

THE ROLE OF THE SAFETY NET IN RESOLVING LARGE FINANCIAL INSTITUTIONS*

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Abstract

In this paper we develop some proposals for designing a safety net that can cope with the problems of cross-border banks in difficulty. We argue that the ingredients of the safety net and the regulatory and supervisory systems need to be carefully integrated and consistent. We also suggest that unless the potential demands on any public sector funds are kept to a minimum it will be impossible to manage a scheme involving both cross-border co-operation and rapid action sufficient to allow the business of a systemically important bank to continue uninterrupted. We conclude by arguing that in the EU at least it may be necessary to have a European level body to manage the resolution process even if bank supervision and regulation remain at national level along with fiscal responsibility.

The wider context of resolving large bank insolvencies.

It is inherent in tackling problems in financial institutions that are judged to be 'systemically important' that they will not actually be closed for business even if they reach the point of insolvency.¹ The authorities, with or without the participation of the private sector, will find a way forward, whether it involves a guarantee, a capital injection, nationalisation, division into a 'good' and a 'bad' bank or some other technique.² In the short term it may simply take the form of permitting an institution that would otherwise have to close, to continue in business.³ Systemic importance implies that the costs to the economy as a whole of permitting an insolvency will be greater than the costs of the alternative course of action. Such a 'cost' relates not just to the direct and knock-on impact of the particular failure but also to the continuing impact on the behaviour of the financial system even if no such failure ever occurs.⁴ On the plus side it helps generate confidence in the system, increase usage and efficiency and cut transactions costs, on the negative side it offers a moral hazard, the possibility of increased risk and the distortion of the structure of the industry by encouraging banks to become 'too big to fail'.

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Intervention in systemic cases will necessarily result in some transfer of the costs away from those who would be directly affected under insolvency, more widely across the economy and probably over a longer period of time. This and the impact on the continuing operation of the industry thus also introduce concerns over equity as well as net financial cost. Most assessments of these net costs are partial (Schwierz, 2004) and are mainly concerned with appraising, after the event, whether public money was properly used. They do not normally include an assessment of the moral hazard or costs of regulation.

This, often largely implicit, guarantee of intervention forms part of the 'safety net' that the authorities provide to ensure the efficient operation of the financial system in the event of or anticipation of a severe shock either to an individual institution or to the system as a whole. It is the primary purpose of this paper to sort out how this guarantee should fit into the safety net. In many countries the different parts of the safety net, implicit guarantees, lender of last resort (LOLR), deposit insurance, regulation, supervision etc., although closely related in practice, tend to be rather unrelated in design.⁵ Furthermore, while in the case of deposit insurance there is an extensive literature covering how such insurance should be priced,⁶ the same does not apply to the safety net as a whole.

The international dimension

However, while the traditional literature treats the question of how to handle systemic problems as if they are something which could be dealt with within a single jurisdiction, increasingly, institutions that are large enough to be systemic will be operating in a number of countries and subject to a number of jurisdictions. Thus not only may there be anomalies within a given country over the way in which actual and potential systemic events are handled but the regime has to be able to cope with multiple jurisdictions. Since there is little in the way of international law which covers this area, this essentially means that the outcome will depend upon the way in which the authorities involved manage to co-operate.⁷ At present, despite a raft of MoUs (Memoranda of Understanding) among authorities promising co-operation, it is difficult to guess how the practice will work out in many cases, as the outcomes will depend on the specific circumstances.⁸

This provides the basis for an unfortunate conflict. Insolvency is avoided nationally in systemic cases because it is too costly. However, avoiding it involves state intervention. Such intervention in an international environment involves co-operation. But intervention in the face of insolvency normally needs to occur very rapidly if it is to succeed. Having to obtain international agreement on the way forward in real time may not be realistic given the problems the national authorities have experienced over systemic events.⁹ Prior agreement is necessary, beyond what is currently in place and this paper suggests how this might be done, extending the proposals in Mayes et al. (2001) and Mayes and Liuksila (2003).

Designing schemes for intervention cannot be undertaken in isolation, as the nature of the expected intervention in the various countries will in turn affect banks' behaviour. Knowing that more favourable treatment would be likely to apply if it can make itself systemic, will itself influence how a bank organises its corporate structure, structures its balance sheet and manages its risks. It also affects the cost of finance for them (Granlund, 2003).¹⁰ Large financial institutions whose business runs across countries would actually have

a fiduciary duty to their shareholders to try to make sure that they organise their incorporation and structure in such a way that tends to maximise shareholder value in the event of difficulty. The net result is in part an encouragement to become too large or too complex to fail (Stern and Feldman, 2003).¹¹

For cross-border institutions, where there is a choice, the temptation must be to try to ensure that the lead authority is one more likely to apply a method of resolution that offers the greatest protection to shareholders. In one sense the degree to which such (regulatory) arbitrage can be applied is limited, as many banks do not have much choice over where they can be headquartered. However, their access to the various parts of the safety net can be quite considerably affected by the forms of incorporation they chose. In the EU, for example, they will be subject to home country control if they opt to use a branch structure but host country control if they set up subsidiaries. They can chose which arrangement is most appropriate for each market. Ironically, while opting for a corporate structure that enables home country control to operate may make more sense from the point of view of organising the bank's business efficiently, it might also make the bank less complex and hence more feasible for the home country to close.

Too big to save?

There have been various instances of failure of insurance funds in the face of large claims, with the payout ending up being less generous than expected (Eisenbeis, 2004). In an international context the demands on the host country can build up well beyond the importance of the bank in purely domestic operations. The assessment of the extent of the protection potentially available in a market therefore comprises both the likely rules that will be applied and the capacity to exercise them. Some banks are so large that they will be effectively 'too large to save' for the authorities in a small country (Mayes, 2004). Although the home and host authorities between them may have the resources necessary to avoid a failure and, indeed, the question of how such joint action by the various authorities involved would be achieved has been addressed, it is not clear how the practice would work (Brouwer et al., 2003). Co-operation in the current problem of supervision of international banks is more advanced than the co-operation over the hypothetical issue of crisis management.

Interestingly enough until the discussions about the restructuring of Nordea (set out in more detail in the Appendix), there has been relatively little concern, outside Switzerland, over the extent to which an insurance fund, as currently structured in the EU, might have to pay out to foreign depositors. Deutsche Bank in New Zealand, for example, states quite explicitly in its disclosure documents that New Zealand depositors are covered on exactly the same basis by the German deposit insurance fund as are its depositors in Germany.

