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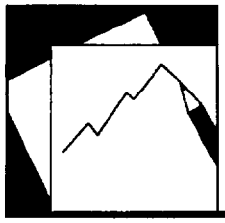

IMF Working Paper

Deposit Insurance and Crisis Management

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Monetary and Exchange Affairs Department

Deposit Insurance and Crisis Management

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Abstract

A well-designed deposit insurance system (DIS) will provide incentives for citizens to keep the financial system sound. However, a poorly designed DIS can foster a financial crisis. This paper, therefore, makes recommendations for creating and running a limited, incentive-compatible, DIS. The paper also examines factors in the decision to grant, temporarily, a comprehensive guarantee, and the design of that guarantee, should a systemic financial crisis nevertheless occur. It concludes with guidance on the removal of that guarantee.

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I. Introduction and Summary

Widespread recognition of the vulnerability of banking systems to deposit withdrawals (runs) has led to public policy concerns to foster a stable, as well as an efficient, banking system. The dominant role of banks in many economies in the provision of financial services and in corporate governance makes banking soundness a vital concern to the state. Moreover, there is an increasing appreciation of the interface between good macroeconomic policy and bank soundness.[2] These concerns have been intensified in recent years by fears of contagion arising from informational deficiencies, and by negative externalities when the failure of one bank spills over to bring down other banks. Moreover, financial stability is currently receiving international attention because financial crises in the 1990s have spread from one country to another and from one region to another. Consequently, financial stability is now recognized to be a global public good.[3]

The financial crises and instability that have occurred during the past two decades have caused policy-makers to prize institutions that convey incentives that encourage banks, their customers, and supervisors to keep the financial system sound. In their quest for financial stability, a large number of countries have adopted deposit insurance systems (DIS) to protect their banking systems. A well-designed DIS, supported by effective bank supervision and a modern legal and accounting infrastructure, can promote financial integrity: unfortunately, a poorly designed system can detract from it.

A. Options to Promote Financial Stability

A country faces six choices regarding deposit protection: (1) an explicit denial of protection and full reliance on transparency and market discipline (as in New Zealand); (2) legal priority for the claims of depositors over other claimants during the liquidation of a failed bank (as in Australia and Mongolia) instead of a deposit guarantee; (3) ambiguity regarding coverage; (4) an implicit guarantee (as found in 55 countries by Kyei in 1995); (5) explicit limited coverage (identified in 74 countries); and (6) a full explicit guarantee (as exists currently in a number of crisis and post-crisis countries).

Choosing the first or second option is legitimate, but rare. The problem is that, under any option, it is difficult to value loans, particularly impaired loans. This difficulty weakens market discipline and the feasibility of adopting option 1 or 2. Further, weak rules governing the closure or efficient resolution of failed banks ("exit rules") often allow insolvent (but liquid) banks to continue in operation. Moreover, in so far as the banking system is open to runs, contagion, or systemic domino effects, market discipline may prove potentially too

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[2] See Lindgren, Garcia, and Saal (1996), and Folkerts-Landau, Lindgren, et al. (1998).

[3] A number of observers claim that the banking system warrants public policy concerns because it provides public goods that have global repercussions and that financial instability is a global public bad (Wyplosz, 1999).

disruptive for the authorities to countenance and the lender of last resort (LOLR) could come under excessive pressure to bail out the financial system. These problems warn against the adoption of options 3 or 4.

Under the fourth and sixth options, a country may implicitly or explicitly guarantee all deposits. This would create moral hazard and adverse selection.[4] These incentive problems could be prohibitively costly or demand such a degree of government intervention that it would be tantamount to nationalization.[5] In turn, nationalized banking systems are troubled by inefficiency, partly because the countermeasures to a full guarantee are not compatible with competitive behavior under private ownership except in a case of extremely effective banking supervision and draconian exit rules; otherwise such a system tends to keep profits private while making losses public. Thus, the incentive problems of a full government guarantee of depositors (and possibly other bank creditors), which can impose heavy fiscal costs, strongly argues against this alternative.

Consequently, most countries seek and adopt an alternative model. The fifth option, chosen by most countries and favored by Fund staff, lies between the extremes.[6] It includes deposit insurance that is limited in coverage and contributes to systemic stability as part of a carefully calibrated system of internal controls, regulatory and market discipline to keep banks strong and prevent crises.[7] The authorities seek to protect only certain categories of depositors—typically small depositors—or all deposits but only up to a certain size. The guarantee may be explicitly defined in law and/or regulation, in order to limit runs and contagion effects. Moreover, the protection may be accompanied by preferential treatment for the financial claims of these depositors in liquidations. This section of the paper,

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[4]Moral hazard occurs in insurance when the provision of a guarantee encourages the insured to take more risks. Adverse selection often arises in banking because a guarantee is more valuable to a troubled bank than a sound one. Consequently, unsound banks are more willing than strong banks to join a uniformly priced scheme and a voluntary scheme is likely to become insolvent.

[5]One example of these problems is that deposit insurance can keep a troubled bank liquid. The bank's owners and managers are then tempted to gamble for high profits, or if they are insolvent, for recovery. See, for example, Allen and Saunders (1993), Fries (1990), Garcia (1996), Kane (1989), and Saunders (1994) for further discussions of these issues.

[6] See Folkerts-Landau, Lindgren, et al (1998).

[7]For example, a number of states in the United States introduced systems of deposit insurance in the last century. Czechoslovakia began the first nationwide scheme in the 1920s. Federal insurance began in the U.S. in 1934 in reaction to the banking collapse that occurred during the Great Depression. The European Union (EU), issued a directive requiring its member countries to institute, by July 1, 1995, a formal system of deposit insurance that meets certain minimum criteria.

therefore, explores explicit limited coverage in the belief that in normal times, if well-designed, it is preferable to the 4 of the 5 alternatives and can compliment legal priority.

B. Fund Advice on Protecting Deposits

In consultation with the area departments, the Monetary and Exchange Affairs Department has provided technical assistance since the1980s to a large number of countries on instituting or reforming a deposit insurance scheme in normal times. That advice has been based on a combination of general principles and country conditions. These principles have been examined in a number of IMF/WB research and operational papers including those by Demirguc-Kunt and Detragiache (1998, 1999), Demirguc-Kunt and Huizinga (1999), Folkerts-Landau and Lindgren (1998), Fries (1990), Fries and Perraudin (1991), Galbis (1998), Garcia (1996, 1997, 1999), Garcia and Lindgren (1996), McCarthy (1980), Talley (1990). Country conditions were first explored by Kyei (1995).

This paper seeks to lay out those general principles and discuss some country-specific conditions that may require modification in the application of those principles. Fund staff recognize that a number of circumstances may exist in a country that warrant compromising the attainment of best practices. It then becomes a matter of considerable judgement whether the authorities should wait to introduce a DIS until all impediments to attaining the ideal can be overcome, or whether it is better to introduce a somewhat different scheme in a more timely manner.

The paper is intended to take stock of the modalities of deposit insurance and to provide input by the Fund into the discussion of related issues in early 2000 by the international community, which has come to appreciate that financial sector stability is a global public good. In addition, it has recognized that a well-designed system of deposit insurance can contribute to global stability and that poorly designed systems that operate simultaneously in a number of countries can detract from it.

When a crisis erupts, however, the authorities may choose to initiate a comprehensive guarantee for depositors and other creditors. Consequently, this paper recommends best practices if a country is compelled to place the full guarantee to calm a crisis and for removing that guarantee, in order to improve the incentive structure, when the time is right.

In this paper, deposit insurance is defined as a limited but formal scheme that explicitly provides a legally enforceable guarantee of the principal of (and usually also the interest on) a deposit. The guarantee is typically mutually funded by banks based either on ex ante contributions or on ex post assessments and it may be backed by the government formally or informally.

The paper below is divided into eleven sections. Sections II through VIII deal with deposit insurance in stable periods, that is, in "normal times," and recommends only partial coverage for depositors and the exposure of owners, managers, large depositors and other

creditors to the risk of loss, so that strong systems of internal governance and market discipline together with regulation and supervision will keep the banking system sound. Because banks are important to the economy and have special characteristics that expose them to runs, they are typically the beneficiaries of government-backed guarantees while the providers of other financial and non-financial products are not (Garcia, 1996). However, total coverage would be distortive over time and potentially involves excessive costs for the state, due to the moral hazard that arises when a guarantee causes the beneficiaries to take additional risks. Consequently, well-designed DIS focus on consumer protection, that is, guaranteeing the deposits of small, unsophisticated depositors.

There are two important implications to confining deposit insurance in normal times to small depositor protection. First, a DIS that is limited in coverage can help to discourage self-justifying runs by small depositors and so contribute to a stable pool of deposits.[8] However, it is often large depositors that run first. Consequently a DIS can be only a part of a well-calibrated financial system. To increase its effectiveness, such a limited DIS should be accompanied by an incentive structure that promotes effective governance of financial institutions by their owners and managers, the markets, and supervisors. A successful DIS also needs a sound infrastructure in which to operate. That infrastructure includes a strong legal system, a well-operated LOLR that provides liquidity to solvent banks (thereby curbing runs against them by uninsured depositors), and strong systems of prudential regulation and supervision, including policies for the closure or other resolution of problem banks (thereby fostering an efficient system that is less prone to excessive risk taking and runs).

The second implication of limited coverage is that a limited system of deposit insurance cannot guarantee systemic stability, especially in an already unsound system. If the deterioration of the solvency of the banking system has been allowed (for whatever constellation of reasons) to progress to the point where the banking system is facing collapse, there may be an overriding public-good objective for the government to take charge, distribute, or itself absorb part, or all, of the losses and restructure the banking system to viability.

Consequently, Section IX describes government actions in case of a banking crisis or widespread banking distress that may involve an explicit, total guarantee of deposits and other debt liabilities. It also discusses central bank measures to deal with problems in the payments system and other arrangements that help to contain the losses to the government and the impact on the DIS itself in times of banking distress. Section X provides guidance on removing a full guarantee to provide a sound incentive structure when the time is right. Section XI concludes.

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[8]However, banks' first-come-first-served practices lead uninsured depositors to run when they doubt the ability of their bank to meet its obligations. Thus, if not supported by the lender of last resort, a solvent bank can be brought down by a run, an outcome that would make the run appear justified.

II. Deposit Insurance in Normal Times: in General

Under the DIS option, national regulators rely on both discipline from the markets and prudential regulation and supervision, including surveillance over the payment system, to counter the incentive problems and excessive risk taking that accompany deposit insurance. They use the LOLR to deal with liquidity problems of solvent banks and counter possible runs by large, informed depositors. (The LOLR confronts a practical problem, however, in distinguishing illiquid but solvent banks from those that are both illiquid and insolvent.) The authorities also need to require data disclosure to the public in order to help depositors and other creditors exercise market discipline on banks. They enforce standards for adequate bank capitalization to avoid insolvencies, maintain other regulatory standards to assure good governance, limit excessive risk-taking, and enforce firm entry and exit rules to keep the system sound.

As Table 1 suggests, it is essential to design an incentive-compatible system that discourages the pitfalls of deposit insurance—hazard, adverse selection, and agency problems. That will necessitate having appropriate objectives for the DIS, carefully construed roles and responsibilities for it, and a supportive infrastructure that ensures good internal and external governance for insured institutions. In implementation, the components of this framework will vary with country characteristics.

Objectives for deposit insurance

Countries implement DIS for a number of reasons. As Garcia (1996) discusses in more detail, these reasons include: (1) provide consumer protection for small depositors by providing a mechanism for the immediate pay-out of the insured portion of their deposits; (2) enhancing public confidence and systemic stability by establishing a framework for the resolution of failed banks that deals sternly and expeditiously with individual bank failures and so prevents them from spreading; (3) increasing savings and encouraging economic growth; (4) enabling small and new banks to compete with large and/or state-owned banks; (5) defining the boundaries to the government's exposure to loss when a bank or group of banks fail in normal times; and (6) requiring banks to contribute to the resolution of failed peers. In sum, protecting small depositors and strengthening the incentive structure, which includes a strong exit framework, should be the principal reasons for adopting a DIS.

Best Practice	Departures from Best Practice	Practical Issues to be Resolved
In general: the infrastructure		
1. Have realistic objectives.	Expect DIS to avoid/resolve crises and subsidize favored industries.	Convincing politicians and the public about what is feasible and what is not.
2. Choose carefully between a public or private DIS.	A publicly funded system that is privately run.	Who will finance and operate the system?
3. Define the DIA's mandate accordingly.	Pretending the system is private when it has public backing.	Coordinating with existing institutions; finding staff with integrity and skills.
4. Have a good legal, judicial, accounting, financial, and political infrastructure.	Weak valuation, poor laws on collateral, bankruptcy, private property, a weak court system.	Which structures are best? How to put them into law and regulation and how to get them implemented. Which are the priority items?
To avoid moral hazard:		
5. Define the system explicitly in law and regulation. Conduct a public awareness campaign.	The system is implicit and ambiguous.	How to amend the laws and regulations to ensure transparency and certainty.
6. Give the supervisor a system of prompt remedial actions.	The supervisor takes no, or late remedial actions.	Should these remedial powers be mandatory or discretionary?
7. Resolve failed depository institutions promptly.	Ill-considered capital forbearance.	The types and importance of closure policies. Should the DIA be involved?
8. Provide low coverage.	There is high, even full coverage, which can impose an excessive fiscal burden and fosters moral hazard.	Which deposits should be covered, at what level; should there be coinsurance?
9. Net (offset) loans in default against deposits.	Cover the deposits of borrowers in default.	Insuring the deposits of borrowers whose loans are current.
To avoid adverse selection:		
10. Make membership compulsory.	The scheme is voluntary.	Which classes of depository institutions should the DIS cover?
11. Risk-adjust premiums, once the DIS has sufficient experience.	Flat rate premiums.	How best to set premiums according to risk?
To reduce agency problems		
12. Create an independent but accountable DIS agency.	Political interference, lack of accountability.	Designing the DIA and its board of directors (to avoid political interference but promote accountability).
13. Have bankers on an advisory board, not the main board of a DIS with access to financial support from the government.	Bankers are in control, regulatory capture.	How best to avoid conflicts of interest?
14. Ensure close relations with the LOLR and the supervisor.	Relationships are weak even contentious.	Poor LOLR policies that raise costs to the DIS; how to share information.
To ensure financial integrity and credibility:		
15. Start when banks are sound.	Start before resolving failed banks.	Identifying and preparing for the right time.
16. Ensure adequate sources of funding (ex ante or ex post) to avoid insolvency.	The DIS is under-funded or insolvent, and makes demands on the budget.	What are the appropriate levels for premiums and the accumulated fund? Should depositors have legal priority over the assets of a failed bank?
17. Invest fund resources wisely.	Invest in risky assets, such as deposits in problem banks.	Whether to invest in domestic or foreign government securities.
18. Pay out or transfer deposits quickly.	There are delays in payment.	How to effect prompt payment?
19. Organize good information on the condition of individual institutions and the distribution of deposits by size.	Have bad information based on poor accounting, valuation, loan classification and provisioning standards, and no data on the distribution of deposits by size.	What other data do supervisors and the DIS need? How to share data effectively?
20. Make appropriate disclosure to maintain confidence while enabling depositors to protect their interests.	Make little, or misleading disclosure, and a discredited press.	What should be disclosed and when ?

Most countries, including those that are members of the European Union (EU), emphasize small-depositor (consumer) protection as the main objective of their DIS. A DIS could be expected to cope with isolated and even multiple bank failures, if the deposits involved comprise a reasonably small percentage of total system deposits.[9] A properly designed scheme can help to eliminate self-justifying runs by small depositors and so contribute to the overall stability of deposits and the banking system. Moreover, a stable pool of small, core deposits enhances a bank's franchise value and so facilitates the timely and orderly resolution of weak banks, which serves to keep the banking system efficient. In this way, deposit insurance can also establish a more rational system for forcing the closure with restructuring, rather than the liquidation, of non-viable banks. A DIS also promotes competition in that it assists small banks to compete with larger banks that are deemed "too big to fail" (TBTF).

However, countries often harbor unrealistic expectations for deposit insurance. It is not an appropriate vehicle for providing preferences to politically favored industries—that is a fiscal responsibility. Moreover, the elimination of runs on all categories of deposits is not a viable objective for deposit insurance. Limited coverage will not protect large, wholesale, or inter-bank deposits (both domestic and foreign), which are the deposits most prone to runs. Once a systemic crisis develops, limited-coverage deposit insurance will not protect the large-value payments system nor prevent a flight to quality, flight abroad, or the collapse of the system. Thus, a well-designed DIS can be, at best, just one component of a sound financial system.

A. The DIS' Mandate: Public or Private: Narrow or Broad?

A privately run scheme will benefit from peer pressure to keep the system sound and avoid costs to members, but it may not be able to cope with widespread failures. In turn, the choice between a public and a private system will influence the scope of the deposit insurance agency's (DIA's) functions.

Public or private?

There are two legitimate and contrasting models governing the ownership of the DIS in normal times. Both are already in existence around the world. One model is that of a privately-run and entirely privately-funded system, and the other model is that of a system that has government backing and is run by the government. The United Kingdom has a privately-funded and privately-run DIS. The United States has a government-run system that is privately-funded but has explicit government backing. (There are also instances of privately-funded and privately-run DIS that have, usually informal, government backing; but

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[9]The Bank Insurance Fund in the United States successfully resolved 1,394 failed banks between 1984 and 1992. The assets of these failed banks represented 10 percent of all insured bank assets in 1984 and 6.6 percent in 1992.

these are likely to give rise to conflicts of interest.) While the private deposit insurance agency could have a limited agenda, a government-run insurance agency could have wider roles and responsibilities.

The DIS will be successful only if it is financially viable and has earned the public's confidence. There also should be clear understandings as to who will back up the DIS if it should become insolvent or illiquid, and under what circumstances will support be provided. When banking problems are severe, the DIS will, most probably, need government backing. A privately-run system may lack credibility without such government support. But if it has that support, it may be tempted to set premiums too low for financial self-sufficiency under the assurance that the government will cover the financial gap. For this reason, the DIS in many countries will need to be run by a government agency to protect the public interest and the taxpayer from loss.[10] Regardless of who runs the system, it will need a good legal framework, as discussed below.

Narrow or broad?

The Role and Responsibilities of the Deposit Insurance Agency

It is important to establish a clear understanding of the scope of the role and responsibilities of the deposit insurance agency or authority (DIA) so that it can fulfil its obligations effectively and design its organizational structure appropriately. This understanding, especially where there are a relatively small numbers of members of the DIS, has the implication that staffing for the organization can be modest.

The narrow DIA

The narrowly defined DIA's principal responsibilities will be to:

- **Insure small** depositors **in member institutions**. Doing so will involve verifying depositors' claims and paying out or transferring deposits to another bank when called upon to do so by the supervisory authority.

- **Set and collect premiums**. Premiums can be assessed quarterly or semi-annually based on the reports banks submit to their supervisors. Setting premiums is discussed further in Section VII.B below.

- **Manage the insurance fund** in a way that allows it to satisfy its obligations effectively, keep insurance premiums low to protect member institutions' interests,

[10] The government in Argentina has attempted to overcome this conflict of interest by establishing a legal target size for the DIS fund.

and maintain the soundness of the banking industry. That implies that the fund's resources be invested in safe assets. (See Section VII. B).

- To earn the public's confidence and accomplish its mission effectively, the DIS should **compensate insured depositors in failed member institutions promptly** to minimize disruption to the economy. Delaying payment/transfer diminishes the value of the guarantee and dishonors public trust.

- **Informing the public** of its roles and responsibilities and the modalities of the DIS.

