Deposits, Deposit Guarantee Schemes and Bank Resolution

This paper considers the techniques which are – or should be – available for the resolution of banks which are primarily funded through retail deposits. Some (often the majority) of these deposits will be protected through a Deposit Guarantee Scheme (DGS), and the DGS will therefore be an integral part of such resolution. Conventional bail-in techniques assume substantial wholesale funding capable of being bailed in. However many banks today do not have these levels of funding, and if the fashion for “ring-fencing” retail deposit taking persists, the number of predominantly or exclusively deposit funded banks will increase. It is therefore necessary to consider how such institutions could be resolved, what resolution tools would be needed, and whether there are further changes required to the architecture of the financial system to ensure that institutions of this kind should exist, and, if so, whether such institutions can be efficiently and effectively resolved.

We conclude that the resolution of a bank primarily funded by insured deposits can be achieved, but that in order to do this it is necessary to involve the DGS of the country or countries concerned at a much earlier stage than the stage for which these schemes were designed (that is, paying compensation after the event). As a result these schemes may well require changes to their constitution, objectives, legal powers and resources.

Introduction

Most banks are funded by retail deposits. Thus when a bank gets into financial difficulty, the question of how depositors should be dealt with is an important one. Dealing with deposits in bank resolution has been a somewhat neglected part of the field. This is primarily because the focus of bank resolution studies so far has been on the largest systemically important banks. These institutions generally have wholesale creditors whom it has been generally assumed would be bailed in or written down in order to recapitalize the bank, leaving depositors untouched. The logic of this in turn has been a perception that deposits conventionally arise as part of the payments function of a bank, and that avoiding disruption of the payments system is the very objective which bank resolution is intended to achieve.

Although most banks are deposit-taking banks, retail deposits form a relatively small proportion of European bank liabilities. This is because the bulk of bank assets are originated by very large banks, which fund themselves from a wide variety of sources as well as deposits. However bank business models vary – some large banks fund themselves significantly through deposits, and some banks fund themselves almost entirely through deposits.

This policy objective is, of course, the basis of “structural” or “single point of entry” (SPE) solutions, which remove the necessity to consider the resolution of deposit taking banks. The SPE approach involves the bank having a holding company which issues substantial amounts of bail-in-able senior debt to third party investors\(^1\). The idea is that upon a catastrophic loss occurring, the debt at the parent company is written down, the capital of the parent is thereby increased, and the accounting capital thus created can be downstreamed to the bank. Thus the holding company is resolved, but the deposit-taking bank is merely recapitalised. Where this works, depositors in the bank itself are unaffected by the resolution of the holding company. The existence of this solution does not, however, eliminate the problem discussed in this paper. In order for an SPE solution to work, two criteria must be satisfied. First, the bank must have a holding company with significant bail-in-able debt in issue. Many deposit-taking banks do not have such a structure. Second, the loss incurred by the bank must have been sufficiently small to enable the bail-in of the holding company debt to absorb it and to recapitalize the bank to a level consistent with its continuing to be permitted to do banking business. If the loss incurred by the bank is greater than that, it will become necessary to resolve the bank itself. Thus although an effective SPE resolution would ensure that these issues would not arise, it cannot be assumed that an SPE approach will always be sufficient. It is therefore important to consider how resolution authorities could or should go about resolving a deposit-taking bank directly.

We are therefore dealing here with institutions which do not have holding company senior debt or significant

\(^1\) Debt issued by a holding company is of course structurally subordinated to debt issued by the subsidiary.
whole funding at the bank level, and whose funding is almost entirely based on deposits. And, in many cases, the bank’s funding will consist almost entirely of insured deposits. If such an institution goes into resolution, the resolution authorities have a number of options to resolve the bank, should bail-in of any non-core Tier 1 and Tier 2 capital that the institution might have prove insufficient to recapitalize the bank. These options include:

- a. Deposit transfer;
- b. Establishment of a bridge bank;
- c. Liquidation of the bank and insured depositor pay-off

In each of these solutions, realization of the bank’s assets will be insufficient to pay off depositors in full. Consequently, depositors will suffer a loss to the extent that they are not covered by a deposit guarantee scheme and insured depositors may suffer an interruption in access to their money, if the deposit guarantee scheme lacks the technical and/or financial resource necessary to implement pay-off promptly.

In such situations, the deposit guarantee scheme – if it fulfills its obligations promptly — effectively assures financial stability. As far as the insured depositor is concerned, he suffers no loss and, in the case of a deposit transfer or the creation of a bridge bank, no loss of continuity in access to his money. It is the deposit guarantee scheme, not the insured depositor, who suffers a loss.

However, the deposit guarantee scheme steps into the shoes of the insured depositors and the DGS accordingly has a claim on the estate of the failed bank. Indeed, in the case we are talking about, the DGS is likely to be the largest creditor by far of the failed bank. Hence, the DGS has a claim on any proceeds that the resolution authority realizes from the failed bank. Should such proceeds be insufficient to fully meet the claims of the DGS, the DGS may generally impose a levy on the banks remaining in the scheme.

In dealing with these institutions, policy makers are faced with a binary choice betwee depositor write-down or government intervention. If depositor write-down is rejected in principle, then government bail-out is the only available solution. This would lead to the interesting conclusion that purely depositor funded banks are incapable of being resolved and should therefore not be permitted to continue to exist in a world where regulators are committed to ending government bail-outs – an awkward conclusion in a world where the majority of banks by number probably of this kind.