There are conflicting interests among the authorities. To take a simple example, a bank may be of systemic importance in some host countries, where it has branches or subsidiaries, but not in the home country (Mayes and Vesala, 2000). There are no clear rules for international compensation in these circumstances. The host country has to cope with the systemic problem but it cannot control the resolution of the bank in question where that is the responsibility of the home authority. It is noticeable that New Zealand, which faces this problem, is insisting that all systemically important banks be locally incorporated even if they are foreign owned (Bollard and Ng, 2003).¹²

However, even having an identifiable local institution that can be in some sense isolated from the rest of the banking group does not address all of the issues.¹³ A group which is solvent but in difficulty might quite legitimately want to shrink foreign activity rapidly to focus on its 'core' market (Peek and Rosengren, 2000). Hence the actions in the host country may be quite damaging even when there is no issue of insolvency or breaking of the regulations.

This cross-national issue is potentially a much more serious problem than its domestic counterpart, as currently the financial system operates as if this difficulty did not exist. The switch in behaviour from believing that a satisfactory safety net exists to fearing that it does not would exacerbate the crisis. Fortunately, none of the international banks that are large compared to the countries in which they operate has come close to failure. There is therefore the opportunity to address the issue without the pressure of a pending case.

As this is a small country problem it has not been comprehensively addressed in the international fora dominated by the G10. The countries most affected have had to take action ahead of more generalised agreement. Switzerland has unilaterally acted as it is home to two banks in this category (Hüpkes, 2003). Similarly, the Nordic countries, which face inter alia the problem of handling Nordea, the most striking example of such a cross-border bank in Europe (Schoenmaker and Oosterloo, 2002), are making specific case by case arrangements. This is discussed in more detail in an Annex. A general EU/EEA-wide agreement is some way off despite the existence of the Winding-up Directive (Hadjjemmanuil, 2003).¹⁴

Other factors affecting the choice of structure and regulatory location

It is not just how shareholders will be treated in the event of difficulty that matters for the bank's choice of structure and regulatory location. Clearly the major emphasis will be on the attractiveness of the operating environment both in terms of the costs it imposes on the bank (and hence on its customers) and in its appeal to customers (Mälkönen, 2004).

The choices open to a bank wishing to alter its structure may be more limited than is immediately apparent. The structure of deposit insurance regimes varies considerably inside the European Economic Area. Although there is a common minimum for the deposits to be insured, the way the insurance is funded and administered varies from case to case. Such insurance is therefore not portable. If a bank is taken over or decides to alter its corporate form, it cannot simply withdraw its 'share' of the deposit insurance fund and place it with the deposit insurance corporation of another country. Insurance funds tend to operate on a ratcheting up basis. If the funds available fall relative to the insured deposits then they have to be topped up. Excess funds permit a contributions holiday. An individual bank that is losing deposits may gain exemption from making further contributions. Exit where all depositors are repaid in full from the bank's assets is not common, normally exit entails drawing on the fund.

The Design of the Safety Net

The authorities normally try to strike a balance between trying to avoid threats to the financial system and having an action plan in place to offset the unacceptable consequences should they occur. To be more literal, there will

also be outcomes for which they have no explicit plans, because the events have not been thought of or because their expected frequency or cost is too low to make such preparation worthwhile. As is normally the case, regulation to reduce the risk of systemic problems will have an ongoing compliance cost. However, having an action plan in place or believed to be in place has twin aspects. In part there will be little in the way of costs unless it is activated. However, it will also confer continuing costs and benefits just because of its existence.

We do not address here the parts of the safety net that relate to a malfunction in the system, particularly that relating the lender of last resort function performed by central banks. Under normal circumstances banks should not have difficulty gaining access to liquidity through the market and the central banks in the EU/EEA in particular stand ready to provide adequate liquidity to keep markets functioning well in the event of problems. Even though lending in the euro area needs to be collateralised, central banks will be making a judgement about any potential loss they might face from their actions, so there will be a grey area on the edge of failure or default.¹⁵ Most of the safety net, however, is only triggered in the event of default or failure. However, its parts, in terms of deposit insurance, emergency lending, guarantees etc. may well be the responsibility of separate organisations including the central bank and the ministry of finance.¹⁶

For any such scheme to be efficient, the parts need to support each other.¹⁷ A system of resolution without direct access to public funds, as suggested in Mayes et al. (2001), will only be workable if the size of the losses to be borne by the shareholders and creditors are limited. As soon as they become a noticeable percentage of GDP then they will retain their systemic character but not of course to anything like the extent that they would if the bank had been allowed to close and enter normal insolvency proceedings. The robust exit approach therefore has to be buttressed not just by the normal sorts of regulations and supervision to ensure prudential behaviour but by market discipline and requirements for prompt corrective action should the bank get into difficulty.

In an international environment the authorities have to decide how to handle their potential exposure to foreign creditors and depositors (and indeed shareholders if they are intending to keep the organisation running in current ownership or to buy them out). In the case of Switzerland, the question of managing the exposure has been addressed directly by imposing a limit, of 4bnCHF, on the payout by the deposit insurance fund, despite the obligations to refund up to a maximum that apply on an account by account basis. Some countries handle these potential liabilities differently, either by not providing insurance or, as in the case of the US and Australia, inter alia, by providing domestic depositor preference. As mentioned earlier, in the EU/EEA the position is more complex as the obligation over which jurisdiction has to provide the insurance and hence pay out depends on the corporate form of the bank. A bank operating as a subsidiary in a second country will have its eligible deposits covered by that 'host' country, while one that operates as a branch will have them covered by the home country where the parent company is incorporated.¹⁸

However, in the case of systemic institutions it is not at all clear that it is the deposit insurance part of the safety net that is relevant to the decisions about corporate structures, balance sheets and risk taking. If the institution is going to be kept trading, then the insurance fund will not be called upon. This is not

strictly true if the organisation that is going to provide the systemic support is itself the deposit insurance fund (as in the Norwegian crisis of 1991) (Moe et al., 2004). To some extent the relevant concern will be the extent of the potential Lender of Last Resort actions by the central bank or the degree of regulatory forbearance by the authorities. In the main, however, it will be a concern over which state will provide the capital injection or guarantee necessary to keep the bank open and trading normally.

All of this will be a guess, not simply because of the traditional constructive ambiguity that exists – the authorities will not commit themselves in advance to what support will be offered in case that encourages banks to take greater risks. It will be mainly because the authorities have not actually decided in advance and will treat each occurrence case by case (if it comes). As the second Brouwer Report (Brouwer et al, 2003) points out, at the European level, Memoranda of Understanding as to who would do what in a crisis do not extend as far as any commitment to pay.