Once the bank is intervened or placed in receivership/liquidation, ownership of deposits should be verified and the amount that is covered in full should be made available rapidly.[11] A well-prepared DIA can make (full or partial) payment over the weekend when a bank is closed on Friday, but certainly within 30 days. Compensation can be made in a number of ways. Paying out deposits in cash should be avoided, if possible. Where payouts have to be made, however, payment through automatic teller machines (ATMs) can be an efficient option. It is preferable to transfer insured deposits from an intervened bank to another institution that is willing to take them (along with a negotiated amount of the failed bank's or other assets). The recipient bank will make the insured deposits available to their owners by opening accounts for them, or provide a refund in person or by mail. Regardless of the method chosen, the funds should be accessible within one or two days to protect the payments system and avoid runs on other banks by small depositors, for whom it is not cost-effective to evaluate the safety of their bank, even if they have the sophistication and information to do so.[12]

Supervisory authorities sometimes find it necessary to impose a **suspension of deposit withdrawals**. While it is preferable to avoid suspension or limitation on the amount that can be withdrawn, if unavoidable to permit valuation and loss-sharing, the restrictions should apply only to large deposits. Small depositors should retain access to limited amounts of their funds. Moreover, the suspension should stay in place for the shortest possible time.

- DIA staff in a privately or jointly run DIA must **analyze information** received from the supervisory authority and elsewhere to protect the insurance fund. Clear lines of communication between the DIA and the supervisor need to be worked out, since the DIA must be aware of which individual institutions could pose a risk to the DIA's fund. It needs to be emphasized that all information and decisions pertaining to banks gathered by DIA must be classified as strictly confidential and DIA staff should be

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[11] An intervened bank is one that has deteriorated so far that the supervisors take control temporarily or permanently from its owners and managers.

[12] The DIS of Argentina in 1982, and Venezuela in 1994 did not pay insured deposits promptly. This omission had severe repercussions on depositor confidence.

subject to the same confidentiality rules as supervisors. Providing information to bankers in a privately run DIS is, therefore, a problem.

- **The DIA must communicate its concerns over problem banks to the supervisor**. Initially the DIA could express its concerns verbally. Later, it should do so in a formal written communication to the head of the supervisory agency. Subsequently, if no action or inadequate action has been taken by supervisor, in a publicly backed scheme, the DIA must notify an appropriate government agency of its concerns. This agency will often be the Ministry of Finance, because it is the MOF that will ultimately have to meet any deficiency in the DIS's funds.

- The ultimate in narrowly defined DIA's would be one that is a separate legal entity in concept only. It would delegate all of its responsibilities to the central bank or to the Ministry of Finance.

The broadly-defined DIA's additional responsibilities

Under a broader construction of its responsibilities, the DIA will also:

- **Take responsibility for the resolution of an insured financial institutions that have been intervened** by the supervisory authority. Institutions should remain the responsibility of the supervisor until they have been intervened. There they will be subject to a range of corrective measures, including statutory prompt corrective action, by the supervisor who may take temporary control of the institution and install new management. Once the supervisor has intervened in an institution and taken it permanently from its owners, responsibility for it should immediately pass to the DIA.

Apart from compensating insured depositors promptly, the broadly defined DIA has a fiduciary responsibility to obtain as much value as possible for the failed bank's portfolio. A more detailed discussion is beyond the scope of this paper, but it may be possible to merge an entire failed entity into another institution, or to pass a negotiated portion of assets to another bank together with the insured deposits in a purchase and assumption transaction. Otherwise, it may be necessary to liquidate the assets in full or in part. Resolution powers should be granted to the DIA by law, and it should use that combination of methods of resolution that is least costly to it (on the basis of discounted present value over a relevant time horizon).

In a systemic crisis, however, a special agency may have to be established to cope with a flood of insolvencies and the disposal of a large volume of assets from failed banks.[13]

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[13] While the FDIC was successful in handling the large number of bank failures that occurred in the late 1980s and early 1990s in the United States, the Federal Savings and Loan Insurance Corporation (FSLIC) was not. It was abolished and a temporary agency, the

(continued...)

While the deposit insurance authority also could be assigned such additional functions as restructuring and liquidating banks, these aspects go beyond the topic of depositor protection and are not covered in this paper. However, these additional powers need to be clearly anchored in the law.

B. The Infrastructure

Both public and private DIS need to be supported by a strong infrastructure of civil and commercial law to strengthen property rights. A clear understanding of their fiduciary responsibilities by bank owners and managers will enhance internal governance. Internationally accepted accounting and auditing standards will facilitate realistic loan valuations and empower market discipline. Public disclosure of individual-bank data will also encourage market discipline.[14] The DIS also needs to be supported by a well-formulated LOLR and adequate risk-management framework in the payment system. While a number of these and other relevant topics are beyond the scope of this paper, attention will be given to supervision and regulation, which need to be buttressed to make the DIS successful.

Supervision and regulation

The regulatory and supervisory system should require fit-and-proper owners and operators, enforce rules for governance and capitalization, limit risk-taking, require information disclosure to the public as well as the supervisor, and execute a set of prompt corrective actions to forestall and, if necessary, swiftly resolve insolvencies.[15]

Resolving problem banks by structured early intervention and resolution

The supervisory authorities should force the strict resolution of problem banks, using a swift application of a spectrum of enforcement actions to be taken as soon as a bank becomes undercapitalized or shows other signs of weakness. (See Appendix I, which lists a set of appropriate corrective actions.) The objective is to turn the weak bank around toward recovery before it becomes non-viable and places burdens on the DIS. A system of prompt corrective actions (PCA), sometimes also called structured early intervention and resolution (SEIR), is a key component of an efficient and competitive banking system.

Resolution Trust Corporation (1989–1995), was created to handle a similarly large number of failed thrift institutions.

[14] Realistic loan valuation requires effective regulation and supervision of loan classification and provisioning.

[15] See Folkerts-Landau, Lindgren, et al (1998).

High capital requirements also protect the DIS. They serve a similar purpose to that of a high deductible in property and casualty insurance in making the insured party reluctant to take excessive risks. In addition, preventing undercapitalized banks from paying dividends or making side payments to their owners and managers will discourage these parties from looting the bank (Akerlof and Romer, 1993). While restricting the insured bank to holding only safe assets (narrow banking) or collateralizing insured deposits with relatively risk-free assets will also serve to diminish the number of bank failures and the cost to the insurance fund of resolving those that do occur, narrow banking has practical limitations and foregoes many of the natural synergies of banking. (Further discussion of narrow banking lies beyond the scope of this paper).

Resolving failed banks

PCA/SEIR should allow supervisors to intervene in a problem bank **before** it becomes book-value insolvent and provide the basis for the prompt closure of the bank, should it become necessary.[16] Almost universally, experience has shown that an on-site examination or external audit of a bank that is approaching book-value insolvency reveals that the provisions for loan losses are inadequate. Thus, such a bank is, in fact, already insolvent at current market value—and often deeply so—and will be found to be insolvent at book value once a proper asset valuation is made. Delay in closure almost always deepens the costs of a bank's insolvency, partly because owners can abuse the DIS, loot the bank and/ or gamble for recovery with those deposits funds that remain in place and with new deposits that are attracted by higher interest rates and the fact that they are guaranteed.

Instead of delay, the supervisor, or the DIS when it has a broad mandate, needs a strong framework for the resolution of failed banks to provide incentives for the owners and managers of each bank to keep their bank strong and retain control over it. The supervisor needs authority to close and liquidate or resolve insolvent banks in some other incentive-compatible manner.

Supervisors often express a preference for exercising regulatory discretion in disciplining or closing a problem bank. Yet, having discretion exposes supervisors to political interference and experience has shown that they may be pressured to use that discretion inadvisably to postpone taking needed corrective actions. The optimal balance between rules and discretion will vary from country to country according to local conditions, such as the efficiency of the legal system and strength of the civil service and political tradition.

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[16] U.S. law, for example, requires supervisors to intervene and pass the troubled bank to the FDIC, when its leverage ratio falls below 2 percent.

Providing a Framework for the Resolution of Individual Banks

The establishment of a DIS provides an opportunity to design and enact a legal and institutional framework that will make it easier to intervene in, sell, or close troubled banks—in whole or in part. Such a clear legal framework will foster early action in the resolution of problem banks rather than costly delays, and will thus expand the opportunities for the resolution of individual banks to keep the financial system sound. However, there is a need to make certain that the legal framework for the DIS is also adequately reflected in the banking law, and that it does not conflict with other laws (e.g., company law, the code of commercial and personal bankruptcy, etc.).

The resolution framework should require that, where the DIA has a broad mandate, the bank would be passed to the government-run DIA for resolution immediately after it has been intervened by the supervisory authority. The DIA would then compensate insured depositors, write down shareholders' equity, and impose losses ("haircuts") on uninsured depositors and unsecured creditors. The power to do so would be granted to the DIA by law. While the DIA would seek to merge a failed bank with another bank, conduct a purchase and assumption transaction, oversee a liquidation, or combine any of these actions with the aim of minimizing its own cost, it would have no authority to provide open bank assistance, for example, by infusing liquidity or providing capital to a bank that has not been intervened. The problem with open bank assistance is that it can be too easily abused to bail out owners.

Too big to fail (TBTF)

Country authorities frequently consider some banks to be "too big to fail," that is, too big to be closed and liquidated.[17] There are arguments for and against a TBTF policy. On the one hand, the TBTF argument tends to be excessively invoked by authorities as an excuse for not taking failed banks from their owners—often for political reasons. On the other hand, many banking systems are heavily concentrated and the failure of a bank representing, say, more than 10-20 percent of a banking system's assets could have major systemic implications.[18] As long as the owners and managers of a failed bank are not bailed out and there is an operational and financial restructuring to restore viability to the bank, a TBTF policy means that the state saves the economic infrastructure of the bank, absorbs the losses,

[17] What constitutes a bank that is TBTF cannot be established universally but needs to reflect the specific features of each banking system (e.g., the size of interbank and other large credit exposures, the number of viable surviving banks able to provide needed services, etc.) and the economy.

[18] For example, systems of private deposit insurance in five U.S. states defaulted in the late 1980s and early 1990s and caused major distress to depositors in these regions when one of the two largest members of the DIS failed (English, 1993).

and often assumes ownership temporarily until reprivatization.[19] However, TBTF arguments cannot be invoked repeatedly. If the initial restructuring measures do not make a bank viable, there should be no further rescues. Instead, drastic measures to resolve failed banks should be taken. These measures could involve splitting up the bank, partially liquidating it, or engineering a major shrinkage of its balance sheet through structural and/or operational downsizing.

Country specifics

In the design of a DIS, there are many standard features that should be present but there are also many country-specific conditions that need to be taken into account. A DIS is best suited for a system with a relatively large number of banks operating according to the same rules. However, these conditions are often not present and the most difficult cases in which to consider a DIS are banking systems that have a very skewed structure in terms of: (a) size, i.e., one or a few very large banks and some or many small ones; (b) ownership, i.e., a few dominant state-owned banks that may carry explicit or implicit guarantees of all their deposits; and more importantly; (c) soundness, i.e., a few well-managed and solvent banks together with a significant number and share of insolvent and/or non-viable banks. As mentioned above, under (a) and (b) a DIS would require very careful design, while under (c), as further discussed in Section III, a DIS would best be postponed until after the weak banks have been restructured.

(a) Concentration

Any system of insurance seeks to diversify its risks across a number of participants in order to overcome regional or industry-specific shocks and to share the costs of failures. However, in many countries, the banking system is highly concentrated and others will become more concentrated following restructuring in the aftermath of a crisis. Consequently, in these countries, it will not be possible to diversify risks across a large number of member institutions. As a result, the question must be posed whether a system of privately-funded DIS can work in a country with a concentrated banking system.

The answer suggested in this report is that it can work and can result in a number of advantages, which may (or may not) be judged sufficient to outweigh a problem of moderate to high concentration. One adjustment that might need to be made is that insurance premiums might need to be higher than those in a country with a more diversified banking system. Three advantages would be the establishment of a structure for resolution of problem banks and for distributing losses in case of bank failures, the creation of a framework for sharing the costs of individual bank failures, and the building up of an insurance fund to help pay for any losses. The DIS may replace an existing blanket guarantee of all depositors and creditors

[19] See Enoch, Garcia, and Sundararajan, "Recapitalizing Banks with Public Funds: Selected Issues."

with limited coverage for small depositors. This limitation seeks to overcome the problem of excessive coverage and resulting moral hazard. More fundamentally, deposit insurance can make the banking markets contestable, if not perfectly competitive, by allowing for the possibility of new entrants into the industry.[20]

(b) Ownership: state-owned banks

It is a relatively common experience for governments to institute a DIS when there are a few, large state-owned banks and a number of newly chartered private banks. The government may be in the process of privatizing the industry and wants to help the new institutions prosper even though they are confronted by the government's entrenched competitors that are buttressed by an implicit or explicit comprehensive guarantee. As discussed further in Section XII below, the full guarantee will be removed in time. However, including both private and guaranteed state institutions in the DIS helps to build the DIS's resources and redress the state institutions' competitive advantage somewhat. The process may work, as long as banking system remains sound for long enough to allow the government to phase out the full guarantee. If a crisis hits soon, however, the public is likely to favor the fully guaranteed banks over the smaller private institutions and runs may ensue.

(c) Fragility

It is advisable to institute a DIS when the banking system is sound. As discussed further below in Section X, that means bank restructuring needs to have been successfully accomplished before the DIS is implemented. The DIS can be planned, the legislation prepared, and the industry and public informed of its pending arrival during the restructuring process so that it is an integral part of the measures being taken. But it should not go into operation until all interested parties agree that the financial system is strong enough to withstand the financial and administrative demands that a DIS will place upon it and until rules ensure that losses will be equitably and efficiently distributed.

It is observed, however, that countries are often impatient and reluctant to wait for this opportune time. They will be disappointed if they believe that starting a DIS will relieve them of the responsibility to cleanse the banking system. A DIS can postpone a banking debacle, but it is unlikely to prevent one. Moreover, delaying resolution can exacerbate weak banks' problems by allowing them to gamble for recovery and lose, and, in so doing, magnify the costs of failure resolution.

But a country may have more legitimate reasons for starting a DIS. It may want to increase savings, encourage the development of the banking system, and modernize the

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[20] Although there may not be a large number of competitors in a contestable system, it can experience the advantages of competition. The fact that new banks can join the industry make existing banks act competitively.

payments system. In this case, it may announce that a DIS will commence in one to two years with membership that will be restricted to sound, eligible institutions. In the interim, the supervisor, in consultation with the incipient DIS, will determine which institutions are sound enough to qualify. The supervisor should notify those institutions which are not considered sufficiently sound and give them one year to meet the desired standards. Those that do not qualify should be excluded from the DIS.

When the DIS first goes into effect, the DIA should clearly identify which types of depository institutions are included and which are excluded, and whether any institution in the insured group is too weak to qualify to join the DIS. It should expect that the public will shift its business from uninsured to insured banks, which will weaken the uninsured banks further. There may be runs on the weakest nonmembers. The government must be prepared to deal with such consequences, take over and resolve those banks that are non-viable. Other weak banks that are potentially viable could continue in business and be given more time to meet the DIS's standards, or they could be de-licensed, although given the option to continue as a non-depository, uninsured institutions.

III. Avoiding Moral Hazard in Normal Times

As mentioned above, deposit insurance can create incentive incompatibilities that weaken the banking system and make the cost of insurance prohibitive. Thus, a DIS needs to be designed to provide a set of inducements (that include both positive and negative reinforcements—"carrots and sticks") to encourage all of the parties involved (small depositors, large depositors and other creditors, owners, boards of directors, managers, borrowers, supervisors, judges, government officials, and legislators) to act in ways that serve to strengthen the banking system (Kane, 1992).

To avoid the pitfalls of poor incentives and high cost, a DIS should include several standard features, which are summarized in Table 1. For example, to minimize moral hazard, the DIS should be explicitly and clearly established in the law so that all bank customers know the rules under which the system operates. As discussed above, those rules include the supervisors having a system of prompt remedial actions to remedy bank problems and power to close or otherwise resolve failed depository institutions promptly when remedial action is not successful. In addition, deposit coverage should be low.

This section will discuss a number of steps that can be taken to contain moral hazard. These steps include obtaining and publishing information on the condition of individual banks, choosing which financial instruments to include in and which to exclude from the DIS, setting the level of coverage, considering adopting coinsurance, netting outstanding loans against deposits, and determining who shall have priority over the assets of the intervened bank.

A. Make the DIS Transparent

Transparency is essential to allowing bank customers to protect their interests. This requires explicitly defining the DIS in law and/or regulation, clarifying what qualifies as an insured deposit, allowing the supervisor to have information on individual banks that allows swift remedial actions, and disseminating nonproprietary information to the public.

Explicitly define the DIS in law and/or regulation

Explicitly formulated DISs have advantages over implicit schemes. For example, the rules of the system (particularly those relating to limited coverage) that are known to the public and adhered to by the authorities promote good governance by owners and managers and encourage discipline by sophisticated creditors. Making the laws and regulations transparent allows the public to protect its interests by requiring interest rate premiums from banks that have risky portfolios and judiciously entrusting their funds to the soundest banks. Such restraint on risk-taking reduces the government's exposure to loss when banks default because it warns a bank's large customers that taking excessive risks can be costly to them.

Define deposits

One of the most crucial pieces of information that the public needs is a clear and enforceable definition of what is a deposit. The **definition of a deposit**—its principal and interest—will need to be clearly defined in law; while regulations can provide specific details. Precision and legal enforceability are important in order to provide certainty regarding coverage, and to facilitate the resolution of disputes. The definition of "deposits" should be consistent with those adopted under other banking laws and regulations. Thus, the definition chosen may vary from country to country.[21] Clear definitions will avoid much of the uncertainty and potential litigation that could otherwise occur after an institution is closed. Such definitions will also be needed to enable the DIA to calculate the premiums (or ex post assessments) that member institutions must pay.

Both the institutions covered by the DIS and the DIA itself carry a responsibility to publicize which deposits are insured and which are not. The public has a right to know this, in order to protect its interests. Coverage needs to be specified in advance, and not be subject to interpretation after a failure has occurred. In each deposit or borrowing document, the issuing institutions would have to indicate in conspicuous print (to be stipulated in guidelines) whether it is insured by the DIA or not. Requiring other nonbank financial institutions to disclose in each deposit/borrowing document that their instruments are not covered by deposit insurance would also need to be considered.

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[21] The defining characteristic of a deposit is that it has a fixed principal. See Garcia (1996) for a discussion of the characteristics of a deposit and why offering deposits make banks vulnerable to insolvency and illiquidity.

Information for the supervisor and the DIA

The supervisor needs accurate and timely information on the condition of each bank in order to institute prompt remedial actions and effect speedy intervention when necessary. That information is derived primarily from reports that banks submit to their supervisors and from on-site inspections. But supervisors may also look to the markets for indications of bank condition. Having to pay premium interest rates on both retail and wholesale (including inter-bank) deposits or other liabilities including subordinated debt, or losing their ability to obtain funds suggest that the supervisors should closely monitor the bank.

The DIA also needs to know the condition of the banking industry in general and of weak institutions that might impose costs upon it. Further, it needs data on the national distribution of deposits by size, so that it can choose where to set coverage limits and the distribution in individual weak banks so that it can forecast the financial demands that might be placed upon it.

It is a challenge to meet the information needs of both agencies, by designing arrangements to share information. Sharing is preferable, in the main, to duplicating oversight responsibilities. However, country practices in this regard differ indeed. Best practices for sharing information with domestic or foreign supervisors are still being developed. However, the law should specify what information the deposit insurer is entitled to receive and what information the supervisor is obliged to convey promptly. The law should also require that DIS staff obey the same rules as supervisors regarding the confidentiality of information.