We must therefore conclude that depositor write-down is a permissible approach to bank resolution. Where depositors are protected by a DGS, there is in principle no reason why they should not be written down, since it is the DGS and not the depositor which will incur the loss. Depositors above the DGS insurance level can, and arguably should, be treated in the same way as any other class of senior creditors, and written down in the same way and to the same extent. There are interesting arguments on both sides of this debate, with some arguing that large depositors should only be hit once wholesale creditors have been written down, whilst others argue that all senior creditors should be treated pari passu. However, this issue will be left to one side here. The focus of this note is on the harder part of the issue – how depositors below the protected level should be dealt with.

In general, protected depositors are protected by deposit guarantee schemes (DGSs), which have the effect of passing any loss that would otherwise be suffered by depositors through to the other banks in the relevant banking system. The fact that a DGS distributes losses within a system makes clear why such schemes are irrelevant in a systemic crisis – claims on a DGS are valueless if all of the contributories are unable to contribute. However, in the event of institutional failure within a basically sound system, the DGS is the primary protection for users of the system.

It is therefore important to all systemic participants that the involvement of the DGS in a bank resolution be structured in such a way that the resources of the DGS can be deployed in a way which minimizes losses to its contributors. This is sometimes referred to as “bailing in the DGS”, but this concept is unhelpful, since it implies voluntary assumption of losses by the DGS. In fact, what is important is that the DGS should not be restricted only to bearing losses after failure, but should be able to deploy its resources – co-operatively with other parties – to reduce the magnitude of the losses actually suffered. However, limits should be placed on the ability of other parties to the resolution process, including the resolution authority, to use the resources of the DGS without the DGS’s consent.

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1 It is these claims which in practice are “bailed-in” in a DGS bail-in, in that the DGS may convert some or all of its claims on the failed bank into equity in the bank, thereby effectively recapitalizing it.

2 This elides the difficult question as to whether government is properly viewed as a contributory to a national DGS. However, if government is the sole remaining contributor to a DGS, then the process becomes identical to government bail-out and the use of the DGS becomes nominal.
A necessary preliminary is that the extent, scope and value of the DGS coverage should be set in “peacetime” at a level which will be adhered to in “wartime”. The importance of this is highlighted in the IADI report in deposit insurance issues raised by the crisis. In essence, where existing DGSs were not fit for purpose (either because coverage levels were too low, co-insurance levels were too high or payout delays would be unacceptable), governments faced with crises had little choice but to step in and substitute existing schemes with government guarantees. During the crisis, these sudden and unexpected changes in the credit positions of bank creditors exacerbated financial instability, created in financial flows aimed at taking advantage of such schemes, and resulted in a vicious spiral whereby governments were forced to issue such guarantees in order to avoid the risk of cash outflows into equally troubled, but guaranteed, competitors.

Increased focus on the role of the DGS in resolution, and on the possible function of a DGS as a transmitter of financial vulnerability within the banking system, has resulted in increased interest in depositor preference. Depositor preference generally comes in two flavours: (i) general depositor preference (an absolute preference for certain depositors regardless of amount), and (ii) insured depositor preference (a preference for only those depositors who would actually be covered by the DGS up to the insured value). Perhaps more importantly, however, the latter is not of course properly a depositor preference at all, but is a preference for bank contributors to the DGS.

A further element to be addressed is the fact that in general immediate funding for a DGS is provided by the relevant government. All DGSs are either explicitly or implicitly guaranteed by their governments, on the basis that no government would in practice allow the DGS in its territory to collapse (although, as was seen in the Iceland case, a government may well be prepared to cut loose overseas depositors in its banks in order to rescue its domestic system). Thus where a DGS is called upon for any commitment, the immediate source of the credit exposure behind that commitment is the relevant government, even if the ultimate cost is charged back to the DGS members over a somewhat longer timescale.

This point has been used to argue that involvement of the DGS in bank resolution is in fact nothing more than a disguised form of government bail-out, since in the immediate response to the crisis it is the government’s credit which is committed. It is argued that since this approach is in principle no different from a direct commitment of taxpayer’s funds accompanied by the imposition of a tax on the banks over a subsequent period (as has been the case in e.g. the UK), the two are identical. However, this argument is really an argument that deposits should not be insured at all, and although

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1 International Association of Deposit Insurers; Discussion Paper on Cross-Border Deposit Insurance Issues Raised by the Global Financial Crisis; March 2011
2 Financially there is a surprising degree of variation from country to country as to the quantum of total deposits actually covered by insurance – within the G20 the percentage of total deposits actually covered by insurance ranges from 19% (Singapore) to 79% (the United States) – see the FSB Thematic Review on Deposit Insurance Systems of 8 February 2012, Table 5 at p. 48
there is a purist appeal to this position, it is one which has been comprehensively rejected in every major jurisdiction in the interests of preserving depositor confidence. The almost universal occurrence of deposit protection schemes is in reality a demonstrating that governments generally have concluded that the economic benefit derived from supporting depositor confidence in the banking industry significantly outweighs the cost to the taxpayer of underwriting such confidence.

