

FUNDING

Abstract

Sound funding arrangements are critical to the design and operation of an effective deposit insurance system and the maintenance of public confidence. To be effective, a deposit insurance system should include the mechanisms necessary to ensure that adequate funds are available to reimburse depositors promptly if an insured depository institution fails and to cover the system's operating expenses. Inadequate funding can delay the resolution of failed institutions and significantly increase costs. The design of a deposit insurance system's funding arrangements also will affect when and by whom the costs of deposit insurance are borne.

Funding for a deposit insurance system can be obtained on an *ex-ante* or an *ex-post* basis, or through a combination of these approaches. Whether one method is preferred over another will depend, in part, on how the advantages and disadvantages associated with each approach are viewed in the context of the deposit insurance system's design and public-policy objectives. This paper examines these approaches and additional funding issues that should be considered by policymakers.

FUNDING

To be effective, a deposit insurance system must have access to adequate sources of funding to meet its obligations when they come due. The alternative methods or options for funding, their associated trade-offs, and related issues are explored in this paper.¹

Sound funding arrangements are critical to the design and operation of an effective deposit insurance system and the maintenance of public confidence. A well-designed deposit insurance system should include the mechanisms necessary to ensure that adequate funds are available to reimburse depositors promptly in the case of an insured institution's failure and to cover the operating expenses of the system. As the experiences of several countries have shown, inadequate funding can lead to delay in resolving failed institutions and to significant increases in costs.² The design of a deposit insurance system's funding arrangements also will affect when and by whom the costs of deposit insurance are borne.

Regardless of how it is funded, a deposit insurance system is not designed to withstand, on its own, a systemic crisis—especially when a large proportion of insured depository institutions are in severe trouble at the same time. Nor should it be assigned the responsibility of funding such a crisis. It is important, therefore, that policymakers consider how failures will be handled, both in normal times and in times of stress.

The methods for funding a deposit insurance system include *ex-ante* funding, *ex-post* funding, or some combination of the two approaches. Whether one method is preferred over another will depend, in part, on how the advantages and disadvantages associated with each approach are viewed in the context of the deposit insurance system's public-policy objectives and design.³

Beyond the decision to fund a deposit insurance system on an *ex-ante* or an *ex-post* basis, additional funding issues should be considered by policymakers. Among these are the following: the determination of the source(s) of initial funding for newly established and transitional deposit insurance systems, and the source(s) of ongoing funding for established deposit insurance systems, including borrowing; and how deposit insurance assessments should be determined, assessed, and collected. In the case of *ex-ante* funding, policymakers should consider whether a deposit insurance fund should be established, how related issues concerning the size of the fund and investment policies for the fund should be determined, and whether it is appropriate to establish separate deposit insurance funds for different types of depository institutions.

¹ The Subgroup is comprised of representatives from France (coordinator), Canada, Chile, Hungary, Italy, Mexico and the United States. Members of the Subgroup contributed information on their deposit insurance systems for this paper. Comments received from the Working Group's consultative process also were considered in the drafting process.

² The experience of the United States in resolving the savings-and-loan crisis during the 1980s and early 1990s provides such an example. It is discussed in Federal Deposit Insurance Corporation, *History of the Eighties: Lessons for the Future*, (1997).

³ Public-policy objectives for deposit insurance systems are examined in another paper.

Deposit Insurance Funding Methods: *Ex-ante* or *Ex-post* Funding

Funding for deposit insurance purposes can be obtained by building a reserve or a fund on an *ex-ante* basis, or by having the power to obtain funds when needed on an *ex-post* basis. A combination of these approaches also is used by deposit insurers, notably when the deposit insurer has the ability to supplement *ex-ante* funding with an *ex-post* call on public or private funds.

***Ex-ante* funding**

The accumulation of a safe-and-liquid pool of funds is possible when *ex-ante* funding is chosen. These accumulated funds, in turn, are available for the prompt reimbursement of insured deposits in the event of a failure of an insured depository institution. Funding also can be available readily to cover the operating expenses of the deposit insurer. When funding is obtained on an *ex-ante* basis, all insured depository institutions contribute to building and maintaining a deposit insurance fund. As a result, insured depository institutions that subsequently fail will have contributed to the cost of reimbursing their insured depositors.

