability. Concentration in particular communities, in marginal constituencies or where the losers are economically significant will all contribute to a wish to keep institutions open.

The key in these circumstances is how the institution is to be kept open. Indeed the use of the word open is itself somewhat misleading, as indeed is that of the word fail. Here again the United States sets a good precedent. The business of a bank can be kept running even though its current legal personality is terminated and the bank reconstituted under temporary public sector control in the form of a new 'bridge' bank – bridge in the sense of bridging the gap between one period of private ownership and the next.

Such an ability to intervene does not exist at present in the UK and ordinary insolvency procedures would apply. This means that the bank has to be kept open either by loans while retaining the existing ownership or by nationalisation. This means that the taxpayer is exposed to the full extent of the losses. In practice it is this latter nationalisation that has happened with Northern Rock but without any neat arrangements over the terms of acquisition from the existing owners. Where it is embodied clearly in the banking law as in the US, it is possible for the temporary nature of such an action to be explicit and for the form of such an acquisition to be known in advance to reduce the controversy involved.

6 Coordination Failure

6.1 Government by committee

The Tripartite Agreement in the UK recognised that three groups of parties need to be involved when a bank gets into difficulties. The supervisor, as responsible for the prudential conduct of the bank, the central bank, as the lender of last resort and institution responsible for financial stability in the country, and the government in the form of the ministry of finance in that it would be responsible for any injection of taxpayer funds. In most EU countries the deposit insurer is not an active player in these discussions and therefore has a secondary role to play. In the US it has the lead role.

There were clearly some problems, in the case of Northern Rock, of these various agencies playing their roles as the others would feel appropriate. The same could well appear in a crisis in other countries, despite the sorts crisis management simulations that are typically undertaken. The problem is magnified when the authorities have to handle an important bank that operates in many countries. Then the number of agencies involved can become very large. For example for an institution involved in just 10 countries there would be at least 30 at the table even if there were a single unified supervisor involved in each country, as in the UK. Despite the suggestions of Schoenmaker and Oosterloo (2006) to the contrary such an arrangement is likely to be unworkable (Eisenbeis and Kaufman, 2007). Something where one party can take the lead in a crisis is needed.

In the case of cross-border banks in the EU and of course also of large complex financial institutions it is necessary to get the authorities to work together. This needs to be carefully organised even when the organisation is functioning well because there will be major recriminations in the event of difficulty should it be possible for one authority to blame another because they were not all properly involved in the decision making.

Both the Basel Committee and the EU have gone quite some way to sorting this out by insisting on the designation of a lead or consolidating supervisor; however, this does not go far enough (Mayes, 2006, Vesala, 2006). For a group of supervisors to act with the speed and efficiency of a single supervisor their operations need to be much more integrated. They need to operate as a 'College' under the lead/consolidating supervisor, having access to a common shared database and having common powers for action. It would considerably advantage the troubled bank if the College applied a single rule book as well.

The key problem will arise when action is required. In a diverse group it is unlikely that action in all jurisdictions is required at the same time or that the need is equally urgent in all cases. Moreover a problem in one area may require action in another where there is no problem, especially where capital ratios run across countries.

Once action to protect financial stability is required then it will be even more difficult to get agreement as a function may be systemic in one country but not in another. Thus one country may be happy to see a bank close because such closure will have only a minor impact in its jurisdiction, whilst in the other jurisdiction the effect of closure could be a major financial calamity. In such joint problems it seems clear that the country with the potential serious difficulties should have the main say in the resolution of the problem. But this would cause acute problems if the costs of solution were going to fall mainly elsewhere. Countries would no doubt prefer others to bear a larger proportion of the loss but small countries cannot possibly take on the support of the entire banking group just to maintain systemic functions in their own jurisdiction; and all countries, regardless of size, might be reluctant to support an institution primarily important elsewhere. It is very unlikely that many jurisdictions have provisions for supervisors to take account of the impact outside their own boundaries to the extent of subordinating their own country's interests to those of others. Substantial change is clearly needed here, and it will not be easy to achieve because of its budgetary implications.