If behaviour in the Nordic crises is anything to go by, then the unstated expectation would be that the authorities would limit the losses to the liability of the shareholders and the jobs of managers and directors immediately involved at the very least. In Sweden and Finland, even the shareholders were not wiped out in all cases. The reaction was particularly instructive in Sweden, where there was no deposit insurance at the time. It is not at all clear that a country with no deposit insurance would actually offer no protection in systemic cases – even if, as in the case of New Zealand, the authorities go to some lengths to spell out the lack of insurance and the limits to their obligations (Orr, 2004).¹⁹

There is thus an expectation of no or limited loss combined with an increasing likelihood that the authorities may not have the capacity to deliver it. While there is a fairly close match between the regulatory responsibility and the responsibility for deposit insurance this is not so for intervention. The authority that triggers an insolvency is not necessarily in a country that has a systemic problem as a result. The incentives for prompt corrective action, forbearance or use of public funds will not necessarily match up.

The Need for Action over Systemically Important Banks

Although there is considerable room for detailed difference, agreeing that one supervisor would act on behalf of the others in the Nordic/Baltic region, following a regime under the auspices of the Basel (2), should not prove particularly difficult while banks are adequately capitalised, given the very substantial convergence of the legal framework and the rules applied.²⁰ The other countries could feel confident that supervision was being applied to adequate standards.²¹ The problem comes when banks are underperforming or show other causes for concern. In these circumstances the rules for corrective action do not necessarily coincide quite so readily, not least because there is considerable scope for judgement. However, a large part of how any insolvency regime might operate is affected by the effectiveness of the actions available to avoid reaching the point of insolvency in the first place.

There are thus three circumstances that need to be covered by supervisory co-ordination or co-operation:²² adequate capitalisation, inadequate capitalisation requiring prompt corrective action and insolvency/intervention where corrective action has failed. These will be subject to different regulation in the various countries and hence the agreement between authorities has to

cover all three circumstances. The widespread nature of this need will in itself encourage the regulatory systems themselves to converge. Indeed there has been considerable policy borrowing already with countries looking closely at each other's rules when making revisions. Such convergence has of course been greatly assisted by the framework of banking regulation in the EU/EEA and the Lamfalussy process, including the setting up of the Committee of European Banking Supervisors, to parallel the Committee of European Securities Regulators (Roldan, 2004).

While it is easy to separate out the role of the authorities when handling a solvent institution from handling an insolvent one, the area in between is more difficult to differentiate. Clearly different skills are required in conducting monitoring and compliance activities of supervision from those used when the authorities take over the bank or try to judge what form of support should be offered. When the need for corrective action arrives, increasing elements of skills under insolvency begin to come to the fore. The authorities increasingly restrict the scope of action for the bank, both to protect the depositors and creditors and to enhance the chances of successful recapitalisation.

There is a clear problem of institutional structure here, if resolution of an insolvent institution is going to be undertaken not just by a different organisation but by organisations with different country mixes, following the different incidence of the activities of the bank in the two circumstances. The distribution of customers and the distribution of losses under insolvency can be very different.

In any case, corrective action should not await instructions or pressure from the supervisors but should occur through the normal market mechanisms (Llewellyn and Mayes, 2003). Initial pressure will occur within the board of the bank if they feel performance is inadequate. Such underperformance may not be detectable to outsiders and may be based on comparative benchmarks with respect to the rest of the banking system – gaining market share, for example. The internal corporate governance of the bank will thus be the first line of corrective action. Beyond that, under-performance of the bank may be perceived by outsiders even though the bank meets all the prudential criteria of the authorities and is hence not a concern to them. At that point market discipline would work through a variety of routes both pressuring the directors to act through changes in share prices, subordinated debt prices, ratings etc. and through the market for corporate control.²³ Thus concern over the effective operation of the process for corrective action is within the ambit of those supervising adequately solvent institutions.

The mere fact of being a cross-border bank of systemic importance does not necessarily affect the operation of much of market discipline but it might make sale of the bank on the market difficult. First of all it may rule out a number of most likely aspiring acquirers because it would reduce competition too much in one or other of the markets, possibly entailing a break up as being part of an acceptable deal. If a prospective purchaser expects to have to satisfy a number of different authorities this may itself act as a deterrent. The impact of the regulatory structure on the speed of drift towards difficulty can therefore occur well away from any expectation of failure. Competition law at both the national and EU level will affect behaviour. Only other very large banks are likely to have the resources to takeover or merge with the under-performing bank. Such a consequence may delay addressing the problem and may entail that the buyer needs to be foreign to avert the competition concerns.²⁴ Such a

purchase or merger would only worsen the problems of the discrepancy between home country control and host country systemic responsibility.

Once the bank becomes a source of concern to the authorities, even if it is not actually in breach of the regulations, the actions of the authorities will affect the probability of failure. If a bank is undercapitalised then it will trigger some process of prompt corrective action. There is no guarantee that a home country authority would pursue this with the same vigour as the host would in the same circumstances. How recapitalisation plans should be viewed and how active the search for suitors would be tends to be kept confidential until approaches become formal. While forbearance is formally discouraged in most administrations, what this means in practice can vary enormously. Hence host and home country authorities can have very different views about what should be done.

As Bliss (2003) points out, if a voluntary resolution, assisted by the offices of the authorities as honest broker, can be achieved at this stage it will greatly assist the chances of success for a large complex financial institution, as illustrated by the example of LTCM.²⁵ In an insolvency the arrangements are deliberately designed so as to be able to achieve collective action among the multitude of claimants by ensuring them a pre-ordained priority and equal treatment with similar creditors. Individual creditors then cannot hold the others to ransom by refusing to agree. However, for voluntary arrangements to work prior to insolvency, there has to be a willingness for all of the parties to participate. In the cross-border context there also has to be the willingness by the affected to recognise the validity of some institution as the honest broker. This could be difficult if it is a central bank in a foreign country with whom the bank's private counterparties in a particular host country may have had few dealings. Bliss also notes (2003, p.28) that the arrival, in the US in particular, of 'vulture funds', which are concerned to maximise the short-run payoff without wishing to run the continuing business may make such voluntary action more difficult. He therefore regards the co-operative 'London Approach' as being likely to have decreasing applicability.

A particular advantage of voluntary action in co-operation with the creditors rather than intervention by the authorities directly is that it does not entail the premature termination of contracts and the triggering of close-out netting. Any scheme for reorganisation that admits that the bank has in some sense failed may trigger the immediate termination of some contracts as indeed may reduction in credit ratings. This in itself will tend to reduce the value of the bank and hence make resolution more costly, even if the design reduces the systemic consequences of the failure.

Trying to Minimise the Cost

The first line two lines of defence in trying to organise the smooth resolution of are thus a regulatory regime that discourages getting into difficulty in the first place and a corrective action regime that not merely involves action by the supervisors when compliance is threatened but earlier effective operation for the pressures from market discipline. However, these first two lines of defence can be breached, especially by financial accidents or fraud. If a bank nevertheless gets to the point of default or failure, it would greatly ease the problem of resolving cross-border banks if a means could be found where no public sector money is involved.²⁶ The problems of one country having to consider paying beneficiaries in another then need not occur, although there

could still be competition for control of the assets. In such circumstances of limited loss, the problems of getting prior agreement on a system for cross-border resolution would be lessened.