Information to be disseminated

Supervisors will want to disseminate as much of their information as is competitively equitable to enable the public to protect its financial interests and help to keep the banking system sound through market discipline. Accurate information will also help to avoid unnecessary runs against sound banks. The supervisor must also make arrangements to share a larger portion of its bank-by-bank data with the DIS so that it is not blind-sided by the unexpected failure of one of its member institutions. Information-sharing is more problematic where the DIS is privately run. In this situation, questions of confidentiality and competitive fairness arise.

Instruments and types of depositors to be covered

It is the juxtaposition of the characteristics of a bank's assets (which are typically longer-term, illiquid and difficult-to-value loans) and its liabilities (which are mainly deposits) that make banks vulnerable to runs. While different countries include different instruments in their classification of "deposit," the essence of the debt instrument is that is repayable at par, often on demand.

Institutions to be covered

Clearly those institutions that offer deposits are the prime candidates for coverage by the DIS. While there are advantages to including a wide range of institutions in the DIS in order to diversify its risks, these arguments are not always compelling. Where some institutions are not subject to the same stringent prudential regulations as commercial banks, they may be excluded from the DIS. A country may chose to institute a separate scheme to cover such depository institutions. This scheme may offer lower coverage, or charge higher premiums in order to cover the additional risks attendant on inferior prudential oversight.

It is simpler administratively to protect deposits of all types rather than seek to confine coverage to natural persons or to exclude certain types of deposit. However, many countries exclude negotiable CDs, other bearer deposits, inter-bank, government, and foreign currency deposits.[22] This section discusses a number of issues that relate to instruments that would be covered by deposit insurance, the limits on, and exclusions from, coverage.

The coverage of deposits: instruments covered

The following bullet points list the types of deposits to be included, and establish that both principal and interest would be covered:

- Deposits of all types, including demand, savings and time deposits that are denominated in domestic currency, should be covered.

- **Promissory notes** that are often issued by finance companies would be covered by the DIS if finance companies are allowed to join the scheme, and if they are defined by law and/or regulated by the DIA as deposits.

- **Both principal and accrued interest would be covered.** Interest coverage could be determined on the basis of what has been booked at the date of intervention. Where it is general practice to credit interest frequently to a depositor's account, not covering interest would be more time-consuming and costly to administer than covering it. However, depositors in troubled institutions typically receive higher interest rates. The DIA should have no obligation to continue paying such high rates after an institution is passed to it. Consideration might be given to imposing a cap (for example, the average rate paid by the five largest banks for any maturity) on the rates paid on deposits in failed banks. Consideration might also be given to imposing such a variable cap on rates that would be eligible for coverage at all insured institutions.

[22] See Table 3 of Garcia, 1999. In fact the EU permits the exclusion of a number of types of deposit.

- **Deposits denominated in foreign currencies could be covered or excluded.** The choice will be influenced by the country's degree of dependence on foreign currency (fx) deposits. Where retail fx deposits are small and the authorities express a preference for covering only domestic-currency deposits, coverage would not be extended to fx deposits. Otherwise, fx deposits would be accommodated in the DIS by guaranteeing them up to the coverage limit in either domestic or foreign currency.

However, guaranteeing that deposits will be repaid in foreign currencies exposes the DIS to foreign currency risk, which it may not be in a good position to manage. Consequently, a number of countries compensate individual holders of foreign currency deposits in domestic currency and that is the appropriate choice. The law or regulation governing coverage must spell out that the conversion from foreign to domestic currency will be made at the exchange rate that prevails at some uniform and clearly specified time. Yet, even providing to pay fx deposits in domestic currency will not protect the DIS from the loss it will incur if the domestic currency depreciates after the deposit is made.

Country conditions would influence the choice between excluding foreign currency deposits from the DIS or including them. Where the extent of retail deposits denominated in foreign currency is limited, a country could safely choose to exclude them and let banks handle the risk of a run on their foreign currency deposits. A dollarized country, on the other hand would most likely choose to include foreign currency deposits in the DIS.

- **The coverage to be provided for the deposits of trusts, managed and provident funds** would have to be defined. In the case of trust accounts, it is proposed that one person be designated to represent the group, which would be entitled only to coverage for a single person.

Instruments to be excluded

Exclusions from Coverage

Experience has shown that countries exclude a number of categories of deposits from coverage for a variety of reasons. A list of items that can be excluded from coverage under the Directive on Deposit Insurance in the EU is attached (see Appendix II).

- **Bearer instruments** would **not be covered** because it would be impossible to implement the required limitations on coverage.

- **Insider deposits** (for example, those pertaining to owners, managers, and their families) need to be defined in law or regulation **and** they should be excluded from coverage. Insiders often receive special privileges, such as priority in bank lending. Loans to insiders frequently weaken a bank. The beneficiaries of insider privileges should not benefit from deposit insurance, regardless of whether they have a loan outstanding or not, and regardless of whether the loan is current or not.

- **Deposits carrying excessively high interest rates** indicate that the institution is weak and in need of bidding up rates to retain funds. It may also be trying to grow and gamble for recovery. Consequently, deposits bearing very high rates should be excluded.

Coverage

As basic consumer protection is a main objective for the creation of a DIS, the scheme should be designed to protect small depositors who are likely to have low incomes and to be unsophisticated and to lack the time, information, and means to study the condition of their bank in order to protect their interests. Exposing larger depositors and unsecured creditors to loss will cause them to monitor the condition of their banks and impose market pressure on the banks to remain sound. This discipline will support the supervisors' efforts to encourage institutions to remain strong. The presence of deposit insurance also removes two of the obstacles to taking stern measure to resolve non-viable institutions—the fear of imposing losses on small depositors, and the political repercussions of doing so. In turn, the fear of closure will encourage remaining banks to maintain high standards.

Coverage for each deposit or each depositor?

It is recommended that compensation be paid up to the limit on the sum of deposits held by one individual depositor in any member institution. Holders of joint accounts would elect one of the group as the primary depositor, and coverage would apply to him/her in conformity with national law. Currently only a few countries deviate from this arrangement. Some (the United States) offers more generous coverage on joint accounts. Most of the other deviants offer coverage on each and every deposit in an institution, but a minority impose a limit on the number of times claims for insurance can be filed.

The problem with coverage per deposit is that it would allow a depositor to easily guarantee a large amount of funds in different accounts within a single institution. Practice in the European Union has moved away from coverage per deposit and toward coverage per depositor since the EU Directive on Deposit Insurance was issued in 1994. It remains possible for a depositor under coverage-per-depositor to obtain multiple coverage by diversifying his/her funds across accounts in different institutions, which is an attractive way for depositors to limit their exposure. Nevertheless, coverage-per-depositor does not extend coverage to large aggregate holdings in individual banks.

The level of coverage

The aggregate amount covered for each depositor in any bank should be relatively low. As a rule of thumb, coverage could be set in the region of one- or two-times per capita GDP. However, the limit may be set with more precision by examining the distribution of deposits by size. Within this distribution, the limit should be set to cover the majority of the total number of deposits (say, 80 percent of the number of deposits), but only a

smaller percentage of the total value of deposits (say, 20 percent of the value of all deposits).[23]

As shown in Figure 1, the limits to the full coverage that countries provide vary widely—from more than 10 times per capita GDP in some African countries to less than per capita GDP in some Central and Eastern European countries. If a depositor's holdings exceed the amount covered under the DIS, the depositor will take a place in line with other creditors to receive the proceeds recovered over time from the assets of the failed bank. Alternatively, as in a number of countries, there could be coinsurance above the basic coverage.

Coinsurance

To encourage market discipline, some countries require all depositors to bear risk on all of their deposits. Coinsurance has the advantage of assuring depositors of the prompt repayment of at least part of their deposit. It is often run on a sliding scale, so that depositors recover say, 90 percent of a small tranche of their deposit, a smaller percentage of the second tranche and successively smaller percentages of the subsequent tranches. This practice is not optimal, however, because it fails to provide basic consumer protection. A more acceptable system is to cover the smallest tranche of deposits in full and impose a haircut on larger deposits.[24] Above-the-limit coinsurance will increase total coverage somewhat. That may encourage savings, but has two disadvantages. First, it is more difficult for the public to understand and, second, it may increase the cost of resolving failed banks to the DIS. Consequently, a country may want to carefully consider the relative costs and benefits of installing more than two tranches. One advantage of coinsurance is that it provides quick access to larger depositors' funds. This advantage can also be obtained if a DIS with a broad mandate provides uninsured depositors with an advance payment to uninsured depositors of part of what the DIS estimates it will recover from the failed banks' assets.

Should the coverage limit be indexed to inflation?

While some countries index the coverage limit for inflation, it is proposed that the coverage level not be indexed, as this leads to annual changes that would be difficult for depositors to remember. Being able to keep track of the coverage limit is essential for enabling the public to protect its interests. The ideal situation is one where a country has low inflation, so that it can keep the limit constant for a relatively long period of time until the increasing value of real GDP warrants an increase. In this way, the public can know the coverage limit with certainty and that limit remains appropriate to the number and value of deposits in the economy. Where adjustments are necessary, however, it is better to time, if

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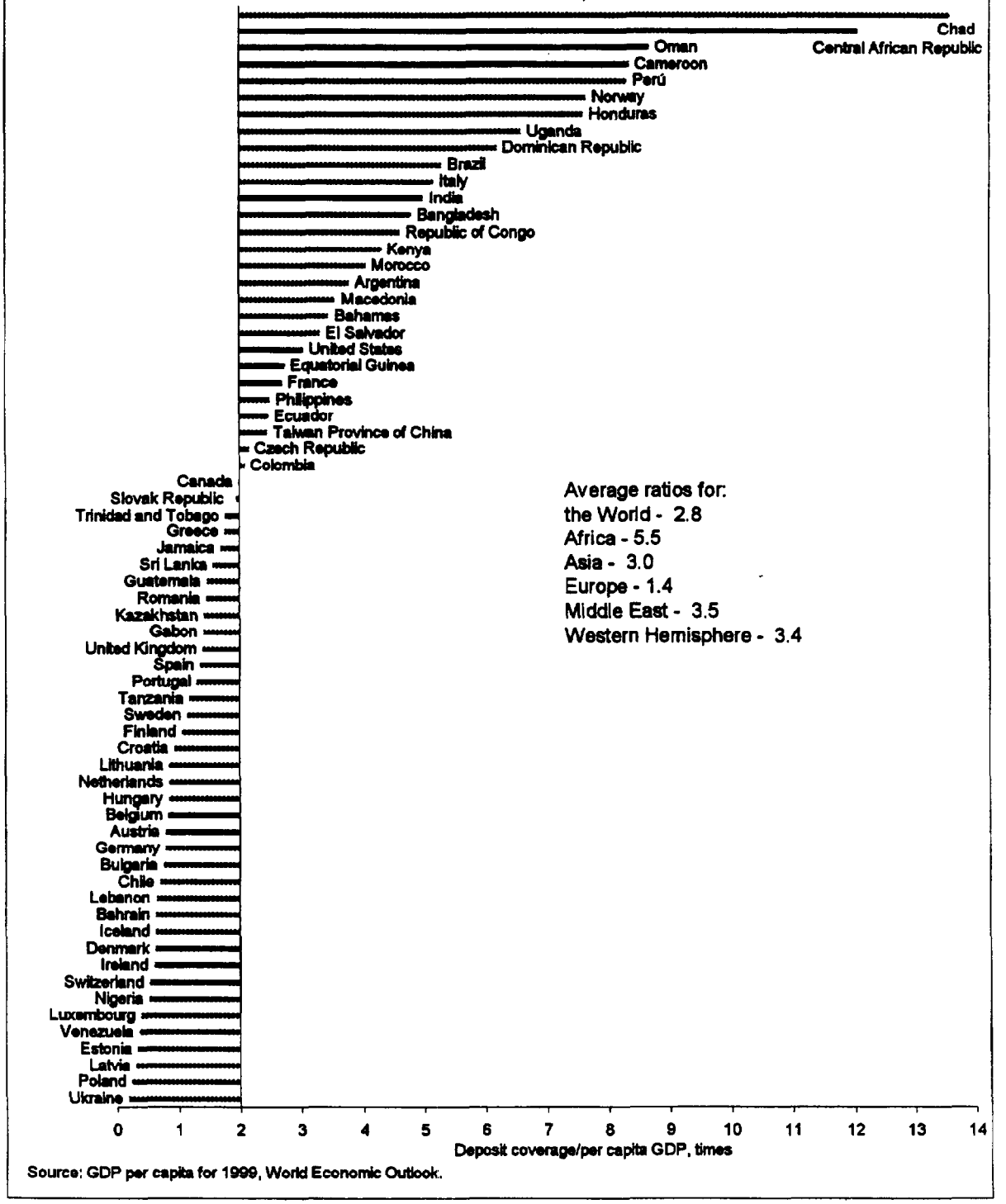
[23] Country practices in this regard are detailed in Table 6 of Garcia, 1999.

[24] Some countries impose haircuts on a sliding scale, but this can violate the principle that simplicity, transparency, and public trust go hand-in-hand.

Figure 1. Ratios of Deposit Coverage to per capita GDP in Selected Countries, 2000



Source: GDP per capita for 1999, World Economic Outlook.

necessary delay, the adjustments so that coverage can be expressed in round numbers which are easier for the public to remember.

Netting deposits against loans

It is sometimes suggested that the receiver or liquidator of a failed bank, rather than paying a depositor directly in full, should offset (that is, net or set-off) deposits against any obligations the depositor has to the bank.[25] See Box 1. While it is appropriate to offset loans that are in default, offsetting loans that are current could destroy a healthy business that may, for example, be unable to find a quick replacement for its working capital. Thus, the approach that is recommended below has been adopted in a number of countries in order to find a balance between two considerations. The first consideration is providing incentives for borrowers to service their loans now and in the future, and for depositors and other bank creditors to continue to trust the banking system. The second consideration is minimizing costs to the DIS.

It is recommended that where a depositor is also a debtor of the failed bank, his/her deposit will be netted (offset) against the loan, but only if it is overdue or delinquent. It would be unfair to other depositors if the holder of a delinquent loan—that has contributed to the failure of the bank—were to benefit from insurance coverage. Hence, the balance of the defaulter's deposit should be netted (offset) against his overdue loan(s). However, loans that are current should not be offset against a borrower's deposits. To do so could unfairly deprive a good borrower of working capital, and prejudice his ability to continue in business.

Accordingly, this paper recommends that the insured part of deposits of all kinds be netted against:

- Claims that have already fallen due or are delinquent;
- Promised, but undelivered, subscriptions from shareholders; and
- Damage assessments against owners and managers.[26]

Offsetting would also be restricted to situations where both the bank's and the customer's claims are well-documented, can be settled easily, are not subject to dispute, and were established well before the bank became insolvent.[27] If the value of the loan exceeds that of the deposits, the remainder of the loan would continue to exist as a claim against the debtor.

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[25] A cross-default clause, often used by payment clearing houses and interbank contracts, automatically invokes netting under specified conditions.

[26] As, for example, in Sections 53–55 of the Bankruptcy Code of the Netherlands and the FDIC's Manual on Bank Liquidation in the United States.

[27] It would be counterproductive to protect a depositor with inside information who has taken out a loan just before the bank fails.

Box 1. Offsetting Loans against Deposits

1. **Two fundamental questions** arise regarding offsetting.

One question asks whether netting should apply regardless of the status of the loan or whether it should occur only when the loan is due or in default. Netting against performing loans could prejudice the viability of sound businesses whose loans, in effect, are called and are thus simultaneously deprived of their liquid assets. Consequently, netting is almost universally confined to cases where the loan has matured or is in default. 1/

Another question relates to the status of the deposit. When legal bankruptcy occurs, all claims become due and payable immediately. However, a liquidator or receiver might not want to pay out the full amount of the principal and accrued interest on a long-term deposit that carries a below market rate. He would prefer to offer the lower, net present value of the deposit, which would conserve DIS resources. But he can do so only if there is a special provision in the law permitting him to do so.

2. There are **opposing views** on netting and country practices diverge in applying the concept.

One view, typically taken in countries in the anglo-american tradition, stresses that it is important to protect the creditors of the failed bank by maximizing the amount recovered from its assets and so favors offsetting matured mutual claims. They argue that it is unjust that a defaulting borrower should insist on payment of his deposit but not service his loan, that netting protects creditors and reduces the transmission of failure from one bank to another, reduces litigation and thus the cost of credit, and prevents the bank borrower from being bankrupted unnecessarily when he has funds already available. (Countries favoring this view are listed in the first column of Table 4 of Garcia, 1996.)

The other view, espoused in franco-latin countries, considers that offsetting departs from the principle of equal treatment of creditors. In general, the authorities in these countries also consider that netting is inequitable to debtors and so they prohibit it when insolvency occurs because the creditor gets paid in full (up to the amount of the deposit), but the depositor may receive only a portion of his funds. (For countries opposing this view, see the second column of Table 4 in Garcia, 1996).

3. However, there is also an issue concerning **netting in relation to deposit insurance**. It should be noted that offsetting also gives borrowers a priority over the assets of the failed bank as compared to other depositors because it grants, in effect, a speedy and 100 percent coverage of the deposit that is offset against a loan. Other depositors have to stand in line to obtain the more limited coverage available under the DIS or from the proceeds obtained when the bank is liquidated. It would, for example, be possible for a depositor who is concerned about the condition of his bank to take out a loan immediately before the bank is closed and so obtain full and speedy coverage for his deposit. However, a more telling argument is that, by offsetting unpaid obligations against insured deposits, the liquidator or receiver can reduce the cost of the payoff to the DIS.

4. Finally, netting becomes more complex **where the deposit insurer and the liquidator/receiver** of the failed bank are separate entities than where there is no DIS or the DIS is also the receiver (as in the United States). With separate agencies, the DIS compensates insured depositors, and seeks recompense from the liquidator/receiver who takes ownership of the bank's assets and uses the proceeds from their liquidation to repay the DIS, uninsured depositors, and other creditors. 2/ Then, special agreements have to be formalized to make netting feasible.

1/ See, for example, Sections 53-55 of the Bankruptcy Code of the Netherlands. However, some countries (for example, Peru) net all types of deposits against loans regardless of status.
2/ Each countries' law will determine the priority of claims among these groups. Such priorities are discussed further in Garcia (1996, pp. 39-41, and Appendix I).

However, if the deposit is larger than the loan, the DIS limit would apply to the total value of the deposit *before netting*. Any deposit remaining after netting that is within the DIS limit would be covered under the DIS. However, for amounts above this limit, the depositor would stand in line for compensation in the priority ranking specified under the country's laws.

These recommended principles would need to be firmly established in the insolvency law of the country, perhaps as an administrative-law exception to the general bankruptcy law that would govern bank failures and depositor protection. For example, the governing law or contract would lay down the basic process for determining who gets what, and in what order. It is recognized that it may prove difficult to graft these principles on to some legal frameworks.

IV. To Reduce Adverse Selection in Normal Times

There are two design features for the DIS that will help to reduce the incidence of adverse selection, which occurs when the weakest institutions choose to join a voluntary DIS, while the strongest remain outside. Such a system is unlikely to remain financially viable. First, membership should be compulsory. In particular, the system should not allow members to leave the system when they choose to do so, and they certainly should not receive a refund of their accumulated contributions. Second, when a DIS has gained experience, it may institute a system of risk-adjusted premiums to reward stronger banks within the compulsory system.