It should be noted as a preliminary point that this argument is equally applicable to pre-funded and post-funded schemes. Although in pre-funded schemes it is possible that very small institutions may be resolved using only the funding already in existence, pre-funded schemes do not in general hold sufficient funds to meet even a significant fraction of the deposits held by a G-SIFI or D-SIFI. A pre-funded scheme is simply a scheme where the scheme operator has sufficient funds in his pocket to cover some level of expected loss – for any level above that recourse to his sponsoring government is the same as that for an unfunded scheme.

There are a number of important distinctions which can be made between DGS bail-in and government bail-out. However, the most important is simply that the costs incurred by a DGS should ultimately fall back on the other members of the financial system concerned. There is an element of intertemporal allocation here, in that the aim of the government intervention is generally to transfer the liability from the system during the crisis, when it is weak and less able to absorb the losses, to the same system post-crisis, when it will have recovered and will be more able to absorb the losses. However, assuming that the system remains in being, there is never any issue of the exposure incurred by government falling anywhere other than on the system participants concerned in proportion to their liability to contribute to the scheme – a liability which bears no other resemblance to a tax. Put simply, in order to argue that a DGS bail-in constitutes taxpayer assistance, it is necessary to argue that DGS contribution levies are taxes – a proposition which would not be accepted by any competent government statistician or administrative court.

Cross-border issues with DGSs remain intractable. The current trend is towards requiring at least retail (and therefore insured) deposit-taking to be conducted within local subsidiaries in each country – an approach which has the merit of ensuring that each local banking subsidiary is part of the local DGS. However, where deposits are taken through a cross-border branch network the problem swiftly becomes intractable – the Icesave experience in the UK dramatically illustrated the fact that a foreign DGS is ultimately backstopped by the sovereign of the jurisdiction in which the bank concerned is established, and if that sovereign is unable or unwilling to finance the compensation of foreign depositors, this creates a gap which will – in practice – need to be filled by the banks or government of the host jurisdiction. Structuring of DGSs as regards cross-border deposit-taking remains an unresolved issue, although it has been persuasively argued that an optimal solution would be to make deposit insurance a host country responsibility whilst allowing the host country to charge risk-based premiums to overseas members.

The Structure of Deposit Guarantee Schemes

A deposit guarantee scheme is a mutual insurance policy entered into by the banks in a system in respect of each other’s deposits. Although the immediate payment to be made under any scheme may be financed by a government, in all cases the ultimate cost will fall on the remaining banks in the system.

In legal terms this is generally expressed as that the contributors to the DGS are subrogated to the claims of the depositors on the bank. However, the easiest way to envisage the economic position of the DGS banks collectively is to reverse this concept as shown below.

For the purposes of this paper we will disregard co-insurance structures, where the DGS covers part but not all of the exposure of the depositor. Such structures, although more complex to model, do not materially affect the analysis set out herein.

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1 Assuming that there are sufficient institutions left in the system able to absorb those costs. Where this is not the case, as was seen in Iceland and in the failure of the US Savings and Loans sector, the cost will ultimately be borne by the government and distributed through general taxation.

This is an important consideration when discussing the role of DGSs in resolution of failed financial institutions. The point may be made most clear by considering the position of an institution which has both wholesale exposures (capable of being bailed in) and guaranteed deposits. Now in the context of bail-in-able debt, regulators tend to lean against banks holding substantial balances of the bail-in-able debt of other banks, since such holdings increase economic interdependence and systemic risk. Thus, it is a policy objective for regulators that bail-in debt should be held by unleveraged investors who are external to the banking and financial systems.

If we make this assumption, however, then it becomes clear that there is a dichotomy at work. Any loss allocated to bailed-in investors passes outside the system. However any loss allocated to insured depositors remains completely within the system. The allocation therefore looks like this:-
It is important, however, not to fall into the casual assumption that all banks will have sufficient bail-in-able debt to enable recapitalization without touching the DGS. Some, of course, do, and it is proposed that legislation should require banks to have more bail-in-able debt. However today the majority of banks in the world by number are probably financed almost entirely by deposits, and there are many banks for whom wholesale funding forms a minor part of their total funding. For such banks conventional bail-in does not provide a solution to even relatively small levels of loss. This can best be demonstrated with an example.

### Bank (before)

<table>
<thead>
<tr>
<th></th>
<th>Liabilities</th>
<th>Wholesale funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Deposits</td>
<td>800</td>
<td>100</td>
</tr>
<tr>
<td>Equity</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Assume that bank suffers a loss of 200, wiping out its equity, leaving the position as follows

### Bank (after)

<table>
<thead>
<tr>
<th></th>
<th>Liabilities</th>
<th>Wholesale funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>800</td>
<td>100</td>
</tr>
<tr>
<td>Deposits</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td>(100)</td>
<td></td>
</tr>
</tbody>
</table>

The knee-jerk reaction here is to assume that the wholesale debt can be bailed in, leaving the deposits intact. However this is to disregard a fundamental aspect of the bail-in regime. Bail-in is conventionally assumed to be conducted subject to a “No Creditor Worse Off than in Liquidation” (“NCWOL”) test. In a liquidation, the wholesale creditors would be entitled to a distribution of 89% (900/800). However, if their bonds are simply converted into (valueless) equity, they are in effect written down to zero. Thus the wholesale funders will be able to argue that of the 100 of funding which they have put up, only 11 can be converted into equity before the NCWOL principle is breached.

Thus, the only way in which this bank can be resolved is to bail in the depositors, which means bailing in the DGS.