The key step in our proposals is to try to minimise the amount of any public funds that need to be mobilised in order to effect the resolution satisfactorily. This in turn would reduce the size of the problem that has to be resolved by bargaining among the different countries affected. In so far as there is exposure then the more this can be dealt with by prior agreements that come into force automatically then the easier it will be to achieve the resolution. This can apply to the principal unavoidable exposure, namely that to the deposit insurance funds, which will need make good depositors' balances covered by the insurance to the extent of the write-down that was necessary to bring the bank back to positive net worth. In some respects this can remain as a claim on the bank's books, as its existence should be sufficient to prevent a run by the insured depositors. It is presumably an asset against which the central bank would be prepared to lend to provide an emergency liquidity without the need to sell further assets at a deep discount.

The proposals for bank resolution in Mayes et al. (2001) avoid having to use public funds to bail out the creditors of problem banks (or the shareholders) and adopting a regulatory framework along these lines would still be of benefit. These proposals are rehearsed briefly in Table 1. Their key ingredient is that the shareholders bear the initial loss and beyond that any remaining losses are apportioned among the creditors and depositors, without the need to close the bank. However, even if this scheme can be applied, it is unlikely to be possible to avoid actual or potential fiscal costs altogether, even if direct costs incurred the resolution procedure are ultimately repaid. The same knock on effects would apply if other approaches to resolution avoiding closure were used and there was, say, a bailout in the form of emergency (unsecured) loans that were eventually repaid, as in the Swedish crisis (Moe et al., 2004). Since the bank involved is of systemic size, it is unlikely that the realisation of a major loss will be without knock-on fiscal consequences, even if the smooth resolution procedures we have suggested can be applied. There will be some job losses and consumption reductions and hence increased demands for public spending and reduced tax revenues, however, far less than if the bank were to become insolvent and the systemic consequences of failure and actual closure realised.

Secondly, if depositors have had to bear some of the loss and those deposits have been insured in part or in full by the state then there will be a net increase in public sector debt. Even in a completely private or funded scheme a loan might be necessary until the deposit insurance fund can build up its resources again from its members. The scheme may of course collapse, pushing the state into paying out in order to avoid a loss of confidence and the sorts of systemic events they hope having the safety net avoids.²⁷

Thirdly, under the resolution procedures summarised in Table 1, the authorities have to make a rapid assessment of the net worth of the bank before writing down the claims of the creditors in priority sufficiently to return the bank to positive net worth. There are bound to be errors in this calculation. In so far as the claims have been written down too far, creditors would need to be compensated. In theory shareholders might need to be compensated if it turned out that net worth had after all been positive at the time of takeover.²⁸ Similarly if further losses are discovered, these would need to be a charge on the previous creditors or the state, not on the new owners of the bank.

This takes us to the most important exposure for the public sector. It is not going to be possible for the bank to reopen for business unless there is a public guarantee for the business undertaken after the point of seizure by the authorities (item 5 in Table 1). This could be a considerable contingent liability if the problems of the bank lie with its continuing operations rather than simply with an appropriate lowering of the value of its assets to take full account of the likely non-performance of its loan portfolio. In any case, if the failure is related to a severe downturn in the economy, it may be that the economy performs worse than forecast and hence generates more failures among the bank's borrowers than anticipated. While the authorities are still responsible for the running of the bank prior to returning it to the private sector they will be liable for any further losses just as they will benefit from gains.

Taken together, therefore, there will be some actual and contingent losses that the authorities will have to assume. How these are to be borne will have to be decided before the event and the resolution agency or administrator will have to be able to act quickly under a prescribed code without further need to refer to the governmental principles. This in turn presupposes two requirements. First that burden-sharing has been agreed according to some simple principle, say, the country distribution of insured deposits, if the home country is not to assume the entire burden. Second, that the administrator of the bank has some direct access to funds. This could be readily achieved if the administrator were appointed by the central bank(s) involved.

Judging when to intervene and assessing the loss

Although the Mayes et al. (2001) scheme involves taking over the bank when its net worth falls to zero the authorities need to be able to detect when that is the case. If they wait until there are signs of an emerging run or the bank itself admits that it is likely to default, the insolvency is likely to be considerable.²⁹ In Mayes and Liuksila (2003) we suggest that the basis for supervision should change as soon as a bank is thought to be failing to comply with the minimum requirements for capital adequacy. At that point the focus should cease to be simply on regulatory capital but should move to trying to establish a valuation of the bank on an economic or net worth basis. Thus attempting to evaluate the net worth of the bank would not be confined to the proverbial weekend should the bank appear insolvent but over a more extended period. Of course, this may not be possible if the bank is subject to a very unusual shock or to a fraud or other sudden discovery of a loss of capital. Nevertheless it should increase the chance of intervening before the loss deepens too far.

One means of achieving this change of focus would be to activate a different branch of the supervisory authority that handles failures or to bring in a separate resolution agency to perform the valuation. This is a bit like the undertaker measuring the gunfighter before the showdown so he can have the right size coffin ready, just in case. Having this procedure will itself help to increase the incentive on the bank to make its own voluntary recapitalisation by making the prospect of being able to resolve the bank successfully with a total loss to shareholders more real. Special efforts are needed to try to establish such a valuation. As Kaufman (2004, p.6) remarks 'as a bank approaches insolvency, its reported books approach fiction more than fact.'

It is of course impossible to make an accurate valuation of a bank's assets and liabilities in a hurry. Indeed it is impossible in principle. To treat the stakeholders in the bank fairly in a resolution process, they should not be made

worse of than they would be under an insolvency. However, the only way to find out what the outcome of an insolvency would be is to have it. Assets are realised over a substantial period of time in a manner which the liquidator thinks will maximise the pool available for redistribution, subject to the relevant agreement by the courts. Any valuation today of what that outcome will be is necessarily hypothetical.

In any case an insolvency valuation is necessarily on a dismemberment rather than a going concern basis, although the liquidator can choose sale of businesses as the way to maximise value. As Guttentag and Herring (1983) point out banks will usually be worth more as going concerns even if their value is negative. Even a mark-to-market valuation according to the most recent International Accounting Standards is not a solution because the market price itself would be affected by the situation of a systemic institution. If a systemic bank's assets come on to the market or are thought likely to do so then prices will fall and the apparent (in)solvency of the bank would (increase) fall. In a systemic case even the value of the loan portfolio would be affected as the chance of default by borrowers would increase.