A. Make Membership Compulsory

Membership in the DIS should be mandatory for all institutions located in the country, including state-owned specialized banks, that accept deposits and are supervised by the supervisory authority. Otherwise only the weakest institutions will join and the system will not be financially viable. Membership should be broad because the cost of the insurance must be shared among a wide number of institutions, if the scheme is to remain financially viable. While compulsory membership involves a degree of cross-subsidization by strong institutions of weak ones, it should be noted that **all** members, even the strongest ones, benefit from having a more stable industry with reduced fear of depositor runs. They should be required to pay for that privilege.

Include state-owned institutions

The playing field needs to be level for all deposit-taking institutions in order to encourage competition. Thus, government-owned institutions that take deposits should also be required to join the DIS, pay premiums at the same rate as other members, even if they are initially the beneficiaries of an implicit full government guarantee that will be phased out later. They should also be supervised to the same standards as other DIS participants and ultimately receive the same coverage as private institutions.

Institutional Coverage

Thus, a country's banking act might need to be revised to bring the regulation and supervision of state-owned institutions under the supervisory authority. Finally, at an opportune moment, as discussed further below in Section X, the full implicit or explicit guarantee for state-owned institutions should be removed.

Institutional membership: inclusions and exclusions

Membership should be compulsory for all eligible members. These would include;

- All **domestic banks and** other **deposit-taking institutions** explicitly encompassed by the DIS according to the law.

- All **branches and subsidiaries of foreign banks operating onshore**. Foreign institutions should regard paying insurance premiums as a cost of doing business in a country. Sometimes the deposits of a foreign bank are covered under that banks' domestic DIS. The host country can supplement the coverage offered abroad where that coverage is for a smaller amount and it can accept foreign coverage if the amount insured is larger. Doing the latter, however, may give foreign banks an advantage in the domestic market.[28]

- **Finance companies, credit unions and cooperatives** would join the DIS as long as they faced the same prudential regulations and were supervised by the same agency as banks and other insured depository institutions. It would be unfair to member institutions that are subject to stringent regulatory and supervisory standards to allow institutions that are not so strictly supervised to join, as they are more likely to impose losses on the fund. However, the government may consider establishing separate deposit insurance schemes for credit unions and cooperatives (possibly with lower coverage limits).

Some countries consider that the purpose of the DIS is to protect the deposits of residents; consequently, they exclude non-residents. DIS in other countries cover non-residents, however, to encourage deposits from non-residents.

- **Banks operating offshore would be excluded**. The exclusion would cover foreign branches and subsidiaries and units of domestic banks that are operating offshore. The objective of the insurance scheme is to protect domestic residents from loss, not foreign residents. This aim would also be achieved by covering only domestic-currency deposits.

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[28] The EU Directive sets rules governing coverage by foreign banks.

B. Risk-Adjusting Premiums

While a system of risk-based premiums is logically satisfying, it is not easy to administer. Nevertheless, almost one third of countries with explicit DIS are currently using systems of risk-based premiums (Garcia 1999, Table 4).[29] This is a recent development and contrasts with the findings of Kyei (1995).

The objective of risk-adjusting premiums is to require riskier institutions that are more likely to call upon assistance from the DIS, to pay more for coverage. Yet insurance always contains an element of cross-subsidization of the weakest members by the strongest. The principles of actuarial accuracy and cross-subsidization are both desirable up to a point; however, they conflict. Thus, a balance has to be struck, as in all insurance contracts, between them. Moreover, there is a second conflict. The process of setting the premiums to reflect an institution's risks to the fund can be complex. Yet, there are advantages to having a system that is easy for the consumer and the markets to understand. Choosing an appropriate balance between actuarial accuracy and simplicity is not easy.

As a result, a newly created DIS is advised to "keep it simple" until it has gained experience in the implementation of the DIS. Simplicity may involve charging uniform premiums until DIS staff become experienced enough to tackle the complex task of adjusting deposit insurance premiums for risk.

Techniques for risk-adjustment

Nevertheless, countries that have had DIS in place for some time are now moving toward risk-adjustment. In the process they have adopted a number of approaches to adjusting the premiums that banks pay to reflect the risk they impose of the DIS fund. One straight-forward method is to ask banks to pay premiums based on their risk-adjusted assets, rather than on their deposits. This approach imposes no additional costs of calculation on banks and might be a good starting point for a country wanting to move away from premiums set uniformly on deposits in all banks. While the current system of risk–adjustment for assets under the Basel Capital Accord is crude, it is in the process of being refined.

A second approach, is to charge lower premiums to banks that have higher capital ratios and/or supervisory ratings. The Federal Deposit Insurance Corporation in the United

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[29]The Bank Insurance Fund in the U.S. introduced risk-based premiums in 1992 and subsequently increased the premium range to stretch from 0 basis points for the strongest banks (judged on the basis of their capital ratios and supervisory ratings) to 27 basis points for the weakest banks. It is currently considering a new system to give greater actuarial accuracy.

States takes both capital and CAMELS rating into account.[30] Other countries use more complex systems for assessing the risks that a bank imposes on the DIS.[31] These ratings are typically not disclosed to the public on an individual-bank basis.

V. Minimizing Agency Problems in Normal Times

A DIS may be privately, publicly, or jointly funded and operated. In any of these arrangements, problems (called "agency problems") can occur when an agent serves his own interests rather than those of the principal who employs him. These principal-agent relationships can be complex in DIS and give rise to three kinds of agency problems—political interference, regulatory capture, and inter-agency conflicts. In turn, this problem can result in high fiscal costs.

In the case of deposit insurance, some consideration has to be given to identifying who is the agent and who is the principal. Whether the DIA is publicly or privately run, the deposit insurance agency, acting to protect the interests of depositors, is the agent. In a privately run DIS, the banks are the principals because they both fund and govern the DIS. (The DIS should be funded by the member banks themselves to limit government outlays and provide peer pressure for safety.) However, in a privately funded scheme that has government financial backing, the government may or may not run the scheme. When the government runs a privately funded scheme, it, acting on behalf of taxpayers, and the banks are both principals. The DIS is still the agent that acts for the depositors.[32]

Given that a DIS that has government financial support is likely to have greater credibility than an entirely private system, government backing is recommended for all but the strongest banking systems located in the best-run economies that are unlikely to experience currency and/or banking crises. The overriding argument in favor of a government-run scheme is financial integrity. To limit conflicts of interest, a system with public backing is best run by a government agency. A second best solution is to have a system jointly operated by the government and the banks, but where bankers do not dominate the board of directors. Allowance can be made for input from the banking industry through an advisory committee to the board.

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[30] Under the CAMELS system, banks are rated from 1 to 5 according to a composite of the capital adequacy, asset quality, management capability, earnings, liquidity, and exposure to systemic risk.

[31] The basis for risk-assessment is discussed further in Garcia (2000), Appendix IV.

[32] Nevertheless, as discussed below, some privately-run DIS are operating successfully.

If publicly or jointly run, the DIA can be integral with, or separate from, the central bank and the supervisory agency. In either case, conflicts between the interests of the monetary authority, the banking supervisor, and the deposit insurer can occur both within departments of the same agency and across separate agencies. In addition, the DIS can become captured by the industry, and inter-agency conflicts may occur, but these problems can occur also in a privately run scheme.

A. Political Interference

The first agency problem, which applies particularly to government-run DIS, is interference by politicians in the operations of banks, in their supervision, and/or in the insurance function. This problem can be contained by sanctioning it and by making the DIA an independent organization that is nevertheless accountable to the government and/or the legislature for its actions, operations and administration. It needs to be supported by a clear legal and regulatory framework to limit political interference. Prohibiting, limiting, and/or publicly disclosing financial contributions to campaign funds for elected officials, especially those with responsibilities for overseeing financial agencies, will help to contain political interference. Transparency in its operations also helps because it allows the press to report untoward actions and the public to scrutinize the DIS in order to protect its position as bank customer and/or taxpayer.

B. Regulatory Capture

The second agency problem that the DIS confronts is regulatory capture—a situation where the deposit insurance agency serves the banks, rather than the interests of the public at large as depositors and taxpayers. In a privately run and funded scheme, bankers are appropriately in charge, so the problem arises only when a privately funded scheme has government financial backing. The danger of capture can be reduced by having the government run the scheme even though it is "owned" by the banks, and by not allowing bankers dominate the DIA's board of directors, and taking other steps to keep DIS officials focused on their public responsibilities.

Bankers have useful perspectives on the banking situation and need a forum for expressing their interests regarding deposit insurance, so they may form a consultative committee to the board of directors of the DIS. DIS managers and staff should be trained to keep their public responsibilities in mind when executing their duties. Having to report publicly to the administration and the legislature will give the public an opportunity to assess the DIS's performance of its public trust. They may be precluded from accepting honoraria or from taking positions at member institutions for a number of years after they leave the DIA.

C. Inter-Agency Friction

The third agency problem occurs when there is a lack of cooperation between or within financial regulatory agencies. On occasion, there can be disputes leading to hostility.

This situation can occur, for example, where the DIS is dependent on the supervisor for information about the condition of the institutions it is insuring, and on the central bank for macroeconomic insights, but where the supervisor and the monetary authority are unable or unwilling to provide necessary information.

To help remedy this problem, it is important to clarify the objectives and functions of different financial authorities—functions that include: monetary policy, supervision, deposit insurance, bank restructuring and fiscal policy. Such clarity of purpose is more important than the institutional location, which often is determined by the availability of scarce banking skills, human constraints, short-term legal impediments, etc. Especially in a small country with a shortage of skilled personnel, the central bank, as the monetary authority, may also be responsible for bank supervision and deposit insurance.[33] Where resources are greater, there is much to be said for keeping the responsibility for deposit insurance separate from the supervisory authority and the central bank. While a ministry of finance (MOF) could be involved because it would be responsible for systemic bank restructuring, it is preferable to have the DIS not report to the MOF. Regardless of their institutional location, there would need to be close cooperation between these different authorities.

If separate, the DIS needs to consult with the other agencies in order to assure that it has adequate information. It is uneconomical for the DIS to establish a duplicate structure for banking supervision. The consultation may be facilitated by including members of the other agencies on the DIS board. In the case of a public or quasi-public DIS, the board of directors should not be dominated by bankers, who, as is mentioned above, have a conflict of interests and may try to transfer costs from banks to the government. In the case of a private DIS, the board of directors should include a representative from the bank supervisory agency.

Collaboration and information-sharing with the supervisor

If the DIA is to carry out its responsibilities successfully, it must be assured of access to necessary information and cooperation from the supervisory and other government authorities. Where the DIA is run by a government agency, the difficulty often found with regard to sharing information can be reduced by placing a legal obligation on the supervisor and the central bank to provide the necessary information and on the DIA, the central bank, and the supervisory agency to cooperate closely. However, where the DIA is purely private, the problem is more difficult to resolve. The supervisor would be appropriately reluctant to divulge data on bank condition that would give a competitive advantage to those banks that provide board members to the DIA. However, for a publicly run DIA:

- The legislation should require **a smooth flow of information and close cooperation** among the DIA, the supervisor, central bank, and the MOF. What information will be

[33]Its multiple role may involve it in conflicts of interest among its roles, so that countries that are large enough to do so sometimes choose to allocate the roles to different agencies.

shared, and under what circumstances, needs to be carefully studied and agreed upon. This includes the extent to which the supervisor should be required to provide examination and other supervisory reports to the DIA. To enable the DIA to resolve a failed entity quickly, the DIA must receive information from the supervisor at an early stage to make necessary preparations.

- As discussed above, the DIA should be able **to request** the **supervisor to undertake a special examination** of any insured financial institution that it feels may be in financial difficulties. Whether DIA staff should be able to participate in on-site inspections would vary from country to country.

The DIA would have no supervisory responsibilities beyond the right to receive information from the supervisor and request special on-site examinations. In some countries, it could be required to report to a government agency such as the minister of finance in cases where it has concerns, but where the supervisor fails to take action.

Relations with the LOLR

It is the role of the LOLR, not the DIS, to lend to solvent but illiquid banks, and to sterilize that lending where it is necessary to keep within appropriate limits for reserve money growth, to discourage runs against them by uninsured depositors. The insurer's role is to deal with insolvent, non-viable banks and resolve them in a cost-effective and incentive-compatible manner. However, there can also be a conflict of interests between the DIS and the LOLR. The latter organization may be unduly willing (especially where its support is covered by high-quality collateral) to provide LOLR assistance to troubled banks, which will delay closure and increase the DIS's insurance costs. To reduce this problem the DIS law should make provision for close cooperation between the DIS and the LOLR/central bank. The United States found that excessive LOLR lending had been a problem in the 1980s.[34] It responded to this problem in legislation passed in 1991 that limited the ability of the Federal Reserve to lend to insolvent banks even against first rate collateral.

The problem arises partly because it is difficult to distinguish between illiquidity and insolvency. Because LOLR that lends to insolvent banks causes moral hazard, raises insurance costs and reduces monetary control, LOLR accommodation should be fully collateralized by sound assets that would be acceptable in the private markets in normal times. But, as argued above, even collateralized LOLR lending to insolvent banks should be discouraged because it would prolong their lives and crowd out other creditors. However, exceptions may be made to the application of this principle in certain circumstances.

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[34] See the Congressional Report accompanying the passage of the FDIC Improvement Act of 1991.

For example, a central bank might provide "bridging liquidity assistance" for a short period to a bank that has just been found to be insolvent, while a resolution is sought for it. As a precaution against moral hazard, control of the bank might be taken from its owners while it awaits recapitalization, sale or closure.

VI. Promoting Credibility in Normal Times

The design of the deposit insurance authority can importantly influence its credibility.[35] Apart from the agency's role, which was discussed above in Section II.B, the agency should be designed to be independent but accountable, and have adequate management and staffing.

A. The Design and Organization of a Deposit Insurance Authority

The organization of a Deposit Insurance Authority

A DIS that has government financial backing needs to be run by a DIA that has the authority that pertains to a government agency, is politically independent, but accountable for its actions so that it does not act in an arbitrary and capricious manner. The recommendations in this section seek to provide the requisite authority, independence, and accountability.

Authority

- To ensure sufficient authority, **the DIA that has a broad mandate needs to be a government agency that is established by law.**[36] For example, to maintain public confidence, it must have government backing. In addition, the DIA will have a broad mandate to deal in a strict manner with non-viable banks, terminate the interests of shareholders, and impose "haircuts" on uninsured depositors and unsecured creditors. Power to do so should be given to the DIA by law, and such responsibilities can only be exercised by a government agency. In order to fulfill its responsibilities, the DIA will need adequate financial resources as discussed in Section VII below as well as access to information as discussed above.

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[35] Financial sufficiency is also important and is discussed in the following section.

[36] Some countries, such as Argentina and Peru, have successful, privately-run DIS. Privately-run DIS typically have a narrow mandate. Access to financial support from government can be especially denied in order to avoid public/private conflicts of interest.

Independence

A number of recommendations are made to ensure independence for the DIA. In this context, independence refers to status within the government, freedom from political pressure, and from domination by the banking industry. In a country that is large and has sufficient financial skills, it is proposed that the DIA be separated from the central bank and the supervisory authority, since the monetary authority, the supervisor, and the DIA have different, although complementary, responsibilities. In smaller countries, the central bank may have separate departments to cover monetary policy, bank supervision, and deposit insurance. Allowing these institutions to pursue separate, sometimes conflicting objectives, while still cooperating, is a challenge.

- **Ideally, the DIA should be separate from** the supervisory and monetary authority. The supervisor and the DIA have different, although complementary, responsibilities. There could be a number of conflicts of interests in normal times if all responsibilities resided with the central bank. Nevertheless, these three institutions need to cooperate, especially in times of financial stress.

- **The DIA should be independent of political influence.** At times, the DIA may need to take actions that are unpopular with certain domestic or foreign interest groups. To act according to the law in a fair and even-handed way, DIA staff must, therefore, be free from political pressure that can lead to exceptions from laws and regulations for certain favored individuals, companies or economic sectors. Independence has particular consequences for the composition of the board of directors.

- **The DIA's board of directors should reflect its independent status.** It should consist of either five or seven members, appointed for staggered terms of, say, four years, and removable only for gross misconduct. The board should not be so large that it is unwieldy and the accountability of individual members is lost among a multitude of members. An odd number of members is needed to make securing a majority easier. Members will have security of tenure for their limited term in office, to facilitate their independence from political interference. Board members should be relieved of their positions only for gross misconduct defined in the law (using comparable standards in other of the country's laws) to avoid dismissing them for political or petty reasons. Terms in office should be staggered to provide continuity in membership, and to allow experience gained not to be lost all at once.

- **Board members should be nominated by the government** (the **administration)** and confirmed by the legislature where there is a "separation of powers;" otherwise the board members should be confirmed by the cabinet. In this way, the government would be responsible for the integrity and effectiveness of the board, and the avenue for the DIA's accountability through the government to the public would be established.

- As it backs the DIS fund, **the government should be able to appoint board members who would have a fiduciary interest in protecting the public.** Such members would serve the public interest and not focus on the particular concerns of the banking industry, sectoral interests, or politicians' preferences.

- **There would be two ex-officio members of the board.** One would represent the supervisor (the agency head or his designated representative), and one from the MOF (the minister or his designated representative). The government needs to be represented on the board, but should not dominate it by having a **majority** of the membership or the position of chairman. As the government will guarantee the DIA, and any potential cost would fall on the budget, the MOF must be represented on the DIA's board. The monetary authority might, but does not have to be, represented on the board.

- **The remainder of the board, constituting the majority, should be drawn from outside the government.** This provision serves to protect the political independence of the DIA, and also to draw in the necessary expertise. One of these outside members should be appointed **chairman**

- **There should be no board members who are currently employed by financial institutions that are members of the DIS.**[37] Likewise, major shareholders of insured institutions, and other individuals with close family or financial linkages (to be defined in the banking law) with them, should not be board members. For example, the DIA will have access to information about the condition of individual member institutions. It would be inappropriate to give this information to a board member who is an employee, major shareholder or closely linked with another insured institution. This provision would be made to prevent institutions "connected" with a DIA board member from receiving information that would give them an advantage over competitors. Moreover, bankers might suffer from a conflict of interests and try to under-fund the DIA, so that the government would be forced to cover additional costs. However, bankers' experience and perspectives will be valuable to the DIA. Consequently, **a consultative council** of bankers should be formed to advise the DIA and bring members' concerns to the attention of the board.

- **Other qualifications could be specified in the DIA law.** For example, the law might specify that DIA board members and senior officials should be "fit and proper," have relevant education and/or experience, and other characteristics deemed desirable.

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[37] Nevertheless, a number of countries have successful privately-run DIS that do have bankers on the board. Obtaining confidential information remains a problem to be overcome, as does providing government financial support.

- The law also should **grant board** members **immunities** and protection against law suits for official acts taken in the course of their duties.

Accountability

While the DIA must be free from political interference and industry domination, it must be held accountable to the government, the public and the banking industry for its decisions and actions. Otherwise, there is a greater risk that it would act in an arbitrary, capricious, or ineffectual manner. The path of accountability will differ depending on the political structure of the country and may well differ in a parliamentary system from a country that practices the separation of powers. Recommendations for facilitating accountability in a parliamentary system follow:

- **DIA accountability should be to the administration and to the legislature.** Because the MOF must ultimately meet the cost of any financial inadequacy in the DIA fund, the DIA might first be accountable to the MOF. Through the MOF, the DIA will be accountable to the cabinet, parliament and, ultimately, to the public. The press will have an important role to play in keeping the public informed.

- **The DIA should be fiscally responsible.** It is important that the DIA have financial integrity, and that the public and the banking industry can monitor its performance. The DIA must maintain its books and records in a transparent way, and be subject to the same audit rules as other public entities. Its records must, therefore, be subject to a published annual audit conducted by the Office of the Auditor General or its equivalent.

