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About a dozen developing countries have deposit insurance systems and several others are considering establishing them. These systems are typically created to prevent contagious bank runs, to provide a formal national mechanism for handling failing banks, and to protect small depositors from losses when banks fail.

Without a deposit insurance system, many developing nations in recent years have extended implicit deposit protection to depositors on a discretionary, ad hoc basis.

Deposit insurance systems have several advantages over these implicit protection schemes. Deposit insurance probably gives the banking system more protection against bank runs, provides more protection for small depositors, and — by replacing discretion with rules — provides a faster, smoother, more consistent administrative process.

On the other hand, deposit insurance probably creates more moral hazard for depositors, thereby contributing to the erosion of market discipline and increased bank risk-taking.

Deposit insurance also tends to be a more expensive mechanism for protecting depositors because it offers less freedom of action to policymakers than an implicit scheme. Finally, developing countries often do not adequately fund their deposit insurance schemes. As a result, the systems often lack credibility in the marketplace and bank supervisors may be unable to close insolvent banks because the insurer would be unable to pay off insured depositors.

Deposit insurance systems are relatively complex mechanisms that must be designed properly to be effective. They generally function best if they are public, if they are adequately funded and have government backup support in a crisis, if bank membership is compulsory, if deposits are not fully insured, and if the insurer can resolve bank failures in a variety of ways.

Deposit insurance systems are no substitute for effective bank supervision in maintaining a stable banking system. Moreover, they are likely to founder sooner or later without effective bank supervision.

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## I. INTRODUCTION

During the 1980s, banking instability has emerged as a major problem in both developed and developing countries. In response, governments in many of these countries have taken strong actions to restore their banking systems to health and strengthen their prudential regulation.

There are a variety of reasons why governments want to have a stable banking system. One reason is to avoid a breakdown in the nation's payments system, which in large part is administered by the banking system. Such a breakdown could seriously impair economic activity and, in extreme cases, could force a nation into some form of barter with all of the inefficiencies that such systems entail. A second reason is to increase the nation's savings rate by providing people with a safe financial asset (bank deposits) that they can hold. By increasing savings, a nation can have more investment and achieve a higher rate of economic growth. Third, maintaining a sound banking system promotes the development and growth of financial intermediation. It is generally acknowledged that financial intermediation tends to produce a more efficient allocation of credit and resources in a nation than if financial transactions are carried out directly between surplus and deficit units. Finally, for social welfare reasons, governments often want to protect small depositors from losses in bank failures that could wipe out a sizable portion of their life savings.

In order to achieve banking stability, governments have developed a variety of institutional arrangements that tend to promote stability. High on the list are banking laws and regulations that set the ground rules for bank operations. An important objective of these laws and regulations is to constrain bank risk taking. This is accomplished by designating the types of activities in which banks can engage, the types of loans and investments that banks can make, and the amount of capital that banks must maintain. Banking laws and regulations

also are designed to prevent insider dealings and fraud by bank management. In addition to establishing a legal framework for banking, governments have established systems for supervising and examining banks. These systems are designed to assure bank compliance with laws and regulations and to prevent banks from engaging in unsound banking practices. Finally, governments have authorized their Central Bank to lend to individual banks experiencing liquidity pressures. By acting as a lender of last resort, the Central Bank can shield illiquid banks from having to sell assets at depressed prices in a disorderly market. In doing so, the Central Bank can prevent bank liquidity problems from turning into insolvencies.

Despite past government efforts to promote banking stability, the banking systems of many developing countries have experienced serious distress during the past decade. Indeed, the distress in some of these countries appears to have reached levels that are unprecedented during the last 50 years. The causes of this distress are numerous. One major factor has been the severe macroeconomic shocks that most developing nations have sustained. In many of these countries, these exogenous shocks have been exacerbated by inappropriate domestic economic policies, particularly large budget deficits and excessive growth of money and credit. The resulting economic dislocations have had serious adverse effects on the profits of many domestic firms, thereby impairing their ability to service their bank debt. As a result, banks in some developing countries now have extremely high levels of nonperforming loans that sometimes exceed 50 percent of their loan portfolio and several times their capital and reserves.

Banks in many countries also have been harmed by various government policies that reduce bank profits. These policies include high reserve requirements on which little or no interest is paid, laws that force banks to

allocate a portion of their lending to firms and sectors of the economy that are unprofitable, and requirements that force the banks to maintain branch offices in areas of the country where banks would not choose to operate voluntarily. Finally, many banks in developing countries have been crippled by incompetent management or managers who have used the bank to further their own interests.

The distressed condition of banks in some developing countries has raised the possibility of widespread bank runs and the collapse of the banking system. In response to this prospect, more than 25 governments in the past decade have intervened to help distressed institutions. The following three cases give a taste of the extent of the distress that had to be confronted and the actions that the government felt compelled to take. <sup>1</sup>

In the early 1980s, the financial system in Chile had widespread insolvencies. As a result, the government in 1981 intervened and liquidated eight insolvent institutions that, in aggregate, held 35 percent of the financial system's total assets. A little over a year later, the government intervened again, placing eight institutions with 45 percent of the system's assets under the management of the Central Bank, and extended financial support to all but one of the remaining commercial banks. As a result of these actions, the Central Bank's holdings of nonperforming commercial bank loans as late as 1988 amounted to nearly 19 percent of the nation's gross national product.

In Colombia, losses of the banking system in the mid 1980s amounted to 140 percent of the system's capital and reserves. As a result, the government was forced to intervene in six banks that held 24 percent of the banking system's total assets.

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<sup>1</sup> World Development Report, 1989, pp. 70-72

In the Philippines 161 smaller institutions holding 3.5 percent of total financial system assets were closed between 1981 and 1987. In addition, the Central Bank was forced to intervene in two large public banks and five private banks. The public banks were liquidated in 1986 and their troubled assets (equal to 30 percent of the banking system's assets) were transferred to a separate agency. The five private banks are still under Central Bank supervision.<sup>2</sup>

It is important to note that governments that have closed insolvent banks have had to decide how the losses contained in these banks should be allocated, particularly whether depositors should absorb some of the losses. In most cases, governments have decided to shield depositors, especially in the case of the failure of government-owned banks and large private banks. The primary reason for protecting depositors appears to have been the fear of a loss of public confidence and widespread bank runs.<sup>3</sup>

In addition to restructuring distressed banks, some developing countries have taken two other actions to restore stability to their banking systems. First, some countries have attempted to strengthen their banking laws and regulations and improve their bank supervision and examination systems. In several cases, these actions were carried out in connection with World Bank

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<sup>2</sup> While governments in some developing countries have responded to distress in their banking systems, governments in other developing countries have not. The principal reasons for this lack of response by some countries appear to be: serious budgetary constraints; an unwillingness to deal with the difficult equity decisions involved in allocating the losses of insolvent banks; a reluctance to acknowledge previous misdirected lending to various public enterprises and political supporters; and fear that government action might spark bank runs. In many cases, this lack of action allowed the situation to worsen over time, in part because managements of insolvent banks pursued high risk ventures in a desperate attempt to return to solvency.

<sup>3</sup> In recent years, government authorities in Argentina, Chile, Colombia, Thailand and Turkey initially closed banks and allowed creditors to incur losses, but then felt compelled to extend assistance to prevent widespread bank runs. See World Development Report, 1989, p. 80.

sector adjustment loans or IMF Technical Assistance Programs. Second, several countries in recent years have established deposit insurance systems. These countries include Chile, Colombia, the Dominican Republic, Kenya, Nigeria, Trinidad and Tobago, and Yugoslavia. These systems appear to have been created to help restore public confidence in the banking system, provide the government with a formal mechanism for dealing with failing banks, and assure that small depositors would be protected in the event of bank failures. In addition to these newly created systems, several developing countries, including Argentina and Turkey, that already had deposit insurance revamped their systems in the light of experience. Moreover, several other developing countries that do not have deposit insurance systems are now in the process of creating such a system (Brazil) or are considering the desirability of establishing a system.

Rather than relying on some form of deposit protection to prevent bank runs, governments could rely entirely on the lender of last resort mechanism to handle bank runs once they are in progress. However, it appears that many developing countries are reluctant to abandon deposit protection and place complete faith in the lender of last resort mechanism to handle a crisis. One reason may be fear that bank runs will take the form of movements from deposits into cash, real assets or foreign exchange, rather than the transfer of deposits within the domestic banking system. In the former case, the runs could have serious adverse macroeconomic effects, including increased inflation from the movement into real assets or downward pressure on the nation's foreign exchange rate from the movement into foreign exchange. Even if the run takes the form of deposit transfers within the domestic banking system, developing countries may not be totally confident in the ability of the lender of last resort to handle these runs effectively.

The recent burst of interest in deposit insurance by developing countries is increasingly causing the World Bank to come to grips with these schemes and their implications for the stability and growth of banking systems. At present, the Bank appears to have a favorable view of deposit insurance systems. Indeed, the creation of such systems has formed a part of several adjustment programs. The International Monetary Fund also has advised a number of developing countries on the creation and operation of these systems. To date, however, there has been very little analytical work done on deposit insurance systems in developing countries at the Bank, the Fund, or elsewhere. Moreover, policy makers could benefit from a review of recent experience with deposit insurance systems in the developing countries.

#### Scope of Research

This study has two basic purposes. The first is to analyze and evaluate the implications and desirability of creating deposit insurance systems in developing countries. In order to do this, it is first necessary to establish an analytical framework. In recent years, a vast literature on deposit insurance has been produced. Most of this work has been done in the United States in response to widespread bank and thrift failures and the massive insolvency of the Federal Savings and Loan Insurance Corporation (the insurer of deposits in thrift institutions). Without explicitly recognizing the fact, this vast literature has employed an analytical framework that compares a deposit insurance system against a system where the government extends no protection to depositors.<sup>4</sup>

We believe that it would be inappropriate to use this analytical framework to

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<sup>4</sup> The most likely reason that American researchers have adopted this analytical framework is that prior to the creation of the deposit insurance systems in the United States in the early 1930s, the government did not intervene to protect depositors.

analyze and evaluate deposit insurance in developing countries. The reason is that developing countries, in fact, typically do intervene to protect depositors in failing bank situations. Consequently, if an analysis and evaluation of deposit insurance is to be relevant and useful, it is necessary to compare these explicit deposit protection systems with the implicit deposit protection schemes that are now widely employed in countries without deposit insurance. As might be expected, the conclusions of this study regarding deposit insurance differ significantly from those that have emerged from the existing deposit insurance literature.

The second objective of this study is to identify the major features of deposit insurance systems, and then review the pros and cons of alternative ways of structuring each major feature. Some of the major features that will be analyzed include the types of financial institutions that should be eligible for deposit insurance; whether the deposit insurance system should be public or private; whether the system should be compulsory or voluntary; the amount of insurance coverage that should be offered depositors; and how the deposit insurance system should be financed.

As part of this study, we have prepared a survey of deposit insurance systems throughout the world, with particular emphasis on those in the developing countries. Appendix A contains a discussion of the major features and performance of a dozen deposit insurance systems in the developing world, as well as the system in Spain, which has recently served as a model for one or more developing countries. Appendix B contains a table of the major features of deposit insurance systems in both the developing and developed world. This table is designed to allow the reader to make a quick comparison of the major features of these systems. The survey updates and considerably expands an earlier survey

done at the International Monetary Fund by Ian McCarthy in 1979. <sup>5</sup> More recently, Charles W. Colomiris has done a survey of pre-FDIC regional deposit insurance systems in the United States. <sup>6</sup> Also, within the context of broader surveys of financial regulation and supervision, R.M. Pecchioli and Richard Dale reviewed deposit insurance systems for O.E.C.D. countries and the Group of Thirty countries. <sup>7</sup>

## II. ANALYSIS AND EVALUATION OF DEPOSIT INSURANCE

As indicated earlier, we believe that the most useful way to analyze and evaluate deposit insurance systems is to compare them with the implicit deposit protection schemes that typically are employed in developing countries without deposit insurance. In order to compare these two systems, it is necessary to specify the major features of implicit and explicit systems. It is important to emphasize that in actual practice implicit and explicit systems do not take the same form in every country. Consequently, it is necessary to generalize their basic features. We believe that these generalizations constitute a satisfactory basis for reaching conclusions regarding the pros and cons of the two systems. Of course, in evaluating the two systems in a given country, policymakers should identify the specific features of the two systems in that country, and then use these features to compare the systems.

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<sup>5</sup> Ian S. McCarthy, "Deposit Insurance: Theory and Practice", International Monetary Fund, Staff Papers, September 1980, pp. 578-600.

<sup>6</sup> Charles W. Colomiris, "Deposit Insurance: Lessons from the Record", Economic Perspective, Federal Reserve Bank of Chicago, May/June 1989, pp 10-30.

<sup>7</sup> R.M. Pecchioli, Prudential Supervision in Banking, 1987, pp. 133-48; and Richard Dale, The Regulation of International Banking, 1987, pp. 141-55.

### Nature of Implicit Deposit Protection Systems

In an implicit deposit protection system (IDPS), government protection of depositors is totally discretionary. The government offers such protection, not because it is obliged to do so by law, but because it believes that such action will achieve certain public policy goals, because it may feel at least partly responsible for the losses that must be absorbed, or because it may consider it to be cheaper in the long run to do so. Moreover, the determination of the amount and form of the protection is based on ad hoc decision making within the government. No preexisting rules and procedures guide the decision making process, although prior actions in similar circumstances may influence the outcome. Any protection offered depositors normally would be financed out of the government's current budget or through the Central Bank.

In an IDPS, the government can extend protection in three basic ways. First, when an insolvent bank is closed, the government can make direct payments to depositors or arrange for the failed bank's deposits to be assumed by another bank. Second, the government could arrange and financially support the merger of a problem bank into another bank. This initiative would prevent the failure of the bank, thereby protecting all depositors. Finally, the government can prevent the failure by rehabilitating the bank. This rehabilitation could take the form of a direct equity capital injection into the bank. Alternatively, the government could acquire some or all of the failing bank's non-performing assets at book value. This transaction would be tantamount to an equity injection, and also would have the advantage of giving the bank a fresh start with a clean portfolio. With both types of rehabilitation, the government is likely to emerge as the dominant shareholder, thereby effectively nationalizing the bank.

### Nature of Deposit Insurance Systems

A deposit insurance system (DIS) is created by the passage of a deposit insurance statute, which sets forth the rules and procedures for the operation of the system. In particular, the act would specify the types of financial institutions and deposits that would be eligible for insurance, whether membership in the system would be voluntary or compulsory, the maximum amount of deposits that would be insured, how the system would be funded, the devices the insurer could employ to resolve failing bank situations, and so forth.

The amount of protection that a DIS extends depositors depends on the maximum insurance coverage specified in the statute and whether the insurer has authority to resolve failing bank situations in ways that extend de facto protection to uninsured depositors. For purposes of this study, we will focus on three basic insurance coverage schemes. These three schemes cover quite well the range of deposit protection incorporated in DISs that already exist. The major features of these three schemes are presented in Table 1, and can be compared with the major features of an IDPS and a system where the government does not intervene in failing bank situations.

Table 1  
Alternative Deposit Protection Schemes

<u>Type of System</u>	<u>Prototype</u>	<u>Nature of Protection Offered</u>		<u>Modality of Operation</u>	
		<u>Small Depositors</u>	<u>Large Depositors</u>	<u>Liquidation</u>	<u>Merger or Rehabilitation</u>
No Intervention	U.S. before 1934	None	None	No	No
Implicit System	Thailand, Malaysia	Discretionary	Discretionary	Possible	Likely
<u>Deposit Insurance System</u>					
Limited Coverage	Austria, France, Germany	Guaranteed	None	Yes	No
100% Coverage	Argentina, 1946-71	Guaranteed	Guaranteed	Possible	likely
Discretionary Coverage	U.S., Spain	Guaranteed	Discretionary	Possible	Likely

The limited coverage scheme is designed primarily to protect small depositors when banks fail. Under this scheme, deposit accounts are insured up to a certain maximum amount. When a bank fails, the insurer is authorized to pay off insured depositors up to the maximum amount, or arrange for all of the failed bank's insured deposits to be transferred to another bank. With a limited coverage scheme, the insurer is not authorized to rehabilitate banks or arrange financially assisted mergers, because to do so would extend de facto protection to uninsured depositors by preventing failures.

The 100 percent coverage scheme is at the other end of the protection continuum. Under this scheme, all deposit accounts are fully insured. The insurer can employ a broad range of devices to resolve failing bank situations, including insured deposit payoffs or transfers, financially assisted mergers, and rehabilitations. It should be noted that 100 percent deposit insurance systems have been widely discussed in public policy circles and in the deposit insurance literature, but in practice have rarely been implemented.