As long as the value of the bank appears to be negative then taking control away from the existing shareholders does not deprive them of value as their shares are worthless. It is the depositors and other creditors whose exposure increases as the value of the bank falls further. Indeed it is this limit to the shareholders' losses that can increase the temptation of a bank in difficulties to take increasing risks (gambling for resurrection). While prompt corrective action will seek both the limit risk-taking and encourage measures to recapitalise and reduce losses, the authorities still have to acknowledge the rights of shareholders while the bank has positive value.

What closes a bank, in the absence of intervention, is not having assets worth less than liabilities but being unable to pay, i.e. default. The LOLR arrangements are predicated on the idea that it is temporary illiquidity or the need to sell assets prematurely and in a hurry at over-discounted prices that is the problem. These arrangements should therefore prevent a bank defaulting before it 'fails' in the net worth sense. However, in practice a bank is likely to be able to continue to meet its day-to-day obligations to pay even though its net worth on a liquidation basis may be negative. It would require an unfortunate handling of liquidity for this not to be true.³⁰ The normal requirement for triggering insolvency is either default or the likelihood of it, not the existence of negative net worth. As long as there is no rush to call in claims, trading can continue.

The key issue then is to be able act in the window between zero net worth and default – if it exists. Acting beforehand in cases other than fraud or other serious breaches of the regulations will be difficult even in the case of a bank that has become substantially undercapitalised. In theory banking licences can be withdrawn thereby triggering closure. But that in itself destroys value and hence puts a burden of responsibility on the public sector that it is not normally willing to acquire. It will be open to legal claims and the actions could easily look like expropriation. As the Pafitis case shows³¹ there is considerable limitation on how the authorities can seek to push unwilling shareholders into action.

The concern about the failure of a systemic bank has two sides. First, there is the immediate disruption to financial markets that would occur if the bank stopped trading. The knock on effect of so many failed or interrupted transactions would be difficult to offset without considerable real harm to the

economy. The second is that in trying to avoid the failure or avoid being caught up in it, there will be a rush to liquidate assets, resulting in a system-wide fall in asset prices. Bliss (2003) offers a comprehensive assessment of the difficulties.

What is particularly worrying in these sorts of circumstance is that policy tends to be reactive (Goodhart, 2004b). Action is not taken until the problem has realised, influential people have lost money and the government in particular has come under pressure from the economic consequences and the crisis of the time. In this particular instance, being prepared for such a problem is not a particularly expensive activity. No grand organisation is required even if there were to be a European level agency. There does not need to be any change in the nature of the supervision of the banking system in normal times. The legislative burden in many countries would however be considerable if the law is to be changed to basis we suggest and the discussions between the authorities concerned will no doubt be difficult even if the resolution arrangements are on a case by case basis.

In practice there are delays before the deposit insurance fund provides a partial or full payout to the insured. If the intervention has come early, the size of the claim on the deposit insurance fund will in turn be limited – quite possibly sufficiently limited that the fund can cover the claims in the short run from its resources and only replenish its funds more slowly from its private or public sector sources (depending on its design) according to the normal rules.

If, as in the United States, it is the deposit insurance fund of the home country that takes responsibility for the resolution after the decision to intervene has been taken then the claim on 'public' funds and the ability to disburse them are in the same hands. However, this does not apply to the deposit insurance funds in host countries. In so far as an international bank operates through subsidiaries and not branches then the administrator has to rely on the prior commitment of the other funds. Of course some host countries may have no deposit insurance scheme. In those circumstances the management of the losses will be more complex as each individual deposit will have to be written down, as indeed it will be where the deposit insurance scheme itself involves a haircut, as in the UK.

The guarantee to be offered against future losses is more difficult. It is a contingent liability and will only be drawn on to the extent that the rapid assessment of losses at the time of intervention were an underestimate or the extent that it is not possible to run the bank on a break-even basis. Even so the guarantee is unlikely to require the actual provision of funds in the short run. This will not be the case so readily, if the confidence building gesture takes the form of providing a substantial deposit (at market rates). Nevertheless, such an approach entails that either the home country issues the guarantee on its own, in the hope of the host countries joining in with the appropriate shares thereafter, or that their commitment can be achieved at the time.

Equal Treatment and the Need for a Common Pool Approach

The treatment of cross-border banks in difficulty is more straightforward if creditors and debtors are only distinguished by the types of claims they hold on the bank and are not differentiated by the countries in which they happen to reside.³² As soon as there is any preference for domestic over foreign creditors in a particular class then each country will want to try to arrange administration of the problem so that it can gain control over the assets within its borders.³³ Indeed one would expect that where domestic depositor preference applies,

banks and foreign authorities will ensure that the structure of the bank is such that much of the impact would be neutralised.

In the Winding-up Directive, the EU recognises these difficulties and tries to treat resolution with both the single entity approach and with creditors of the same class being treated equally, whatever their country of residence or wherever within the group. The directive applies not just to insolvency but also to other reorganisations (Campbell, 2003).

The Need for a Resolution Agency

The great advantage of the US system is that the authorities have decided each of the main issues about how a resolution should be handled, namely

- at what point should intervention take place?
- who should be responsible for the intervention?
- what principles should be applied in resolving the problem bank?

In the EU none of these have been agreed at an international level and some are not clear even at the national level.

In Mayes et al. (2001), as discussed above, we suggested a common intervention point and common principles for resolution. We left open the institutional form of how the intervention should be carried out. We argued that it might well be possible simply to have a framework available without any specific new agency being set up for the purpose. The lead authority could simply agree the procedures to be followed and a list of acceptable receivers/administrators who could be appointed should the need arise. They would then bring in the best person available at the time.

This approach still seems feasible where the potential arrangements are agreed on a case by case basis and there are not many cases. (Even in the US it is normally argued that the number of systemic banks would only fall in the range 10-30 (Feldman and Stern, 2003).) However, since we are also advocating early action, this might be more plausible if either there were a specific organisation in place or at least a section in one of the existing authorities, charged with the task.

It is important to distinguish between the regimes for supervising solvent banks and the regimes for handling insolvent banks, i.e. banks that have 'failed' or are defaulting. The choices over how to handle a solvency regime have been fairly well documented (Schoenmaker, 2003, for example). Supervision could be organised at an international level, it can be run by a lead supervisor in the 'home country' or it can be organised on a co-operative/co-ordinated basis among the host and home countries, with the home country taking the lead.