Striking a balance between independence and accountability

Special arrangements are needed to strike an appropriate balance between independence and accountability. This can be achieved in a privately financed and privately run corporation by having bankers dominate the DIS board. The board could be elected by the shareholders so as to represent all segments of the insured industry and not just the largest members. This should help to make the system politically independent (as long as it is financially sound and does not need to request financial support from the government). Having members elect the board for a fixed term of office, and having the board report to the members in an annual report and shareholders meeting encourages accountability.

Achieving the right balance is more problematic in a scheme that has government financial support and is run by a government agency/corporation. Political interference can be discouraged by making the DIS a department of either the central bank or the supervisory agency, where the host has a constitution that grants it independence and a reputation supports it. But this arrangement can present conflicts of interest within the central-bank- or supervisory-host. A number of countries prefer, therefore to have a DIS that is separate from both the central bank and the supervisory agency. To gain independence it will need an appropriate implementing statute; adequate sources of private funding with legislated back-

up funding that does not require parliamentary approval; fixed terms of office for members of the DIS board who should also be removal only for good and specified cause; clear criteria for eligibility for membership of the board;[38] appointment should be subject to the check of having nominations made by the government and the balance of approval by the legislature in a hearing that is open to the public; and having the DIS report directly to parliament rather than to a government ministry.[39] In addition, an active and inquisitive press will facilitate accountability.

Infrastructure

It is important to have appropriate laws and an effective judicial system in place, so that they can support property rights when needed. In addition, systems of accounting and auditing need to meet international standards to facilitate the accurate valuation of banks' portfolios. A broadly-based financial system that includes, for example, insurance companies, will strengthen the banking system by allowing it to diversify its portfolios.

Staffing

The proposed DIA could have a small staff in a country where there is not a large number of insured institutions and failures are rare. It can, in addition, delegate responsibilities to the central bank or the supervisory authority when necessary. Where the DIA has a broad mandate, it could subcontract liquidations to private liquidators or financial institutions. Staff would need to be augmented in times of stress on the banking system by borrowing from the central bank or supervisor that had qualified personnel. Under the DIA law, the staff (as well as the board) of the DIA must be granted legal protection in the form of immunities and protection against lawsuits for any actions they take in the course of their duties and that are in accordance with the law. Staff would, of course, need analytical skills and high integrity.

VII. Ensuring Financial Integrity in Normal Times

A number of financial issues need to be resolved: when to initiate the DIS; whether to fund the DIS by ex ante premiums or ex post assessments on member institutions; where to set the target level for the fund; who should pay the start-up assessments; how to set the structure for premiums, provide back-up funding, and manage fund assets; and what should be the order of priority over the assets of a failed bank. Resolving these issues effectively

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[38] Members of parliament or people currently employed in the industry should be ineligible.

[39] Having the DIS board report to the central bank or supervisory host is an alternative way to achieve independence, but it does so at the expense of accountability to the public.

will improve the financial position of the DIS and reduce its need to call on government resources for backup.

A. Start When the Banking System is Sound

As mentioned above, a DIS should be initiated when the banking system is sound. To do otherwise is to risk placing excessive demands on the fund before it has accumulated sufficient reserves to accommodate them and that might cause its illiquidity and insolvency.[40]

B. To Fund Ex Ante or Ex Post?

DIS outlays can be met either from a fund that has been accumulated from DIS premiums paid in the past or by imposing an ex post levy assessed on surviving banks. In principle and in practice, it is possible to both accumulate a fund and to impose an additional levy ex post, if the fund proves to be insufficient. In fact, more countries have opted to build a fund ex ante, rather than to levy an ex post assessment (see Garcia 1999, Table 4) and a number do "top up" their fund with additional ex post assessments, when the fund comes under financial pressure.[41] In either case, making it clear that the responsibility for covering the insured deposits of failed banks falls on banks, not the government, encourages banks to restrain their risk-prone peers, and thus reduces outlays by the DIS.

- **It is recommended that an insurance fund be established**. Most countries that have recently adopted a DIS have established a fund. An appropriate fund increases the flexibility to deal with banking problems and, thus, enhances public confidence in the DIS and the banking system.

Set a target for the fund

- A country should choose a **target level for its fund sufficient to cover outlays under normal circumstances**. The target is often set as a percentage of insured deposits at a level that would enable the fund to cover insured depositors in a number of small banks, or say, two medium-sized banks or one large bank. It may need to be acknowledged that it would be too costly to maintain a fund at a level to enable a pay-out of all the deposits of the largest banks.[42] It must be noted that the DIA would only

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[40] The Bank Insurance Fund (BIF) was started in the United States after the banking system had been restructured by the Reconstruction Finance Corporation (RFC) during the Great Depression. After accumulating a fund of $18 billion (or 1.25 percent of insured deposits) over the intervening years, the BIF became illiquid, but not insolvent, in 1991 when faced by a large number of bank failures.

[41] Ex post assessments tend to be chosen by privately financed and privately operated DIS.

[42] Failure of a country's largest banks would be a systemic failure, as discussed in Section IX.

be able to deal with problems in individual banks. In the case of a systemic crisis, the government would probably need to override the DIA framework and adopt more comprehensive measures.[43]

Start-up funding

A newly established system may receive initial contributions from the banks, the government, and/or from the central bank (Garcia, 1999, Table 7). Where banks are strong enough initially to foot the bill, they should do so. But this is often not the case.

The fund

Whatever its source:

- **Initial funding** should be set at a level sufficient to make the scheme credible and operational. As the scheme will ideally be introduced only after the banking system has recovered from any crisis and is once again sound, it is not expected that the scheme will have to handle any failures in the immediate future after its introduction. Nevertheless, the initial contribution should be sufficient to enable the fund to reach its full target capitalization as quickly as possible.

- If the government provides initial funding, provision can be made for the DIS fund or banks to repay the government's contribution over time.

Premiums

Going forward, an insurance fund would be accumulated and members would be required to pay premiums quarterly or semi-annually at the rate of x percent per annum based on total deposits. The premiums would be levied as needed to cover expenses and build, maintain, or rebuild the fund to its target level. Thus, premiums will vary from country to country and from time to time.[44] It is administratively simpler to levy premiums on all kinds of deposits (insured and uninsured), and it provides a broader contribution base, although many countries find it more equitable levy charges against only the total value of deposits held in insurable instruments, or to go further toward equity and levy only against the value of those deposits that are actually covered.[45]

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[43] See for example, Enoch, Garcia, and Sundararajan, (1999).

[44]Table 2 shows that premiums range from 0.0 to 2.0 percent of deposits. Venezuela raised its premium to 2.0 percent when the DIS was already insolvent.

[45] For country practices in this regard see Garcia (1999, Table 4).

- **Regular premiums or contributions should be set by the DIA as a percentage of total, insurable or insured deposits.** An argument can be made that premiums should be assessed on all deposits, because all depositors, whether insured or not, benefit from the DIS. A number of countries, however, believe that fairness is enhanced by confining assessment to insured deposits—those that benefit most directly.

- Premiums could be paid directly to the DIA or they could be automatically be deducted by the central bank from the reserve accounts of members and passed to the DIS.

- **Premium levels could be determined by the DIA but should not exceed a legally set rate, say, 1 percent of deposits per annum** because a premium above that level on a regular basis would impose an undue burden on covered institutions.

- **The board would have the discretion to reduce premiums** but only after the target level for the fund is reached, and after the initial contribution by the government has been repaid. The premium reduction should be made in a way that maintains the fund at its target level.

- The board should have the right to levy addition premiums if the fund has been depleted. These premiums would **continue** until the fund is restored to desired levels.

- **Premiums should be at a uniform (flat) rate** until the supervisory system is in a better position to differentiate risk profiles. In time, risk-based premiums could be introduced in a way that would reward the soundest institutions. Bankers should be encouraged when they recognize that the premiums will be **reduced** once the fund reaches its target, they would then have incentives to support early intervention in problem banks by supervisors to limit claims on the fund.

- **Risk-based premiums** are fairer in principle and would reward sound institutions. While it would be desirable for premiums to be set taking into account the risk that an institution poses to the DIA, it is recommended that the scheme start with flat rates, to avoid having bankers contest their assessments. In the future, once the supervisors have improved their monitoring and assessment capabilities, a system of risk-based premiums could be introduced.

- **Premiums would be accounted for as an expense and thus would be tax deductible**. They would not be counted as an asset of the contributing institution. Paying premiums would be the legal obligation of each institution, and a cost of doing banking business in the country. As such, the expense should be tax-deductible.

Controlling outlays

To preserve fund levels and keep premiums low, the insurer needs to restrict its outlays through efficient operations, maximize recoveries from the disposition of the assets of failed banks, limit its obligations in various ways and make wise investments. Dealing with troubled banks promptly and firmly reduces outlays.

Depositor preference

Giving depositors and/or the insurance fund preference over the assets of the failed bank increases their share in the value recovered and reduces the fund's net outlays, while increasing the share of the losses borne by others (Garcia 1996, Appendix I).

In the absence of deposit insurance, the treatment of depositors, creditors, and other claimants when a bank fails is determined by the priorities that the law establishes among claimants over the assets of the bank in liquidation. Deposit insurance, in effect, satisfies small depositors' claims first. It must therefore be determined where the DIA itself stands within the hierarchy of claimants.

- It is recommended that the **DIA, succeeding to the rights of the insured depositors, have the same priority over the assets of a failed institution as large depositors,** i.e., it will rank pari passu with general (unsecured) creditors. This would increase the incentives for the DIA to seek maximum value from a failed bank's assets. While giving the DIA priority over other claimants would improve broadly-defined DIS's rate of recovery from the assets of failed banks, it would reduce its incentives to avoid failures and to resolve failed banks promptly and efficiently, because the DIS would always collect from a failed bank that had some valuable assets while other creditors would loose. This recommendation would need to be coordinated with the priorities established in new Banking and Bankruptcy Laws.

Managing fund assets

A third defense of the fund is to invest fund resources wisely, preferably in safe assets. As even government paper may not always be sufficiently liquid in a small volatile economy, the DIS may wish to invest in government securities abroad. It should not place deposits in troubled banks.[46]

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[46]Venezuela's DIS reserves were invested heavily in insolvent banks, whereas they should have been invested in safe assets that can be easily liquidated in case of a need. This typically means investing in government securities at home or abroad. Small countries, in particular, may wish to diversify by investing fund resources in easily marketable securities issued by foreign governments to keep the fund liquid and protect its value against high rates of inflation. Investing in foreign government securities would give some protection against foreign exchange losses in highly dollarized economies.

- **The DIA Fund should be invested in government securities.** The DIA should not be allowed to invest in risky securities or investments that might cause a loss. Funds should **not** be placed as deposits in insured institutions. The insurance fund should earn market interest on the funds it has accumulated and carefully consider its needs for liquidity. Government securities are an appropriate investment and safe haven for the DIA fund. The DIA should determine the most appropriate term for those securities. For example, the securities could be long-term because longer maturities would typically pay higher interest rates. However, safety of greater importance than yield. The fund should be able to discount its government securities at the central bank to get liquidity when needed. Investing in (sound) foreign government securities may diversify the portfolio, protect against foreign exchange losses, and against credit risk if the financial position of the domestic government is weak.

Back-up funding

Despite the efforts to build a fund and control expenses, in times of stress, the accumulated fund may prove insufficient to met the demands placed upon it. For example, unexpected failures could impose more costs than the DIA had anticipated. The DIS will need back-up sources of funding to cover this contingency. It could have a government guarantee, a right to borrow without limit from the treasury/the national debt office, the central bank or from the markets.[47] In addition, the DIS might purchase reinsurance coverage from private insurance companies, although such companies typically do not have resources that are adequate to cover systemic banking problems. As indicated above, provisions should be made for the government to cover shortfalls in the fund by, for example, imposing an ex post levy or additional insurance premiums stretched over time. This provision will reduce the impact of the DIS' demands on the budget in the longer term and will enhance financial stability and fiscal sustainability. Partly because the central bank has very limited capital of its own, Fund staff have generally recommended that the government, not the central bank, support a DIS, although a central bank may provide temporary LOLR support to a DIS with a government guarantee.[48]

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[47] Funds raised in the national debt markets are monetarily neutral, which is important where bank solvency is a problem.

[48]Central banks typically have very little capital and no power to tax; therefore, all too frequently, the only way to cover any losses they incur is to print money. From a fiscal perspective, the accounts of the central bank and the government should be consolidated; although the budget effects of LOLR and DIS losses are often hidden as "quasi-fiscal" losses at the central bank.

The government guarantee

- **The government would provide the DIA with an explicit and irrevocable guarantee** under the DIA law. The fund needs a government guarantee to be credible with the public. It should be noted that if banking supervision is strengthened and the DIA is properly managed, there should never be any reason to activate this guarantee.

Authority to borrow

- **In order to maintain the credibility of the system, the DIA should have the power to borrow according to rules but without any** limit **on the amount needed to restore its viability from the treasury/debt agency or the central bank** and issue bonds and notes in the markets. The DIA would have no authority to take a loan from any other financial institution. The DIA could need to borrow it if were to have insufficient resources to pay out or transfer deposits. It could be illiquid but solvent, because it has invested in long-term government securities for which there may not be a liquid market. In this situation, it could discount its assets or borrow against its assets from the central bank. It could also be allowed to borrow from the markets.

- **The DIA would not need to provide good collateral against loans from the central banks** because it has full government backing. (The central banking act should reflect this recommendation.) The government's guarantee of the DIA would ensure that any central bank liquidity support is repaid. The DIA would not need prior approval from the MOF to borrow from the central bank.

- **The DIA would need to seek prior approval** *(from the MOF and central bank) regarding the timing of borrow from the* markets. Given that the government will be guaranteeing the DIA, it should be required to seek prior approval from the MOF for any borrowing in the markets, in order to avoid a situation where such borrowing would conflict with the timing of other government issues or with the objectives of monetary management.

Special assessments

- **The DIA should have authority to impose special, additional, ex post assessments** on all IFs, as needed; for example, to repay borrowed funds. The law should specify a limit to the combined assessments that could be imposed on banks in any one year. For example, analysis might reveal that it would be unwise to let the sum of regular and special assessments exceed 1 or 2 percent of total deposits in any one year. However, although the industry would not have the capacity to pay an unlimited amount in any one year, special assessments could be repeated until borrowed funds are repaid.

VIII. A Summary of Fund Advice in Normal Times

The recommendations above seek to create an incentive-compatible system of deposit protection to keep the banking system sound and avert crises. A properly designed DIS can help underpin the stability of the system while limiting government outlays, if it is introduced (a) in situations of reasonably solvent (possibly restructured) banks; (b) with the support of adequate prudential regulation and supervision; and (c) if accompanied by well-formulated LOLR policies by the central bank or others.[49]

The Fund has advised that deposit insurance can assist in the maintenance of a stable system, but only if it is accompanied by an effective system of supervision and clear legislation, including firm entry and exit policies. An efficient and competitive banking system should allow for entry of new banks (that are adequately capitalized and have fit-and-proper owners and managers) and, more importantly, should force the exit of non-viable and insolvent banks whose presence can distort competition and lead to a rapid buildup of losses.[50] The legal and supervisory framework should allow for a spectrum of prompt corrective actions to restore troubled banks to health, or facilitate their resolution in order to keep individual insolvencies from developing into systemic unsoundness. However, prompt exit reduces the losses that are incurred and is facilitated by formal provisions that protect small depositors from loss. Such protection helps to avoid the public complaints and political pressures that often accompany the closing of uninsured banks. Fears of public outcry have sometimes persuaded officials to keep troubled banks operating unresolved until runs occur.

Fund advice has cautioned that, as far as possible, deposit insurance should not be introduced in situations where banks are widely believed to be insolvent and where banking supervision is inadequate. The reason is that in such situations, the government will be tempted to give depositors a comprehensive guarantee that will be very expensive for it to underwrite and which it may not have the means to support. In addition, such a full guarantee may reward those that allowed the banking problems to occur in the first place. An additional problem is that it may allow the authorities to avoid taking the measures that are needed to strengthen the system, and so set the stage for a repetition of problems in the future.

With or without a DIS, despite all precautions, careful design and implementation of the DIS, mistakes may be made and/or contagion can bring a banking crisis even to well-prepared countries. In that event, additional measures may become necessary.

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[49]Having a currency board forced Argentina to use alternative means to support illiquid banks.

[50]While a discussion of viable and nonviable banks is beyond the scope of this paper, a viable bank is one that has enough earning assets in relation to liabilities to be profitable enough to rebuild capital to acceptable levels over a short time (two- to three-year) horizon. See Lindgren, Garcia, and Saal (1996).

IX. Crisis Management

A well-designed, limited system of deposit insurance can protect small depositors' funds in normal times and can help to avoid unjustified runs. It also provides a framework for the efficient resolution of individual failed banks, thus enhancing systemic stability. However, a limited DIS cannot be expected to maintain systemic stability in the face of an unforeseen shock of massive proportions or where weaknesses have been allowed to become so widespread that the system shudders even in response to smaller shocks. Facing with such a scenario and recognizing that financial stability is a public good, the government may, but nor necessarily should, decide to take emergency action to preserve the stability of the financial sector. It may also choose to bear the costs of the economic emergency and override the system of limited deposit protection and offer a full, temporary guarantee to ensure the continued functioning of the financial system. That guarantee should, however, be removed as soon as possible and replaced by a formal, limited, compulsory system of deposit protection that is funded by the banking system and supported by a good incentive structure including effective regulation and supervision.

A. Indications of Systemic Instability

A systemic crisis can be defined in a number of ways. However, following Sundararajan and Baliño (1991) and Lindgren, Garcia, and Saal (1996), the phrase is used here to refer to cases where there are "runs or other substantial portfolio shifts, collapses of financial firms, or massive government intervention."[51]

There, in fact, are a number of indications of problems that are so severe that they cause the government to consider instituting a full guarantee. The typical developing-crisis scenario is one in which insolvencies begin to be perceived by the markets. The crisis will become transparent when liquidity problems occur in individual banks, there is segmentation and eventual non-acceptance in the inter-bank markets, customers (both depositors and creditors) withdraw significant amounts of their funds or refuse to renew their contracts, banks engage in distress bidding for deposits,[52] the market becomes aware of shortfalls under reserve requirements, and banks incur overdrafts at the central bank. Such problems indicate that the system is deteriorating beyond the capacity of the banks to handle their difficulties by themselves and are indicative of an incipient, possibly systemic, crisis. These problems typically become transparent in the operation of the payments system, where risks of disruptions and payment defaults become pervasive. These indications of banks' insurmountable problems typically become apparent first to large and informed creditors.

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[51] See Lindgren, Garcia, and Saal (1996, page 20).

[52] Distress bidding for deposits occurs where a problem bank that would become illiquid bids up deposit rates in order to attract funds.

It is difficult to define (in advance) what should be regarded as systemic. It depends not just on the proportion of banks or bank assets that are in trouble but also on country-specific factors. These factors include, inter alia, the structure of the financial system, the macroeconomic environment, the state of public confidence in the financial system, and the ability of the authorities to commit to a restoration strategy. As observed in a number of countries, it is not always possible to agree on whether a crises is or, even after the event, was systemic or not. It is a judgement call.

B. Should a DIS Be Introduced in a Time of Crisis?

Should a limited DIS be introduced when a country perceives the signs of crisis described above? Or when it fears for other reasons that it might experience a banking crisis? The authorities have considered doing so in many countries, but, as explained above, a DIS is no substitute for government support in a systemic crisis. Fund advice, therefore, has been not to introduce a DIS until the banking system or its major banks have been restructured to acceptable financial soundness that is judged mainly in terms of their solvency and profitability.