The discretionary coverage scheme lies between limited coverage and 100 percent insurance. In a discretionary coverage system, all deposit accounts are insured up to a certain amount (as with a limited coverage scheme). However, unlike a limited coverage system, the insurer is authorized under certain circumstances to extend de facto coverage to uninsured depositors by using a purchase and assumption transaction to resolve a failure<sup>8</sup>, or by arranging a financially assisted merger or rehabilitation to prevent a failure. The special circumstances that would have to prevail before the insurer could extend de facto

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<sup>8</sup> In a purchase and assumption transaction, the insurer arranges for another bank to assume all of a failing bank's deposits and acquire some or all of the failing bank's assets in return for a cash payment by the insurer. Such a transaction also could be used with 100 percent coverage or in an implicit system.

protection to uninsured depositors would be: (1) the banking system is threatened by a loss of public confidence that might result in widespread bank runs; and (2) the need to protect against bank runs outweighs the erosion of market discipline that extending de facto protection to uninsured depositors would entail. In sum, a discretionary coverage scheme would function like a limited coverage arrangement when the banking system is not threatened, but could be converted into a de facto 100 percent insurance system if a threat is sufficiently serious to justify an erosion of market discipline. It should be noted that, given the instability and banking concentration often found in banking systems in developing countries, a discretionary coverage system might be used frequently to protect uninsured depositors.

While deposit insurance systems can be financed in a variety of ways, by far the most common way is to create a deposit insurance fund and require insured banks to make periodic premium payments to the fund. The government often makes an initial equity capital contribution to the fund to give the DIS some degree of credibility at the beginning. In some DISs, the insurer has authority to borrow from the Central Bank or the Treasury in order to meet its obligations. Also, the government may be authorized to contribute additional equity if the fund's capital should be depleted by losses.

#### Comparison of the Two Systems

The goals of IDPSs and DISs are essentially the same--to promote banking stability and the development of the banking system and to contribute to social justice by protecting small depositors from losses when banks fail. At the same time, there are some important differences in the features of IDPSs and DISs. These differences are presented in Table 2. The identification of these

differences is crucial because they serve as the basis for evaluating the relative effects and desirability of these two alternative deposit protection systems. In the evaluation process, we will focus on the following six areas: (1) the failure resolution process; (2) the problem of moral hazard; (3) the prevention of bank runs; (4) the protection of small depositors; (5) the treatment of banks; and (6) the capacity to absorb large losses.

Table 2

Major Differences Between Implicit Deposit Protection Systems  
and Deposit Insurance Systems

<u>Feature</u>	<u>Implicit Systems</u>	<u>Deposit Insurance Systems</u>
Existence of rules and procedures governing deposit protection	No	Yes
Obligation to protect depositors	No legal obligation; protection is at the discretion of the government.	Legal obligation to protect depositors up to the insurance limit; insurer may have discretion to protect uninsured depositors.
Amount of protection extended to depositors	Can vary from no protection to total protection.	Can vary from limited protection to total protection.
Ex ante funding	None	Typically banks through premium payments; government may provide initial capitalization and possibly regular payments.
Funding in event of bank failure	Government	From fund; shortfalls may be covered by special assessments levied on banks or by loans or additional capital from government.

### The Failure Resolution Process

In handling failing bank situations, IDPSs and DISs have certain similarities and dissimilarities. The two systems are alike in that both can employ the same failure resolution devices -- closing and liquidating failing banks, merging the banks or rehabilitating the banks to prevent their failure. However, as will be discussed below, the two systems are different regarding the administrative process involved in resolving failures.

The administrative process for handling failing banks and protecting depositors should be fast and smooth and produce outcomes that are relatively consistent over time. Based on these criteria, a DIS should produce better results than an IDPS. A DIS should result in faster and smoother resolutions because it operates on the basis of established rules and procedures spelled out in the deposit insurance statute. Moreover, a DIS is prefunded, thereby eliminating the need to determine the funding source for protecting depositors.

In marked contrast, the process of handling failing banks and protecting depositors with an IDPS will not necessarily be fast and smooth, and outcomes are likely to be unpredictable and inconsistent over time. An IDPS does not operate on the basis of predetermined rules and procedures. Rather, the entire process is discretionary and ad hoc, with only previous actions in somewhat similar circumstances serving as a possible guide. Moreover, because an IDPS is not prefunded, the government will have to determine a source of funding. If the source is the government budget, action by both the executive and legislative branches would likely be required. This required action may be slow and constitute a serious problem in a banking crisis when public confidence is eroding at a fast pace. Finally, an IDPS is apt to be subject to considerable

political pressures, thereby making outcomes less predictable and consistent over time.

With an IDPS, however, the government has considerable degrees of freedom regarding the protection of depositors in failing bank situations. First, the government can control the amount of protection offered. At one extreme, the government could extend no protection at all. At the other extreme, the government could fully protect all depositors -- an action that is most likely to be taken in the case of a large, highly visible bank where widespread depositor losses might undermine public confidence in the entire banking system. The government also would have the discretion to protect all depositors up to a certain amount of deposits, thereby assuring that all small depositors are fully protected.

In an IDPS, the government also has discretion to determine the form and timing of the protection offered depositors. For example, the government could pay off depositors of a failed bank in the form of either cash or government securities. Moreover, the total payment to depositors could be made very shortly after a bank failure, or could be in the form of installments stretched out over a considerable period, thereby lowering the present value of the total payment.

In contrast to an IDPS, the rules that govern a DIS tend to constrain in some degree the deposit protection options available to the insurer. For example, since the insurer is legally obligated to protect insured depositors, the insurer does not have the option of walking away from protecting these depositors in individual cases, as can be done by the government with an IDPS. Likewise, with a DIS the insurer typically is required to pay off depositors in cash (rather than using some other types of assets), and the insurer cannot

stretch out payments over time in order to reduce the present value of these payments.

In sum, the various constraints contained in the law governing a DIS can rule out cheaper options, thereby making a DIS a more expensive deposit protection device than an IDPS. On the other hand, in some cases the rules under which a DIS operates may give the insurer greater protection from political pressure to bail out all depositors than the government would have under an IDPS. If so, a DIS could turn out to be a cheaper device.

#### Moral Hazard

The problem of moral hazard arises from the distortion in incentives induced by deposit protection, whether implicit or explicit. The presence of protection affects the behavior of the economic agents involved, particularly their willingness to assume greater risk. Both bankers and depositors may be subject to moral hazard.

If deposit protection is achieved by bailing out banks and their shareholders, shareholders may be subject to moral hazard by their ability to bet on the government's or the insurer's money. In this case, banks can earn higher returns without facing the potential losses associated with higher risk strategies. However, it must be recognized that this danger can be present even without deposit protection because the existence of limited liability introduces an asymmetry in the risk/return trade off. Furthermore, if the deposit protection is structured so that shareholders and managers do not benefit from deposit protection, the introduction of this protection need not increase the moral hazard of bankers.

Depositors also experience moral hazard in that they no longer assume the risk associated with their choice of depository institution. If the investment

decision is made without regard to the financial condition of the institution, the market fails to exert a disciplining effect on banks.

The issue of moral hazard has received a great deal of attention in the deposit insurance literature. While deposit insurance clearly involves moral hazard, the central role given to moral hazard is often overstated. In evaluating the moral hazard associated with deposit insurance, the basis of comparison should be a world with implicit protection and limited liability, both of which already introduce a significant degree of moral hazard. Thus, the relevant measure should be the incremental amount of moral hazard introduced by switching to an explicit deposit protection system, rather than focusing only on the absolute amount of moral hazard associated with a DIS.

Returning to the comparison of DISs and IDPSs, the degree of moral hazard induced by each type of scheme will depend directly on (i) whether protection is extended to bank management and shareholders, and (ii) the feeling of safety imparted to depositors. Because explicit systems operate through a set of established rules, they can (and should) completely eliminate the expectation of managers and shareholders that they will benefit from DIS actions. Because such options are not ruled out in IDPSs, these systems are likely to result in greater moral hazard on the part of bankers.

As to the feeling of safety enjoyed by depositors, this will depend on (i) the level of coverage offered, and (ii) the public's confidence in the protection system. In our view, a DIS is likely to involve somewhat more moral hazard on the part of depositors than an equally credible IDPS. The reason is that a DIS tends to extend more assured deposit protection.<sup>9</sup> With a DIS, some depositors

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<sup>9</sup> A priori, it is not clear whether a DIS or an IDPS would have more credibility.

are given full protection and all depositors have at least some protection. By contrast, with an IDPS, no depositors are guaranteed protection. In the case of a DIS with a high coverage level, the system could involve considerably more moral hazard than an equally credible IDPS.

In conclusion, it is not possible to establish categorically how the conversion from an implicit protection scheme to an explicit scheme would affect the overall amount of moral hazard in the banking system. In general, however, it seems likely that the conversion would result in less moral hazard on the part of the bankers, but more moral hazard on the part of the depositors.

#### Bank Runs

The ability of deposit protection systems to stem bank runs depends on the extent that depositors feel protected from loss in the event of a bank failure. As indicated above, a DIS is likely to extend somewhat more assured deposit protection than an IDPS. Consequently, it follows that a DIS is likely to be somewhat more effective than an IDPS in preventing bank runs. Moreover, the difference in the effectiveness of the two systems would tend to be greater the higher the coverage of the explicit system.

#### Small Depositor Protection

One of the traditional objectives of deposit protection systems is to protect small depositors. Both IDPSs and DISs are potentially capable of protecting small depositors. However, DISs appear to be better designed to accomplish this objective because the protection of small depositors is in the form of a legal obligation, and this legal obligation is backed up by a deposit insurance fund. By contrast, IDPSs involve no legal obligations to protect even small depositors.

### Treatment of Banks

One of the more important differences between an IDPS and a DIS is the treatment of banks. An IDPS confers a subsidy on banks that increases their profits. By contrast, a DIS either could confer a subsidy on banks or impose a tax.

By extending some form of protection to depositors, an IDPS lowers the risk of deposits. This reduction in risk should result in portfolio adjustments by wealth holders that would lower the interest rate on deposits. This reduction in banks' cost of funds should increase bank profits.<sup>10</sup> With an IDPS, the losses incurred from protecting depositors are absorbed entirely by the government (taxpayers) or the Central Bank. Consequently, since banks derive benefits from an IDPS, but shoulder none of the costs, an IDPS confers a subsidy on banks.<sup>11</sup> By contrast, the effect of a DIS on banks is unclear. On the one hand, by protecting depositors, a DIS lowers banks' cost of funds. On the other hand, the costs of protecting depositors, while initially absorbed by the insurer, are ultimately passed on to banks in the form of premium payments.

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<sup>10</sup> Depending on competitive conditions in the banking industry, banks may pass on at least some of these profits to their customers in the form of more favorable prices on banking services.

<sup>11</sup> This conclusion assumes that the government does not make an effort to offset this subsidy in some way--for example, by imposing some form of tax or regulatory requirement on banks that would have the effect of lowering bank profits.

### Capacity to Absorb Losses

One of the key features of a deposit protection system is the ability to absorb losses when banks fail. If a system lacks the resources to absorb losses, bank supervisors may be forced to allow insolvent banks to continue to operate. Experience has shown that the failure to close insolvent banks is apt to compound the problem of banking instability because insolvent banks have an incentive to take high risks in an attempt to return to solvency.

With an IDPS, losses are absorbed either by the national government budget or the Central Bank. Both of these constitute potentially large funding sources, far exceeding the resources of even a well financed DIS. However, national government budgets typically have strong contending demands, and governments may be reluctant to use Central Bank resources because of the inflationary implications. Therefore, the actual capacity of an IDPS to absorb losses may be significantly less than its considerable potential.

With most DISs, losses are absorbed by an insurance fund set up for that purpose. The ability of a DIS to meet its obligations depends primarily on the fund's initial capitalization, the amount of premiums paid into the fund by insured banks over time, the size of the payments made to resolve failing bank situations, and the ability of the fund to borrow or receive additional capital injections when its resources are exhausted.

It is certainly possible for nations to establish financially sound DISs that are capable of dealing effectively with sizable losses. However, the historical record indicates that developing countries typically do not create such systems. Rather, they tend to set up DISs that have relatively little capital and do not have strong government back up support that DISs may need to get through a difficult period. As a result, the systems lack credibility and

are frequently frozen into inaction. The following case illustrates these problems.

Between 1984 and 1988, the DIS in the Philippines had to deal with the failure of approximately 140 banks representing 6 percent of total deposits of the banking system. Because the fund did not have sufficient resources, the insurer had to borrow extensively in order to meet its obligations. In addition, the insurer raised bank assessments, which had the effect of reducing the profits of an already troubled banking system. There is also reason to believe that the insurer, in order to be able to report a positive net worth, did not make adequate provisions for losses incurred in the liquidations.

There is evidence that several of the DISs recently created in developing countries have not been given sound financial structures. For example, when the government of Kenya set up a DIS in 1985, it provided the system with no initial capital. Likewise, when the Nigerian government set up a DIS in 1988, it provided the system with initial capital equal to only about one thousandth of the total assets of the banking system, even though it was known that the banking system contained several insolvent banks. In both Kenya and Nigeria, it will take substantial time for the DIS to build up sufficient resources to be able to handle any significant number of insolvent banks.

There is also much to learn about DISs from the recent deposit insurance crisis involving the Federal Savings and Loan Insurance Corporation in the United States. In the mid 1980s, this insurer of savings and loan associations suffered large losses that depleted the fund. While the insurer had limited authority to borrow from the United States Treasury, this authority was minuscule relative to the resources needed to handle remaining insolvent institutions. Since it was obvious that the insurer could not perform if additional insolvent thrifts

were closed, the supervisor of these institutions allowed these institutions to continue in operation. The management of some of these institutions, recognizing that they would not be closed, proceeded to acquire very high yield/high risk assets in a desperate attempt to return to solvency. As it turned out, many of the bets that these managements placed did not pay off. As a result, by the time that the United States government finally worked out a plan to resolve the deposit insurance crisis, the aggregate losses of insolvent thrifts had ballooned to well over \$100 billion.

#### Summary and Conclusion

In this section, we have analyzed and evaluated DISs relative to IDPSs, which are used in most developing countries that do not have deposit insurance. We argued that a DIS has both advantages and disadvantages compared to an IDPS. First, a DIS constitutes a better administrative process for resolving failing bank situations and protecting depositors. It tends to be faster, smoother and more predictable than an IDPS, and it tends to produce more consistent results over time. The reason is that a DIS operates on the basis of predetermined "rules of the game", whereas decision-making with an IDPS is discretionary and ad hoc. On the other hand, the inherent flexibility contained in an IDPS gives policymakers more degrees of freedom in fashioning deposit protection remedies. Consequently, policymakers should have more control over the amount, form and timing of the protection offered. Second, a DIS is more effective in protecting small depositors because it is, in part, designed to accomplish this result. By contrast, small depositors may not be protected in some cases with an IDPS, particularly in the case of the failure of a small bank. Third, a DIS provides a vehicle for shifting some of the costs of deposit protection to the banking system. This seems appropriate because banks derive benefits from deposit

protection in the form of a lower cost of funds. By contrast, with an IDPS banks derive the benefits of deposit protection, but incur none of the costs. As a result, an IDPS subsidizes banks at the expense of taxpayers.

It is widely argued in the deposit insurance literature that the primary problem with deposit insurance is moral hazard. We do not share this view. While there is no question that deposit insurance involves moral hazard, it is not clear that it involves any more moral hazard than an IDPS, which most countries use in the absence of a formal DIS. It is not the absolute amount of moral hazard that is important, but rather the relative amount.

Instead, we believe that the major problem with DISs, particularly in developing countries, is that they tend to be given weak financial structures. This is an especially serious problem in developing countries because they tend to have unstable banking systems that are likely to produce large losses. Given this situation, we believe that the World Bank should adopt a "go slow" policy regarding the creation of DISs in developing countries. DISs should be considered only in those countries that: (i) have at least a fairly stable banking system; (ii) have an effective prudential regulation and bank supervision system; and (iii) exhibit a willingness to adequately fund a DIS and give it the necessary government back up support that may be required to get the system through a period of stress. In our judgment, there probably are relatively few developing countries that now meet these conditions.

For those countries that do not meet these conditions, the emphasis should be placed on trying to get the banking system under control. In many countries, this would require stabilizing the macroeconomic environment in which banks and business firms have to operate, strengthening the nation's banking laws and bank

supervisory and examination systems, and continuing to rely on an IDPS to protect depositors and restructure banks.

### III. MAJOR FEATURES OF DEPOSIT INSURANCE SYSTEM

While deposit insurance is a relatively simple concept, deposit insurance systems are relatively complex mechanisms. In setting up a deposit insurance system, nations have to make a sizable number of decisions regarding the system's major features. The objective of this section is to identify the major features, review the pros and cons of the alternative ways that each feature could be structured, and offer recommendations regarding the preferred options.

#### Types of Institutions Covered

In some developing countries, only commercial banks are eligible for deposit insurance. In most developing countries, however, the DIS includes at least some non-commercial bank depository institutions, such as savings and loan associations, savings banks, merchant banks, credit unions, and development banks.