As discussed below, an *ex-ante* funding system may be designed to incorporate risk-based or differential premiums, whereby the deposit insurance assessments of individual depository institutions are linked in some manner to the risks posed to the deposit insurer. Whether deposit insurance premiums are assessed on a risk-based or a flat-rate basis, *ex-ante* funding provides an opportunity to smooth the premiums paid by depository institutions over the course of the business cycle. As a result, the costs of deposit insurance may be borne when the industry and economy are healthy, as opposed to when problems are being experienced. On an operational basis, depository institutions have the opportunity to include prospective deposit insurance assessments in their financial planning process. However, such *ex-ante* funding has been criticised as a potential drain on the liquidity of the banking system, because premiums paid to the deposit insurer cannot be utilised for other purposes.

The establishment of an *ex-ante* deposit insurance fund can contribute to public confidence in the functioning of the deposit insurance system, if depositors know that funds are available for reimbursement and that the fund is well-managed. The uses of the fund should be clearly defined and limited.

If a deposit insurance fund is established, policymakers should address a number of related issues. An appropriate investment policy for the fund must be developed and implemented. Without an appropriate policy, it may be difficult to maintain the value of the fund over time, especially during periods of inflation. Issues relating to the size of the fund and the level and type of insurance premiums also must be addressed. Conflicts between the deposit insurer and the member depository institutions over these and other issues also can present a problem. For example, charging depository institutions for

deposit insurance when there are no failures can cause the institutions to question the need for deposit insurance.

***Ex-post* funding**

By contrast, *ex-post* funding requires depository institutions to pay only when failures occur. *Ex-post* funding also may provide incentives for depository institutions to monitor each other in order to avoid the costs associated with the failure of a member institution. This is particularly the case in banking systems characterised by a small number of large depository institutions.

Under an *ex-post* system, when the industry and economy are healthy, contributions are minimised and the operating expenses of the deposit insurance system may be low. However, because the calculation and collection of assessments occur post-failure, prompt reimbursement of insured depositors may be more difficult than under an *ex-ante* system. Moreover, under an *ex-post* system, depository institutions that fail are not assessed for the losses they create.

There are other issues that arise under an *ex-post* funding system. Because *ex-post* levies, by their nature, are collected after the failure of an institution, they may be less effective in influencing behaviour than *ex-ante* assessments. *Ex-post* funding could be destabilising because of the point-in-time charge. If failures occur during an economic downturn, there may be an incentive for regulators and deposit insurers to forbear, given the weakened ability of member institutions to pay. There is an incentive for surviving depository institutions to make demands on the deposit insurer and other regulators in exchange for providing the requisite funds to cover the costs associated with the failure of one or more depository institutions. This may weaken the bargaining position of the deposit insurer.

Hybrid funding methods

In practice, deposit insurance systems often are funded on a combined *ex-ante* and *ex-post* basis. Reliance on *ex-ante* funding sources—typically from insured depository institutions—is supplemented by access to public or private funding, including *ex-post* levies on depository institutions and draws on government lines of credit, especially in the case of a large failure or wave of failures. In designing a hybrid scheme, policymakers need to be aware of the disadvantages inherent in each of these approaches.

Sources of Funds

In most countries depository institutions bear most, if not all, of the costs associated with deposit insurance. There are a number of ways in which this is done. The most common method is to levy premiums, whether *ex-ante* or *ex-post*. An alternative method is for depository institutions to set aside reserves.

Public funding

It may be appropriate for the government to play a role in funding a deposit insurance system, either as the source of the initial funds for the system or as a source of supplementary funding during a wave of failures. The government also may play an indirect role in funding by providing a guarantee to support private borrowing by the deposit insurer. For example, some countries have used government funds for the initial capital needed to establish their deposit insurance systems. In certain cases, these public funds have been repaid in full over time, through the use of premium assessments and income generated by the investment of liquid funds. Alternatively, the government could offer contingent financing while a deposit insurance fund is being accumulated.

Provisions for obtaining public funding for dealing with failures also have been included in the design of deposit insurance systems. For example, some deposit insurers have access to lines of credit with their central bank or government. Generally, it is less expensive to borrow from the government than private sources. As well, funds may be more readily available from the government than the private sector. However, some countries disallow public funding except in exceptional circumstances because it is considered a competitive distortion.

In deciding how to fund the deposit insurance system, attention should be paid to whether there are tax and/or budgetary implications for the country. There may be fiscal implications related to the budgetary treatment of premium revenues paid to the deposit insurer and expenditures from fund balances for failure-resolution purposes. When deposit insurance assessments are tax deductible for the paying depository institution, the burden of deposit insurance is shifted partially from insured depository institutions to taxpayers. Moreover, if insured depository institutions are treated differently for tax purposes than other providers of financial services, there may be competitive implications.