It may be objected that the bank sketched out above is unusual in a SIFI context. This is not entirely true – some very large SIFIs are primarily deposit funded. However, more important is the fact that the number of banks of this form is shortly set to increase rapidly. The effect of the Vickers/Liikanen recommendations is to require larger banks to divide themselves into a commercial bank (which may be wholesale funded) and a retail bank (which in effect must be funded wholly by deposits). Such retail banks will have an enhanced level of capital, but since the essence of resolution analysis is that the size of potential bank losses cannot be quantified, it must still be assumed that whatever the level of capital required, there is a risk that the institution concerned will breach it. At that point the issue of bailing-in the DGS will arise.

It is also notable that the idea of bailing in the DGS is one which policy-makers find uncomfortable – for example, in recent drafts of the EU bank resolution directive, deposits have been listed as one of the (relatively few) classes of claims which should not be subject to the bail-in power. Surely, it may be argued, this means that bail-in of DGS is off the table?

Sadly this is not the case, as an examination of the US experience shows. In the US deposits are also protected, such that after bank capital the burden of losses incurred by a failed bank falls on the other creditors of the bank before it falls on the depositors. The effect of this arrangement in practice is, as explained by FDIC, that “Because, so far, most liabilities of failed institutions have been deposit liabilities, the effect of depositor preference in practice has been to eliminate any recovery for...
unsecured general creditors.". This reflects the fact that, once depositor preference has been established, the structure of a bank is likely to change such that any creditor who is not a depositor will seek to become a secured creditor. The fewer the unsecured creditors, the larger the risk to those creditors, and therefore the smaller the pool of unsecured creditors is likely to be. This means that the introduction of depositor preference and/or depositor preference on bail-in is likely to result in a greater likelihood that depositors will have to be bailed in in the absence of any other bail-in-able senior creditors.

It should also be noted in passing at this point that in the context of deposit funded banks which are part of a larger group, the idea that wholesale funds raised elsewhere in the group could be used to bail out the deposit taking part of the group must be treated with great caution. In the arrangement contemplated by Vickers and Liikanen, where a retail bank and an investment bank are held together under an “empty” holding company (i.e. a holding company which does nothing more than hold equity in its subsidiaries), it would be inappropriate to bail in the wholesale creditors of an investment bank subsidiary of a holding company in order to upstream capital which is then downstreamed to fund an equity shortfall in the retail bank. Under the US model, where the holding company is likely to raise wholesale debt finance in its own name and downstream that finance to its subsidiary, it would clearly be possible to bail-in that debt at the holding company level and downstream it to the bank. However, that is assuming that there are no other calls on the holding company – for example, if the investment bank were also at risk, at least some of the capital raised at the holding company level might have to be used to preserve value (or avoid losses) elsewhere in the group in the interests of maximizing overall returns to the bailed-in creditors. In all of these cases bail-in of DGS must at least be considered.

It should be noted at this point that in discussing bail-in of the DGS we are not simply talking about distributing losses. One of the arguments in favour of bail-in is that by enabling the preservation of value within the bailed-in institution, the approach minimizes losses to participants (assuming that the institution which is being resolved can maintain access to liquidity). Given the attribute set out above – that losses allocated to the DGS eventually impact across the system – minimization of the losses incurred by the DGS is an important policy objective in its own right.

The value destruction which a resolution seeks to avoid is primarily the result of a fire-sale of assets. The impact of such a fire-sale is unaffected by the nature of the liability side of the balance sheet – in the example given above, if the fire-sale realization value of the asset book is 600 rather than the 800 specified, then a further loss of 200 will have been crystallized for the account of the contributory banks to the DGS. Conversely, if the undertaking can be preserved so that, after bail-in of wholesale creditors, it is recapitalized by crediting the DGS with new equity, then it is possible that this loss may be entirely avoided. This is clearly a preferable outcome for the contributors to the DGS as well as for the resolution authority.

It should also be noted in this context that, for various reasons including the regulatory initiatives mentioned above, it is very likely that the asset book of a primarily deposit-funded institution will consist primarily of long-term loans. Such assets give rise to great difficulties in terms of valuation and realization, and it is generally undesirable to require their liquidation in any short timescale.

**Practicalities of bailing in DGS**

In general, a bail-in is conducted by giving the creditors bailed in the benefit of the equity in the bailed-in entity, either directly in the form of shares or indirectly in the form of receivables certificates capable of being converted into equity at a future time or upon conditions. The reasons for this are to do with fairness rather than generosity. If creditors are to be subjected to the commercial risk of the business concerned, they should be entitled to any upside which the new management succeeds in generating from the assets which they have financed.

In order for a DGS to participate in a resolution there must be an element of decision-taking by the DGS – in effect, the DGS is offered equity participation in exchange for a cash or credit commitment – and this must be optional for the DGS. The reason for this is that the mandate – and the default position – of any DGS is to wait for the institution to fail and then to compensate depositors after the event. If the DGS is to do anything different from this, it must be able to make a positive determination that participating in the resolution will result in a lower cost to it (and, indirectly, its contributors) than paying out insurance after the event. This means that at a minimum the DGS must be capable of analyzing the proposal and accepting or challenging it on behalf of its members. This takes us into the topic of the very wide variety of DGSs that there are in the world. These vary in a number of respects, of which the best-known is the distinction between schemes which are

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1. p.249 of “Managing the Crisis”, FDIC publication (here: http://www.fdic.gov/bank/historical/managing/history1-10.pdf). It should be noted that the crisis referred to in the title was the S&L crisis, but the principle does not appear to have changed in the intervening years.
pre-funded (i.e. raise finance from their members in advance so as to be able to deploy it immediately to meet claims) and those which are post-funded (i.e. borrow to raise money in the event of crisis, and then recover the amounts borrowed from their members after the event). However, of more importance in this context is the extent to which the DGS is “sentient”; i.e., able and trusted to make assessments and take decisions on behalf of its members. This characteristic varies significantly across the universe of DGSs, and is complicated further when (as with the US FDIC) the DGS is also the resolution authority.