The type of institutions that ought to be included in a DIS depends on the purpose of the system in individual countries. If the primary purpose is to protect the payments mechanism, the system logically could be confined to commercial banks and any other depository institutions that issue transaction accounts. However, most nations view a DIS as having broader purposes than just protecting the payments system, including protecting small depositors, promoting savings in the economy and fostering the development of the financial intermediation process. For nations having these broader objectives, it would

seem appropriate to include in the DIS all types of institutions that are authorized to issue deposits to the public.<sup>12</sup>

There are two other reasons for including all types of depository institutions in the system. First, if some depository institutions are not insured and they begin to experience runs, these runs may spill over on to insured institutions. The reason is that during a panic depositors may not carefully distinguish between insured and uninsured institutions. Second, differential access to deposit insurance could confer advantages on various types of competing depository institutions, thereby introducing distortions within the financial sector.

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<sup>12</sup> It is also possible for a country to restrict deposit insurance to one or several types of depository institutions in order to promote their development relative to other institutions. For example, in Paraguay deposit protection was restricted to a narrow set of newly established, deposit-issuing mortgage banks in order to promote mortgage lending.

### Public Versus Private Systems

Existing DISs take a variety of forms with regards to their sponsorship, administration and financing, and cover a broad range from pure public systems to pure private systems. At one end of the continuum (we will arbitrarily call it the "left") are unconditional government guarantee systems that are entirely managed and funded by the national government. The present system in Yugoslavia and the earlier systems in Chile (up to 1986) and Argentina (up to 1979) fall into this category. At the left of center are government-run schemes that are administered by a separate deposit insurance corporation that is funded at least partially by the insured banks. The amount of independence that these corporations have, particularly with regards to the Central Bank, varies from country to country. In the present deposit insurance system in Argentina and the earlier systems in Spain (up to 1980) and Turkey (up to 1983) the insurer is, or was, intricately connected with the Central Bank. By contrast, in the present schemes in India, Kenya, Nigeria, the Philippines, and Turkey (after 1983), the insurer enjoys a greater degree of independence. At the center of the continuum are government-sponsored deposit insurance corporations that are managed by representatives drawn from both the government and the banks. Bank representatives are in the minority in Cuba and Colombia, but in Spain (after 1980), banks have equal representation with the government. These jointly administered insurers are at least partially funded by the banks. Leaning toward the right are schemes that are mandated or encouraged by the government, but are owned, managed and financed by the banks. The system now being developed in Brazil fits into this category, as do the existing systems in France and Germany. At the extreme right are systems (as in Switzerland) that merely involve voluntary private agreements among banks to insure each others' deposits. The

government plays no role in sponsoring and administering such systems and provides no financing.

There seems to be a tendency for more recently established DISs to rely less on government financing and management than earlier schemes. In fact, all countries that have recently reformed their DISs have moved further to the right on the continuum. For example, Spain's DIS was made independent of the government in 1980, Argentina and Chile moved from sole reliance on government funding to a system that is at least partially funded by banks, and bank funding for Turkey's DIS was increased after 1983. The reason for this movement to the right, especially regarding funding, may be that governments have become increasingly unwilling to accept the full burden of potentially unlimited losses.

In general, developing countries rely to a greater extent on government participation in deposit insurance systems than is the case in developed countries. There are several factors that may account for this tendency:

(1) banks in developed countries have the financial strength to absorb the additional cost of deposit insurance assessments and to face potentially high contingent liabilities, whereas these factors could constitute an excessive burden for banks in developing countries;

(2) because banking systems in developing countries are small, banking activity is very interconnected and hence mutual insurance would be unworkable;

(3) bank ownership in developing countries is tilted more toward the government, and it is only reasonable for the government to be directly involved in the insurance of its own banks; and

(4) private management of a DIS would tend to drain the already very limited managerial resources of private banks in many developing countries.

The appropriate public sector-private sector mix for a DIS could vary significantly from country to country, depending on the unique characteristics and capabilities of these countries. In general, however, DISs in developing countries are far more likely to achieve their objective of preserving public confidence, promoting the development of the financial sector, and protecting small deposits if they employ either a public system or a quasi-public system (a system that is jointly managed by government and banking officials, but has some form of government financial backing). Private systems that rely solely on the banking industry for financial support typically should be avoided because they are apt to break down during a banking crisis.

Losses incurred by a deposit insurance system are highly unpredictable and are likely to be large during a period of adversity. These large losses may well exceed the resources of the insurance fund, in which case a capital injection by the sponsors would be needed. A national government, which stands behind a public or quasi-public system, generally would have much greater capacity to provide capital than would the banking industry, which stands behind a private system. During a banking crisis, some banks are likely to suffer an erosion of capital. The need to transfer some of their remaining capital to the deposit insurance fund would further weaken their position. On the other hand, a refusal by some banks to provide capital might result in the insurer being unable to meet its obligations. This inability could produce a loss of confidence in the deposit insurance system and precipitate widespread runs on the banks. In sum, a private system where the banking industry, in effect, insures its own losses is inherently vulnerable and is unlikely to be successful over the long run.

A possible alternative way to design a private deposit insurance system is to have nonbanking organizations provide the insurance. The most likely

provider would be the insurance industry. However, there are a number of reasons for doubting that such an arrangement would be feasible. First, in most developing countries the banking industry is far larger than the insurance industry. As a result, the insurance industry would not have the capacity to underwrite deposit insurance. Second, even if the insurance industry had the capacity, it is not clear that they would want to underwrite deposit insurance because of the risk--bank failures do not tend to be independent events. Third, insurance companies probably would be unwilling to insure deposits unless they could close insolvent banks--authority that the government almost surely would be unwilling to grant.<sup>13</sup> Finally, insurance companies almost surely would want the power to cancel the insurance of individual banks. The act of cancelling insurance, however, is likely to precipitate a large scale run on the bank involved and lead to its failure. It is doubtful that the government would be willing to give a private insurer that degree of control over the fate of individual banks.

#### Compulsory versus Voluntary Systems

DISs can be either compulsory or voluntary. In most developing countries (and a majority of developed countries), banks are required to join the system. The only truly voluntary system in the developing world at present is the one in Argentina. The system now being developed in Brazil will be a mixed compulsory/voluntary system--universal banks will be required to join the system while all other institutions will have the option of joining. In general, voluntary systems tend to be either private systems (as in France, Germany, and

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<sup>13</sup> Closing banks is a long-standing responsibility of the government. Moreover, to avoid losses, the insurer would have an incentive to close banks before they become insolvent.

Switzerland) or systems where the funding has been switched from sole reliance on the government to funding by insured banks (as in Argentina). In the latter case, the system was presumably placed on a voluntary basis to make the switch in funding more palatable. The DIS in Spain is technically a voluntary system, but there is a strong incentive for banks to join the system because membership is a prerequisite for receiving any kind of financing from the Central Bank.

The major arguments in favor of a voluntary system are essentially philosophical and political in nature. Requiring banks to be insured involves a greater degree of government intervention in the financial system than merely providing insurance to banks on a voluntary basis. Also, in some countries where banks are owned by lower levels of government, it may be politically awkward for a national government to compel these banks to join the deposit insurance system. With a voluntary system, potential inter-governmental conflicts regarding membership in the system are avoided.

The major disadvantage of a voluntary system is that it could exacerbate banking instability. The reason is that a voluntary system is likely to produce a two-tiered banking system--one part protected and the other unprotected. During tranquil times, some depositors (presumably larger, more sophisticated depositors) are likely to prefer holding their deposits at unprotected banks in order to obtain the higher deposit rates that these banks would offer to compensate depositors for the greater risk. During a crisis, however, the risk/return preference of these depositors is likely to shift dramatically and result in their transferring deposits from unprotected to protected banks. These deposit shifts could be large and could put a considerable strain on the lender of last resort. If the lender of last resort could not handle the liquidity crisis, unprotected banks could be forced to sell large amounts of assets in a

disorderly market at "fire sale" prices. The resulting erosion of equity capital could produce numerous insolvencies. In sum, a voluntary system is likely to be inherently unstable, producing large scale deposit shifts between protected and unprotected banks, depending on the state of public confidence in the banking system. Protected banks would ride the public confidence cycle anticyclically while unprotected banks would ride it procyclically.

A voluntary system also could produce problems because its membership may be unstable. For example, well regarded banks might choose to withdraw from the system if bank failures rose sharply and large special premium assessments were levied in order to replenish the insurance fund. These withdrawals from the system would tend to throw an even greater financial burden on those less well regarded banks that felt that they could not survive outside the insurance system.

There are several other less serious problems with a voluntary DIS. First, a voluntary system is unlikely to extend protection to all small depositors because at least some banks may stay out of the system. If so, one of the major objectives of a DIS, to protect small depositors, would not be achieved. Second, in initially designing a voluntary DIS and changing some of the features of such a system over time, policy makers would always have to consider the effects of their decisions on membership and the resulting robustness of the DIS. This factor could act as a constraint and force policy makers into trade-offs that could result in a less well designed system. By contrast, a compulsory system introduces no such constraints into the decision making process.

While there appears to be a strong case for having a compulsory DIS, some would argue that in a mixed banking system, government-owned banks should not be compelled to join a DIS. One reason is that government-owned banks do not

need insurance to protect depositors because the government will not allow these banks to fail. Another reason is that the insurer, if owned by the government, in some instances might give government-owned banks better treatment than private banks.

The counterargument is that in a mixed banking system public and private banks must be given parallel treatment in order to maintain competitive equality. Consequently, if private banks are compelled to join the DIS, public banks also should be required to join. If this is not done, both types of banks would end up with some form of deposit protection (private banks through deposit insurance and public banks through likely government bailouts), but only private banks would have to pay for the protection (through insurance premiums).

It is possible that if government-owned banks are included in the DIS, they might receive preferential treatment by a government-owned insurer. However, this argument is weakened by the fact that the government, if it wanted, could favor public banks over private banks through other channels--for example, through more lenient supervisory treatment, favored tax treatment, lower reserve requirements, and so forth.

#### Single versus Multiple Funds

In most countries that have a DIS, one fund is used for all types of institutions included in the insurance program. However, in Germany and the United States different funds are used to insure different types of institutions. In the case of Germany, separate funds exist for commercial and mortgage banks on the one hand, and savings banks and regional giro institutions on the other. In the United States, three different funds are employed for, respectively, commercial banks, savings institutions and credit unions.

One argument for setting up separate funds is that different types of institutions may have different risk profiles. Consequently, in order to avoid having relatively low risk institutions cross-subsidizing relatively high risk institutions, it is necessary to set up separate funds for each class of institution. However, setting up multiple funds goes against the grain of insurance, which is premised on the concept of risk diversification. Indeed, a scheme devoted exclusively to institutions that are exposed to the same types of risks is particularly susceptible to exogenous shocks. Thus, the fragmentation of DISs is to be avoided.

The problem of potential cross-subsidization in a single fund could be handled in either of two ways: (i) by charging differential insurance premiums based on an institution's overall risk profile; or (ii) by implementing differential capital requirements that bring the overall risk profile of different institutions into balance.

#### Amount of Insurance Coverage

The amount of insurance protection extended to individual depositors is an important feature of a DIS. Indeed, it probably has more to do with the basic character and the ultimate effects of the system than any other feature. As discussed earlier, insurance protection can take the form of de jure protection -- the amount of protection that the insurer is legally obligated to extend to depositors in the event of a bank failure -- and de facto protection -- the protection that the insurer effectively extends to uninsured depositors by resolving a failure in a way that protects all depositors from losses.

As shown in Table 3, the maximum amount of de jure protection offered depositors varies widely from country to country. Yugoslavia and Norway currently grant unlimited protection -- that is, they employ a 100 percent

insurance system. For those countries that set a ceiling, the ceiling is generally much higher for developed countries than for developing countries, reflecting in part the higher average deposit balances in the developed countries.

In several countries there are certain caveats that apply to the stated amount of insurance protection that expand or contract actual coverage. In Argentina (after 1979) and in Chile (under that country's complementary scheme where depositors voluntarily could purchase insurance above the limit), deposits are partially covered above the ceiling--90 percent in Argentina and 75 percent in Chile. In other systems, including Argentina's and the proposed system in Brazil, the ceiling is indexed so that coverage will increase with inflation. In most other countries, the ceiling is modified from time to time to reflect changes in the price level, the financial status of the insurance fund, and/or the country's policy goals. In Belgium, the amount of coverage can be reduced if the insurance fund is not large enough to satisfy all claims. Finally, the United Kingdom has employed the concept of co-insurance by insuring only 75 percent of the deposit balance. With this system, therefore, there is always some risk sharing between depositors and the insurer, thereby instilling a considerable degree of market discipline into the banking system.

In a majority of DISs in the developing countries, the insurer has authority to prevent a failure by rehabilitating a troubled bank or arranging for a financially assisted merger. This authority gives insurers in these countries the power to extend de facto protection to uninsured depositors, at least under certain circumstances.

Table 3

Maximum Coverage per Depositor

Country	Year	Local Currency Value	US\$ Value	1988 US\$ Value
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Argentina	1988	A 81,000	8,416	8,416
Austria	1986	AS 200,000	13,100	14,116
Belgium	1985	BF 500,000	8,421	9,248
Brazil	1988	OTN 3,500	16,500	17,780
Canada	1986	C\$ 60,000	43,181	46,530
Chile	1977	t.u. 100	1,000	1,949
Chile (comp.)	1981	t.u. 250	5,061	6,576
Colombia	1988	Col\$ 200,000	668	668
France	1985	FF 400,000	44,518	63,829
India	1980	Rs. 30,000	3,815	5,470
Japan	1986	Y 10,000,000	59,340	63,942
Kenya	1985	Kshs. 100,000	6,086	6,684
Netherlands	1986	Fl 35,000	14,286	15,394
Nigeria	1988	N 50,000	10,860	10,860
Norway		unlimited		unlimited
Philippines	1988	P 40,000	1,896	1,896
Spain	1981	ptas1,500,000	16,248	21,111
Switzerland	1984	SF 30,000	12,768	14,521
Turkey	1983	TL 3,000,000	13,306	15,779
UK	1982	pds. 10,000	17,505	21,424
US	1980	US\$ 100,000	100,000	143,379
Yugoslavia		unlimited		unlimited

## NOTES:

The year listed is the latest year that the ceiling was modified (to the amount specified in the first column). This amount was converted to US dollars using the average exchange rate for that year. Finally, this was reflatd to 1988 dollars using the US CPI. Thus, the last column specifies the 1988 dollar value of the coverage ceiling at the last time it was changed, and not the dollar value of the ceiling in effect in 1988. Thus, if one takes the US as an example, the ceiling was set in 1980 to what would now be \$143,379. Since then, the value of the ceiling has depreciated by 30%. The source for exchange rates and the CPI is the IMF's International Financial Statistics.

### Policy Implications of Alternative Schemes

For purposes of analyzing the policy implications of different coverage schemes, we will return to the three coverage arrangements reviewed earlier in the study--limited coverage, 100 percent insurance, and discretionary coverage. Most of the coverage schemes actually being used by developing and developed countries closely parallel one of these three arrangements.

A limited coverage scheme would fully protect small depositors because the coverage limit is expressly set to accomplish this result. However, limited coverage would give the banking system only partial protection against contagious bank runs because some depositors would not be fully insured and would have an incentive to start a run on banks perceived to be in trouble. Moreover, these large depositors are likely to be the most sophisticated and best informed depositors.

While limited coverage gives the banking system only partial protection against runs, it preserves a considerable degree of market discipline by depositors, thereby helping to constrain bank risk-taking. When banks fail and insurance coverage is limited, those depositors who are not fully protected become general creditors in the receivership. As general creditors, they will presumably sustain at least some loss, with the amount of the loss depending on the liquidation value of the assets in the receivership.

Limited coverage results in two types of inequities. First, small depositors obviously receive preferential treatment compared to large depositors. Secondly, some banks benefit from limited coverage more than others, depending on the percentage of their total deposits that are insured. Since insurance lowers the risk of deposits, the cost of insured deposits should be lower than for uninsured deposits, other things being equal. Consequently, banks with a

high percentage of deposits that are insured would tend to have a lower cost of funds than banks with a low percentage. This funding advantage, however, could be offset if banks were required to pay insurance premiums based on the amount of their insured deposits, and the premium rate were set at a level equal to the cost of funds savings.

With 100 percent insurance, all depositors, both small and large, would be fully protected against loss. Moreover, full coverage would offer the banking system a high level of protection against contagious bank runs because depositors would have no incentive to start a run, so long as they retained faith in the ability of the insurer to meet its obligations when banks failed. On the other hand, 100 percent insurance would eliminate market discipline because all depositors would be fully protected. As a result of this loss of market discipline, banks would tend to take greater risks than they would with limited coverage or in the absence of deposit insurance.

A 100 percent insurance system would have no inequitable effects. All depositors and all banks would be treated equally because all deposits would be insured. No bank would gain a cost of funds advantage over another.

Like the other two forms of deposit insurance, the discretionary coverage system would fully protect small depositors. In addition, it would offer the banking system substantial protection against runs because the insurer could protect all depositors in a time of crisis. This protection, however, would not be as complete as with 100 percent insurance because the insurer might fail to recognize an emerging crisis and fail to extend the protection needed to preserve public confidence.