Borrowing

Although recoveries constitute a significant source of funding in the case of failures, they cannot be used for timely reimbursement of depositors. If the deposit insurer has insufficient funds to cover losses, it may be necessary to borrow funds. Such borrowings may have debt-management implications. Two types of borrowing can be distinguished—borrowing for working-capital purposes and borrowing against future premiums to cover any projected shortfall. In the case of the former, it may be necessary to borrow to bridge any gap between the reimbursement of depositors and the subsequent recoveries received from the disposition of the failed institution's assets. In effect, this borrowing would be secured by the value of these assets. Borrowing imposes costs that must be paid through future assessments and the value of recovered assets. Because deposit insurers do not have an unlimited call on these resources, borrowing imposes discipline on the funding process. That is, unlimited borrowing is not a feasible long-term funding option.

Uses of Funds

The funds available for deposit insurance are used for several purposes. First, funds must be available to compensate insured depositors when institutions fail. Equally important, operating funds must be available to attract and retain competent staff and otherwise meet the obligations that any insurer faces in the course of normal operations.

Investment policies

When a deposit insurance system is funded on an *ex-ante* basis, policymakers need to consider which investment policy will effectively utilise the funds available for deposit insurance purposes. On one extreme, policymakers may choose to pursue a policy where funds are held in low-risk, highly liquid assets. Alternatively, policymakers might pursue an investment strategy that elevates higher rates of return above other considerations. Both of these approaches have drawbacks. If a conservative approach is adopted, the opportunity cost is the foregone return to the deposit insurance funds. The pursuit of a higher-return policy may result in funds not being available for insurance purposes when they are needed and/or a loss of principal. This, in turn, may erode public confidence in the deposit insurance system.

A more-balanced approach would be an investment strategy that balances higher rates of return against the certainty that funds will be available when needed and guards against loss of principal. For some countries, such an investment policy may include investments in different currencies or foreign jurisdictions. Regardless of the investment approach selected, policymakers should ensure that funds are protected from fraud and defalcation.

Disbursement of funds to depository institutions

A related issue is whether depository institutions should be able to receive disbursements or rebates from past premiums collected. This issue hinges on how policymakers view the respective roles of depository institutions and government. If deposit insurance assessments paid by depository institutions are viewed as payments for the credit enhancement provided by government or as user fees—that is, government bears the risks associated with depository institution failures—then it is difficult to claim that the depository institutions should have a draw on the deposit insurance fund. On the other hand, if government is viewed as providing a potential back-stop for catastrophic losses alone, then depository institutions may be viewed as having a claim on past deposit insurance assessments paid to the fund.⁴ Various funding arrangements are consistent with this approach. For example, rebates may be tied to the deposit insurance fund's reserve ratio, depository institutions may hold a claim on the deposit insurance fund, or the private sector may be incorporated into the provision of deposit insurance—for example, through private reinsurance contracts.

⁴ This delineation between “user fees” or “mutual arrangement” is discussed in the Federal Deposit Insurance Corporation’s *Deposit Insurance Options Paper*, (August 2000).

Issues Related to a Deposit Insurance Fund

Issues of concern to policymakers include: how to assess depository institutions for the purposes of building a deposit insurance fund, and whether there is an optimal size for the fund.

Approaches to building a deposit insurance fund

How should depository institutions be assessed for the purposes of building a deposit insurance fund? One approach is to build an *ex-ante* deposit insurance fund through the use of premium rates that provide a steady stream of funds for the deposit insurance system over the long term. The fund balance will fluctuate in response to insurance losses, and changes in premium rates will not occur unless losses are excessive. As a result, the costs of deposit insurance may be smoothed over time. Policymakers should balance the need to set premium rates that are consistent with the funding needs of the deposit insurer against the ability of insured depository institutions to fund the system.

Alternatively, an assessment system can be designed so that a targeted fund ratio is maintained, such as the ratio of the deposit insurance fund to estimated insured deposits or another measure of the deposit insurer's loss exposure. This approach, however, can lead to a *de facto ex-post* system once the deposit insurance fund has achieved its target ratio. Depository institutions are then asked to pay little in good economic times and to fund deposit insurance losses after they have occurred. The resultant increased variability in premiums may be addressed by setting assessment rates on the basis of a moving average after the target ratio is attained. Because assessment rates would be determined by a predetermined formula, the premium-setting process could be insulated from political factors and would become more predictable.