6.2 Cross-border arrangements

The House of Common's (2008) report attempts to get over the problem of who should be in charge in the UK by recommending the creation of an enhanced responsibility for financial stability on the part of the Deputy Governor of the Bank of England with the creation of an executive Office. They do not support the idea of emulating the US and having an equivalent of the FDIC that will act both to minimise the losses to the deposit insurance fund and to guard against any threats to the financial system as a whole. The UK deposit insurer, the Financial Services Compensation Scheme (FSCS), like many other European insurers would require a completely different structure if it were to be capable of taking on that responsibility, whereas the central bank has much of the resources already. If the FSA were to be responsible there might be a conflict of interest as protecting the FSCS against loss might imply early action while protecting the reputation of the FSA might imply leaving a longer period for the matter to be resolved. The central bank may also conceivably have a potential conflict between the needs of price stability and financial stability, hence one reason for the recommended creation of the separate Office over which the Deputy Governor in charge of financial stability is responsible. Such a conflict is however rather a remote possibility (see Wood, 2000) and the separation is mainly proposed to ensure that the separate Office is as much a part of the FSA as of the Bank, containing staff from both and with some power in both institutions.

There is manifestly room for debate over which body should be responsible but not over whether some body should have explicit responsibility. At the European level the obvious choice is between a European Deposit Insurance Corporation (EDIC) and the European Central Bank. (The latter has the possibility of being assigned these powers under the terms of its constitution.[20]) A separate agency would avoid the conflict of interest. Since being able to meet depositors' claims without a material break will also involve extra resources for deposit insurers, changing the role of the organisation may make sense. Giving such powers to the ECB might compromise its independence, given the fact that national taxpayers will have to bear any losses.

Such an EDIC does not have to be large. It only needs to handle the cross-border banks that have systemically important functions in at least one member state. This implies some 30 to 40 banks at present. The rest could remain under the control of the lead country. That same lead country model could work for the larger banks on a case by case basis (Mayes, 2007).

[20] This has to be a decision by the Council of Ministers, the ECB cannot award this responsibility to itself.

7. Concluding remark

The upshot of this discussion suggests that the Northern Rock episode has revealed little that leads us to believe that economic analysis was particularly at fault in allowing the problem to emerge. According to House of Commons (2008) the problems emerged from an unfortunate combination of weaknesses in implementation and a major external shock. We therefore draw 5 main lessons from this experience that need to be considered in all countries and not just in the UK:

1. deposit insurance needs to be designed so that
    a. the large majority of all individuals' balances are fully covered
    b. depositors can all have access to their deposits without a material break
2. the activation of emergency liquidity assistance arrangements needs to give confidence that those being assisted will survive, and should be seen as the system working as it should, rather than signalling some breakdown
3. there needs to be a regime of prompt corrective action for supervisors whereby prescribed actions of increasing severity are required within short time periods according to a set of triggers based on capital adequacy and risks of failure
4. there needs to be a legal framework such that the functions of systemic importance in banks that fail can be kept operating without a material break
    a. such 'failure' should occur before the bank becomes insolvent so that there is little chance of losses to the taxpayer
    b. this will normally involve a special insolvency regimes for banks
5. some designated institution needs to be in charge of intervention in failing banks to ensure rapid and concerted action
6. At a European level far greater coherence among the legislation and authorities of member states is required if these provisions for the handling of problems in domestic banks are to be equally successfully handled in the case of large cross-border banks

If these 5 provisions had been in place it is highly unlikely that there would have been a run on Northern Rock and the record of over 140 years without a significant bank run in the UK would have been maintained.

Further, Northern Rock was a medium-sized domestic bank. If the problems had occurred in a larger cross-border bank the consequences would have been much more severe. Although it will not feel like it to those who have lost money or their jobs in the Northern Rock episode, it is fortunate that the wake up call to action has been so effective at such limited cost. What remains is to take the action before any such serious crisis could emerge.

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Chart 1: Northern Rock closing share price, January 1997 to September 2007

Source: Northern Rock website