Losses are realized when banks fail. To the extent possible, the government should seek to share these losses with owners, depositors and creditors. Doing so will conserve government outlays and keep moral hazard in check. A limited DIS facilitates this loss distribution process. However, in cases where the condition of a large portion of the banking system is in doubt and may require large payments from the DIS, it will often fall short of resources even if a substantial fund has been accumulated.[53] In some instances, the DIS's losses will be too large to be absorbed by the banking system even over an extended period of time. While it is true that a system that gives the DIS or depositors, especially small depositors, priority over the assets of a failed bank helps to reduce demands on the insurance scheme, this will not protect it from bankruptcy when bank losses are severe.

Despite the above reasoning, many countries have chosen to provide officially limited, but generous, deposit guarantees in times of crisis. The main reason for this response is that they have not taken early action to strengthen their banking systems so that, by the time problems erupt, they believe they must initiate extensive, even comprehensive, deposit guarantees to maintain confidence. Once a generous or full guarantee has been provided, however, it is typically difficult to reduce the coverage offered in order to restore market discipline to the financial system. Consequently, countries tend to retain the guarantee and seek to rely excessively on formal systems of regulation and supervision and other restrictive measures to alleviate the contrary incentives that an excessive guarantee provides. They are, however, unlikely to be successful in strengthening their banking system through supervision

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[53]The best example of this is the U.S. where, even after 50 years of accumulating funds, widespread failures of savings and loan associations (S&Ls) bankrupted the S&L insurance fund.

alone, especially if systemic bank restructuring has not been undertaken. Moreover, both country experiences and theoretical analysis suggest that some degree of market discipline, supported by effective internal governance of banks, is essential to keeping the financial system in sound condition (Lindgren, Garcia, and Saal, 1996), and over-reliance on formal regulation can suppress innovation in the banking sector.

C. Considering How to Allocate the Losses Caused by Bank Failures

In this situation, the government has a choice—either to absorb the losses itself or to allocate those that have already occurred among the parties involved. It could, for example, write down banks' debts to force a sharing of losses by converting private sector claims on banks into long-term bonds or equity.[54]

Writing down liabilities

Once a decision has been made not to liquidate a failed bank, it is important to restore the bank to solvency so that it can service its obligations. In principle, solvency can be regained by writing down an insolvent bank's liabilities. Such a default, would typically require legislation. In principle also, it would be possible to write down all of the liabilities of a failed bank or a group of failed banks to match the level of their diminished assets. However, such action may not be feasible where there are legally specified preferences for certain creditors of failed banks, and it may be contra-indicated for other reasons.

The generally accepted principle is that the owners and subordinated debt holders of failed banks should not benefit from such write downs. They should lose their stake in full. However, there can be exceptions to the rule. If failures occur as a result of an unavoidable systemic shock, such as a war or natural disaster, the authorities may deem it inequitable to deprive the owners of a failed bank completely of their interest in the bank.[55] There may also be a need to retain original owners and managers for governance reasons, especially where there is a shortage of available "fit-and-proper" alternatives. In this situation, allowing insolvent banks to write down their liabilities but not extending this advantage to those that have remained solvent despite struggling to overcome the systemic shock would be inequitable.

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[54]Converting deposits to equity will assist solvency. Converting short-term deposits to a longer term will help liquidity, but not solvency, unless the nominal value of deposits is also written down. See Baer and Klingebiel for examples of countries that have adopted these techniques.

[55]A further exception to the rule not to cover shareholders could be considered in cases where the government has recently privatized a bank but the financial statements, made available by certified external auditors for the due diligence process, are subsequently shown to have been grossly misleading.

The authorities may, therefore, consider an across-the-board write-down for all banks. But this type of write-down is feasible only in very rare circumstances. Moreover, it encourages moral hazard because it allows owners to avoid some of their contractual obligations. Consequently, most governments have been unwilling to impose across-the-board reductions in bank liabilities and have chosen to distribute the costs in some other fashion or to absorb the losses themselves. Moreover, if losses are imposed on depositors and creditors, they will, of course, have to be imposed **before** the general guarantee is put in place.

Imposing special levies

As an alternative to writing down bank liabilities, DIS in many banking crises has imposed special charges on sound banks. These special charges exceed the regular DIS premiums in order to compensate the DIS for the losses incurred by weak banks that it has covered. Special charges, which can extend over a number of years, can be justified, since all banks, including sound banks, benefit from the overall stability in the banking system, and from the orderly exit of failed banks. In fact, a deposit insurance fund can itself be regarded as a formalized instrument for all banks to share in funding the losses of weak banks. This loss-sharing should not, of course, be allowed to jeopardize the viability of surviving banks.

Requiring subordinated debt

Subordinated debt has a dual role in strengthening the banking system. As an addition to the bank's equity capital, it acts both as a buffer against losses and a market signal of bank condition. As a junior debt, or quasi-equity, subordinated debt can be written down more easily than deposits or unsubordinated credits. The subordinated debt contract should make clear to holders their exposure to loss in the situation where the bank falls below the minimum capital adequacy requirement (CAR) and the owners are unable or unwilling to recapitalize the bank to required levels.[56] The losses of weak banks can then be shared with the holders of subordinated debt.

This useful function has lead a number of economists to advocate an increasing role for subordinated debt in the capital structure of banks.[57] Under the proposal, large banks at all times should be required to issue subordinated debt that has been rated by an acceptable rating agency to, at least, 2 percent of their assets. Some, of this debt should be short-term, so that the bank needs to reissue its subordinated debt frequently. The ease or difficulty of the issuance process and the contractual terms of the issue will give the bank's supervisors

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[56] In countries (such as the United States) with an appropriate legal system, losses can be imposed on subordinate debt holders without permanently closing and liquidating the banks by passing the bank quickly through receivership.

[57] See Calomiris (1999), and the Board of Governors of the Federal Reserve (1999).

additional information—on the markets' perceptions of the bank's condition. Moreover, this capital would be exposed to loss-sharing and losses could be imposed **after** any general guarantee is put in place.

Subordinated debt, is not, however, a panacea. Critics of its use argue that requiring subordinated debt is feasible only for large publicly-traded banks, and that issuance would be difficult, even for large banks, in undeveloped markets. In Argentina, which appears to be the only country to have set a subordinated debt requirement to date, critics argue that the market is thin, with virtually no secondary market, and that bank owners can rig the market by buying the debt.

Where a DIS itself holds equity, there may be an argument for requiring it to issue subordinated debt. This issue would serve as a capital buffer and the terms of its issuance and renewal would give a market indication of the financial strength of the DIS in relation to the condition of the banking system.

D. Should a Full Guarantee be Provided?

Thus, in normal circumstances the cost of dealing with individual bank failures falls on the owners and subordinated debt holders, and possibly on the large depositors, creditors, and the DIS. However, writing down weak banks' liabilities or imposing very extensive special charges on sound banks could lead to financial instability and runs on other banks. And deposit insurance cannot be expected to deal with an intensive crisis, or systemic insolvency arising from external shocks, macroeconomic malfunctions or accumulated microeconomic mismanagement. Thus, in case of a systemic crisis, the government's objectives for depositor protection change. There is then a need to protect the payments system and avoid depositors' "flight to quality," which may involve a flight to cash or abroad. In such a situation, the government needs to take control, declare a "state of economic emergency" and possibly establish a temporary resolution authority to deal with the crisis. Thus, dealing with a systemic crisis calls for actions that reach beyond the system of limited deposit insurance. In a systemic crisis, a full guarantee can be helpful, even essential.[58] That opinion has been strengthened by experiences gained during the recent crises across the world. Nevertheless, the guarantee must be credible so that it must be tailored to recognize fiscal realities and not shift the governments' budget constraint toward insolvency.

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[58]See *Toward a Framework for Financial Stability* by David Folkerts-Landau and Carl-Johan Lindgren, pp. 28–30. But in crisis situations, including those that disrupt the payment system, the government will need to take some of the financial responsibility and do what it should have done before—strengthen the financial system so that it will be more able to withstand shocks and not propagate or spread them. This strengthening should include preparing concomitant reforms to minimize losses in the payment system.

Making the decision

A government has a number of decisions to make when it is faced with a financial crisis. The decision process is depicted in Figure 2. If the government judges the crisis **not** to be systemic, it will not offer a blanket guarantee but will typically utilize its usual methods of resolving bank weaknesses and failures. If it judges the crisis to be systemic, it has to weigh the costs and the benefits of offering a comprehensive guarantee.

Thus, to prevent or control a crisis, the government may decide to extend blanket guarantees to all depositors and creditors to assure the public, prevent a run on the banking system, avoid capital outflows, and aid the economy to recover from the financial shock by ensuring the continuing supply of banking and payment services. This was done in Finland and Sweden in 1992, by Japan and Mexico in 1995,[59] by Indonesia, Korea, Malaysia, and Thailand during the Asian crises,[60] and also by Jamaica, Kuwait, and Turkey in the 1990s.

Not all countries that have faced a systemic crisis, have granted a comprehensive guarantee. As shown in Table 2, for example, a number of countries in Eastern Europe and the Commonwealth of Independent States, did not place a full guarantee when their banking systems experienced systemic problems.

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[59] Argentina did not issue an explicit guarantee although the banking systems' deposits declined by 18 percent in the early months of 1995. Some depositors lost money at this time and a few small banks were closed. Nevertheless, beginning in March 1995, the authorities implicitly extended a 100 percent guarantee to bank deposits. It did so by the central bank providing all the liquidity that banks suffering withdrawals needed, so that any depositor who wished to do so could withdraw his deposits, thus fully protecting depositors. The central bank provided liquidity by reducing reserve requirements across the board and by granting rediscounts to the largest state-owned bank, which in turn provided liquidity to the rest of the system while avoiding formal violation of the currency board arrangement.

[60] Sweden and Finland have now scaled down their coverage to that more typical of a standard DIS and the other crisis countries are preparing to do so.

Figure 2. The Decision Process

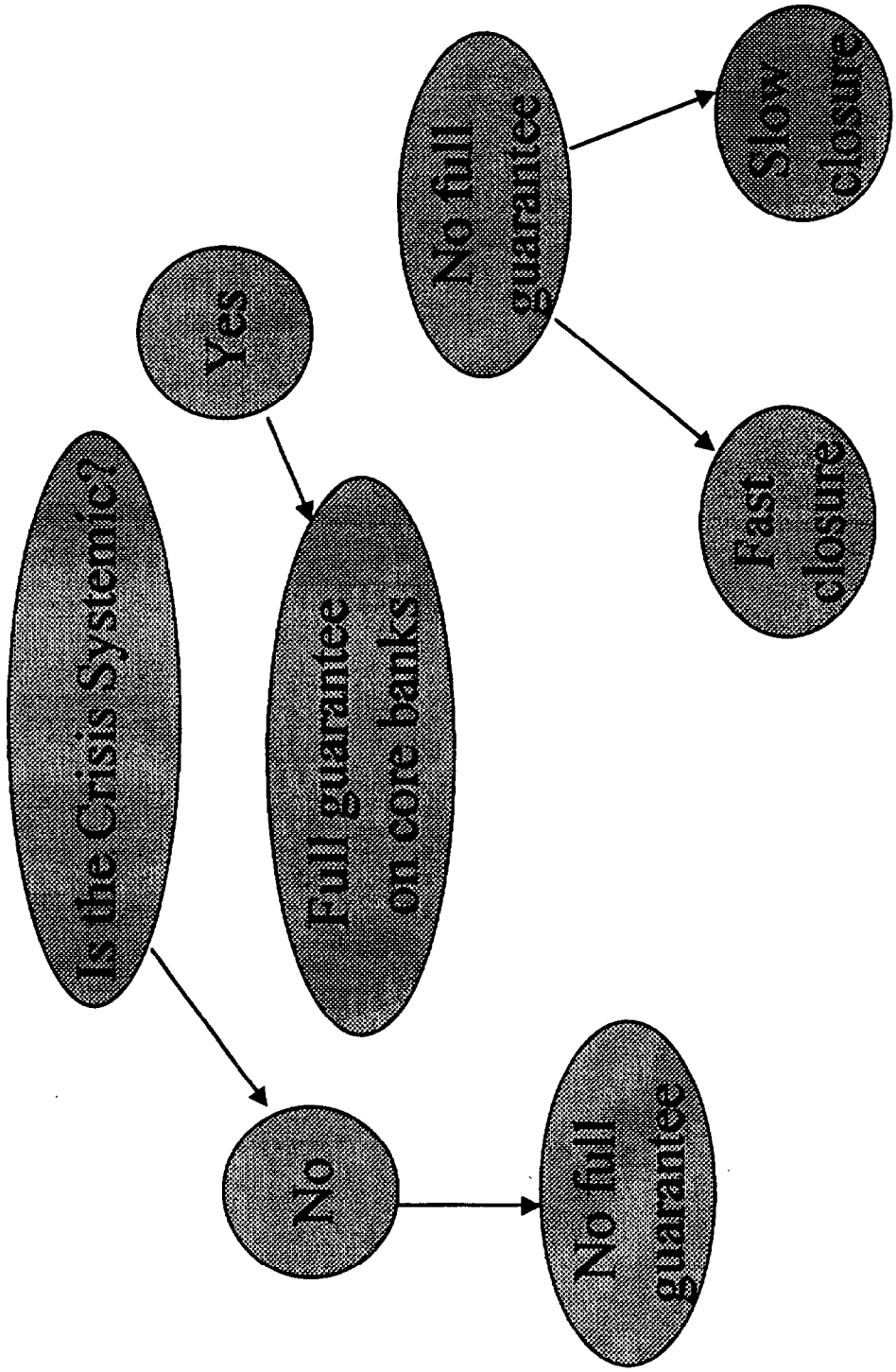

Table 2. Some Countries Experiencing a Systemic Crisis

That Gave a Full Guarantee	That Did Not Give a Full Guarantee
Finland	Bulgaria
Indonesia	Czech Republic
Jamaica	Estonia
Japan	Latvia
Korea	Lithuania
Kuwait	Mongolia
Malaysia	Norway
Mexico	Poland
Sweden	Romania
Thailand	Russia
Turkey	

Weighing the costs and benefits

Possible direct and indirect costs and the putative benefits are listed in Table 3. The costs of supporting the guarantee can be substantial. It requires providing liquidity to banks to allow depositors and creditors to withdraw their funds at will. The introduction of a comprehensive guarantee should include a conscious decision that the value of maintaining a payment system and the supply of credit exceed costs of providing the guarantee. Opponents of granting a decree will be concerned about creating moral hazard and meeting the potentially large cost of compensating those who are guaranteed. However, a guarantee is more cost-effective if it is not called, which requires that the promised coverage be credible. The government or agency that issues the guarantee will need to have explicit legal backing from a solvent government for the promise to be believable.

Thus, a guarantee may be implemented to promote confidence in the financial sector; stabilize the liabilities of guaranteed institutions; gain time to organize and execute systemic bank restructuring; and preserve the integrity of the payments system. However, while a full guarantee may be necessary condition for containing a financial crisis; it is not a sufficient one. It cannot restore confidence in a currency crisis or prevent the capital flight that occurs when a country experiences economic or political turmoil, but it can reduce their severity.

Table 3. Weighing the Costs and Benefits of a Full Guarantee

Costs	Benefits
Direct: government outlays are high, if the guarantee is called	Lower failure costs
	A functioning banking system
Low, if it is not called	
	A functioning payments system
Indirect: Moral hazard	
	Smaller credit crunch
	More confidence
	Less disruption to the economy
	Time to respond

E. Principles to Follow When Offering a Full Guarantee

If it decides that the benefits of providing a blanket guarantee outweigh the costs, the government will provide full coverage. There are certain basic, general principles that it should then observe in granting comprehensive guarantees. For example, full guarantees should not be made a regular part of the financial landscape; otherwise such an action would increase moral hazard. Guarantees are granted only in economic emergencies to calm the markets and give the government (some) time to study and implement its corrective policies. By not giving explicit guarantees ahead of an emergency, the government is left with flexibility to work out the particular solution that is most compatible with market incentives and the availability of fiscal resources, and will prove least expensive in the long run.

Where the owners are responsible for a bank's failure, as is often the case, they should lose their stake in, and control over, any bank that is receiving capital assistance from the authorities. Such banks should be taken from their current owners and managers and be restructured, sold or liquidated.[61] Holding off from granting the full guarantee allows losses to be distributed to these parties before the guarantee is announced.

[61] Different legal systems take different views on the roles of the conservator, the receiver, and the liquidator. However, a conservator might be described as attempting to keep the bank operating, often with new ownership and under management, while the receiver takes the bank from its owners when the supervisor determines that it has failed, and then chooses from an array of resolutions techniques. The liquidator will close down the failed bank and disposes of its assets.

Many of the best practices appropriate in normal times are also relevant during a systemic crisis. See Table 4. There are several differences, however. It may or may not be provided by the DIA, but responsibility should be clearly-defined and publicly understood. The guarantee must be publicly provided to ensure the credibility needed to avoid its being called. Whereas limited coverage should be offered in perpetuity, full coverage must be temporary and must be known to be temporary.

Credibility

It was stated above that a limited system of deposit insurance will not sustain financial stability in a systemic crisis. For similar reasons, placing a full guarantee that would expose the government to making outlays beyond its capacity to pay, will not restore confidence in a crisis. Consequently, the guarantee that is given must be tailored to fit financial reality. The tailoring may involve excluding certain classes of institution, certain financial instruments, or certain classes of creditors from coverage. Those excluded may incur loses.

Concomitant decisions

In addition, the authorities must then choose: (1) when and how to provide the guarantee; (2) which financial institutions to include; (3) which financial instruments to cover; (4) which types of depositors and creditors to protect; (5) in which currency to provide compensation; (6) how to deal with disruptions to the payments system; and (7) what measures to take to ameliorate the moral hazard that the guarantee carries.

How and when should the guarantee be provided?

The existence and provisions of the guarantee should be precisely specified in legislation or decree and the terms should authoritatively be made clear to the public. Judging the correct language and tone to use in making the public announcement of the guarantee is crucial to restoring public confidence. While the government may be able to share costs of bank failures at the beginning of a crisis, it foregoes the option to impose losses on creditors and depositors once it has put a full guarantee into effect. Consequently, judging the correct moment to enact and announce the decree is difficult but important for its effectiveness and cost. Placing it too quickly can weaken market discipline in the financial system, while waiting too long can destroy public confidence, which will be difficult to rebuild. Skill is required in judging the optimal timing for placing a full guarantee so that its validity is not called into question and it is not called upon to provide large amounts of compensation to those benefiting from the guarantee.