The discretionary coverage arrangement would have an adverse effect on market discipline that would lie somewhere between the other two coverage

schemes. Small depositors would be totally protected and, therefore, would have no incentive to discipline banks. However, these depositors typically do not have sufficient knowledge to evaluate effectively the financial condition of individual banks. Consequently, the loss of market discipline from fully protecting these depositors would not be great. A more serious loss would result from extending potential protection to knowledgeable large depositors.

Discretionary coverage would produce inequities in the case of both depositors and banks. Small depositors would be protected in all failures, whereas large depositors would be protected only if a failure threatened the stability of the banking system. Extension of de facto protection would be more likely with large failing banks than with small failing banks. This would favor depositors in large banks and would tend to give large banks a cost of funds advantage over small banks in the market for large deposits.

In weighing the pros and cons of the three alternative coverage arrangements, policy makers should consider two important factors not previously discussed. The first is the extent that stepped up bank supervision could be substituted for the erosion of market discipline from extensive or full insurance coverage. For example, it is conceivable that supervisors could fully offset the erosion of market discipline by imposing higher capital standards for banks or by subjecting bank lending and investment practices to more stringent review. Unfortunately, however, the quality of bank supervision in developing countries (as measured by the thoroughness of the supervisory process and the willingness of supervisory authorities to take strong action) varies considerably from country to country, and in some countries it may be difficult to offset the loss of market discipline by stepped up bank supervision.

It is also possible that the loss of market discipline could be offset by imposing risk-adjusted insurance premiums. Such premiums would act as a disincentive for banks to take undue risks. However, as will be discussed later, there are major practical problems with implementing risk-adjusted premiums. Consequently, this method for offsetting the loss of market discipline may not be feasible.

The second consideration relates to bank runs and the lender of last resort. In recent years, a number of scholars, particularly in the United States, have argued that deposit insurance is not needed to prevent bank runs because an effective lender of last resort can handle such runs if they occur.<sup>14</sup> This view is based on the assumption that bank runs take the form of deposit transfers from weak banks to strong banks. These deposit transfers would result in no change in aggregate bank reserves and, therefore, would not produce a change in the money supply or interest rates. Consequently, the only action that the lender of last resort (presumably the Central Bank) has to take is to lend to any weak banks that become illiquid, and offset the resulting increase in bank reserves through open market sales or an increase in reserve requirements.

The problem with this argument is that things may not work out as smoothly as assumed. First, the bank run may take the form of a flight to currency, rather than deposit transfers. If so, aggregate bank reserves would be reduced, and it would be up to the Central Bank to offset this loss promptly and effectively, or run the risk of a sharp decline in the money supply and the

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<sup>14</sup> For example, see Anna J. Schwartz, Financial Stability and the Federal Safety Net, American Enterprise Institute for Public Policy Research, November 1987, and George J. Benston and George G. Kaufman, Risk and Solvency Regulation of Depository Institutions: Past Policies and Current Options, American Enterprise Institute for Public Policy Research, November, 1987.

level of economic activity. Second, weak banks that experience large scale deposit withdrawals would have to borrow extensively from the Central Bank and might run out of collateral that is acceptable to the Central Bank before the run ceases.

### Conclusion

As discussed earlier, the decision regarding the amount of insurance coverage is a crucial factor in constructing a DIS. The appropriate coverage arrangement depends on a number of institutional and policy considerations, and these considerations could vary significantly from one developing country to another. Of the three coverage arrangements considered in this study, we believe that one -- 100 percent insurance -- should be avoided because it involves an untenable amount of moral hazard. This factor is undoubtedly the reason that almost all nations that have created DISs have opted for less than full deposit coverage. The real choice, therefore, is between limited coverage and discretionary coverage. The advantage of a discretionary system is that, if a contagious bank run begins, the nation has an institutional mechanism already in place to stem the bank run, assuming that the DIS has adequate financial resources to stem the run. With a limited coverage system, this mechanism is not in place. Consequently, a nation would have to resort to either of two alternatives: (1) try to stop the run by quickly implementing an implicit protection system that would protect uninsured depositors; or (2) continue to expose uninsured depositors to potential losses and rely on the lender of last resort mechanism to handle the run, irrespective of the size or form of the run.

### Types of Deposits Covered

In addition to determining the amount of insurance coverage to extend to depositors, a nation must decide what types of deposits should be included and excluded from coverage. In many existing deposit insurance systems, some or all of the following types of deposits are excluded from coverage: foreign deposits of domestic banks; domestic deposits of foreign banks; interbank deposits; and deposits denominated in foreign currencies.

The four types of deposits listed above are usually large deposits. Consequently, with coverage schemes that limit coverage to relatively small deposit amounts, it does not make much difference whether these types of deposits are included or excluded from coverage.

#### Foreign Deposits of Domestic Banks

The major reason for covering the foreign deposits of domestic banks is that these deposits are as susceptible to a run as deposits held in domestic offices. Since one of the objectives of deposit insurance is to prevent bank runs, the exclusion of foreign deposits would run counter to the purpose of the system.

There are several arguments for excluding foreign deposits from coverage. First, such deposits basically are not part of the domestic banking system, the domestic money supply or domestic savings. Second, a higher percentage of these foreign deposits are likely to be held by non-residents than in the case of domestic deposits. Consequently, the government may be less concerned about protecting these deposits than domestic deposits. Third, it is possible that foreign deposits of domestic banks may be insured by the host country. If so, insuring these foreign deposits would result in double coverage, and some

arrangement obviously would have to be worked out to avoid paying off depositors twice in the event of a bank failure.

In most developing countries, the weight of the considerations probably would favor not insuring the foreign deposits of domestic banks. The major factor is that these deposits are not part of the nation's banking and monetary system.

#### Domestic Deposits of Foreign Banks

The major reason for insuring the domestic deposits of foreign banks is that they are part of the domestic banking and monetary system -- a significant part in some developing countries. Also, by establishing the same ground rules for domestic and foreign banks, the efficiency of the banking system may be enhanced. Finally, in those countries where foreign banks conduct an active retail business, the exclusion of their deposits from coverage would result in some small depositors in the country not being insured.

The main argument against insuring the domestic deposits of foreign banks stems from the general proposition that deposit insurance should be extended only to banks that can be examined by the nation's supervisory authorities. In many cases, foreign banks are represented in a developing country by a branch. In this case, the developing country is faced with a difficult situation because it makes no sense to examine the domestic branch of a foreign bank. Typically, this branch would constitute only a small part of the foreign bank's total operations, and would have little effect on the bank's overall financial condition. This situation leaves the developing country with three choices: insure the branch without the benefit of detailed knowledge of the foreign bank's condition; exclude the branch from insurance coverage; or require all foreign banks to operate in the country through separately incorporated domestic banks

that can be effectively examined and evaluated. The problem with requiring a foreign banking organization to set up a domestic bank is that this bank probably would be more susceptible to failure than would a foreign bank with a domestic branch. The reason is that the domestic bank would be less diversified and may have to operate in a less stable economic environment. The offset to this argument, however, is that the foreign banking organization might support its domestic bank if it ran into trouble in order to preserve the foreign organization's reputation.

If a foreign bank is represented in a developing country by a branch, there is also the problem of double coverage if these deposits are insured in the foreign bank's own country. This potential problem could be resolved by excluding domestic deposits of foreign banks from coverage where such double coverage exists.

The balance of the considerations seems to favor insuring the domestic deposits of foreign banks, primarily because these deposits constitute part of the domestic banking and monetary system. Most nations with deposit insurance systems do insure these deposits.

#### Interbank Deposits

The rationale for excluding interbank deposits from coverage is that banks are likely to be particularly well informed regarding the financial condition and operations of other banks. Consequently, these banks constitute the best potential source of market discipline, and by excluding interbank deposits from coverage, this market discipline is retained.

There are two arguments against excluding interbank deposits. First, it significantly increases the likelihood of bank runs because the best informed depositors in the nation would be unprotected. Second, if interbank deposits

are not covered and a bank fails, those banks that still had deposits in the failing bank would sustain losses. These losses would weaken these banks and, depending on the size of the deposits, could cause them to fail. Given the goal of deposit insurance to promote banking stability, this result seems counterproductive and could increase the total cost to the insurer.

At present, a slight majority of developing countries exclude interbank deposits from coverage. Among the developed countries, a somewhat greater majority exclude such deposits. On balance, we believe that it is better to include interbank deposits.

#### Deposits Denominated in a Foreign Currency

In some countries, the deposit insurance system does not cover the deposits of insured banks that are denominated in a foreign currency. One reason is that these deposits are not viewed as part of the domestic money supply. Consequently, it is perceived that they need not be insured to protect the payments mechanism. Another reason particularly applicable to developing countries is that the insurer might not be able to acquire needed foreign exchange in order to pay off holders of foreign currency deposits. In that event, the holders of foreign currency deposits would force the insurer into bankruptcy for failing to honor its obligations.

One way to handle the problem of a possible deficiency of foreign exchange is to give the insurer legal authority to pay off foreign currency deposits in local currency at the existing exchange rate. This procedure would allow the deposit insurance system to insure deposits denominated in foreign currencies safely. The problem with this solution is that the existing exchange rate in the nation may not be realistic and could result in the foreign currency holders suffering substantial losses.

### Financing Deposit Insurance

There are two major questions that must be resolved relating to the financing of deposit insurance. First, who should bear the costs of deposit insurance--that is, when depositors are protected from loss, who should absorb these losses? And second, how should the financing of deposit insurance be arranged? Should an insurance fund be set up and, if so, how large should the fund be?

#### Allocating the Costs

In most existing deposit insurance systems, the costs of protection are absorbed ultimately by insured banks in the form of required premium payments into the insurance fund. The primary rationale for allocating the costs of deposit insurance to the banks is that they are the direct beneficiaries of the system. Deposit insurance lowers the risk of deposits and results in a decrease in banks' cost of funds. Some observers also would argue that banks should absorb the costs because banks produce the losses that must be covered.

However, there are two problems with requiring banks ultimately to absorb all of the costs of deposit insurance. First, the deposit insurance system may experience very large losses during a banking crisis. If so, the costs passed on to the banks may seriously erode their capital and push some of them into insolvency. Second, the benefits accruing to banks from insurance may bear no close relationship to the costs. If the costs exceed the benefits, the deposit insurance system, in effect, would be imposing a "tax" on the banks.

In some deposit insurance systems, the government, in one form or another, shares some of the cost burdens with the banks. For example, in India, Nigeria and the Philippines, the government made an initial capital contribution to the deposit insurance fund that could help to absorb possible future losses. Using

a different approach, the government in Spain shares the cost burdens by making regular contributions to the insurance fund that match the aggregate contributions provided by the banking sector.

There are also a small number of deposit insurance systems (Yugoslavia is a good example) where the costs of the system are absorbed entirely by the government, thereby conferring a subsidy on banks.

From a risk standpoint, deposit insurance increases the attractiveness of banking versus non-banking investments. In an extreme case, deposit insurance may be seen as impeding the development of capital markets by favoring insured debt over uninsured debt and equity. On the other hand, if deposit insurance is priced so as to compensate for the reduction in risk, this bias is eliminated. Therefore, the degree to which a bias is introduced depends on: (i) the degree of substitutability or segmentation of such markets; and (ii) whether deposit insurance in specific cases involves a tax or subsidy for the banking system and whether such tax or subsidy is passed on to depositors.

#### Should a Fund be Established?

There are two basic ways that deposit insurance is financed through bank contributions. The first is to set up a fund and require banks to make periodic premium payments into the fund. The other is to levy ex post premium assessments on banks. Most deposit insurance systems have used the fund approach, and this appears to be the better alternative.

One advantage of creating a fund is that it tends to promote depositor confidence because there is something tangible for insured depositors to look to for protection. Another advantage is that a fund is built up over time, and this has the important effect of spreading out the costs to banks over time.

Probably the major advantage of ex post assessments is that they avoid the very difficult problem of determining the appropriate size of the fund. With ex post assessments, there is no guess work--the assessment is whatever is required to pay off insured depositors of a failed bank. Also, the ex post assessment approach avoids placing a burden on banks if, in fact, no bank failures occur.

On the other hand, ex post assessments have several major disadvantages that are responsible for their infrequent use. Most important, ex post assessments concentrate costs rather than spreading them out over time. Moreover, because bank failures tend to occur during periods of adversity, the concentration of costs comes at the worst time. Another problem is that the bank that fails and causes the assessment to be levied is the only bank that escapes the assessment. This result is obviously inequitable, especially in those developing countries where there are only a few banks to carry the burden. A third problem is that ex post assessments are likely to prove unworkable if the deposit insurance system is placed on a voluntary basis. During a period of adversity when failures are likely to occur, well regarded banks would have an incentive to drop out of the system in order to avoid assessments. As more banks left the system, the potential burden of paying the assessments would fall disproportionately on the remaining banks in the system, thereby increasing their incentive to drop out. The end result could be the collapse of the deposit insurance system, just at the time that the system is most needed.

#### Size of the Fund

It is extremely difficult to determine the appropriate size of a deposit insurance fund because it is very hard to predict the number and the size of banks that will fail over a given period, or the extent that they will be

insolvent. About all that policymakers can do is use their best judgment and allow for a wide margin of error.

Traditionally, policymakers have used the ratio of capital and reserves to insured deposits as their measure to judge the adequacy of the fund. There is considerable variation in the capital ratios of deposit insurance systems in existence. Logically, this variation should reflect differences in the financial condition of banks in the system and their concentration of risks. However, it is apparent that other factors are at work, probably including differences in the capability of individual nations to fund their systems.

While there are many ways to arrange the funding of a deposit insurance system, the following would be a reasonable approach. First, an initial capital contribution should be made to the fund, probably by the government. This contribution should place the capital ratio at a level that would give the fund initial credibility in the eyes of depositors. Also, the contribution should be sufficient to handle failures that might occur in a period of adversity during the system's first several years in operation.

In addition to setting an initial capital ratio, authorities should establish a range above this initial level in which the capital ratio would be allowed to fluctuate. Given the great uncertainty regarding future losses, it would be advisable to set a fairly wide range, thereby allowing the ratio to rise to a relatively high level before taking any action to prevent any further rise.

The "achilles heel" of a deposit insurance system is catastrophic losses -- huge losses that cause the system to become illiquid and/or insolvent. If a system becomes illiquid and the insurer cannot pay off depositors of failed banks, depositors of other banks will lose confidence in the system and may start bank runs. Alternatively, primary supervisors of banks, knowing that the insurer

would not be able to pay off depositors if they closed insolvent banks, might allow these banks to remain in operation. This is a very dangerous action because the management of an insolvent bank has a strong incentive to take high risks in order to obtain large returns that might restore the bank to solvency. If these gambles turn out badly, the losses that the insurer will sustain when the bank is eventually closed will be even greater.

Catastrophic losses also may cause the insurer to become technically insolvent. It is possible for an insurer to operate with a negative net worth if it has adequate funding sources so that it can continue to meet its obligations. However, operating with a negative net worth always runs the risk of a loss of depositor confidence--a loss that might occur suddenly as the result of some development.

It is the prospect of catastrophic losses that requires that the government play at least a backup role in financing a deposit insurance system. First, the insurer should have the authority to borrow from the Treasury or the Central Bank in order to be able to honor its obligations. This borrowing authority would allow supervisors to close insolvent banks without concern that their action might produce a crisis for the insurer, as well as the banking system. Second, the government should be authorized to inject additional capital into the insurer in order to preserve depositor confidence in the system and to move the capital ratio back into the target range if losses should push the ratio below the range.

#### Premium Assessment Policy

As indicated earlier, most countries place the cost burden of deposit insurance largely or entirely on the banking system in the form of periodic premium payments (and initial capital contributions in several countries such as Colombia and Japan). The following questions involving premium assessment

policy must be addressed: (1) what should be the assessment base; (2) should the assessment rate vary depending on the riskiness of individual insured banks; and (3) what should be the level of the assessment rate?

#### Assessment Base

The two measures that are the best candidates to be used as the assessment base are insured deposits and total deposits. Both measures have been used, with insured deposits now being employed in a substantial majority of deposit insurance systems.<sup>15</sup>

The major reason for using insured deposits as the assessment base is that it seems fair--the assessment base should be the same as the amount of protection being extended to depositors. By contrast, using total deposits as the assessment base does not seem fair because in many cases the assessment base would exceed (perhaps by a wide margin) the amount of protection.<sup>16</sup> The use of total deposits would result in inequitable treatment of banks because some banks would have higher insured deposits to total deposits ratios than others and, therefore, would receive more protection relative to their assessment base.

The major reason for using total deposits is that banks always know the amount of their total deposits. Consequently, they can readily determine and report their assessment base. By contrast, banks find it difficult and costly to determine the amount of their insured deposits because they may have to

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<sup>15</sup> Those systems that do not use insured deposits include the United States, Colombia, and Germany (which use total deposits), and Norway (total assets).