Where the government ultimately is responsible for losses, it can be argued that a deposit insurance fund is not necessary. However, there are practical reasons for the government to maintain an explicit deposit insurance fund. A deposit insurance fund helps to protect taxpayers from deposit insurance losses by creating a buffer paid for by depository institutions. It also can be viewed as a budgeting mechanism through which resources can be sequestered from the country's normal appropriations process. This can help to ensure that adequate resources are available readily when problems arise, and help to smooth the costs of deposit insurance over time.

Size of the deposit insurance fund

In principle, a deposit insurance fund should be large enough to reduce the probability of the fund's insolvency to an acceptable minimum, given the inherent constraints faced by the deposit insurer. One constraint is the difficulty of estimating probabilities of loss, which may be low in the immediate future when the economy and depository institutions are healthy. However, when economic conditions deteriorate, the incidence of failures can increase significantly. Other constraints relate to the finite capacity of the industry to pay, and the fact that the deposit insurance fund alone cannot handle system-wide crises.

An approach to determining the optimal size for a deposit insurance fund is to balance the degree of risk that the deposit insurance fund takes against the ability of depository institutions to fund the system. Factors that should be considered include the composition, size and liability structure of the depository institutions that are insured by the deposit insurance fund, as well as the associated failure probabilities and loss rates. Differences in the failure and loss rates between large and small institutions have been identified. These differences reflect the fact that large banks enjoy economies of scale, more flexibility in funding sources, better diversification of risks, and a smaller likelihood of fraud of sufficient size to cause failure. However, because of its attendant costs, the failure of one large bank, while a lower-probability event, may have a more serious effect on the banking industry and the deposit insurer, as well as on the economy. The choice of fund size should balance these factors.

Multiple deposit insurance funds

An ancillary issue is whether multiple deposit insurance funds should be established. A case can be made for establishing and maintaining separate deposit insurance funds for different types of insured depository institutions. Under such circumstances it is important to ensure that the integrity of the funds is maintained and that distinctions among the institutions and their funds are real and do not distort competition among different types of institutions.

Deposit Insurance Assessments

Deposit insurance assessments serve a variety of functions: they can be pooled to build a deposit insurance fund, thereby spreading the burden of maintaining a deposit insurance system among all covered depository institutions; they can be used as an incentive for prudent risk management; and they can be available to cover operating costs of the deposit insurer. The level of assessments, whether *ex-ante* or *ex-post*, should balance the needs of the deposit insurance system against the capacity of depository institutions to pay. While many deposit insurance systems rely on annual deposit insurance assessments, other deposit insurance systems have chosen to raise funds as needed in lieu of regular assessments.

Flat-rate *versus* risk-based/differential premiums

When deposit insurance systems are funded through assessments on their members, the choice must be made between a flat-rate premium or premiums that are differentiated on the basis of an individual institution's risk profile. The primary advantage of a flat-rate premium is the ease with which assessments can be levied and collected. Most newly established or transitional deposit insurance systems initially have adopted flat-rate deposit insurance assessments. This often is appropriate, given the potential difficulties associated with the design and implementation of a risk-adjusted/differential premium system, as discussed below.

Because flat-rate deposit insurance premiums do not reflect the level of risk that a depository institution poses to the deposit insurance system, depository institutions can increase the risk to their portfolios without incurring any additional insurance expense. As a result, flat-rate premium systems are criticised for encouraging excessive risk-taking by insured depository institutions.⁵ Another criticism is that in a flat-rate system where the deposit insurer receives sufficient funds to cover its insurance costs, low-risk depository institutions effectively pay for part of the benefit received by high-risk institutions. The burden of insurance losses, therefore, can be distributed inequitably among insured depository institutions under a flat-rate premium system.

By contrast, risk-based/differential premiums can be designed to mitigate these criticisms. Deposit insurance premiums can be designed to reflect the risk posed by an individual institution to the deposit insurer, or to differentiate among institutions' risk profiles in some manner. Although there is general agreement that relating deposit insurance premiums to the risk an institution poses to the insurance fund is a good idea, the information-intensive nature of the intermediation process in which banks specialise makes risk measurement a difficult task. The potential difficulties involved in the design and implementation of a risk-based premium system include: finding appropriate and acceptable methods of differentiating institutional risk, obtaining reliable and appropriate data, ensuring transparency, and examining the potential destabilising effects of imposing high premiums on already troubled banks.

As countries choose to adopt risk-adjusted deposit insurance assessments, they must address the need for adequate resources to implement such a system successfully. This includes the need for sufficient information on the risk profile of depository institutions and the need for skilled staff and analytical tools. Often the supervisory authority of the country is relied upon for information on the risk profiles of depository institutions. In these cases, a good working relationship and the exchange of information between the deposit insurer and the supervisory authority are essential to establishing an effective risk-adjusted/differential system.⁶ Moreover, careful consideration should be given to the balance between risk-based capital standards and risk-based/differential insurance premiums so that they do not operate at cross-purposes.