**The Nature of DGS schemes**

It is often said that DGS schemes can be divided into funded or unfunded. This is not strictly true. A DGS scheme is a form of insurance, and insurance is generally never fully funded. The question of what level of resources an insurer needs in order to fund a particular level of risk is never straightforward, and there is scope for reasonable disagreement as to what the proper level of DGS funding may be. Since no scheme could finance all of its potential liabilities out of its existing funding, all schemes, whether notionally ex-post, ex-ante or mixed, are at least implicitly reliant on a power to raise ex-post contributions. This means that the DGS is best viewed as a mutual insurance scheme, in which contributories are fully liable, rather than a commercial scheme from which cover is purchased at a price called a premium.

As to what level of funding might be regarded as appropriate in an ex-ante scheme, the attached table may be of interest:-

<table>
<thead>
<tr>
<th>Covered Deposits (Eur bn)</th>
<th>Funding  (EUR m)</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>201</td>
<td>695.0</td>
</tr>
<tr>
<td>Cyprus</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Czech rep</td>
<td>47</td>
<td>173.5</td>
</tr>
<tr>
<td>Denmark</td>
<td>53</td>
<td>473.0</td>
</tr>
<tr>
<td>Estonia</td>
<td>2</td>
<td>54.3</td>
</tr>
<tr>
<td>Finland</td>
<td>37</td>
<td>423.0</td>
</tr>
<tr>
<td>Greece</td>
<td>34</td>
<td>686.0</td>
</tr>
<tr>
<td>Hungary</td>
<td>19</td>
<td>228.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>278</td>
<td>337.0</td>
</tr>
<tr>
<td>Latvia</td>
<td>1</td>
<td>33.0</td>
</tr>
<tr>
<td>Lithuania</td>
<td>7</td>
<td>163.0</td>
</tr>
<tr>
<td>Malta</td>
<td>4</td>
<td>3.0</td>
</tr>
<tr>
<td>Poland</td>
<td>90</td>
<td>481.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>59</td>
<td>1,170.0</td>
</tr>
<tr>
<td>Slovakia</td>
<td>11</td>
<td>108.6</td>
</tr>
<tr>
<td>Spain</td>
<td>296</td>
<td>393.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>58</td>
<td>1,730.0</td>
</tr>
</tbody>
</table>

These figures are extracted from the European Forum of Deposit Insurers report of October 2006 (although somewhat elderly, these figures have the advantage of not being affected by post-crash distortions). The table excludes those EU states with unfunded (or, more accurately, ex-post funded) systems.
By comparison FDIC is required by law to keep a balance equivalent to 1.15% of insured deposits. In 2007 the FDIC Deposit Insurance Fund balance was $52.4 billion, representing 1.22% of insured deposits (around $4.29 trillion). However by March 2009 this had fallen to $13 billion, representing 0.27% of insured deposits.

“Funded” vs “Unfunded” Schemes

There are two curiosities about “funded” DGS, both of which highlight the fact that as a matter of basic economics the differences between funded and unfunded schemes are less than might at first be imagined. One is that in general DGSs, once they have raised funds, are restricted to investing it in “assets of the highest quality”, which means in practice government bonds. In general, the desire to avoid currency risk exposure within the fund means that it is likely to be invested almost exclusively in the government bonds of the country concerned. This in turn means that the money which is collected from the industry is paid over to government, on terms (in effect) that government will give it back to be used for compensating depositors when required. This is analogous to taxation funding a government bail-out1. It should also be pointed out that this arrangement pretty much ensures that when the DGS needs to raise funding, it will do so by liquidating large amounts of government bonds2. If – as has frequently been the case recently – the instability of the banking system in a country results in doubts about the creditworthiness of the sovereign concerned, such a liquidation may have the twin maleficent effects of depressing the value of the bonds of that government still further, and causing the DGS to realize a loss at the time when its resources are most needed intact. Possibly more importantly, if the markets know that a bank rescue will necessitate a flood of government bonds onto the market, this could well mean that bank instability in a country is sufficient to cause a weakening of the credit of that country, which will in turn result in a further weakening of the banking system3.

It is also worth noting that the same is true of an unfunded scheme. An unfunded scheme needs to access immediate liquidity, to be repaid over time out of contributions made by the industry. The provider of immediate liquidity is almost certainly the government of the country concerned, either directly or through the central bank. Thus for an unfunded scheme the economics are a government payment accompanied by levies on the industry. This again is closely analogous to government bail-out funded by targeted taxation. Indeed, it is arguable that the only difference between the two is that in the first case tax is continuous, whereas in the other it is limited by the extent of the obligations assumed. All of these architectures are, it can be argued, economically similar to hypothecated taxation.