<sup>16</sup> This argument against using total deposits as the assessment base may not apply if the deposit insurance system employs discretionary coverage and failures are frequently resolved in a way that protects all depositors, insured and uninsured alike.

combine the accounts of individual depositors having more than one account at the bank.

It is important to note that a deposit insurance system should never select total deposits as the assessment base solely because it is larger than insured deposits and would result in more premium income. The reason is that the choice of a smaller assessment base can be easily offset by using a larger assessment rate.

#### Fixed versus Variable Rates

The assessment rate applied to the assessment base could be the same for all banks irrespective of a bank's financial condition, or could be made to depend on the bank's overall risk. This variable rate approach would mimic the way premium rates are typically set in the private sector--the greater the insurer's risk exposure, the higher the premium.

From a policy perspective, a good case can be made for implementing a variable premium rate structure. The major reason is that a variable rate system imposes costs on banks for taking risks, and hence creates an incentive for banks to limit their risk exposure. This result is particularly desirable because it offsets, at least in some degree, the erosion of market discipline that deposit insurance produces. A variable rate system also results in more equitable treatment of insured banks. It does not seem fair that low-risk banks should have to pay the same assessment rate as high-risk banks when the latter represent a greater threat to the deposit insurance fund.

The major problem with variable rates is that they must be based on some measure of overall bank risk. As policymakers are generally aware, the measurement of overall bank risk is very complex and very difficult. First, there are many forms of bank risk and some of these forms, particularly credit

risk and fraud risk, are very difficult to quantify on an ex ante basis. Second, even if each form of bank risk could be measured reasonably effectively, it would be difficult to weight these various risks in order to establish some sort of schedule of variable rates. It also should be noted that the types of risks to which banks are exposed tend to shift in importance over time.

In sum, the measurement problems associated with establishing a variable rate system, though not insurmountable, are nevertheless considerable. This fact undoubtedly explains why virtually no deposit insurance systems employ variable rates, even though there are good reasons for doing so on policy grounds.<sup>17</sup>

Beyond the measurement problems, the use of variable rates also tends to have a perverse effect on banking stability by increasing premium rates on those banks that get into trouble. Such premium increases would reduce the earnings of these banks, thereby eroding their capital at the worst possible time.

Finally, it should be noted that the shortcomings of fixed premium rates could be reduced by varying the amount of capital that banks are required to hold in order to bring the overall risk profile of banks into greater balance than would otherwise be the case. However, adjusting the capital of banks on a risk basis involves the same measurement problems as adjusting insurance premiums on a risk basis.

#### Level of Assessment Rate

As discussed earlier, one way to structure the financing of a deposit insurance system is to set a target range for the fund's capital ratio (capital plus reserves to insured deposits), and then maintain the fund's actual capital ratio within that range over time. Other than a capital injection, there are

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<sup>17</sup> While not a risk-adjusted premium rate scheme, Argentina offers banks a 10 percent premium refund if a bank complies with all regulations throughout the year.

four major cash flows that affect the actual capital ratio--premium payments, investment income, claims payments and administrative expenses. Of these four cash flows, the insurer has substantial control over only one--premium payments. Once the assessment base has been chosen, premium income is controlled over time by varying the assessment rate.

In order to keep the fund's actual capital ratio within the target range, the insurer could change the assessment rate periodically. Alternatively, the insurer could make premium rebates to banks when the actual ratio moves above the upper end of the target range, or require banks to make special assessment payments when the ratio moves below the lower end of the target range. As discussed earlier, catastrophic losses that wipe out the fund or seriously impair public confidence in the fund must be handled through a capital injection by the government, not through large scale special assessments on banks that could seriously erode their capital and force some banks into technical insolvency.

In some existing deposit insurance systems, the amount of the regular assessment is modified according to the size of the insurance fund. In Cuba, for example, a certain peso amount was targeted for the fund, and assessment rates depend on the deviation of the actual size of the fund from the target figure. Consequently, the size of the assessment is directly related to the losses that the fund sustains. The German scheme for savings banks and the Norwegian scheme differ from the Cuban scheme only in that the target for the fund is expressed as a percentage of outstanding claims of the institutions, rather than an absolute amount. In Spain prior to 1980, assessments could be varied entirely at the discretion of the insurer. In this case, the connection between the size of the fund and the level of the assessment becomes more tenuous. Likewise, in some countries assessments can be increased, depending

on need. For example, the German scheme for commercial banks envisions the doubling of the assessment rate under specific circumstances. In still other countries, the size of the fund does not affect the level of assessments directly, but may make banks eligible for a rebate of their past assessments. In Belgium, unused contributions are refunded after ten years. The Colombian scheme envisions rebates when the size of the fund permits them. A somewhat different rebate program is used in the Philippines, where 60% of the net income of the system (after paying claims and expenses) is rebated yearly.

Figure 1 displays in graphical form the assessment rates charged banks in various countries. As indicated, most deposit insurance systems charge up to 0.15% of deposits, but some charge higher rates. At 0.94%, Nigeria has the highest assessment rate among the compulsory systems. Chile's voluntary complementary scheme charges an even higher 1.2% rate, and this high rate partially explains why this complementary scheme never really developed. It is clear that the rates in developed countries on the whole are lower than those in many developing countries, undoubtedly reflecting the sounder condition of banking systems in developed countries.

In a few cases, such as in Colombia and Japan, banks were required to make initial capital contributions to the fund, in addition to making subsequent assessment payments. In the case of Colombia, capital contributions were expressed as a fraction of bank reserves and was compensated by an equal reduction in the reserve requirement. However, such initial capital contributions do not seem to be popular. The more common alternative is for the fund to borrow heavily in its earlier stages when it is insufficiently capitalized, and then repay these debts and accumulate capital over time from higher regular bank assessments than would otherwise be the case.

**Figure 1****Survey of Costs of Deposit Insurance to Banks**

<b>Yearly Bank Assessment Rate (%)</b>	
1.20	<b>Chile (Complementary)</b>
1.10	
0.94	<b>Nigeria</b>
0.90	
0.70	
0.50	
0.40	
0.36	<b>Argentina (w/o refund)</b>
0.35	
0.32	<b>Argentina (w/ refund)</b>
0.30	<b>Turkey, Colombia</b>
0.25	
0.20	
0.15	<b>Norway</b>
0.12	<b>Spain</b>
0.10	<b>Canada, Kenya</b>
0.09	<b>Philippines</b>
0.08	<b>United States</b>
0.05	<b>India</b>
0.03	<b>Germany</b>
0.02	<b>Belgium</b>
0.008	<b>Japan</b>

**NOTE:**

Deposit base may differ among countries.  
 These figures reflect the latest available data.  
 Countries that levy ex-post assessments are excluded.

### Conclusion

As indicated in this section, there are a variety of arrangements being used to finance deposit insurance in developing and developed countries. In general, most schemes place all or most of the cost burden on the banks, probably in recognition of the benefits that banks derive from deposit insurance. The major problem with this procedure is that banks may be required to absorb losses during a crisis that are far beyond their capacity to sustain them

One alternative way to structure the financing of deposit insurance is to require banks to pay premiums that equal the benefits (primarily in the form of a lower cost of funds) that banks derive from deposit insurance. Such a system would shield banks from potentially destabilizing assessments during a crisis. It also would avoid conferring a net tax or subsidy on banks on account of deposit insurance.

While appealing in theory, this proposal would be difficult to implement because it would require the quantification of the benefits that banks derive from deposit insurance. In a voluntary system, the willingness of banks to join the system under different pricing arrangements would provide information regarding the benefits as perceived by the banks. However, no such signals would emanate from a compulsory system, and, as discussed earlier, a deposit insurance system probably must be compulsory in order to be successful over the long run.

### Investment Policy

For those DISs that involve the creation of a fund, it is necessary to decide what types of assets should be held by the insurer. In making this decision, the following considerations seem particularly important:

(i) In order to preserve the principal of the fund, the fund should invest in assets that have relatively little risk (including credit risk, interest rate risk and foreign exchange risk).

(ii) The fund should invest in assets that are relatively liquid. One reason is to assure that the insurer can sell the assets promptly in order to meet its obligation to protect depositors.

(iii) The fund should avoid getting involved in the allocation of credit among competing interests in the private sector.

(iv) The sale of the assets should not have large monetary implications, or should be appropriately sterilized by the Central Bank.

The types of assets that seem to meet these requirements the best are short-term government securities and foreign exchange (either in the form of short-term foreign bank accounts or short-term foreign government securities). As will be shown, neither of these assets are likely to fully meet the four considerations listed above. Moreover, the choice between the two assets involves policy trade offs, and the preferred alternative could depend on circumstances.

The acquisition of short-term government securities normally would involve little risk and would avoid getting the insurer involved in allocating funds in the private sector. However, in many developing countries government security markets are relatively thin. Consequently, the sale by the insurer of a large amount of short-term governments in the market could severely depress their price, thereby inflicting large losses on the insurer and disrupting local security markets. In order to avoid this result, the insurer might want to sell the government securities to the Central Bank. However, this transaction, unlike the sale of securities to the public, would not reduce the domestic money supply.

Consequently, when the insurer made a cash payment to the public in handling a failing bank, there would be a net increase in the domestic money supply. If the Central Bank possesses effective instruments of monetary control and works in coordination with the insurer, it would be possible to offset this increase in the money supply. The problem is that in many developing countries, the Central Bank may lack this ability.

The holding of foreign exchange by the fund would have several advantages over the holding of short-term government securities. First, it would avoid the problem of dumping potentially large amounts of governments on a thin domestic market (although it would entail dumping a large amount of foreign exchange on the domestic foreign exchange market, which in developing countries is generally a better market than the government security market). Second, the sale of foreign exchange in the local market would reduce the domestic money supply, thereby offsetting the increase when the insurer makes a cash payment to the public in handling a failing bank. On the other hand, holding foreign exchange would expose the insurer to foreign exchange risk. Moreover, in building up its holding of foreign exchange over time, the insurer would put downward pressure on the exchange rate.

#### Admission to Insurance

In order to protect the insurance fund, banks normally should be required to be in satisfactory financial condition before being allowed into the DIS. In the case of newly chartered banks, these banks should have adequate capital and have reasonable prospects for operating profitably within several years.<sup>18</sup>

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<sup>18</sup> It is common for new banks to incur losses during their first several years of operation until they have attained sufficient size to operate profitably. These early losses do not constitute a major problem if a bank is well capitalized initially and the bank makes steady progress toward profitability.

In addition, the management of the bank should be experienced and competent and have a history of integrity in business affairs.

It is possible that when a DIS is initially created, some banks may be solvent, but below the standards set for admission to the DIS. Probably the best way to handle this situation is to grant these banks admission, subject to the condition that they meet normal admission standards within several years, or have their insurance revoked. This procedure would give these banks a reasonable period of time to comply, for example by raising additional equity capital. The threat of losing their insurance would act as a strong incentive for these banks to improve their condition. Furthermore, under a compulsory system, the withdrawal of insurance would be tantamount to the withdrawal of a bank's license.

#### Terminating Insurance

In addition to controlling admission to the deposit insurance system, the insurer should be authorized to terminate a bank's insurance for certain actions that jeopardize the fund. More specifically, the insurer should be able to terminate insurance if a bank engages in repeated unsafe and unsound banking practices after receiving directions from the insurer and the primary supervisor to cease such practices. In addition, the insurer should be authorized to terminate insurance if a bank repeatedly violates banking laws and prudential regulations.

In most countries with a deposit insurance system, the termination of insurance is likely to represent the "death knell" for the bank involved. Consequently, it is important that the insurer's authority to terminate insurance be used in a reasonable manner. The insurer should not be authorized to terminate insurance merely because a bank has encountered serious problems due

to adverse economic conditions in the bank's area or to errors of judgment on the part of the bank's management. Moreover, when the insurer terminates a bank's insurance for appropriate reasons (repeated unsafe and unsound operations or gross violations of banking laws and regulations), depositors of that bank should be notified of the termination, and the insurance should remain in force for a reasonable period of time to give depositors an opportunity to transfer their deposits to another bank.

### Handling Bank Failures

One of the major functions of an insurer is to resolve failing bank situations. Accordingly, it is important for the government to specify in the deposit insurance law what failure resolution devices the insurer can use and how these devices should be employed. In this section, we will identify several important failure resolution devices, describe how each device works and what are its primary effects, and suggest several criteria for choosing among alternative devices in individual failing bank situations.

### Failure Resolution Devices

For purposes of discussion, we will focus on the following four failure resolution devices: insured deposit payoffs or transfers; purchase and assumption transactions; financially assisted mergers; and the provision of financial assistance to a failing bank to prevent its closure. In practice, only relatively robust DISs, such as those in the United States or Spain, use most or all of these devices. In many of the DISs in the developing countries, only one or two of the above devices are being employed.

With an insured deposit payoff, the failing bank is closed and the insurer reimburses all depositors for the full amount of their deposits up to the coverage limit. Uninsured depositors and other general creditors receive no

payments and become claimants in the receivership. The insurer also becomes a claimant in the receivership, taking the place of the insured depositors. All claimants in the receivership typically suffer some loss, as well as delays before receiving partial payments from the receivership. In many respects, an insured deposit transfer is similar to an insured deposit payoff. The basic difference is that with an insured deposit transfer, the insurer arranges for all of the insured deposits of the closed bank to be assumed by another bank. In return for assuming these deposits, the assuming bank receives a cash payment from the insurer.<sup>19</sup> Typically, the deposits that the assuming bank acquires have an economic value, and the bank is willing to pay a modest premium over book value for these deposits. Consequently, the amount of cash that the acquiring bank receives is usually slightly less than the book value of the deposits assumed.

With a purchase and assumption transaction, the insurer arranges for all of the deposits of a closed bank to be transferred to another bank, along with some or all of the failed bank's assets. The insurer makes up for the difference between the book value of the deposits and the market value of the assets transferred by giving cash to the assuming bank, less any premium that the assuming bank is willing to pay for the deposits.

Having the assuming bank acquire at least some of the assets of the failing bank avoids having these assets end up in the receivership, where they must be liquidated, often at unfavorable prices. The disadvantage of transferring assets to the assuming bank is that the bank will want to carefully evaluate these assets, particularly the loans. This evaluation process could delay the

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<sup>19</sup> It also may be possible for the assuming bank to acquire some of the assets of the failing bank. If so, these assets reduce the amount of cash that the insurer pays the acquiring bank.

resolution of the failing bank. A key factor in a purchase and assumption transaction is that all depositors (both insured and uninsured) are fully protected from any losses. As a result, the transaction tends to preserve public confidence in the banking system, but also erodes market discipline. A purchase and assumption transaction also may give the borrowers of the failing bank some comfort because they may be able to establish an on-going relationship with the assuming bank if that bank acquires the borrowers' loans.

Rather than arrange a purchase and assumption transaction after a bank has failed, the insurer might arrange for the merger of the bank before it is closed. In arranging such a merger, the insurer and the acquiring bank would have to negotiate the terms of the deal, including the amount and form of the payment that the insurer would have to make to encourage the acquiring bank to take over an insolvent institution. The effects of a financially assisted merger are similar to a purchase and assumption transaction--all depositors are protected, thereby preserving public confidence, but market discipline is eroded. Also, the community involved would continue to receive banking services, because the offices of the failing bank typically would be converted into branches of the acquiring bank (as they usually are in the case of a purchase and assumption transaction). A major problem with trying to use financially assisted mergers (as well as purchase and assumption transactions) in some developing countries is that there may be no bank that is sufficiently sound to make the acquisition. Even if such banks exist, they may be unwilling to make the acquisition, at least on terms that are acceptable to the insurer. Moreover, as with a purchase and assumption transaction, the acquiring bank will want to carefully evaluate the failing bank. Indeed, the loss of time with a merger is likely to be significantly greater than for a purchase and assumption transaction. The reason

is that in a merger the bank acquires all of the assets of the failing bank, whereas in a purchase and assumption transaction the assuming bank may acquire only relatively "clean" assets that do not require as careful an evaluation.

Finally, the insurer could address a failing situation by providing financial assistance to the bank in order to prevent its failure. This device is most likely to be used when all depositors must be protected to preserve public confidence, and a purchase and assumption transaction or financially assisted merger either is not feasible or is not authorized under the deposit insurance law. The financial assistance that the insurer provides can take a variety of forms, depending on circumstances. If the bank is merely experiencing a liquidity problem that cannot be resolved by borrowing from the Central Bank, the insurer could provide liquidity in the form of a loan or making a deposit in the bank. More frequently, however, the bank will be experiencing an insolvency problem. In this event, the insurer might make an equity injection in the bank. Alternatively, the insurer could acquire some of the bank's non-performing assets at par, giving the bank either cash or government securities. This transaction is tantamount to the injection of equity, and has the added advantage of giving the bank a fresh start by removing the bad assets that otherwise would have to be worked out. In providing support to an insolvent bank, the insurer typically would acquire an equity position that would make it the dominant shareholder. The insurer also would normally replace previous management that, at least in part, was responsible for the insolvency. From the perspective of the public, the effects of a financial assistance transaction are similar to the insurer arranging a purchase and assumption transaction or a merger--all depositors are protected (thereby preserving public confidence but

eroding market discipline) and the community continues to be served (in this case by the same bank).