The design of a risk-based/differentiated pricing system

The most straightforward conceptual approach is to charge a depository institution an amount equal to the expected loss the deposit insurer faces from providing deposit insurance to that institution. This approach would reflect the differences in risk across banks and would generate revenue sufficient to pay for the costs of insuring deposits. The expected-loss price for a depository institution would depend on the probability of default for that institution, the exposure of the deposit insurer to that institution, and the

⁵ There are factors apart from the pricing of deposit insurance that can limit the degree of risk-taking by insured depository institutions, including market and depositor discipline. These are discussed in the paper on moral hazard.

⁶ The importance of interrelationships among safety-net participants, including the deposit insurer, is discussed in the paper on that topic.

size of the loss that the deposit insurer might incur should the depository institution fail. Setting deposit insurance premiums on the basis of expected loss may minimise over the long term the distortions and moral-hazard problems associated with deposit insurance, and minimise the cross subsidisation of high-risk depository institutions by low-risk institutions.

Several broad approaches for developing expected-loss pricing or otherwise differentiating among the risk profiles of depository institutions are in use by deposit insurers. One approach relies on the use of supervisory information, which is generated through on-site examination of depository institutions, and the use of off-site monitoring tools by the supervisor or deposit insurer. Information such as composite examination ratings and the ratings of their component parts are among the supervisory tools that could be used to develop risk-based/differential pricing. Although supervisory information often is the most in-depth information available about a depository institution, it also may be subjective in nature.

Another approach involves the use of objective factors that are factual or data-driven. Bank reports of condition, nonpublic bank-specific information, and market information, are examples of objective factors that could be of use in differentiating among the risk profiles of individual depository institutions. Although this approach may minimise the reliance on subjective supervisory judgment, care must be taken to avoid imposing an excessive regulatory burden on depository institutions. The combined use of both subjective and objective factors to differentiate among risk profiles of depository institutions also is found in practice.

Ideally, risk-based premiums should be forward-looking rather than based on past performance, but this is difficult to accomplish. In practice, policymakers would not choose to affect adversely already weak institutions—particularly in the case of *ex-post* funding. Because of the difficulties in assessing risk, it is likely that differences in premiums will be smaller than warranted by differences in risks.

The deposit insurance assessment base

In order to ensure the stability of a deposit insurance funding system, deposit insurance premium assessments should adequately cover the deposit insurer's risk exposure. These revenues may be determined by the deposit insurance premium rate and the base against which the premium rate is assessed. Policymakers may wish to consider an assessment base that corresponds to the maximum exposure or legal liability of the deposit insurance system. Thus, one choice for the assessment base is insured deposits. Alternatively, some deposit insurers have based their assessments on a broader measure of the institution's total deposit liabilities.⁷

⁷ In the United States, the assessment base is defined as total domestic deposits, adjusted for factors such as deposit float. When an individual depositor is able to hold deposits in excess of the insurance limit in one depository institution through the use of joint or trust accounts, insured deposits are difficult to measure.

Assessment and collection issues

Depository institutions have an incentive to minimise their funding obligations. One way in which this is done is to minimise their assessable liabilities. When the assessment base is measured at a finite point in time, say the end of the quarter, there is an incentive for depository institutions to “sweep” deposits out of their accounts on that day. This practice would be discouraged if the assessment base was defined in terms of average daily deposits or some similar measure. For example, assessments could be determined on the basis of year-end audited financial statements. As a result, the assessment base would be correlated more closely with the risk exposure of the deposit insurer.

Similar issues exist with regard to the collection of assessments. Features such as the automatic debit of a depository institution’s account can help ensure the timely collection of assessments. Nonpayment of assessments may be addressed through the same mechanisms that ensure compliance with other norms, such as assessing fines, publishing noncompliance or revoking the institution’s banking license. Nonpayment of assessments also may be addressed by legislating that premium assessments have priority over other creditors or ensuring that unpaid assessments have the same status as amounts owed to the government.

Conclusions

Sound funding arrangements are critical to the design and operation of an effective deposit insurance system and the maintenance of public confidence. Inadequate funding can lead to significant increases in the costs associated with resolving failed depository institutions and erode public confidence. When policymakers design a funding system—whether an *ex-ante*, *ex-post* or hybrid system—they should consider the advantages and disadvantages in the context of their public-policy objectives and structure the system accordingly.