Resolution and the DGS

The answer to the question “what is the DGS for?” is not as obvious as might be at first assumed. DGSs are designed to make payments to creditors of banks which have failed – in other words, the presumed sequence of events is

1 In the case of a funded scheme there is a notional return on the assets held. Some schemes have provision for dividends to be paid to contributors, but in practice this return is generally dealt with by absorbing it into the general fund, which in turn reduces the amount of the levy paid by members.

2 This will not be the case if the DGS is permitted to hold its cash balances with the relevant central bank, but arrangements of this kind may be unpopular with governments.

3 All banking systems are necessarily structurally long of the debt of the sovereign in which they operate, so a weakening of the credit of a country automatically weakens the banking system in that country.
is more apparent than real. Although it is in theory open to the contributors to a DGS to demand that the DGS should only be used post-insolvency, in practice they would be unwise to do so. This is because the destruction of value involved in formal insolvency would increase the loss which would be passed, through the DGS, to those contributors. Perversely, the contributors to the DGS therefore have a positive interest in the DGS being called upon in a way which minimizes rather than maximizes the cost that they themselves will ultimately have to bear.

It should be clear from the foregoing, however, that what we are talking about is a significant redesign of the DGS concept. Specifically, a legal mechanism needs to be created by which the DGS can elect to participate in a resolution where it is satisfied that the cost to it of doing so will be less than the loss which would otherwise fall on it after the failure of the institution concerned.

Once a mechanism has been created by which the DGS can elect to contribute to a resolution, the further difficulty arises of finding some way of quantifying the extent to which the DGS can be called upon to contribute. In practice this has to be done through the creation of a “no worse off than in liquidation” mechanism. Thus the hypothetical rule needs to provide that when a bank which takes insured deposits is placed in resolution, the relevant DGS may be called upon to make a contribution to that resolution, but the contribution that it may be called for can be no greater than the payments that it would have had to have made to compensate depositors had the institution become insolvent.

An integral part of this approach is that the DGS may well be called upon to recapitalize the institution and, if this is indeed the case, then the DGS will end up holding equity in the institution concerned. This is problematic given that DGSs are generally not designed as long-term asset holding vehicles. Again, in practice it would be necessary to ensure that some appropriate asset owning vehicle could be established at arm’s length (possibly under the aegis of the regulator or central bank charged with oversight of the DGS).

At this point, the mechanism for using the DGS has become similar to that of a “resolution fund”, the difference being that whereas a resolution fund can be used at the discretion of the resolution authorities, a DGS can only be accessed in circumstances where there is a clear benefit to its contributors from its being used in this way. This distinction does, however, highlight the importance of maintaining a clear distinction between the two types of fund.

Practicalities of DGS bail-in
As noted above bailing-in a DGS is very different from a normal creditor bail-in. This is only partly because a DGS does not become a creditor of a failed bank until it has actually paid out monies to depositors and is thereby subrogated to their claims on the institution. More importantly, whereas a normal creditor bail-in is a simple accounting write-down, a DGS bail-in may bring new cash to the table. There are therefore two elements of a DGS bail-in – the credit aspect, under which the institution is recapitalized, and the liquidity aspect, under which new cash is injected into the institution concerned. It would be technically possible to separate these – thus, the DGS could provide pure liquidity assistance without assuming credit risk (for example if the funding were provided on collateralized terms).
and could assume credit risk without providing liquidity (by assuming part of the bank’s obligations to repay depositors). However, it is difficult to see any positive argument for either of these approaches, and the optimal course of action seems to be that the DGS should be involved as both a credit and a liquidity support.

**Primary Loss Absorbing Capital (PLAC) requirements**

The PLAC requirement, in broad terms, is that banks should maintain an amount of senior debt which is capable of being bailed in. Assuming that deposits continue to be treated as ranking pari passu with other creditors (contrary to Vickers, but as required by Art 99(2) of the current draft of the RRD), this raises the question if deposit can be bailed in, why should they not count towards PLAC requirements? This initially seems an extremely odd suggestion, since instinctively depositors are what PLAC is there to protect. However, this is a misclassification. The purpose of PLAC is not debtor protection but avoidance of government bail-out, and the aim of the PLAC requirement is to ensure that here are sufficient creditors capable of being written down to ensure that no government assistance is required on the failure of the institution concerned. Viewed in this light it is clear that deposits covered by a bail-in-able DGS do indeed contribute to this requirement.

Deposit insurance is, of necessity, limited, both to certain deposits and to certain amounts. It should be noted that there is a difference here between depositor preference and deposit insurance – there is no reason why depositor preference should not be unlimited, and in some systems it is. However, a DGS is an insurance scheme, and no insurance scheme can have unlimited liability. Thus, DGSs inevitably protect deposits only up to a certain level.

This immediately raises questions about the uncovered portions of the deposit base in the context of DGS bail-in. In respect of uncovered deposits, and the uncovered portions of covered deposits, the potential exposure of the DGS is precisely zero. Consequently it can legitimately be argued that even if the covered portions of deposits can be said to be bail-in-able, the uncovered portions should not be.

**Form and Structure of DGSs**

The FSB point out that:

“The principal public policy objective of FSB jurisdictions utilizing an explicit DGS is to protect depositors. Twelve jurisdictions (Canada, France, Germany, Hong Kong, India, Indonesia, Japan, Korea, Mexico, Russia, Turkey, United States) go further and include the specific objective of contributing to financial system stability.”