### Statutory Provisions

In creating a DIS, the government should include provisions in the deposit insurance law relating to failure resolution devices. Moreover, these provisions should assure that the devices used by the insurer are consistent with the objectives and form of the DIS. An example will illustrate this point. Suppose that a nation is establishing a limited coverage DIS, which is expressly designed to protect small depositors, but expose large depositors to potential losses in order to maintain market discipline. In this event, the deposit insurance law should prevent the insurer from using failure resolution devices, such as purchase and assumption transactions, mergers and financial assistance, that extend de facto protection to uninsured depositors.

There are two ways that failure resolution provisions can be specified in the deposit insurance law. One way is simply to list the devices that the insurer can use. The other way is to include general language that requires the insurer to use only those devices that are consistent with the objectives and form of the system. In general, the latter approach may be the better alternative because it would give the insurer the flexibility to employ new devices over time as business practices change and as innovations in handling failing bank situations are developed.

In addition to specifying the types of failure resolution devices to be used, the deposit insurance law should specify the criteria that the insurer should consider in choosing among alternative authorized devices. In many DISs, the sole or dominant consideration is cost minimization. Some failure resolution devices tend to be more cost effective than others because they tend to preserve

the value of the failing bank's assets. These assets may lose a considerable portion of their value if they are thrown into a receivership and then sold at "fire sale" prices. Alternatively, if these assets are transferred to another bank as the result of a purchase and assumption transaction or a merger, the acquiring bank may be able to work these assets out over time, thereby preserving much of their value. The same savings may result if the failing bank is effectively taken over by the insurer in a financial assistance program.

While cost minimization is important, it is not the only factor that should be considered in handling failing banks. In particular, there may be occasions when cost minimization may conflict with the objectives of a DIS to preserve banking stability. For example, if a nation has a discretionary coverage scheme, the insurer may feel compelled to extend de facto protection to uninsured depositors in order to avert contagious bank runs, but find that an insured deposit payoff or an insured deposit transfer (which do not protect uninsured depositors) would be the lowest cost option. In this event, it is important that the insurer pursue the objective of preserving banking stability, even if it means employing a higher short-run cost alternative.

Other public interest factors also might conflict with cost minimization. One possible factor is the convenience of the banking public. As indicated earlier, some failure resolution devices shield depositors and borrowers from the disruptions of a failure better than others. Consequently, since the function of the banking system is to serve the public, it would seem reasonable to allow the insurer to take public convenience into account in resolving failures. Second, while some failure resolution devices employ "private sector solutions" that transfer the assets and liabilities of the failing bank to other banks, one device--providing financial assistance to a failing bank--usually

results in the insurer becoming the dominant shareholder of the failing bank. This result places the assets and liabilities of the bank under the control of the insurer (a government agency) and over time usually forces the insurer, however reluctantly, to become involved in credit allocation. In some countries, this outcome would not be looked upon favorably. Therefore, in these countries the insurer could be authorized to give weight to seeking private sector solutions even though such solutions sometimes might be higher cost alternatives.

#### Organizational Arrangements

In developing countries, there are significant differences in the way that deposit insurance corporations are organized within the national government. In India, the insurance corporation is fully owned by the Central Bank, and the corporation's board comprises representatives from the Central Bank and the national government. In Colombia, the insurer will be attached to the Central Bank during its first few years in operation. Thereafter, it will become an independent agency, but will be overseen by the Superintendency of Banks and will have representatives from the Central Bank and the national government on its board. The Nigerian Deposit Insurance Corporation is meant to be an independent agency, but is jointly owned by the Central Bank of Nigeria and the Ministry of Finance, and has representatives of both of these agencies on its board. The Philippines Deposit Insurance Corporation is an independent agency, but has representatives of the Central Bank and the national government on its board.

In general, these DISs seem to fall into two basic organizational models, one where the insurer is part of the Central Bank, and the other where the insurer is an independent agency with managerial ties to the Central Bank and other governmental units. There are both pros and cons with having the insurer lodged in the Central Bank. In many developing countries, the Central Bank is

the supervisor of banks. In these cases, having the insurer in the Central Bank means that all functions relating to preserving banking stability--supervision, deposit insurance and lender of last resort--would be in the same agency. Such an arrangement would promote consistent policy making. It also should result in at least some synergies in the use of human resources.

There are probably two arguments against placing the insurance function in the Central Bank. First, if the insurer also acts as the receiver for failed banks, as some do, it would involve the Central Bank in considerable "nitty gritty" liquidation activities that many would not regard as an appropriate central banking function. Moreover, there is evidence that Central Banks have generally proven to be ineffective at recovery and liquidation.<sup>20</sup> Second, if a Central Bank served as both the insurer and the supervisor of banks, there are occasions when the Central Bank might become involved in at least the appearance of a conflict of interest. In acting as an insurer, the Central Bank might conclude that the best way to handle a failing bank situation is to extend financial assistance to the bank. Typically, when an insurer provides financial assistance, it acquires a controlling interest in the failing bank. If this were done by the Central Bank, however, the Central Bank would end up being an owner of the failing bank and that bank's supervisor.

In final analysis, there is probably no "best way" to organize a deposit insurance corporation in the national government's organizational structure. All countries have their unique characteristics, and what is the best organizational arrangement for one country may not be best for another. What is important, however, is that the supervisory, insurance and lender of last resort functions be coordinated and operated harmoniously. This objective could

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<sup>20</sup> World Development, Part 1, 1989, p. 82.

be achieved in a variety of ways--putting all functions in a single agency, having multiple agencies with some overlapping management, or having multiple agencies and establishing some form of interagency coordinating committee.

When the insurance and supervision functions are placed in separate agencies, there is a particular need to coordinate bank examinations because these examinations can be costly. Moreover, in most developing countries, bank examiners, especially experienced ones, are in short supply. Consequently, it is important to minimize any duplications by the insurer and the supervisor in the examination area. Probably the best way to achieve this result is to give the supervisor sole responsibility for conducting regular examinations. At the conclusion of each examination, the supervisor would be required to send a copy of the examination report to the insurer in order to inform the insurer of the bank's financial condition. The supervisor also would be required to send the insurer copies of all relevant financial reports that banks file with the supervisor.

While minimizing duplication is important, the insurer must be authorized to conduct limited purpose examinations of failing banks in order to determine which failure resolution device would be most appropriate, given the circumstances of each case. Moreover, the insurer should be authorized to conduct an examination in those cases where an insurer is considering the termination of a bank's insurance. The insurer also should be able to issue warnings to banks about the possible termination of insurance based on findings by the supervisor that the bank has engaged in serious unsafe and unsound banking practices or serious violations of banking laws and regulations. Such warnings are likely to be particularly effective because banks realize that the termination of insurance could lead to the demise of the bank.

**Summary and Conclusions**

As indicated in this section, DISs are relatively complex mechanisms and they must be properly designed in order to perform effectively. In general, these systems will function best if: (i) the system is public; (ii) bank membership in the system in the system is compulsory; (iii) deposits are not fully insured; (iv) the system is adequately funded and has some form of government back-up support in a crisis; and (v) the insurer can resolve failing bank situations in a variety of ways.

ARGENTINA

1. Unconditional Government Guarantee on Deposits

Origins: The government has explicitly backed deposits since 1946. The law talks about the "nationalization" of deposits, with banks simply acting in behalf of the Central Bank.

Coverage: The regulations concerning the type of banks covered, and the denomination, maturity and maximum amount of deposits insured have varied, but the concept has remained ever since. The 1946 law covered all banks, whether state owned, private or mixed, and the entire amount of demand and savings deposits. After 1957, only a partial guarantee was offered on accounts in private or mixed banks. In 1961, the guarantee was further restricted to domestic currency deposits. Over the period 1961-73, coverage was extended to other private financial institutions not previously insured. In 1974, the limit of coverage was abolished, and guarantees were extended to all bank liabilities that served to attract resources from the public, whatever their nature.

Modalities of Operation: This guarantee simply meant that the Central Bank would pay off depositors of banks that failed, but only once its liquidation was prescribed by the Central Bank itself. Then the Central Bank would try to recover as much as possible from the liquidation of the failed bank. The role of the Central Bank was extended in 1977, when a law said that in addition the Central Bank could agree to other banks taking over the liabilities (and the assets) of a failed bank. But the Central Bank could not mandate it or make such an option attractive. Thus, in effect, it did not provide the Central Bank with any additional tools with which to handle failing or failed banks.

Financing: Entirely from the Central Bank, as required. A National Deposit Guarantee Fund was in fact established in 1971, but it was still entirely under the Central Bank. There was no functional change with the creation of the fund.

2. Deposit Insurance

Origins: The system existing up to 1979 was an unconditional government guarantee of deposits. After 1979 this became formal deposit insurance to the extent that banks had to make contributions to pay for the scheme. In return for having to pay for it, membership was made voluntary.

Creation: August 1979.

Membership: Voluntary, for banks and other financial institutions offering depository services. Initially, the Central Bank would automatically approve applications of existing banks. After a certain deadline, applications would have to be screened by the Central Bank. Also, member banks can withdraw from the insurance scheme at will.

**Administration:** Entirely by the Central Bank. The fund is just an account at the Central Bank, and no institution or Board is set up to look after the fund.

**Coverage:** Demand, savings and term deposits are covered. The law seemed to exclude Certificates of Deposit, but this was challenged in court, and currently CDs of failing banks are being assumed by the Central Bank. Foreign currency denominated accounts, accounts of insiders, and the accounts of public sector institutions are excluded. Interbank deposits are similarly excluded, except those maintained to satisfy liquidity requirements. Coverage was initially limited to the first 1 million pesos, but this was quickly raised to 100 million in a retroactive fashion so that it has been in effect from the beginning. This limit is indexed to inflation, and revised monthly. It was brought down to A\$1,000 by July 1988. Deposits under this limit are reimbursed in their entirety, but deposits over this limit are reimbursed only by 90% of the total amount of the deposit. Also, demand deposits are treated separately from savings and term deposits for the purposes of applying this minimum insurance.

**Borrowing authority:** Borrowing from the Central Bank is a moot issue as it is an integral part of the Central Bank. Since Central Bank contributions are not mandated, it is not clear when Central Bank funds are treated as an advance and when as a contribution. The law establishes that advances should pay an annual interest rate of 6% plus inflation adjustment.

**Functions:** As at the end of the previous system, the Central Bank can only agree to have other banks take over a failed bank or pay off depositors in the event of liquidation. In the former case, the bank is intervened by the Central Bank. Management is replaced, the Central Bank provides support with credit or by taking over assets of the failed bank, and then the bank is sold.

**Financing:** Banks have to pay a fee to the Central Bank. This is calculated as 0.03% per month of average monthly deposits. These assessments, plus some Central Bank contributions which it can make at its own discretion, are maintained in a fund. Interestingly, banks who over the year are in compliance with the various ratios and regulations established by the Central Bank get a rebate of 10% of their yearly contribution. Standards that banks have to meet in order to get the rebate include minimum liquidity, maintenance of positive balance in their account with the Central Bank, a minimum ratio of financial liabilities to capital, a maximum ratio of bad assets, and prompt payment to the deposit insurance fund. Therefore, this assessment mechanism amounts to a variable interest rate premium that depends on the perceived riskiness of the institution as proxied by the bank's compliance with prudential and other regulations.

**Supervision and enforcement:** The Central Bank, as sole agency responsible for banks, has a wide range of powers. It can revoke the insurance (or license) of banks. Supervision has been mostly limited to checking on the compliance with regulations rather than on prudential operation of banks.

**Interesting features:** No independent body to regulate deposit insurance; partial coverage of deposits over a specified minimum, coverage being a proportion of total deposits; voluntary membership.

Use of the facility: As of August 1987, there were 20 institutions under Central Bank intervention and 180 in liquidation. Most liquidations are not mandated by the Central Bank, and don't involve a liability to the Central Bank as insurer of depositors. Most troubled banks are in fact intervened. The actual use of the insurance facility is very difficult to establish because one can't disentangle the Central Bank's interventions as insurer from its interventions as monetary and institutional regulator.

Third generation deposit insurance: The Central Bank does not currently have a clear mechanism for rehabilitating banks. There is a proposal, supported by the World Bank, to establish an autonomous deposit insurance corporation along the lines of the Spanish model. A draft law already exists.

SOURCES:

Tabares-Cardona, German, El Seguro de Deposito y Fondo de Garantias: Documentacion Basica, Superintendencia Bancaria, Republica de Colombia, 1984.

Regimen Legal de Bancos, Ch. 7: "Garantía de los Depositos", Argentina, in Tabares-Cardona (op. cit.)

Text of Law 22.051 of August 1979 and of Central Bank Circular OPASI-1 that establish the conditions and requirements for the insurance of deposits in Argentina.

President's Report on the banking Sector Loan to Argentina, The World Bank, February 1988.

Lasi, Juan, El Seguro sobre los Depositos Bancarios y Posibilidades de su aplicacion en Venezuela, Banco Central de Venezuela, 1961.

McCarthy, Ian, "Deposit Insurance: Theory and Practice", IMF Central Banking Service, January 1980.

BRAZIL (a proposal)

**Origins:** The new Brazilian constitution has authorized the creation of a deposit insurance system.

**Creation:** Expected in 1989. Many operational aspects have not been worked out yet.

**Administration:** It is a private system, both administered and funded by the member institutions. In fact, the government is expressly forbidden by the Constitution from contributing to the fund. However, the Central Bank is taking a leading role to set it up and to establish its role and structure. The Board of Directors is elected by the member institutions.

**Function:** Strictly to pay off depositors of failed banks.

**Membership:** Compulsory for universal banks, voluntary for other financial institutions like commercial banks, investment banks, consumer finance companies, and maybe even leasing companies. It is not clear whether only private institutions will become members.

**Coverage:** Coverage would be extended to demand deposits, time deposits, certificates of deposits and bills of exchange. Passbook savings accounts (which are covered by another insurance scheme) and interbank deposits would not be insured under this system. The original idea was to limit insurance to 3,500 OTN (worth US\$16,500 in December 1988 at the parallel market rate). However, OTNs have since been eliminated, and it is not clear how insurance ceilings will be set. It was expected that this ceiling would protect 75% of individual depositors, but less than 50% of total deposits.

**Financing:** In June 1988, the Central Bank tentatively set the initial capitalization of the system at \$CZ 65 billion, but is considering raising it. This would be paid in by member banks over time. The yearly contributions by member banks would be initially set by the Central Bank, but after a given period it would be set by the banks themselves. The base for the assessment would be total insured liabilities.

**Enforcement powers:** The Board would have the power to deny entry to any institution that is deemed to be an unacceptable risk, and to revoke insurance of a member bank who is deemed to be unsafe and unsound.

**SOURCES:**

Talley, Samuel, "Appraisal of Prudential Regulation Relating to Brazil: FSAL I", The World Bank, December 1988.

CHILE

1. Interim Government Guarantee on Deposits

**Origins:** In the mid-1970s, the Chilean banking system was very adversely affected by two factors: a deep recession caused by the rise in oil prices and the drop in copper prices, and a rapid liberalization of the financial sector which sought to reduce the state monopolization and control of financial institutions. After the collapse of several small non-bank financial institutions, an important bank threatened to fail towards the end of 1976. The government tried to defuse the situation by assuming all of the banks' liabilities even though they were not explicitly ensured. Because there were clear indications that a spate of failures would follow, the government immediately instituted an interim deposit insurance scheme to handle the situation.

**Creation:** January 1977.

**Administration:** There was no body as such responsible for managing the guarantees. It became the Superintendency of Banks and Financial Institutions's (SBFI) role, as regulator and supervisor of banks, to take measures which would result in the honoring of such guarantees. The SBFI was an entity legally independent of the Central Bank, and was therefore responsible for approving demands upon the scheme and appointing liquidators. But because it did not provide the financing, it was not formally the party insuring deposits.

**Financing:** By the Treasury, directly from the Budget. There is no premium on either banks or depositors.

**Membership:** All banks and non-bank financial institutions are covered. (Since there are no bank assessments, it becomes irrelevant whether the scheme is compulsory or voluntary.)

**Coverage:** Maximum coverage was set at 100 tax units. A tax unit was a CPI-indexed unit of account equal to about 176 pesos then, or about US\$10. Deposits are covered on the basis of the principal, index adjustments and interest.

**Functions:** The deposit guarantee scheme became one more obligation, as well as one more tool, for the SBFI. When a problem bank emerged, the SBFI could approve applications for payouts and appoint liquidators. Also, when the SBFI intervened in a bank, shareholders were forced to lose their equity in order to cover losses.

**Supervisory and enforcement powers:** The control over deposit insurance was held in effect by the same body that was responsible for supervision of banks. The SBFI was charged with auditing most intermediaries and establishing accounting standards. It had the power to request any necessary information from banks, and could impose fines or replace the management of banks.