It was implicit in MHL that the supervisory agency would be the one that decided when intervention should take place and that only once the need for intervention was established would some resolution agency then step in. In the event of a surprise default, this would clearly be the case. However, if a bank has become undercapitalised in the eyes of the supervisory agency it would be possible for the resolution agency to step in earlier and for them to perform the net worth assessment rather than the supervisory agency. The bank in question would then be facing two sets of inquiries, one from the solvency agency concerned with regulatory capital and its replenishment, management of risk and compliance with regulations, and the other from the resolution agency simply concerned with valuation issues and preparations for how the complex institution might be managed in the event of failure. This could easily become burdensome, but it is not immediately clear that having two separate agencies

involved would be worse than having two arms of the same agency do the job. The problem in the second case is then that the information has to be transferred between agencies at the point of failure.

It is easy to understand therefore the arguments for trying to centralise all of these functions in a single agency, especially if it could be the central bank because then all of the judgements could be related: corrective actions while undercapitalised; emergency lending in the case of liquidity problems; intervention on the assessment of failure. However, the key issue for when to step in is the exposure to loss. In the US case the incentive is aligned because it is the deposit insurance agency that is the resolution agency. The central bank would only be exposed to the extent its liquidity lending turned out to be to an insolvent institution.

In the European environment such neatness is almost impossible. While there is likely to be a good match between home country supervision and deposit insurance, there is little match with systemic responsibility. The question then arises of how far each of the functions needs to be co-ordinated in the same manner. If for example there were to be a single resolution agency appointed in advance for each 'systemic' bank, would that imply particular forms for the organisation of supervision, deposit insurance, regulation or even lender of last resort? Clearly the lead supervisor would need to share the information of when the bank became undercapitalised, so the resolution agency could start work. In the EU environment the interests of all the deposit insurance agencies would be aligned under the common pool principle as they would not be able to alter their share of the total liability by individual rather than joint action. However, they might very well disagree as to whether a particular action would maximise the funds available. By symmetry then, there would be a straightforward argument for making the deposit insurance agency of the lead supervisor's country the resolution agency (or the agency with the greatest exposure).³⁴

Schoenmaker and Oosterloo (2004) argue that it would be best to have a European level agreement on how to handle the resolution of systemic banks but for the authorities involved, they have to have a viable arrangement in place. They cannot wait for general agreement. This inevitably implies case by case solutions but at this level that may be sufficient. In the case of Finland, for example, this relates to just one bank, although it could relate to a second. In the case of Estonia, however, all major banks are foreign owned and such agreements are, therefore, needed in three cases, one of which is the same, Nordea, as in the case of Finland.³⁵ Clearly it would be sensible to be ready to move to a European level agreement if one could be achieved, but such case by case agreements are themselves a step to more efficient European integration.

Annex: The example of Nordea

The Nordea Banking Group which is currently headquartered in Sweden and has banks in Norway, Denmark, Sweden and Finland, branches in a wider range of countries: including Estonia, Poland, Singapore and a branch in New York, an investment services arm and an insurance company, is planning to take advantage of the European Company Statute when it comes into force in October 2004 and operate as a single bank based in Sweden with branches in all the other countries by some time in 2006. This is likely to be the first such move by a major international bank and will be a substantial departure from the traditional parent and subsidiary model, even though that itself is rather poor

description of the way many international financial services are organised complex groupings. Nordea is clearly of systemic importance. As at March 2004 it had a 40% share of the Finnish banking market, 25% of the Danish, 20% of the Swedish and 15% of the Norwegian. Its share of the insurance markets was somewhat smaller: Finland 35%, Denmark 20%, Norway 9% and Sweden 6%.³⁶

The current framework for supervision and the treatment of the solvent bank is reasonably straightforward. Each of the constituent banks is supervised by the authorities in its country of location (host) and the group is supervised in Sweden. The same applies to the parts of the insurance arm although in Finland at any rate it is a separate supervisor. However, beyond that the structure becomes more complicated. Nordea Bank (Finland) for example has the branch in New York and the branch in Estonia.

There is thus overlapping responsibility. In the New York case the branch is supervised by the Finnish authority (Rahoitustarkastus), the New York Fed and New York state authorities. All are involved in on-site inspections. In the Estonian case the position changed on 1st May when Estonia joined the EU. Up until then the position was similar to New York with overlapping supervision. Now Estonia, in theory, has no role in prudential supervision but in practice Rahoitustarkastus has agreed with Finantsinspektsioon in Estonia that the latter will continue in its previous role, effectively as its agent, until the wider arrangement is put in place for 2006. (Conduct of business regulation is still a national concern and hence the supervisory authorities would continue to have some role under any arrangement.)

Looking forward, however, it is for the Swedish Finansinspektionen to work out with the other supervisors how it wants to run the new structure of supervision to come into force in 2006. It could in theory just employ its own local staff, presumably recruited from among the ranks of the newly unemployed supervisors in the other countries, since being able to speak the local language and having some experience are essential. The other member states would then only gain access to information about Nordea officially through what information the Swedish authority disclosed under the memoranda of understanding. Thus although the Finnish authority remains responsible in its charter for the stability of the financial system it would be only supervising less than half of the system.

There are thus serious problems in setting up what to do under insolvency. It would not of course be of any value to remove the systemic responsibility from the Finnish supervisory authority because having to cope with the consequences would still remain a national reality. Fortunately in practice the outcome is likely to be some form of co-operation among the existing authorities, without the sort of Chinese walls that would prevent the building up of a systemic picture. It also seems probable that there will not be duplication in the supervisory process. However, the nature of the final agreement is going to be very much the product of common sense rather than one where a path is clearly dictated by the legal framework.

While the EU authorities are keenly interested in how the process is working out, there is no expectation of any EU-wide agreement on how such arrangements should function before the Nordea arrangements come into force in 2006.

There are parallel discussions on how to organise deposit insurance, which in theory should be entirely absorbed by Sweden. Under the current EU rules there is a right to apply for a top up where the host country's scheme is

more generous than that of the home country but that in Finland is the least generous of the four Nordic countries and Tagatisfond in Estonia, which was only set up in 1998, will only reach the EU minimum at the end of 2007. Hence on a strict interpretation of the current rules Nordea would therefore have to subscribe to the Swedish deposit insurance scheme. However, this does not mean that it can somehow withdraw its contributions from the existing scheme or request that its share of the funds of the scheme be transferred to Sweden. In any case both the Finnish and Estonian schemes are still building up their funds to the level thought sensible for covering the risk.

This issue is rather further from resolution. Clearly there it is necessary to sort out first of all how, if at all, Nordea can switch insurers of its depositors in Finland (and the other EEA/EU states). Indeed, one option would be to try to change the rules and to permit host country insurance of deposits.³⁷ Then systemic responsibilities in legal, fiscal and financial terms would match. The mismatch would be between the Swedish responsibility for supervision and the Finnish deposit insurance fund's position as a contingent creditor. However, unlike in the US, it is not the insurance fund that is the initiator of the insolvency process but the supervisory authority. The insurer has to pay out as laid down but is not the decision-maker over how losses might be limited or minimised. Given equal treatment, this would imply that interests of the Swedish insurance fund and the funds in the other countries would be the same.