This may explain why DGSs come in a wide variety of forms, ranging from very large organizations (such as FDIC) to brass plates. More controversially, some DGSs are also resolution authorities, although most are not. The interaction between resolution authorities, DGS, central bank and treasury is interesting. In general there is a strong argument that treasury departments should not be resolution authorities, not least because any resolution conducted by a treasury will generally be seen as constituting an implicit guarantee of the resolved institution by that treasury. Equally, a resolution authority which is also a central bank is, to some extent, engaged in an arbitrage against itself – once it has agreed, as resolution authority, than an institution is resolved it cannot, as central bank, limit its supply of liquidity to that resolved institution, and this again creates a perception of government support. This creates a situation in which the idea of combining the functions of resolution scheme and resolution authority may seem attractive.

This is an interesting reflection when we come to consider the form of schemes. In general, DGSs can be placed on a continuum between “pay-box” entities, which exist to channel payments between systemic participants, and risk minimizing entities, which have powers to take risk decisions in their own right, subject to a mandate to minimise the cost to the remainder of the financial system of the losses arising from the failure of an insured depositor. In general, it is likely that losses to the system are minimized, and systemic stability is optimized, where the DGS is a risk minimize able to take independent decisions – this should enable resolution rather than mere liquidation of the institution concerned, which generally reduces aggregate losses. However, if the DGS is to be an effective risk minimize, it must – by definition – have the staff, capacity and access to financial resources necessary for it to play an active part in the resolution process. Once a risk-minimizing DGS of this kind exists, it is hard to see why it should not be given the role of...
resolution authority. However, although this is clearly true for primarily deposit-funded banks, it may become less true for non-deposit-funded banks, and less true still for resolution of non-deposit-funded members of the bank group.

The Financial Stability Board, in its overview of the role of DGSs in the crisis\(^\text{12}\), classified DGSs into four broad categories

<table>
<thead>
<tr>
<th>System Type</th>
<th>Mandate</th>
<th>G20 Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paybox</td>
<td>Narrow mandate systems that are only responsible for the reimbursement of insured deposits</td>
<td>Australia, Germany, Hong Kong, India, Netherlands, Singapore, Switzerland</td>
</tr>
<tr>
<td>Paybox plus</td>
<td>Mandate where the deposit insurer has additional responsibilities such as some specific resolution functions</td>
<td>Argentina, Brazil, United Kingdom</td>
</tr>
<tr>
<td>Loss Minimize</td>
<td>Mandate where the insurer actively engages in the selection from a full suite of appropriate, least-cost resolution strategies</td>
<td>Canada, France, Indonesia, Japan, Mexico, Russia, Turkey</td>
</tr>
<tr>
<td>Risk Minimizer</td>
<td>Mandate where insurer has comprehensive risk minimization functions that include a full suite of resolution powers as well as prudential oversight responsibilities</td>
<td>United States, Korea</td>
</tr>
</tbody>
</table>

The FSB observed that as a result of the crisis, the trend was for more DGSs to move towards a “loss minimizer” role.

Cross-Border Issues and Deposit Protection

As noted above, on a single country basis a DGS is a mechanism by which the costs of a failure of a bank in a system are redistributed across the other banks in that system. This oversimplified model starts to come under considerable strain when applied across multiple different markets. The problem can be illustrated as shown below. In the single-country situation the position is as follows:-

In the multiple-country situation, however, it is thus:-
The “last resort” funding arrow is contentious and deserves a word of explanation. Until recently there was no explicit recognition that a government should stand behind its deposit protection scheme (and in the Iceland1 case it was held that first EU Deposit Guarantee Directive (94/19/EC) did not impose any obligation on member states to support their guarantee scheme). However it appears that this is the effect of the current (2009/14/EC) deposit guarantee directive.

In order to understand the illustration above, it may be helpful to substitute “Iceland” for “country A” and almost any other jurisdiction for countries B and C. The issue is that if the resources of the banking system in country A are unable to satisfy the claims of overseas depositors, that liability will pass through to the government concerned. The Iceland example illustrates what happens when the government itself is not able to meet the obligations thus created. It should be noted that the facts of the Iceland case were that the UK and Dutch governments (loosely B and C in the example) did not seek to compensate UK creditors of the Icelandic banks through the domestic DGS, but met these claims directly, choosing to seek remedies against the Icelandic government in pursuit of compensation. However, governments are notoriously unwilling to spend domestic taxpayers money in compensating foreigners, and there are a wide range of situations in which a government in this position might find itself unwilling to finance such compensation payments, and (in extreme cases) unwilling to countenance its domestic banks funding such payments. As a matter of the laws that existed before the crisis, the envisaged outcome of these facts would have been for the state in countries B and C to say to depositors on those jurisdictions “hard luck”. This, however, is unlikely to happen. A depositor who walks into a branch of a bank on (say) a UK high street generally expects that his deposit will be protected by the UK DGS – even following greater transparency of late about what is covered – and it is extremely difficult to persuade him to accept that what he has done is wholly outside the UK safety net. This remains true even for internet deposits, where the deposit concerned appears to have been placed with a UK entity. Going back to the logic of DGSs, if the primary purpose of a DGS is to socialize the risk of real financial hardship being suffered by those who are suddenly deprived of their money for an extended period through no fault of their own, it seems reasonably clear that no government in this position can simply cut loose a proportion of its own citizens. Thus, in the example given above, the reality is that countries B and C are de facto insurers of the activities of the domestic deposit-gathering by Bank A in their jurisdictions, whether they like it or not.