**Use of the facility:** Since the beginning, the government actually repaid most

of the deposits held at failing banks, even if over the specified limit. Four commercial banks, accounting for 35% of the system's assets, were intervened by the Central Bank in November 1981 and eventually liquidated. All depositors managed to recover their funds. The actual use of the insurance facility is very difficult to establish because one can't disentangle the SBFI's interventions as insurer from its interventions as regulator of banks.

## 2. Complementary Deposit Insurance Scheme

**Origins:** The system set up in 1977 was an interim measure. It was created to meet a short-term crisis, pending a more complete study of the requirements of a formal system. The bank failures in November 1981 created a new crisis, which was met by the expansion of the deposit insurance scheme.

**Creation:** December 1981.

**Nature of the scheme:** The previous deposit insurance guarantee was preserved, but a complementary insurance scheme was set up. Depositors could purchase additional coverage from the government. It was a formal deposit insurance scheme to the extent that depositors, through the banks, had to make contributions to pay for it.

**Administration:** As before, the SBFI had the authority to call on the fund to meet the insurance requirements, but it did not have ownership over the fund.

**Functions:** The role of the SBFI remained unchanged. However, the liability of the authorities was greater to the extent that depositors acquired the additional protection.

**Modality of operation:** The SBFI's powers were expanded, allowing it to intervene more directly in a problem bank. The SBFI could intervene in a bank to replace its management and write down shareholder's capital. The SBFI could then decide on whether the bank was to be liquidated or not. In the event of liquidation, the receiver would proceed to transfer part of the assets and liabilities to an acquiring bank. In either case, depositors who had not been able to recover their deposits would be paid off. After 1982, a new modality for intervention was introduced: the purchase of the risky portfolios by the Central Bank. The non-performing portfolio was replaced, in an amount up to 100% of capital and reserves, with essentially long-term debt of the Central Bank. While the obligation to repurchase was still outstanding, the financial institution concerned was required to devote 100% of its surpluses to such repurchase.

**Membership:** Voluntary for depositors of banks and non-bank financial institutions that come under the control of the SBFI. Note that it was the depositors, not the bank, who decided on the acquisition of the extra insurance. Banks were required to make this insurance available to its depositors.

**Coverage:** The previous universal guarantee covered a maximum 100 tax units. Under the new complementary deposit insurance scheme, depositors could opt to

cover, on top of the universal coverage, up to 75 percent of their deposits or 150 tax units, whichever was less. Total maximal coverage therefore became US\$5,061 equivalent in September 1982. Demand, savings and term deposits can be insured. All such accounts belonging to one individual are consolidated for the purposes of this minimum. Coverage is limited to principal and index adjustments, and excludes non-capitalized interest. Interbank deposits cannot be insured.

**Financing:** A fund is maintained at the Central Bank. The funds can only be invested in government or government guaranteed securities. The DIF collects monthly fees amounting to 0.1% of average insured monthly deposits from member banks. Banks pass on this fee to the depositors who have requested the additional insurance. The law allows for varying assessment rates depending on type of deposit, but in practice the same rate is applied. Contributions from the government to the fund can also be made directly from the budget, but these are not mandated in any way. The Treasury remained responsible for covering losses under the original guarantee system.

**Tax treatment:** The fund, and the operations related to it, are free from taxes.

**Use of the facility:** Because the SBFI was seen as de-facto protecting all deposits, many institutions actually chose not to participate in the deposit insurance scheme. Two rounds of bank failures followed. In mid-1982, three commercial banks were intervened and eventually liquidated, and all depositors were paid off, even those not expressly covered by the insurance scheme. In January 1983, the banking crisis hit a peak when 7 banks, accounting for 45% of the system's loans, had to be intervened. Three of them were quickly liquidated, and the State covered 70% of the amounts owed to domestic creditors.

**Death of the system:** The system of deposit guarantees and insurance was not taken seriously as depositors and bankers realized that in practice the government would assume most or all of the banking losses. Therefore, in January 1983 the government decreed that it was going to guarantee 100% of deposits, thereby decreeing what was already happening in practice. Originally, this exceptional coverage was in effect until the end of 1983, but it was extended several times. Only deposits of insiders were not covered. Payments against this guarantee would be made from the DIF if the deposit was eligible for complementary insurance, or else directly from the budget.

### 3. Deposit Insurance. Round 3

**Origin:** The financial crisis in Chile was very deep. In all, close to 75% of banking capital had come under the control of the State through SBFI interventions. This was a marked reversion from the privatization sweep in the mid-1970s, when all but one bank were privatized. A new Banking Law in 1986 sought to reorient the financial system.

**Creation:** January 1987.

**Coverage:** Coverage is broken down into three categories. First, demand deposits

and time deposits of remaining maturity less than 10 days (i.e. liquid deposits) at commercial banks are covered in their entirety. Second, other deposits at commercial banks and Sociedades Financieras are 90% insured up to a maximum of 120 UF per depositor in all the financial system. In other words, the maximum payout would be 90% of 120 UF, or about \$1,800. Banks could apply for additional coverage on a transitional basis over the period 1986-88. Thus, under such an arrangement deposits outside of the above limits would be 90% covered after the end of 1986, 80% covered from June 1987, 70% from end 1987, and 60% from June 1988. The third guarantee covers all deposits and liabilities of the state Bank (Banco del Estado).

**Financing: Unfunded.** The Central Bank is responsible for covering any insured financial liabilities in excess of assets.

**Enforcement and supervision powers:** These lie with the SBFI. The length of decision periods is very long: following the identification of a problem by the SBIF, the bank has 30 days to call a shareholders' meeting to recapitalise. If this is unsuccessful, there is then a period of about 15 days to consider further actions.

**SOURCES:**

Larrain, Mauricio, "Treatment of Banks in Difficulties: The Case of Chile", unpublished manuscript, The World Bank.

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Gelb, Alan, "Chile: BTOR Mission, May 4-14, 1987", June 1987.

COLOMBIA

Financial Institution Guarantee Fund (FIGF)

Creation: December 1985.

Administration: The FIGF is to be attached to the Central Bank for a period of five years, with the Central Bank providing office space and staff to the FIGF. After five years, it will become independent. However, its Board will retain representations from the Government and the Central Bank, and will continue to be overseen by the Superintendency of Banks.

Functions: To participate in the liquidation of failed banks and pay off depositors; to restructure failing/failed banks by assuming temporary ownership and management; and to ensure that member banks have enough liquidity.

Modalities of operation: When the Superintendency of Banks decides on a bank closure, the FIGF can participate in liquidation proceedings. If the Superintendency orders a bank to recapitalize and existing shareholders do not satisfy the order, the FIGF is allowed to provide the necessary capital even if that means purchasing more than 50% of the bank. The FIGF, under the advice of the Superintendency, normally mandates the write-off of existing shareholder capital. If the entire capital has been lost, the FIGF reduces the nominal price of each share to 1 cent. In either case, the FIGF will assume temporary control in an attempt to refloat the bank. It can do so by purchasing assets or by granting credit or guarantees to the intervened bank. It is mandated to sell its shares of the bank within a reasonable period of time. The FIGF can also provide assistance in the form of credit or guarantees to troubled member institutions that are not yet intervened, but only under a concerted program to turn the bank around.

Supervision and enforcement powers: These lie entirely with the Superintendency of Banks.

Membership: Compulsory for most classes of financial institutions, including commercial finance companies.

Coverage: According to the law, the guarantee on deposits cannot exceed 75% of the established limits (contradiction in terms!). In 1988, a Col\$200,000 limit was introduced. Insiders who are shown to be in any way responsible for a bank's failure will not be covered.

Financing: The FIGF can collect an initiation fee from new bank members. This was based on each bank's reserve position and was accompanied by a corresponding reduction in reserve requirements. Yearly bank assessments in the form of compulsory purchase of the FIGF's obligations in the amount of 0.3% of each bank's total deposits (up from 0.05% prior to December 1989). These obligations are for a maturity of up to 8 years, at an interest determined by the Central Bank. The law envisions the reduction or elimination of these assessments when and if the fund reaches an appropriate size. It also envisions differential

assessment rates or a system of rebates. In all, bank assessments are not to exceed 0.05% of a bank's total deposits per month. Contributions can also be made from the budget, in an amount not to exceed the total amount of fines and penalties collected by the Superintendency of Banks.

**Borrowing capacity:** A bank may borrow both from the Central Bank and from the public by issuing securities. The limits, terms and conditions on Central Bank credit were originally regulated by the Central Bank. As of December, 1989 an overall cap was placed on the government credit the bank could draw upon.

**Tax treatment:** Tax exempt.

**Use of the facility:** In practice there is an unlimited blanket deposit guarantee, with the FIGF covering insured institutions and the Central Bank covering uninsured institutions. The FIGF is currently intervening in five banks (including the largest one) in an attempt to turn them around and eventually re-sell them, and is in the process of liquidating another bank. On the other hand, three non-insured institutions have been supported with Central Bank credit.

**SOURCES:**

Text of: Law 117 of 1985, Decree 32 of 1986, and Decree 59 of 1986.

Consultant's report on Colombia for the "Cross Country Comparison of Financial Systems" in Latin America, 1988.

CUBA (a curio)

Deposit Insurance Fund

**Origin:** It was created in direct response of the establishment of the FDIC in the United States. The idea was to avoid the flight of capital towards the insured banking market in the US, and to favor indigenous Cuban banks over American banks.

**Creation:** September 1952 - the second in the world!

**Administration:** The Board is composed of representatives from the Central Bank, Ministry of Finance, and the Association of Banks. Therefore, through the Association, private banks have representation in the Board of the DIF.

**Membership:** Compulsory for all national banks.

**Coverage:** Deposits up to 10,000 pesos.

**Functions:** The DIF only acts in the event of the failure of a bank, in order to assist in its liquidation.

**Modality of operations:** When the Central Bank decides to close the bank, the DIF's role is to pay off depositors up to the prescribed amount, participate in liquidation procedures to help other creditors recover their funds, and, interestingly, compensate the bank staff who are laid off in proportion to the years of service in the bank but in an amount not to exceed one year's salary.

**Financing:** The fund was designed to maintain a capital of 10 million pesos. To reach this amount, the Central Bank contributed 1 million pesos yearly and the private banks contributed 100,000 pesos yearly (distributed according to their share in total deposits) for a number of years until the sum had been reached. There were no regular bank assessments. When capital dipped below the 10 million pesos benchmark, the DIF could replenish its capital by mandating the Central Bank and private banks to purchase obligations from the DIF. Indeed, as of end-June 1959, the size of the fund was 9,691,768 pesos. The fund is invested in bonds of the government or the development banks.

**Borrowing authority:** No limit is specified on borrowing from the Central Bank in case of temporary shortfall of funds.

**Supervisory and enforcement powers:** These lie entirely with the Central Bank. The DIF cannot withdraw the insurance of any bank.

**Use of the facility:** It has been used to liquidate banks, but no precise information is available. Also, it is not clear what happened to the DIF after the Cuban revolution in 1958.

**Interesting features:** Date of its creation; paying off bank employees as well as bank depositors; maintaining a constant fund.

SOURCE:

Lasi, Juan, El Seguro sobre los Depositos Bancarios y Posibilidades de su aplicacion en Venezuela, Banco Central de Venezuela, 1961.

INDIA

Deposit Insurance Corporation (DIC)

**Creation:** DIC was established in January 1962, in the wake of two bank failures in the previous year. In 1978, it was merged with the Credit Guarantee Corporation of India (credit guarantee operations not discussed here).

**Administration:** It is fully owned by the Reserve Bank. Its Board of Directors comprises representatives from the Reserve Bank and the central government. The Reserve Bank provides the staff and office space for the DIC, for which it is reimbursed. Almost all decisions involving the DIC are taken by the Reserve Bank, so that the DIC is de facto not independent.

**Coverage:** It originally covered commercial banks. This was extended in 1968 to cooperative banks with a minimum size operating in States having the pertinent legislation, and in 1975 to rural banks. All deposits are covered, except those of foreign governments, Central and State governments, or other banks. The maximum insured deposit was initially fixed at Rs 1,500. This was raised to 5,000 in 1968, to 10,000 in 1970, to 20,000 in 1976, and finally to 30,000 in 1980. In 1970, 63% of all member bank deposits were in fact insured (i.e. under the limit). This percentage has risen to about 75% in the 1980s.

**Financing:** The Reserve Bank subscribes the entire paid-up capital, which is invested entirely in government bonds. It started with a paid-up capital of Rs 10 million, was increased over the early 1970s (1972 and 1975) to Rs 50 million, and with the merger with the CGC was raised to Rs 100 million. DIC also gets funding from bank assessments based on "assessable deposits", i.e., those not excluded as listed above. Assessable deposits account for around 95% of total deposits. The premium was originally set at 0.05% per annum, but was decreased to 0.04% in 1971. The Act specifies a limit of 0.15% for premia. The premium was collected quarterly up to 1979, and then was collected semi-annually.

**Membership:** Compulsory.

**Funds maintained by the DIC:** It has three funds: the General Fund which holds the initial capital. The interest on this Fund is used to pay the operating expenses of the DIC. The size of this fund in relation to deposits has remained quite constant since the late 1960s. The Fund accounts roughly for 0.5% of insured deposits, or 0.35% of assessable deposits. The Deposit Insurance Fund, which feeds on premium income and its own investment income, is used to pay claims of depositors. A temporary transfer from the General Fund to the DIF can be made to meet liabilities. And, after 1978, the Credit Guarantee Fund. The Fund had Rs 513 million in 1976, i.e., 0.46% of insured deposits.

**Borrowing capacity:** The DIC can request to borrow up to Rs 50 million at any one time from the Reserve Bank. The Reserve Bank must decide on the request, and sets the terms and conditions of the advance.

**Modalities of Operation:** Problem banks under the DIC could be (i) liquidated,

(ii) merged ("amalgamated") into healthy banks, or (iii) restructured ("reconstructed") so as to return them to solvency. The DIC's function is to pay off depositors in the event of liquidation, or to pay depositors whose liability is not assumed by the new or merging bank.

**Supervision and enforcement:** It is the Central Bank's, not the DIC's, role to supervise banks. It is also the Central Bank's responsibility to withdraw insurance of non-compliant banks, to declare a bank insolvent and to throw it into the DIC's auspices, or to decide on the course of action on a troubled bank.

**Tax treatment:** The DIC was originally tax exempt, but this was withdrawn in 1985.

**Use of the facility:** Since its creation and up to 1987, 17 commercial banks, mostly small, have come under the DIC. However, at the same time over 250 commercial banks have closed down or merged. Apparently these banks, when liquidated, had enough funds to pay off depositors, or, when merged, had positive equity to make them marketable. This trend clearly shows a consolidation of the banking sector into bigger and more solid institutions. Of these 17 banks, 14 occurred prior to 1970, one in 1986, and 2 in 1987. Most of these resulted in a merger, but two of them were restructured and one was liquidated. Cooperative bank failures have recently been more common, but they are so small as to have a negligible effect. Since 1976, 17 cooperative banks have come under the DIC. In all, only a small portion of its capital has been paid out. As of the end 1976, only Rs 11.3 million were paid out (less than one-fifth of the premiums in 1976 alone).

**Deposit insurance in State-owned banking:** The Indian banking system is almost entirely state-owned, with private banks only accounting for not more than 5% of total deposits. Government deposit insurance of State-owned institutions is in a sense redundant, as the government is insuring itself. This explains why the DIC hasn't had much of a role: there are many other channels for supporting the banks. Thus, it becomes apparent that the DIC has not really been put to a test yet.

**Relationship with the CGC:** The credit guarantee scheme is very expensive, and it is likely that the deposit insurance part serves to subsidize the credit guarantee part. Officially, these are kept separate by having separate funds.

**SOURCES:**

McCarthy, Ian, "Deposit Insurance: Theory and Practice", IMF Central Banking Service, January 1980.

Deposit Insurance Corporation and Deposit Insurance and Credit Guarantee Corporation, Annual Report, various years 1962-85.

- The Deposit Insurance Corporation Act No. 67 of 1961, as amended up to August 1970.

KENYA

Deposit Protection Fund Board (DPFB)

**Origins and creation:** It was created in 1985 in the wake of four bank failures.

**Administration:** The Board is chaired by the governor of the Central Bank. The Treasury is represented on the Board through its permanent secretary. Staff and office space are provided for by the Central Bank -- and it is not reimbursed for it.

**Membership:** Compulsory for all licensed banks and financial institutions (e.g. building societies) that accept deposits and issue loans.

**Function:** Paying off depositors in the event that a bank doesn't meet all its obligations. Also, may on its own accord preemptively act to reduce risk of insolvency of banks, although it has a very limited capability at present.