Differences would occur if Swedish insolvency law were noticeably different from that in the other countries or of course in the predilection for the use of public funds differed across the countries concerned. In this case the answer from the ways in which the Nordic crises of the late 1980s-early 1990s were handled is that preferences are not the same. Moe et al. (2004) show that Denmark, Finland, Norway and Sweden handled their crises differently, in part affected by their differing depth. In principle, however, one supervisory authority can act on behalf of the others in triggering insolvency/the requirement for a capital injection/public guarantee.

What is not resolved in this discussion is how the respective governments would act in the event of failure or insolvency. The role of the central banks is clearer, especially since the formation of the Eurosystem. Rules for the provision of emergency liquidity assistance are laid down. The different branches of the bank would continue to hold accounts with the local central bank as their financing requirements would be currency specific. The central banks would not provide direct capital injections as they did in the Nordic crises. It seems unlikely that there will be explicit published inter-governmental agreements about what to do in the event of failure or other hypothetical circumstances involving public funds.

The issue is further complicated by the structure of the ownership of Nordea. The Swedish state is the largest single shareholder at 19.5% (as of March 2004). Danish, Swedish and Finnish institutions own a further 41.2%³⁸ and 12.7% by the public in those same countries. This leaves 26.1% in ownership outside these countries. The Swedish state is therefore going to face special pressures in the run up to any insolvency, since as a part owner it will be expected to participate in recapitalisation. This gives a complex incentive to the other owners, who might legitimately guess that they would benefit from holding out as the authorities would not let such an important bank fail. Hence they could avoid some of the cost (and risk) of the recapitalisation.

Table 1

The Mayes, Halme and Liuksila (2001) Proposals

1. The authorities should use public rather than private law to regulate the closure and resolution of banks so that:
2. The authorities should step in at prescribed benchmarks and takeover the bank from the shareholders (the benchmark discussed in the book is zero net worth, so that shareholder value is zero at that point and there is no question of expropriation, other intervention points are possible)
3. The authorities should then make an immediate appraisal of the extent of the deficiency in the bank as of the moment of failure or default. (In the case of non-systemic banks the expectation is that normal insolvency procedures would apply and the bank would be closed or kept in being by the receiver according to which course of action appeared to maximise the return for the creditors, including the deposit insurance fund. In the case of systemic banks dealt with here closure is not an option by definition).
4. The losses, if any, would be apportioned, respecting priority, equally across the categories of creditors so that net worth is returned to zero. Such apportionment would follow the procedures under insolvency and hence would not make anybody worse off than they would be under insolvency (probably noticeably less so as the costs are much lower). There are various ways this process of writing down could take through debt or equity restructuring.
5. The bank would be re-opened for business, under the new ownership, with a public guarantee, without any material interruption of trading. (It is assumed that the whole process takes place over the proverbial weekend so that the authorities have 48 hours or more to implement the process.)

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¹ There are of course different sorts of systemic events. More generalised stress across the system as a whole, rather than concentrated in a single large institution, will also generate action, quite possibly from monetary policy. Here, most of the discussion is of problems in a single institution but many of the same concerns apply, only more strongly, with the wider problem. In the same way that it may be difficult for other banks to recapitalise a single systemic bank it will be difficult to recapitalise a range of banks if the whole sector is under economic pressure.

² According to Bovenzi (2002) the most likely outcome for a systemic bank in the US would be that the FDIC immediately set up a bridge bank to continue the operations of the bank until a longer term resolution can be found, under what is effectively nationalisation (Herring, 2004).

³ 'All' that is necessary is a set of actions that will convince creditors and depositors (and in theory the relevant court) that the bank in question can meet its on-going obligations. It is only actual default or announcement of expected failure to pay that will trigger an application to the courts and the opening of insolvency proceedings.

⁴ This is of course in addition to the ongoing costs and benefits of prudential supervision.

⁵ Even in the United States, which has one of the most integrated frameworks, systemic support is treated exceptionally under FDICIA (The Federal Deposit Insurance Corporation Improvement Act of 1991).

⁶ See Morrison and White (2004) for a recent example.

⁷ While co-operation sounds the sensible way to go in the absence of a specific event, such action may be more difficult to achieve at the time when one country seeks to blame another for being 'responsible' for the problem. Where the event that brings down the bank occurs solely in the home country a host might feel entitled to compensation and of course vice versa.

⁸ Holthausen and Rønde (2004) consider the case where supervisors in the home and host countries follow the MoUs in a manner that seeks to protect their national interests by limiting the information they provide to their partners about the part of the bank under their supervision. While this shows that the result is going to be less favourable than could be achieved through side-payments, it confuses two issues, namely co-operation among supervisors and co-operation in resolution, where the key parties are not supervisors but those with the access to public funds. While co-operation among supervisors may be cautious, particularly, where the consequences of failure or the sources of the threat to the bank rely on confidential information about other entities, there is much less incentive for it to be non-co-operative as might be the cases with governments faced by a crisis. There, protecting national interests first and the joint interest second has clear plausibility.

⁹ While the lessons from the grab for local assets that followed the failure of BCCI may have been learnt, the replacement arrangements have, fortunately, not been effectively tested.

¹⁰ Stern and Feldman (2003) explore the extent to which being thought to big to fail affects credit ratings and the cost of capital.

¹¹ Size has a number of different facets in achieving systemic status, not simply the size of the potential loss and the number of people directly affected. Simply being too complicated to sort out fast enough would suffice as would a critical role in particular markets.

¹² In this instance, it is not a concern over the structure of the deposit insurance fund as neither Australia (where most of the foreign banks are incorporated) nor New Zealand have one, but rather over the existence of domestic depositor preference in Australia and the possibility of different attitudes to a systemic problem in the two countries in a crisis.

¹³ Kaufman (2004) points out that even though a bank may be operating as a subsidiary in a country, the subsidiary may not be an independent institution that can operate on its own, as all of the main services and operations may be provided by the parent or other parts of the group. In such a case a host country has little means of keeping the local part of the bank running on its own in the event of failure, irrelevant of the legal corporate form.

¹⁴ The Winding-up Directive (Directive 2001/24/EC of the European Parliament and of the Council of 4th April 2001) does at least follow the generally accepted principles of treating the bank as a single entity, acting under a single set of proceedings and having equal treatment of all classes of customers in the EU/EEA irrespective of where they are. More importantly from the point of view of the present paper, this single approach, run by the authorities in the home country applies to reorganisation proceedings run before the bank reaches the point of insolvency. In both of these cases, even though the host countries may not have matching

provisions in their own laws and procedures, those of the home country will be applied (Campbell, 2003). This provides for asymmetry within a market as the host country laws may permit administrative intervention where the home country does not. Hence banks competing for the same customers directly will be differently treated.