This raises the question as to whether in these circumstances this responsibility should be transferred to the DGS – and therefore the banking system – of countries B and C. After all, if in the hypothetical situation above the establishments of Bank A in countries B and C had been subsidiaries rather than branches, those subsidiaries would have been required to be members of the local DGS, and the losses resulting from the failure of the subsidiary in any country would fall on the banking system in that country. Thus, for example, in the UK the FSCS covers deposits placed with branches of non-EEA banks that are authorized in the UK. It is interesting in this regard that the IADI report concluded (tactfully) that “consideration should be given to whether the benefits of branch passporting arrangements outweigh the risks and the appropriate role of the host state with regard to host nation depositors in the event of a cross border bank failure resolution.”, and in a recent interview Andrew Bailey, the head of the UK Prudential Regulatory Authority, said that “the practice of allowing EU banks to take retail deposits across national lines is “dying out” because of repeated bank failures”.14

The traditional answer to this question has been that such an arrangement would be unacceptable. The logic for pooling the exposures of the banks in any given country is that they are subject to common regulation and supervision by the same regulator, that they are mutually interdependent in terms of payments within that country, and that the establishment of the DGS does no more than recognize an interdependence which is already an existing fact. This is not true of an external bank which is permitted to branch into the country concerned, since swathes of that bank’s activities will be regulated under a different system by a different regulator. The EU is currently testing the boundaries of this analysis by trying to establish how great a degree of regulatory and supervisory convergence is required before this objection ceases to be valid.

It does seem, however, that this argument is to some extent

13 EFTA Surveillance Authority v Iceland, EFTA Court, Case E-16/11 (2013),
14 Financial Times, 4 April 2013.
misconceived. The reasons why banks in a country are in general happy to be linked together in a common liability is that, by reason of their deep interconnections and interdependence on each other, each is able to form a relatively clear view of what the others are doing. Another way of looking at this is that the existence of a DGS requires the major deposit-taking banks in a jurisdiction to maintain a fairly detailed analysis of each other’s activities, liabilities and riskiness. Any substantial deposit-taking institution which significantly increases risk-taking beyond its peer-group will be subject, through domestic channels, to a form of market discipline exerted by its co-contributors to the domestic DGS\(^{15}\). If this is true, then the idea of allowing domestic branches of foreign banks into the domestic DGS is extremely unappealing, since domestic banks are by definition unable to maintain the same level of scrutiny of overseas banks as they are of their domestic competitors. In effect, it is argued that such a proposal puts UK banks on risk for the failure of Icelandic risk management and supervision, in circumstances where it is very unlikely that such banks can exert any meaningful discipline over either those banks or their supervisor\(^{16}\).

The current public proposals for reform of the EU system\(^{17}\) attempt to square this circle by means of an interlinkage of DGSs. The proposals are to the effect that branch creditors are to be compensated in the first instance by the scheme of the host member state, which in turn is to be repaid by the scheme in the home member state.

**DGS and Systemic Crises**

The final point to make in this context is that DGSs are tools created to absorb losses from a single bank failure where that failure occurs within a solvent banking system. In a systemic crisis, a DGS may well turn from being part of the solution to being part of the problem, and in particular may become a channel for the transmission of systemic risk. The point is clearly made in the BCBS/ADI Core Principles for Effective Deposit Insurance Systems

“A deposit insurance system is not intended to deal, by itself, with systemically significant bank failures or a “systemic crisis”. In such cases all financial system safety-net participants must work together effectively. In addition, the costs of dealing with systemic failures should not be borne solely by the deposit insurance system, but dealt with through other means such as by the state.” (at p.1)
Recommendations

1. DGSs should not be restricted solely to paying compensation to depositors once default has occurred.

2. The powers and authorities of managers of DGSs should be extended to permit them to apply DGS resources, both pre-funded and post-funded, in a way which promotes efficient resolution. However this involvement should be voluntary for the DGS, and should only arise where those charged with managing the DGS are satisfied that acting in this way will minimise the liabilities of the contributors to the DGS.

3. The logic of involvement of DGSs in resolution pre-default is based on the fact of the exposure that it would have after a default. In resolution, the DGS should therefore be treated as if it were already subrogated to the claims of depositors, even though in law that subrogation may not yet have arisen.

4. The involvement of a DGS in resolution should be based on a test similar to the “no creditor worse off than in liquidation” test, such that the DGS cannot be called upon to contribute more than the compensation liability which it would assume on a default.

5. The decision-taking and exposure assessment of DGS managers should be enhanced to ensure that, where such determinations arise, they have sufficient resource and capability to assess and determine likely exposures of the DGS in different contexts. A mechanism should exist whereby these decisions are taken independently of the resolution authority, and in the best interests of the contributors to the scheme.

6. Co-operation mechanics between national DGSs in respect of cross-border deposit taking should be formalized at a global level. The FSB should take the lead in this work.

7. The interaction between DGS funds and bank resolution funds should be formalized both at a national and at international level. The FSB should take the lead at the international level.

8. The role that a DGS should perform in a systemic crisis may be different from its role in single or multiple resolutions outside a systemic crisis, particularly given the possible function of liability for DGS losses in excess of pre-funded amounts to act as vectors for the transmission of contagion through the relevant banking system. The question of who should determine whether a systemic crisis exists, and how the DGSs role should change as a result, should be predetermined.