Table 4. Best Practices for Deposit Insurance in Normal Times

Best Practice for DIS	Best Practices for Full Guarantee
In general: the infrastructure	
1. Have realistic objectives.	Is still valid.
2. Choose carefully between a public or private DIS.	A full guarantee must be publicly provided.
3. Define the DIA's mandate accordingly.	The responsibility for effecting the full guarantee must be carefully assigned and publicly announced. It may or may not be the DIA's responsibility.
4. Have a good legal, judicial, accounting, financial, and political infrastructure.	These conditions remain essential.
To avoid moral hazard:	
5. Define the system explicitly in law and regulation.	Explicit systems typically prove more effective than vague implicit guarantees.
6. Give the supervisor a system of prompt remedial actions.	The supervisor still needs PCA.
7. Resolve failed depository institutions promptly.	As promptly as is feasible.
8. Provide low coverage permanently.	Provide full coverage temporarily.
9. Net (offset) loans in default against deposits.	Offsetting past due loans is still appropriate.
To avoid adverse selection:	
10. Make membership compulsory.	Blanket coverage is mandatory.
11. Risk-adjust premiums, once the DIS has sufficient experience.	Risk-adjusting remains appropriate where feasible.
To reduce agency problems	
12. Create an independent but accountable DIS agency.	The DIS should be accountable and independent.
13. Have bankers on an advisory board not the main board.	The advice remains valid.
14. Ensure close relations with the LOLR and the supervisor.	The agency in charge of implementing the full guarantee must have close relations with other regulators in the safety net.
To ensure financial integrity and credibility:	
15. Start when banks are sound.	Start only in a systemic crisis.
16. Ensure adequate sources of funding (ex ante or ex post) to avoid insolvency.	Funding must be available and must be seen by the public to be available if the guarantee is to be credible.
17. Invest fund resources wisely.	Is essential for credibility.
18. Pay out or transfer deposits quickly.	Compensation must be paid promptly.
19. Organize good information.	Those effecting the guarantee must have good information if they are to make wise decisions.
20. Make appropriate disclosure.	Public information is essential for restoring confidence.

Dealing with deficiencies in the infrastructure

While the country will need to make progress toward legal, judicial, accounting, financial and political reforms, if its guarantee (limited or comprehensive) is to be credible, such reforms are likely to take place over a number of years. Rather than delay instituting a guarantee, the authorities may choose to make just the most essential reforms. These would consist of enacting effective laws governing corporate and personal bankruptcy, collateral and the resolution of weak and failed institutions, and making improvements to bank regulation and supervision. International accounting firms can be hired to value portfolios simultaneously on both domestic and international standards. The press can be encouraged to popularize needed additional reforms.

What should a comprehensive guarantee cover?

Typically a full guarantee covers all bank debts to both depositors and other creditors. (As discussed above protecting shareholders and subordinated debt holders is inappropriate unless they carry no responsibility for the plight of their banks).[62] It must be decided whether the risks of exchange rate fluctuation and the inflation-induced erosion of real value will be covered.

Which institutions should be included in the guarantee?

The authorities must decide which financial functions they seek to protect. Where commercial banks are the principal means of intermediation and collect deposits, make loans, evaluate risks, facilitate the payments system, and transmit monetary policy to the economy, they would be the first candidates for inclusion in the guarantee. As the conjunction of deposit-taking and loan-granting makes institutions vulnerable to runs, other types of depository institutions, such as finance companies, merchant banks, savings banks, and credit unions could also be covered if they play a sufficiently important role in the financial system and the economy.[63] In addition, institutions whose demise could contaminate the banking system should also be included. The composition of the set of guaranteed institutions will vary from country to country with local conditions. Domestic institutions and local subsidiaries and affiliates of foreign banks would typically be covered.[64]

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[62] Depositors and creditors incurred losses in Argentina in 1989-90, Brazil in 1994-96, Chile in 1982-84, Cote d'Ivoire in 1991, Estonia in 1992, Latvia in 1995, Malaysia in 1986-88, Thailand in 1983-87, and the United States since 1991. See "Systemic Bank Restructuring and Macroeconomic Policy" (Table 2). Moreover, depositors at some, but not all banks, incurred losses in the Venezuelan crisis of 1994–95.

[63] Korea, Malaysia, and Thailand, for example, included commercial banks, finance companies, and merchant banks in their guarantees (see Lindgren et al., 1999).

[64] Korea and Malaysia also included the oversees branches of domestic banking institutions in its guarantee. Some countries, such as Mexico and Korea, have extended coverage beyond

(continued...)

When fiscal constraints are compelling, the government may decide to limit the institutions it will cover under the full guarantee to the core banking system in order to control its costs. It would be ill-advised to try to pre-specify which banks will emerge from the rehabilitation process that is to follow as the core banks in the system. To attempt to identify the core would require picking winners and losers in the race for survival, and the government's choice is likely to differ, inefficiently, from the markets' determination. The core will emerge after the event. By not extending the guarantee to all banks, it needs to be assessed whether those that are not covered will fail; how extensive will be the losses that their creditors incur, and the social, political and economic implications of these losses. Where compensation is offered, it must be speedy if it is to be credible; otherwise depositors will recognize that they are incurring losses in present value terms. A comprehensive guarantee is basically a liquidity and confidence guarantee so it must be satisfied on demand.

The decision which types to exclude would depend on where the government is prepared to impose losses. To the extent that it fears runs and flight to quality at home and abroad by large creditors, the government will focus on guaranteeing the institutions that house the funds at risk of flight. To the extent that it is interested in protecting the smaller citizen from hardship caused by the financial crisis, it will also cover smaller, consumer-oriented institutions.

Which creditors should be protected?

The guarantee will be written in legal language to encompass those creditors whose flight could threaten the banking system. It will most probably protect both the domestic and foreign creditors of banks located onshore. Creditors of off-shore centers would not be protected where the authorities want to send a message to sophisticated creditors in these locations that they are at risk. Institutions in these locations are often recipients of minimum regulation and lax supervision, so that investors should assess their exposure to loss accordingly. Both large and small depositors and other creditors would be covered under the comprehensive guarantee.[65] Some countries have chosen also to protect subordinated debt holders, while others, such as Indonesia, Korea, Malaysia, Mexico, and Thailand imposed losses on the holders of subordinated debt, as well as on shareholders.

Should external creditors be protected?

Answers to the questions of whether and how to cover external creditors are complex. Those countries that have offered guarantees to external creditors have done so in the hopes

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depository institutions to insurance companies and brokerage houses, but not Korea's investment trust companies or leasing companies. Korea excluded repurchase agreements after July 1998, however, as a beginning to phasing out its full guarantee.

[65] In Indonesia, insider deposits were not covered by the guarantee and they were excluded in Thailand unless claimants could prove that the transactions had been made at "arm's length."

that the guarantee will increase the confidence of their countries' creditors. That greater confidence should encourage external creditors to roll over their loans and not add to the capital flight that has already occurred. In many cases, however, external creditors have not rolled over their loans and capital flight has continued.[66]

This observation raises important questions regarding whether, and to what extent, should losses be imposed on external creditors. This paper does not seek to answer this question, which remains to be resolved in the context of discussions on the new international financial architecture.

Which instruments should be encompassed in a full guarantee?

While a country may formally guarantee only straight-forward deposits, repurchase agreements, senior and non-subordinated debt instruments. In practice, it is virtually impossible to exclude derivatives and other off-balance-sheet contracts. This situation arises because derivatives often convert into the standard, on-balance-sheet instruments that would be covered by the comprehensive guarantee when one party to the contract defaults. A decision must also be made whether (1) existing deposits will be covered or (2) merely new or renewed deposits. Curtailing the guarantee to the latter category can reduce the fiscal burden.

The currency of payment

Most countries that have offered a full guarantee have made payment in domestic currency valued at the current exchange rate. Korea, however, provided liquidity support to commercial banks in foreign currency.

Compensating for erosion of value by inflation

Countries that fund the guarantee and other expenditures by creating liquidity in large unsterilized quantities risk inflation. They may than feel compelled to avoid capital flight by guaranteeing the real value of bank liabilities.

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[66] In Thailand, for example, it was foreign creditors rather than domestic depositors that ran even with a government guarantee in place. Sweden's full guarantee was, on the other hand, successful in stemming the flight of foreign capital. In Indonesia, both domestic depositors and foreign creditors ran. Korea made a separate agreement with its foreign creditors that imposed losses on them. A question arises regarding the reasons for these disparities in experience. Evidently the guarantee was most credible in Sweden and least credible in Indonesia. Future research may determine the reasons for the differences in credibility.

Dealing with disruptions to the payments system

The agency responsible for the integrity of the payments system (often the central bank) can take several steps to reduce the risk of loss, alleviate the domino and contagion effects from the losses that do occur, and curtail the costs incurred by the DIS and the LOLR. While reforms to the payment system should have been effected before the crisis, often this was not done. Then it is particularly desirable to minimize systemic risks, because financial risk management in the payment system assumes particular urgency in times of widespread banking distress.

The central bank is responsible for maintaining liquidity in the payment system, typically through standing credit facilities, such as a Lombard facility, or through intra-day credit accommodation of payments. Assisted by the supervisory authority, the central bank should ideally seek to distinguish between illiquid and insolvent banks, lend to the illiquid but viable banks, and rely on the supervisor to deal firmly with non-viable banks. However, when non-viable banks are numerous, very large ("too big to fail" or "TBTF"), or cannot be identified ex ante, it becomes difficult for the central bank to contain its lending for fear of triggering a systemic crisis. Nevertheless, in such situations central bank lending should be temporary, strictly limited, carry an explicit government guarantee,[67] and be considered as the first step in a comprehensive financial and operational restructuring.[68]

A central bank may be tempted to sacrifice the long-term benefits of market discipline in the interests of immediate financial stability by lending indiscriminately to insolvent institutions that are experiencing difficulties in meeting their obligations in the payment system. When facing this temptation the central bank needs to recall that, to the extent that it prolongs the life of the insolvent institution and crowds out other creditors, it will add to the eventual costs incurred by the DIS, other creditors, and the government. By being complicit in delaying closure, the central bank may be assuming a moral and legal responsibility for the losses that others incur and, in the process, may impair its own reputation. It also needs to be clearly understood by all concerned that the central bank has few real resources (capital and reserves) to deal with bank insolvencies and that the

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[67] The guarantee would compensate the central bank for any resulting losses it incurs by reducing the central bank's remission of profits to the government or by providing additional capital if necessary.

[68] Chile is the only country where the central bank provides a full guarantee for banks' demand deposits in addition to limited coverage for household savings and time deposits. The quid pro quo for this guarantee is a 100 percent marginal reserve requirement on insured deposits when they exceed 250 percent of a bank's capital. Thus, this scheme reduces moral hazard by limiting banks' ability to acquire risky assets. At the margin, this arrangement approximates the concept of a narrow bank where all deposits are safely invested in government or other liquid securities.

government needs to be brought into the picture early to stand behind all the credits that are extended by the central bank—such costs must be borne by the budget, which means, ultimately, by the taxpayer.

Concomitant measures to contain moral hazard

Countries have adopted a number of measures to control incentive problems. They include: (1) writing down the owners' shares in and subordinated debt-holders claims on insolvent banks fully and replacing their management; (2) announcing that the full guarantee is only a temporary measure;[69] (3) capping the interest payable on deposits at some market determined rate;[70] (4) covering only the principal plus a limited amount of interest; (5) imposing a fee for the guarantee;[71] (6) intensifying the supervision of institutions encompassed under the comprehensive guarantee; and (7) nationalizing banks that are recapitalized with public funds.

As discussed above, writing down the claims of shareholders and subordinated debt-holders and replacing faulty management serves as a warning for such stakeholders to conduct their fiduciary stewardship responsibly in future. Announcing that the full guarantee is temporary warns large depositors and creditors to keep monitoring the condition of their banks so that they can exert market discipline when the guarantee is removed. Capping interest rates and covering only principal plus limited interest both reduce the ability of weak banks to bid for deposits and to use the guaranteed funds so obtained to gamble for recovery or to loot the bank. These measures also reduce the financial obligation that the government must cover. Imposing a fee for the guarantee reduces adverse selection and forces institutions to evaluate their business decisions with greater regard to their cost and also to pay some of the government's the costs of providing the guarantee. Intensifying supervision is necessary to present bank owners and managers from gambling for recovery, looting the bank, and from taking other actions that will weaken their bank. Where the authorities doubt the ability of either the supervisors to control anti-social behavior or the incentive structure to discourage it, they may decide to take control of banks that receive public assistance in order to keep operating. In this way, they hope to have the bank serve the public interest.

A number of these measures are recommended as ways to reduce the much-feared moral hazard associated with granting full coverage. However, moral hazard becomes less of

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[69] Indonesia, Japan, Korea, Mexico, and Thailand have announced that their full guarantee will be replaced by a limited DIS.

[70] Indonesia and Thailand capped rates at margins above those paid by the best banks to prevent aggressive bidding for deposits.

[71] Indonesia and Thailand imposed an additional fee for the comprehensive guarantee. Members of the DIS in Japan, Korea, and Mexico continue to pay premiums to their insurance fund while benefiting from the full guarantee.

an issue and is more easily managed when the crisis is running at full course and the public recognizes that, temporarily, exceptional measure are necessary to contain it.

In summary, it should be noted that despite all efforts to follow best practices for installing a guarantee, the credibility of the guarantee will only be as good as the governments' financial position. Moreover, the governments' solvency and liquidity depend in part on the strength of the structural, macroeconomic and microeconomic reforms being undertaken to resolve the crisis.

X. On Removing a Global Guarantee

Global guarantees are typically provided in two conceptually different instances: (1) in times of crisis for a wide range of financial institutions, and (2) in the normal course of events for state-owned banks. In both cases, these guarantees constitute major distortions and should be ended as soon as possible to contain moral hazard and improve the competitive efficiency of the banking system.

A. Removing Full Guarantees Granted During Financial Crises

The advisability and modalities of removing a full guarantee are currently of interest to a number of countries. The guarantee to be replaced may be explicit or implicit, credible or not credible. In some cases, countries have introduced a blanket guarantee for bank depositors and creditors during a crisis where there was no explicit DIS (as in Indonesia, Jamaica, Malaysia, Sweden, and Thailand) or they augmented the coverage offered by an existing DIS (as in Finland, Japan, Korea, and Mexico). Finland and Sweden subsequently replaced their blanket guarantees with limited DIS; and Indonesia, Jamaica, Japan, Kuwait, Mexico, and Thailand are preparing to do so. China and Costa Rica are considering removing their full guarantees on state-owned banks. (China's guarantee is implicit and Costa Rica's is explicit.)

Having the full guarantee in place is costly. It involves explicit outlays, if it is called and otherwise carries the costs inherent in a contingent liability.[72] Whether it is called or not, it reduces market discipline and makes control exercised by regulators and supervisors the basic means for limiting perverse incentives. Thus, there is typically a need to scale down the guarantee once the crisis is over. To do so in a credible way normally requires new legislation to provide for the introduction of a limited DIS and an institutional infrastructure to support it (especially the laws and regulations necessary to establish corrective actions and exit policies and supervisors to implement them forcefully) as was discussed earlier. Proper macroeconomic policies as well as measures to strengthen data disclosure, prudential supervision, commercial and financial laws, and the LOLR will help to restore confidence in

[72] See Merton and Bodie (1993).

the banking system and thus assist the process of phasing out a full guarantee. This is the route that Finland and Sweden followed when they discontinued their emergency guarantees of all bank liabilities after their crises were resolved in the mid- to late 1990s and, at the same time, initiated a new or revised DIS.

Following an adequate strengthening of the banking system and other improvements in economic conditions, an explicit, comprehensive guarantee should be replaced by a system of limited protection that is the same for large and small banks, whether they are state-owned or private. A bank that is "too big to fail" will not be liquidated, but under appropriately designed laws, its owners, creditors and even large depositors can be penalized in a well-designed restructuring. However, recent experiences emphasize that replacing a credible implicit or an explicit full guarantee with a limited DIS invites runs when the condition of the banks is weak or unknown.[73] Thus good timing for removing the guarantee is essential.[74]

One of the options worth considering when removing a full guarantee is requiring banks to issue uninsured subordinated debt in amounts that increase over time. It could be a useful addition to the sources of market discipline for banks, particularly in industrial countries. Aside from being a capital buffer, it could, for example, systematically substitute for insured inter-bank lines. The prices and terms of issuance would give information to potential depositors and creditors and the supervisors on the markets' perceptions of the strength of the bank. However, issuing subordinated debt may be more feasible in mature financial markets with good supervision and regulation than in developing markets that are still building their systems of supervision and regulation. Thus, it may be that requiring banks

[73]Banking crises occurred in these circumstances in Argentina in 1979, Venezuela in 1994-95, Bulgaria in 1995, and Indonesia in 1997.

[74] Not everyone favors replacing a full guarantee with limited deposit protection, however. Some argue that some countries have limited political capital available for dealing firmly with weak and failed banks and that what is available should be expended on isolating a small group of bank creditors (subordinated debt-holders, in particular) as the only ones to stand at risk and monitor bank condition. Professor Calomiris, for example, argues that, in practice, most creditors are protected even in systems that have limited protection in place. Protection is effected by resolving failed banks by a purchase and assumption transaction that transfers all of a failed bank's debts to the acquiring bank. Thus, protection is limited in law, but not in practice. However, lessons learned from past crises are contesting Professor Calomiris' assertion of full protection.

to hold subordinated debt would be impractical in many developing markets.[75] But the issue of subordinated debt to build market discipline is a subject worthy of additional study.[76]

B. Timing the Removal

There is a trade-off with regard to timing the guarantee's removal. It is possible to retain the guarantee pending the dawn of the perfect day when every conceivably desirable condition has been met. But that day may never come, so that it may be preferable to remove the guarantee once a minimum set of conditions has been met. Some countries have adopted an intermediate course of action. They began to phase out the full guarantee once a minimum set of improvements had been made. The phasing out allows public confidence to be tested sequentially. More of the guarantee will be removed as more of the conditions for removal are met and the risk of runs has been reduced. A summary of country practices regarding the removal of blanket guarantees is given in Table 5.

The ideal time for removal

To be certain to avoid disruption to the banking system, the partial guarantee would not be introduced ideally until: (1) the domestic and international crises have passed; (2) the economy has begun to recover; (3) the macro-economic environment is supportive of bank soundness; (4) the banking system has been restructured successfully; (5) the authorities possess, and are ready to use, strong remedial and exit policies for banks that in the future are perceived by the public to be unsound; (6) appropriate accounting, disclosure, and legal systems are in place; (7) a strong prudential regulatory and supervisory framework is in operation; and (8) public confidence has been restored. In other words, the guarantee can be safely removed when it is no longer needed and removal is a "non-event."[77]

Removing when the minimum conditions are met

But such ideal conditions may never occur. Consequently, countries may decide to move ahead more rapidly. Nevertheless, it is advisable that a blanket guarantee not be removed at least until four conditions are met: (1) the banking system has been restructured sufficiently and the regulatory and accounting reforms are being phased in to elicit confidence in the soundness of banks; (2) the economy has recovered sufficiently; (3) strong

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[75] For example, the Argentine requirement for banks to hold at least 2 percent of their liabilities as subordinated debt has recently been suspended as it was considered ineffective because the debt was purchased privately at nonmarket prices by the bank's owners.

[76] See the Board of Governors of the Federal Reserve (1999).

[77] Professor Kane succinctly states that the time to pull the guarantee is when its present value to the banks is minimal and the authorities have put in place provisions to control the public sector's exposure to the losses that banks incur.

Table 5. Length of Full Guarantees

Country	Date Placed	Date of/for Removal	Comments
Finland	February 2, 1993	Removed on December 8, 1998	The existing DIS, in place before the full guarantee, was revised in 1998.
Indonesia	January 1998	Not yet announced.	The guarantee is to remain in place for a minimum of 2 years. Further, 6 months' notice of termination is required. No notice of termination has yet been given, but replacement by a limited DIS is being discussed.
Jamaica	1997	Not yet announced.	The full guarantee will be removed when the MOF determines that the time is right.
Japan	Announced June 1995, enacted into law in June 1996, and reiterated in November 1997.	To be removed in April 2002	The authorities have delayed the removal of the full guarantee for one year until April 2002.
Korea	November 1997	By December 2000	The DIS, enacted in 1996 and overridden by the full guarantee, is to be revised.
Kuwait	1992	No date has been set for cessation.	The guarantee is has been announced, but it is not written in law.
Malaysia	January 1998	Not yet announced.	There has been some discussions concerning starting a DIS to replace the blanket guarantee.
Mexico	Unclear	To be phased out slowly by 2004.	The process of phasing out the full guarantee has already started.
Norway	1991		The guarantee was given by the Government Bank Insurance Fund. There was not a full guarantee by the government, per se.
Sweden	December 18, 1992	Was removed on July 1,1996.	A DIS was started for the first time in 1996 to replace the full guarantee.
Thailand	September 1997	Not yet announced.	The government is preparing a DIS to replace the full guarantee.
Turkey	December 1999	No date has been announced.	The guarantee has been announced but has not been written into the law.

policies are in place for dealing with individual weak and failing banks; and (4) the public has received adequate (generally one to two years') notice of the pending change. The general guarantee should be removed only after the implementation of the DIS. The guarantee could stay in place temporarily and overlap with the new DIA while the latter is "setting up shop" and accumulating deposit insurance premiums into a fund.