¹⁵ Kahn and Santos (2004) produce a model in which the Lender of Last Resort and deposit insurance functions are effectively substitutes. In such a world there is an obvious conflict of interest as the deposit insurance fund would like a bank to be closed early to minimise its losses whereas the lender of last resort would hope that the bank could survive its problems so that there was no pressure on the system. Normally the functions are clearly divided and the exposures and beneficiaries not so closely matched.

¹⁶ There clearly two forms of co-ordination that are required in the case of financial difficulty in a cross-border bank. The first is among the organisations with the same responsibilities in the different countries – among the central banks for example in co-ordinating emergency lending. The second is between the organisations with different responsibilities. A central bank considering emergency lending will want the supervisory authority's opinion on the solvency of the bank, itself the result of co-ordination among the supervisors.

¹⁷ Beck (2003), for example, shows a neat contrast between Germany, where the parts do fit together and Russia, where some of the incentives appear to be perverse.

¹⁸ The system is not quite as simple as this, as the bank can opt to have its insurance topped up in the local market to the level prevailing there. Banks can thus avoid being at a competitive disadvantage in a foreign market if their home country deposit insurance is less generous.

¹⁹ Although our main concern here is with the failure of a single 'systemic' institution, much of the information that would be used to assess the authorities' likely reaction will stem from more widespread financial crises as these are the more typical occurrence. The more widespread the crisis, the more likely it is that there were generalised market-wide measures employed to help offset the impact and not just measures focused on individual institutions. The more general the crisis the more likely it is that governments will undertake sweeping changes, even if these are not permitted by the pre-existing legislation. In a crisis a government can rush through new legislation and use emergency powers.

²⁰ The range of possibilities of how to handle co-operation in financial regulation and supervision of solvent institutions in Europe has been widely discussed and the options are clearly set out in Lastra (2003) *inter alia*.

²¹ Some level of exchange of information is likely to be agreed to help substantiate that confidence (probably in the form of an MOU).

²² Schoemaker and Oosterloo (2002) make a helpful distinction between the various ways in which authorities can work together. They can retain their independence and simply co-operate or work more closely through explicit routes of co-ordination and defined responsibilities. (They can also of course set up a joint organisation, which could be new or simply a subordination of one organisation to another.) The typical MOUs range between co-operation and co-ordination and there is no hard and fast line that can be drawn between the two. To quite a large extent, how the authorities work together will be a matter of actual practice rather than the rules that govern it. Exchange of information, for example, is something that is always controlled by the organisation that has it. It will only be after the event that one might discover that information has been withheld or the terms of the MOU interpreted in a more restricted sense than anticipated by the aspiring receiver of the information. In the context of the revisions to the agreements between the Nordic and Baltic regulators an arrangement that involves more explicit co-ordination, including agency agreements is anticipated rather than simply co-operation under relatively loose MOUs.

²³ Llewellyn and Mayes (2003) suggest a list of at least ten stakeholders who monitor the bank and can take action as a result of market signals or indeed provide the market signals through their actions.

²⁴ As appears to be the case with the Abbey National in the UK. A merger with another large UK bank Lloyds-TSB, was not permitted and the current proposal from the Banco Santander Central Hispano comes from outside the UK but only after a delay of years.

²⁵ The LTCM example is interesting because it was the Federal Reserve Bank of New York that got the parties round the table. It is the authority which has the concern for systemic stability that has the greatest motivation for action. In many cases in Europe the lead regulator may not be a central bank. Thus for the central bank in the lead regulator's country to step in as the broker it has to be sufficiently informed to act in time.

²⁶ Eisenbeis (2004) suggests that the simplest route would be for the authorities to withdraw the licence and takeover control for the resolution of the bank from the shareholders while it still has positive value. This is possible already in the US framework under FIDCIA as the FDIC is

required to step in when the capital ratio falls below 2% of assets (USA 12 U.S.C. § 1831o (h)). However, whether this particular window is wide enough to catch the bank before it becomes insolvent is debatable. Nevertheless, the earlier the authorities can step in the lower any losses to either private or public sector (beyond the shareholders) are likely to be. Unfortunately, the authorities in the EU/EEA do not in the main possess any such powers to step in before the point of default or failure occurs.

²⁷ Kane (1987) offers a good illustration of the fiscal problems posed by the failure of a deposit guarantee fund.

²⁸ Some forms of equity restructuring could make such compensation automatic.

²⁹ The actual requirement is that the authorities should step in at the earlier of 'failure' or default, where 'failure' is defined as negative net worth, i.e. where an orderly liquidation of the bank's assets would not cover its liabilities. The orderly requirement is necessary as in an insolvency it is the duty of the liquidator to try to maximise the value of the pool of assets available to meet the claims. It is not just a matter of the current or 'fire sale' value of those assets.

³⁰ Goodhart (2004a) points out that the current pre-occupation in the Basel Committee discussion with holding capital against risk may actually have gone too far in changing the emphasis away from liquidity. Supervisors might want to focus somewhat more on liquidity in fulfilling the aims of financial stability, especially if Basel2 and the new accounting conventions end to be somewhat pro-cyclical in their initial impact.

³¹ *Panagis Pafitis and other v. Trapeza Kentrikis Ellados AE and others* (Case C-441/93), CMLR, 9 July 1996.

³² Bliss (2003) sets out the problems that that the US approach can generate in encouraging a conflict among the different national authorities as foreign agencies seek to ring fence the parts of the bank within their jurisdiction to limit the impact of US depositor preference if the bank were to be resolved as a single entity in the US.

³³ It is noticeable that the RBNZ has suggested this as one of the reasons why banks should have to incorporate locally, even if they are not systemic.

³⁴ There is no necessary match between lead supervisor and largest deposit insurance exposure, as the deposit insurance relates to some retail deposits, while the lead role will depend more on the structure of the overall business.

³⁵ Hansapank, largely owned by Swedbank, has a 50% market share, Eesti Ühispank, largely owned by SEB, has a 30% market share and the branch of Nordea, 11%. The only other significant bank with an 8% market share is a branch of Sampo, Finland's second largest bank. While Sampo is clearly a systemic bank in Finland it is more marginal in Estonia but complicated by also having a large multinational insurance company in the group.

³⁶ All data from Rahoitustarkastus.

³⁷ The Deposit Insurance Directive is drawn in fairly general terms, so it is not yet clear how much leeway there is for the member states to come to bilateral agreements.

³⁸ This includes a small share held by the Finnish state.