Based on recent experiences, these preconditions for removing a blanket guarantee are further explained below. First, the supervisory agency and the central bank should both be prepared/required to certify that the financial system is strong enough to withstand the strain of removing the guarantee. This certification must be based on reliable regulatory and market information about the current condition of the banking system and credible forecasts of its future condition. Second, legislation specifying the modalities of the DIS and efficient bank exit should be in place, and implementation plans should be virtually complete, before the date for removal is announced. Planning the DIS and passing the requisite legislation can take a year or more.

Moreover, it would be advisable to have contingency plans in place prior to removal in order to cover an unexpected loss of public confidence or an unforeseen deterioration in banking industry condition. For example, the lender of last resort may have to enlarge its support to solvent but illiquid banks to help them cope with transitional difficulties. The authorities should not revert to the full guarantee when faced with isolated banking problems, or slow runs that can be dealt with under normal procedures. Instead, the authorities should act decisively to cure ailing banks by prompt, corrective actions and merge, liquidate, or recapitalize insolvent banks.

Third, the authorities should be cautious in prematurely announcing a date for removal, especially at the time when the full guarantee is first put in place.[78] In fact, it may be necessary to announce a minimum time period during which the guarantee will remain in effect together with a minimum time period that will be given for the removal.[79] The decision on when to remove a full guarantee must be examined on a country-by-country basis. Some countries may wish to pre-commit to a date for removal in order to gain maximum credibility and to hasten the legislation and the structural reforms that need to accompany the removal of the guarantee. [80] However, it is inappropriate to require an announcement of a date for removal in a Fund program, nor should the Fund press the authorities to remove the guarantee prematurely. If a general guarantee seems to stay in place forever, a removal strategy is appropriate.

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[78] Malaysia and Thailand have set no such deadlines. Mexico, Korea, and Japan have set target dates that may have to be adjusted as the deadline approaches.

[79] As was done in Indonesia.

[80] Some analysts believe that setting a (realistic) date for removal is essential to drive needed reforms, and that waiting for the right time will delay action too long.

Faced with a choice between removing the guarantee possibly prematurely and waiting for a very long time for the ideal conditions to be met, some countries have chosen to phase out the guarantee over a period of time. Korea did so by reducing full coverage to principal, but not interest, for large deposits in August 1998. Mexico has already embarked on a complex schedule for removing its blanket guarantee by 2004. Clearly, it behooves the authorities to move with determination to reform the financial system where necessary so that the preconditions can be met at the earliest opportunity.

Preparing for removal

Even where it is not expected that the economy will be ready for the introduction of a DIS for some time, perhaps three years, preparations for the transition need to be made in order to be consistent with the reforms that need to be made to the banking and other laws.

After removal

A few precedent-setting actions by the authorities after the introduction of the DIS, such as resolving failed banks strictly according to the newly-instituted rules, are also useful to confirm that the authorities will do what they have said they intend to do. Existing failed institutions would be resolved under the old laws and any remaining assets transferred to the government budget. It is preferable **not** to transfer assets or liabilities from banks that have already failed to the DIS. The new institution needs to plan for, and focus on, its future tasks, without having to contend with the distraction of resolving past failures.

C. Phasing out Full Guarantees on State-Owned Banks

A number of countries are currently inquiring how the authorities should deal with state-owned banks, including commercial, development, and savings banks whose deposits the government guarantees in full.[81]

The solution to this distortion is not to extend full depositor protection to other banks, but instead to subject the guaranteed bank to the same limited deposit guarantees (prudential rules and supervision) that other banks receive. Any cut back in explicit deposit guarantees would have to be announced ahead of time and phased in (possibly over a long period) in order not to trigger a run and possibly a systemic crisis. In the interim, the authorities should ensure that the state-owned and savings banks are restructured to sound condition, before the full guarantee is removed. As long as a savings bank retains a full guarantee, it would be prudent to limit its operations to investments in safe and liquid (government) assets.[82]

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[81] Savings banks are guaranteed, for example, in the CIS countries and Sri Lanka.

[82] Despite instituting a system of limited deposit protection in 1993, Hungary retained the old full guarantee on exiting household savings deposits. That guarantee expires only when the deposit is withdrawn.

In principle, there should be little hesitation in removing an implicit guarantee for state-owned and privately-owned savings banks, especially where the guarantee lacks credibility.[83] But even this situation, in practice, presents a difficult choice for the authorities. As for the removal of an explicit comprehensive guarantee, discussed above, the removal and replacement with a limited DIS needs to be timed correctly. That is, after the banking system has been recapitalized and the system of supervision and regulation have been modernized adequately. This process can be expected to take time for the commercial banking system and even longer for institutions of lesser economic importance, such as rural cooperatives.

It may be that for banks funded mainly by small deposits, the speed of a depositor's access to funds when his bank fails will determine credibility of the partial DIS. The bank's unguaranteed credit rating will indicate whether the bank will lose inter-bank deposits when the full guarantee ends. Thus, removal should be phased in by reducing coverage in successive steps down to the desired limit. Where countries have a legal system that protects individuals' existing rights, it may be inappropriate to remove an existing guarantee for household deposits. The guarantee would continue in place until a deposit is withdrawn, whereas new deposits would be insured under the new partial DIS.[84]

In some instances there is both an implicit state guarantee for state-owned commercial banks and an explicit guarantee for other segments of the industry that has been issued by local government authorities that lack credibility. In this situation, the non-credible guarantee should be replaced by a partial DIS that is temporarily confined to the relevant segments of the industry. Any transfer of a guarantee from local to national authorities is not desirable. In the interim, any full implicit guarantee should remain in place for nationally-owned banks until the system is restructured. Then it can, and should, be replaced by a partial DIS that applies to all banks equally. The recommendations are similar when there is an explicit full guarantee for state-owned banks, but no coverage for privately owned institutions. A limited DIS should be introduced first for private banks while retaining the full guarantee for state-owned banks until conditions are right for its replacement by the limited DIS.

Savings banks

Removal of the guarantee is warranted but less urgent where a savings bank is already operating as a narrow bank that invests in safe government securities. It is less urgent because banks' yield structures would tend to reflect the different degrees of risk on their

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[83]In China, rural credit cooperatives, which hold 20 percent of household deposits, have an implicit guarantee from local governments. These guarantees may have less credibility than the central government guarantee of the state-owned banks.

[84]The guarantee of household deposits made before 1993 is still in place in Hungary, although it now applies only to a minor amount of deposits.

deposits. Savings banks with safe assets would pay lower deposit rates and not attract an inordinately large volume of deposits. Nevertheless, it is desirable to phase out such special treatment over time. Moreover, to the extent that a savings bank operates like any other commercial bank, or even transacts in the riskiest segments of the inter-bank market (as many of the savings banks in the CIS countries do), their guarantee constitutes a major distortion to the incentive and reward structure in place in the financial markets and should be removed as soon as can safely be accomplished.

D. Conclusions Regarding the Removal of Guarantees

As said above, a well-designed system of limited deposit insurance can foster stability in normal times. In mature financial systems, it can be supplemented by a requirement that each bank, especially each large, publicly traded bank, issue subordinated debt at frequent intervals to give depositors, creditors and supervisors indications of the markets' assessment of the condition of the bank.

Although a full, explicit, temporary guarantee can be helpful and sometimes necessary in a systemic crisis, the guarantee should be removed as soon as is safely possible. A full guarantee should not be removed prematurely. When it is replaced by partial DIS, small depositors should be covered and market discipline should be exercised by owners and a small number of uninsured large creditors and depositors (such as corporations and other financial institutions), supported by strong supervision and appropriate disclosure rules and internal controls.

The option of distributing losses to large depositors and creditors is desirable in view of fiscal resource constraints and the desirability of sending strong signals to the market. Confining bank exposure to loss solely to banks' subordinated debt-holders is not an efficient option. Further, confining risk exposure to subordinated debt-holders would generally not be feasible because requiring banks to issue subordinated debt is impractical in many emerging markets and relatively expensive elsewhere. Also, the subordinated debt issue may be purchased by the bank's owners and its price manipulated.

XI. Summary and Conclusions

A well-designed DIS can help to keep the domestic financial system sound. Further, making deposit insurance systems around the world incentive-compatible, will foster international financial stability. On the other hand, a poorly designed system can weaken a country's financial system by letting it fall prey to moral hazard, adverse selection, and agency problems. That will expose the domestic financial system to contagion occurring regionally or globally and detract from international financial stability. These problems can lead to heavy fiscal outlays. To avoid these dangers, the DIS must be part of a carefully planned safety net for the financial system that establishes a good incentive structure to encourage good internal governance, constructive market discipline, and effective prudential regulation and supervision. To these ends, this paper proposes a set of best practices for

establishing a DIS in normal times in order to obtain the benefits that a DIS can offer while avoiding its pitfalls.

Best practices recommend that, in normal times, the DIS should be explicitly defined in law and regulation, be mandatory, independent but accountable, and maintain good relations with the LOLR and the bank supervisor—the other agencies in the safety net. In a growing number of instances, the DIS is being run by a government, rather than a private, agency. A good DIS will allow supervisors a set of prompt corrective actions, resolve failed institutions promptly, provide low coverage, and pay out or transfer deposits quickly. It will probably chose to accumulate a fund. To protect these resources, it should have access to good information on the condition of its members, charge adequate, preferably risk-adjusted premiums, invest its funds wisely, and have government backing to avoid insolvency when unexpected failures occur. To ensure success, it is best to start the DIS when the financial system is sound and when the legal, judicial, accounting, auditing, financial and political infrastructure is supportive of a strong economy.

Nevertheless, crises can occur. Even a good system of deposit insurance cannot guarantee financial stability in the face of serious macroeconomic policy errors or contagion from abroad. Consequently, the paper offers a set of best practices for placing a full guarantee should a systemic crisis occur. It offers guidance on determining when a crisis is so serious that a blanket guarantee is warranted and a set of best practices for placing that guarantee. The guarantee should be explicitly granted by the government, be backed by the financial where-with-all to make the guarantee credible, and announced publicly to restore confidence. Where the governments' financial resource constraint is pressing, the guarantee must be carefully tailored to remain credible, while effectively restoring confidence and curtailing capital flight. To contain the moral hazard that such a guarantee conveys to the economy and to limit its fiscal cost—it should be known to be temporary and accompanied by very strict regulation and supervision to prevent bankers from gambling for redemption or looting their institution.

Despite the government's actions to reduce the bad incentives that a full guarantee carries, a full guarantee will prove to be distortive over time. Thus, a full guarantee will need to be removed and replaced by an incentive-compatible DIS, as soon as the time is right. That recommendation applies both to systemic-wide comprehensive guarantees and to full guarantees of state-owned banks. The paper offers guidance on the preconditions that should be met before a comprehensive guarantee is terminated. Further, it recommends that the authorities move expeditiously to meet those preconditions.

Actions to Promptly Correct Banks' Capital Deficiencies

A system of prompt corrective action needs to define: (1) a critical minimum capital ratio below which closure is required; (2) categories of banks according to their capital ratios; (3) corrective actions that either must or may be applied to banks with capital deficiencies; (4) grounds for appointing a conservator or liquidator/receiver; and (5) the right to a judicial review of such actions.

1. The critical minimum capital ratio

The critical minimum capital ratio is typically defined as either 0 or 2 percent for either the unadjusted ratio of equity to assets or the total risk-adjusted capital ratio.

2. Categories of banks

Level 1.	Banks that maintain capital ratios that are significantly in excess of the minimum established are called "well-capitalized."
Level 2.	Banks that meet or exceed the minimum ratios established but do not belong to category 1 are referred to as "adequately capitalized."
Level 3.	Banks that are not in compliance with minimum capital standards but are not in categories 4 or 5 are "undercapitalized."
Level 4.	Banks that maintain capital ratios that are above the critical minimum, but significantly below the prescribed ratios are called "significantly undercapitalized."
Level 5.	Banks which have one or more capital ratios below the critical minimum are called "critically undercapitalized.".

3. Corrective actions for undercapitalized banks (Categories 3-5)

a) All undercapitalized banks shall submit, within a specified time, a capital restoration plan to their supervisor. The plan will specify how the bank will meet applicable capital standards without increasing risk (including interest rate risk, credit risk, and other types of risk) and the activities in which it will engage. The plan will also provide any other information that the regulators require. The plan must be approved or disapproved in a timely manner by the supervisory agency, which has the right to demand that appropriate changes be made to the plan.

b) The supervisory shall prohibit any undercapitalized bank from increasing its assets. Limited exceptions may be granted.

c) For banks in categories 4 and 5, the regulators may: (1) require banks to sell shares; (2) prevent them from paying dividends; (3) restrict the interest rates they pay; (4) prohibit the payment of bonuses or excessive compensation to executive officers; (5) require approval for the opening of new branches; (6) prohibit the receipt of deposits from correspondent banks; (7) restrict other activities; and (8) require the election of new directors.

d) In addition, banks in category 5 will be prevented from: (1) paying interest on subordinated debt, (2) undertaking any material transaction; and (3) changing accounting methods.

e) Banks that do not improve and so remain in category 5 will be placed in conservatorship or receivership/liquidation after 120 days.

4. Grounds for the appointment of a conservator or liquidator/receiver

Any of the following is regarded as grounds sufficient for the appointment of a conservator or liquidator/receiver:

a) Assets are insufficient to meet obligations to creditors and others.

b) Substantial dissipation of assets or earnings due to: any violation of statute or regulation or any unsafe and unsound practice.

c) Unsafe or unsound condition to transact business.

d) Willful violation of a cease and desist order which has become final.

e) Concealment of books, papers, records, assets or the refusal to submit them or its affairs for inspection by examiners or other lawful agents.

f) The likelihood that the institution will not be able to meet its obligations or the demands of its depositors in the normal course of business.

g) The bank has incurred or is likely to incur losses that will deplete all or substantially all of its capital and there is no reasonable prospect of recapitalization without government assistance.

h) Any violation of law or regulation, or unsafe and unsound practice or condition, which is likely to cause insolvency or the substantial dissipation of assets or earnings, or is likely to weaken the condition of the institution, or otherwise seriously prejudice the interests of its depositors and insurer.

i) The board of directors or shareholders consent to the appointment.

j) The bank is undercapitalized, has no reasonable prospect of becoming adequately capitalized, has failed to become adequately capitalized when required to do so, has failed to submit an acceptable recapitalization plan as required under PCA, or has failed materially to implement that plan.

k) Is critically undercapitalized as under section 3(e) above.

l) Has been found guilty of a criminal offense related to money laundering.

5. Judicial review

The bank may bring an action in the courts to remove the conservatorship or receivership.

Source: This table is an adaptation of the FDIC Improvement Act of 1991, Section 131, and the United States Code Annotated for 1995, Title 12, Section 1821.

Exclusions From Deposit Insurance Coverage

Article 7(2) of the European Union's Directive on Deposit Insurance permits member countries to exclude certain categories of deposits from coverage. The exclusions are **not** mandatory. The exclusions (laid out in Annex 1 to the Directive) are listed below.

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ANNEX I

List of exclusions referred to in Article 7 (2)

1. Deposits by financial institutions as defined in Article 1 (6) of Directive 89/646/EEC.
2. Deposits by insurance undertakings.
3. Deposits by government and central administrative authorities.
4. Deposits by provincial, regional, local and municipal authorities.
5. Deposits by collective investment undertakings.
6. Deposits by pension and retirement funds.
7. Deposits by a credit institution's own directors, managers, members personally liable, holders of at least 5% of the credit institution's capital, persons responsible for carrying out the statutory audits of the credit institution's accounting documents and depositors of similar status in other companies in the same group.
8. Deposits by close relatives and third parties acting on behalf of the depositors referred to in 7.
9. Deposits by other companies in the same group.
10. Non-nominative deposits.
11. Deposits for which the depositor has, on an individual basis, obtained from the same credit institution rates and financial concessions which have helped to aggravate its financial situation.
12. Debt securities issued by the same institution and liabilities arising out of own acceptances and promissory notes.
13. Deposits in currencies other than:
    - those of the Member States;
    - ECU's.
14. Deposits by companies which are of such a size that they are not permitted to draw up abridged balance sheets pursuant to Article 11 of the Fourth Council Directive (78/660/EEC) of 25 July 1978 based on Article 54 (3) (g) of the Treaty on the annual accounts of certain types of companies.[1]

[1]OJ No. L 222, 14.8.1978, p. 11. Directive as last amended by Directive 90/605/EEC (OJ No. L 317, 16.11.1990, p. 60).

Country Practices Regarding Offsetting Loans Against Deposits

Countries Favoring Netting	Countries Opposing Netting 1/
Africa: Liberia, Nigeria, and Zambia.	South Africa and the franco and lusophone countries.
Asia: Australia, China, Kong Hong, India, Japan, South Korea, Malaysia, New Zealand, Pakistan, Singapore, Sri Lanka, and Thailand.	
Europe: Austria, the Czech Republic, Denmark, Finland, Germany, Ireland, Italy, Netherlands, Norway, Poland, the Slovak Republic, Sweden, Switzerland and the United Kingdom.	France, Belgium, Greece, Luxembourg, Portugal, and Spain.
Middle East: Cyprus and Israel.	Bahrain, Egypt, and Kuwait
Western Hemisphere: Bahamas, Bermuda, Canada, the Cayman Islands, Panama, Peru, and the United States.	Most Latin American countries, including Argentina, Brazil, Colombia, and Mexico.

Source: Wood (1995).

1/ However, exceptions are sometimes made to allow netting demand deposits against loans.

Differential (Risk-based) Premiums, Measures, and Scores Used in Canada

• Criteria or Factors – Measures	Maximum Score[85]
Capital Quantitative:	
• Capital Adequacy	20
– Assets to Capital Multiple	
– Tier 1 Risk-Based Capital Ratio Total Risk-Based Capital	
Other Quantitative:	
• Profitability	
– Return on Risk-Weighted Assets	5
– Mean Adjusted Net Income Volatility	5
– Volatility Adjusted Net Income	5
• Efficiency	
– Efficiency Ratio	5
• Asset Quality	
– Net Impaired Assets Plus Net Unrealized Losses on Securities to Total Regulatory Capital Ratio	5
• Asset Concentration	
– Single (Including Related Group) Counterparties Asset Concentration Ratio	5
– Industrial Sector Asset Concentration Ratio	5
– Mortgage and Real Estate Asset Concentrations	5
Sub-total: Quantitative Score	60
Qualitative:	
• Regulatory or Camel Rating	25
• Standards Adherence	10
• Other Information	5
Sub-total: Qualitative Score	40
Total Score	100

[85] Banks are classified in four groups: scores above 80, above 65, above 50, and below 50. Currently, fees are 4, 8, 16, and 33 basis points, respectively. The scores are not published. Banks may not disclose which category they are in.

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