**Modality of operation:** (1) When a depositor does not see his claim on a bank satisfied, he can ask the DPFB to pay him off. Any investigations or assessment of the bank's situation is then undertaken by the Central Bank under a request from the DPFB. It is not the DPFB's role to liquidate the bank, but will participate in court or other bankruptcy procedures in order to try to recover its liabilities. (2) In order to bolster the position of a troubled bank and reduce its risk, the DPFB may lend to, place a deposit with, issue a guarantee, or purchase the assets of a licensed bank.

**Supervision and enforcement powers:** Bank supervision is undertaken entirely by the Central Bank. The DPFB can punish imprudent banks or banks that are not being managed in the best interest of its depositors by increasing that bank's assessment beyond the maximum 0.4% or by revoking the insurance of its deposits.

**Coverage:** Insurance by the DPFB covers the excess of an individual's total deposits (or other bank liabilities) in a particular bank minus any of the bank's assets that the individual may hold. Maximum insurance coverage is Kshs 100,000. Individuals who are deemed to be responsible for the insolvency of the bank are not covered by the insurance.

**Financing:** For 1986 and 1987, bank assessments amounted to 0.1% of the arithmetic average of twelve months deposit balances. There is a minimum Kshs 100,000 contribution for every bank. Bank assessments are not to exceed 0.4%.

**Fund operated by DPFB:** Kshs 87.164 billion as of end-1986. The entire amount is required to be invested in government bonds of maturity not more than 91 days. Investment income is reinvested in the fund. Operating expenses are covered by the fund.

**Borrowing authority:** There is no specified limit to borrowing from the Central Bank, but any advance has to be authorized by the Minister of Finance. Any borrowing should be strictly to temporarily make up any deficiency in the fund,

pending collection of contributions.

Use of the facility: The fund had not, as of January 1988, yet paid out any funds.

**SOURCE:**

Deposit Protection Fund Board, Balance Sheet as at 31st December 1987.

Text of the Banking (Amendment) Act No. 17 of 1985, and the Banking (Deposit Protection Fund) Regulations of 1986.

NIGERIA

Nigerian Deposit Insurance Corporation (NDIC)

**Origin:** The Nigerian banking sector has not experienced any bank failure in the last three decades. This is more due to the fact that the predominant State governments have been supporting the state-owned banks in what amounts to de-facto deposit insurance. However, a recent survey of the banking sector has revealed that a significant number of banks would be technically insolvent if provisioning rules were enforced. The NDIC was created with the intention of improving the credibility of the financial sector as a whole.

**Creation:** The NDIC was created in June 1988 and assessments have been collected on the basis of banks' deposits in 1988, but explicit deposit insurance will start in June 1989.

**Administration:** The NDIC has started as an offshoot of the Central Bank, from which it is initially drawing its staff and office space. However, it is meant to be an independent body. It is jointly owned by the Central Bank and the Ministry of Finance, and both are represented in the Board of the NDIC. The executive directors are appointed by the President.

**Membership:** Compulsory of all commercial and merchant banks.

**Coverage:** All deposits, except those of insiders or those held as collateral for a loan and excluding certificates of deposits, up to a maximum of N 50,000. Interestingly, the minimum size of a deposit at a merchant bank (entirely commercial deposits) is N 50,000, so that in the event of failure of a merchant bank, the NDIC would not be at all liable.

**Financing:** The NDIC was originally set up with an authorized capital of N 100 million. This capital is to be subscribed 60% by the Central Bank and 40% by the Federal Government. However, only N 50 million is paid up capital. It assesses member banks at the rate of 15/16ths of 1% of deposits on the previous year.

**Operation of the fund:** A fund is to be maintained. The net operational surplus of the corporation is to be reinvested in the fund, unless the fund is more than ten times larger than the paid-in capital. In this latter case, a quarter of the net operational surplus is to be returned to shareholders as dividends.

**Borrowing authority:** No limit is specified on borrowing from the Central Bank. It is not stated whether the Central Bank needs to authorize the advance, or who decides on the terms and conditions of the advance.

**Function:** It has the double function of paying off depositors in the event of a bank failure and giving assistance in case of imminent or actual financial difficulties to banks when suspension of payments is threatened.

**Modalities of Operations:** When the NDIC observes that a bank's operations are such as to warrant its closure, it must give 30 day notice to the bank before it can withdraw its insurance. It is then the Minister of Finance who appoints the NDIC as the receiver of the bank. The bank can then be readmitted into the insurance scheme if it successfully cleans up its finances and operations. To this end, the NDIC may assist failing banks by granting loans on terms decided upon by the NDIC or offer guarantees. In addition, the NDIC is empowered to temporarily take over the management of the bank, direct changes in the management and operation of the bank, or arrange a merger. In the case of a merger, the NDIC can assume the difference between the transferred deposit liabilities and "acceptable" assets (i.e., bad assets can be carved out). In order to liquidate a bank, the Minister of Finance must give its approval, and a receiver will be appointed. Then the NDIC will pay off all depositors not satisfied in the liquidation proceedings.

**Decision-making powers:** The NDIC can only assume the management of a failing bank, merge it, or act to close it with the consent of the Ministry of Finance (this policy is under review). However, the NDIC can itself manage a bank once it is declared its receiver.

**Supervisory and enforcement powers:** The NDIC can issue cease and desist orders to member banks, and, when these are not satisfied, revoke the insurance on such a bank. Supervisory duties and information are to be shared between the NDIC and the Central Bank, but specifics haven't yet been worked out. The NDIC is empowered to request any information from member banks.

**Tax treatment:** The NDIC is a taxable entity. On the other hand, bank assessments are tax deductible.

**Use of the facility:** As explicit insurance has not yet begun, the NDIC has as yet not been used. It appears that the NDIC is shying away from intervening very strongly at first, with the intention of not rocking the system. It appears, therefore, that its efforts will initially be geared more towards strengthening member banks rather than towards restructuring or liquidating them.

**SOURCES:**

Nigerian Deposit Insurance Corporation Decree No. 22 of 1988.

Information collected by September 1988 and January 1989 World Bank missions to Nigeria.

Federal Deposit Insurance Corporation, "Conclusions and Recommendations of the FDIC Assessment Mission to the NDIC", July 1988.

PARAGUAY

Sistema Nacional de Ahorro Y Prestamo para la Vivienda

Origins: Modelled after the Federal Home Loan Bank system in the U.S., the Sistema is a network of Sociedades de Ahorro y Prestamo para la Vivienda which operate under the backing and control of an umbrella Bank (in turn called the Banco Nacional de Ahorro y Prestamo para la Vivienda). USAID initially provided \$2 million in capital, and subsequent financing was received from USAID and IDB. The Sistema is designed to cover a small niche in Paraguay's financial system - to provide mortgage finance. The Sistema holds around 14% of total deposits in the country.

Creation: December 1971.

Membership: Open only to members of the Sistema. There were 6 member Sociedades up to April 1988.

Administration: It is run by the Banco Nacional, which acts as a Central Bank for member institutions.

Coverage: All deposits at member institutions. The maximum coverage per depositor was initially set at G2 million, and subsequently raised to G5 million.

Financing: Annual premium of 0.25% of total monthly average deposits at each institution. This is paid monthly.

Central Bank support: The Central Bank ultimately has responsibility for the Banco Nacional, and so it is behind the deposit insurance.

Functions: The objective of the scheme is to provide cheap financing for home building. Deposit insurance is granted as a way to increase the competitiveness of these institutions relative to other banks and non-banks, thereby reducing their cost of funds. This scheme is supplemented by a credit guarantee scheme.

Modality of operations: In the event of a temporary liquidity crisis, the Banco Nacional can, within 24 hours, grant assistance to member institutions. If the problem is deemed to be permanent, the Banco Nacional can intervene in the Sociedad and assume its control. Within 30 days it must pay off depositors and transfer the assets and liabilities (up to the insured amount) to another Sociedad. The Banco Nacional will pay the acquiring Sociedad an amount equal to the shortfall in assets over liabilities. Prior to the Sociedades approaching the Banco Nacional for assistance, they may require depositors to submit a 30 day notice prior to their withdrawal of funds.

Supervisory and enforcement powers: The Banco Nacional has exclusive responsibility over member institutions, and so with it lies all supervisory functions. The Banco Nacional is itself under the jurisdiction of the Central Bank, but the Central Bank does not supervise and regulate each Sociedad.

Use of the facility: One year after operation of the Sistema, one institution failed. Because of the as yet precarious financial situation of the Banco Nacional, the Central Bank covered the losses.

**SOURCES:**

Law No. 325 of December 1971 and Decree No. 29721 of December 1972 that establish and regulate the Sistema Nacional de Ahorro y Prestamo para la Vivienda; Law No. 1378 of December 1988 modifying Law No. 325.

Interview with Mr. Luis Alarcon, Director of Operations Department of the Banco Nacional.

PHILIPPINES

Philippine Deposit Insurance Corporation

**Origins and creation:** The PDIC was formally established in 1963, but was mostly inoperative. The failure of several uninsured banks in 1968 forced the PDIC to pay off depositors even though they were not legally required to do so, with funds provided by the Central Bank for the purpose. To regain credibility, membership was made compulsory and the PDIC's role and powers were expanded in 1969.

**Administration:** The government and the Central Bank are represented on the Board. Until 1969 the staff was provided by the Central Bank, but after that the PDIC has set up its own organization.

**Membership:** Voluntary prior to 1968. After 1968, compulsory for all banking institutions. This includes commercial banks, rural banks, development banks, savings and mortgage banks, etc.

**Coverage:** Coverage is extended to all deposits, including certificates of deposit, but excluding interbank deposits. After 1972, foreign currency deposits were covered. The maximum coverage was set at P10,000, and subsequently raised in steps to the current P40,000. Insured deposits average approximately 36% of total deposits.

**Financing:** The capital in the fund is brought in by the government. Assessments are also collected from banks. The maximum level of premiums is 1/12 of 1% per annum. Prior to 1985, the PDIC charged only 1/18 of 1%, and rebated on a pro rata basis 60% of the net assessment income (after paying claims and expenses) during the year to each bank. The other 40% is added to the permanent fund. In 1985, the assessment rate was increased to the limit.

**Funds maintained:** The permanent fund was established with P5 million, raised to P20 million in 1973, and to P2 billion in 1985 (of which only about half has been paid up). The funds must be invested in government or government-guaranteed securities.

**Borrowing capacity:** Originally the PDIC was empowered to borrow up to P100 million from the Central Bank. The limit was removed in 1975. The interest rate charged to the PDIC must not be less than the average paid on government paper. The PDIC is also legally entitled to issue bonds and debentures.

**Functions:** To pay off claims for insured deposits in the event of a bank failure, and extend financial assistance to insured banks to prevent their closure.

**Modalities of operation:** When the Central Bank decides to close a bank, it appoints a receiver. The PDIC has up to 18 months to pay off depositors, and will try to recover these funds from the liquidation proceedings. It can only extend financial assistance to member banks for the purpose of rescue rather than

prolonging closure. Assistance can take the form of a loan, a deposit, or a purchase of assets. There have apparently been no cases of purchase and assumption operations as a solution to problem banks.

Supervisory and enforcement powers: The PDIC is empowered to examine and request information from member banks. However, it has in the past relied on Central Bank examinations of banks. The PDIC can withdraw insurance from member banks, or impose small fines.

Use of the facility: From its inception and up to 1984, 94 banks failed. Over 1984-88, approximately 140 banks, accounting for 6% of total deposits, have failed. The latter string of runs forced the PDIC to raise the assessments, increase the size of the fund, and borrow extensively in order to cover its liabilities. It is believed that, if assets were appropriately valued, the PDIC would have a negative net worth of about P1 billion.

**SOURCES:**

Silverberg, Stanley, "Philippine Deposit Insurance Corporation", World Bank, January 1989.

McCarthy, Ian, "Deposit Insurance: Theory and Practice", IMF Central Banking Service, January 1980.

SPAIN

1. Deposit Guarantee Fund (DGF)

**Origins:** In the 1960s, banking was a lethargic, but profitable, industry. Banks operated in a booming economy and enjoyed high levels of protection. Entry and branching were severely controlled. Interest rates were regulated, and banks had to meet certain credit criteria. Deregulation started in 1969, and proceeded over the 1970s. The new competitive environment fostered unorthodox banking practices, especially among the new inexperienced banks. Bad practices coupled with the oil-induced recession and the tight monetary policy that ensued pushed half of the existing banks, covering 20% of total deposits, into distress.

**Creation:** DGF was created in November 1977; it was restructured and strengthened first in January 1978 and then in March 1980.

**Administration:** Initially, the DGF was administered entirely by the Central Bank. After March 1980, it became a separate public entity operating under private law. It is administered by a Board with equal representation of the Central Bank and the member banks, but presided over by a Central Bank representative.

**Functions:** Initially, the DGF was set up simply to manage the liquidation of banks and to pay off depositors. After January 1978, DGF could grant assistance to a troubled bank which was not yet declared insolvent, up to an amount equal to the value of its insured deposits. On March 1980, its functions were strengthened to empower it to take all necessary steps to deal with problem banks.

**Supervision and enforcement:** Traditionally very lax, these were strengthened in the midst of the banking crisis. Supervision became the responsibility of the Central Bank, not the DGF. After March 1980, DGF can mandate audits of insured banks. The Central Bank can revoke the insurance of a bank. A July 1981 decree also empowered the DGF to revoke the insurance of banks that don't comply with the DGF's regulations (e.g. on submission of audits).

**Financing:** The DGF was initially funded by a one-time assessment of 0.1% of bank deposits and an equal contribution from the Central Bank. It could revise assessments annually. The fund was enlarged in March 1980. Annual assessments were limited to no more than 0.1% of deposits, and the Central Bank must contribute an amount equal to the aggregate of the assessments. The cap on assessments was subsequently raised to 0.2% in September 1982.

**Borrowing Capacity:** On March 1980, the Central Bank was allowed to grant an advance equal to four times its yearly contribution. After July 1981, the credit ceiling was removed.

**Membership:** Upon creation of DGF, all private banks, whether domestic or foreign, automatically became members. However, banks can choose to withdraw from the

DGF, and all new banks must apply for membership. Non-members cannot obtain any kind of financing from the Central Bank.

**Coverage:** All deposits of private banks, except for interbank deposits and deposits in foreign branches. Initially, this coverage was limited to Ptas. 0.5 million per depositor (in all bank accounts). It was raised to Ptas. 0.75 million (in all accounts in a given bank) in March 1980, and then to Ptas. 1.5 million in July 1981.

**Modalities of operation:** Prior to March 1980, the DGF could only pay off depositors if the Central Bank decided to liquidate the bank. The March 1980 decree empowered the DGF to restructure banks through the "accordion" mechanism. Once an insolvency is established by the Central Bank as bank supervisor, it forces the bank to write off its losses. The DGF then offers to buy the bank's shares; if the entire capital has been lost, it will offer a nominal price of Pta. 1 per share. It will inject as much capital as needed strictly to replenish the resources of the bank - to counter the writeoffs and any deposit loss. The DGF will assume temporary administration of the bank, or will relegate the administration to the Banking Corporation (see below). In either case, management will be replaced and the organization and operations of the bank will be restructured so as to enhance its efficiency. If additional financial support is needed by the bank on top of the recapitalization, the DGF can use other mechanisms such as the purchase at book value of all remaining assets that are non-performing or which have implicit losses, concession of guarantees, transitory exemption from the coefficient requirements, or granting subsidized loans. The DGF must reprivatize the bank within a year through a private offering. The DGF can take longer to liquidate the non-performing or other assets it purchased. The restructuring of the bank is of course geared towards making it marketable.

**Tax treatment:** It is exempt from the corporate tax and any indirect taxes.

**Use of facility:** Of the original 51 failed banks, one was liquidated and 26 were restructured and ultimately sold to other banks by the DGF or the Banking Corporation (see below). Of the remainder, 20 belonged to the Rumasa group, which was dealt with outside the DGF, and four were absorbed directly by other banks without the involvement of the DGF. On average, it took 6 months for an intervened bank to be reprivatized.

**Status of the Fund:** As of end-1985, the fund was in the red by Ptas 91 billion, and had been negative since 1983. This is mostly due to the very heavy debt service burdens on debts previously incurred with the Central Bank. In 1985 alone, interest paid to the Central Bank amounted to Ptas 109 billion. The net losses due to bank interventions up to 1985 amount to Ptas 104 billion. The negative balance of the fund represents 75% of its combined revenues from bank assessments and Central Bank contributions over the period 1980-85.

## 2. Banking Corporation (BC)

**Origins:** Upon its creation, the DGF had no powers to restructure troubled banks. The BC was created to assume ownership and temporarily administer troubled banks, while they were being restructured. When the DGF's powers were expanded in March 1980, many of the functions of the BC were assumed by the DGF itself. Thus, BC became redundant, and became merely a tool of the DGF.

**Creation:** March 1978.

**Administration:** Non-profit private corporation. Profits in excess of 8% of capital are to be transferred to the government budget.

**Function:** The BC, on the request of the Central Bank, could assume temporary ownership and management of a troubled bank by the "accordion" method. Its function would be to reprivatize the bank within a year, once its health had been restored. When the DGF's powers were expanded, the BC was used only when the DGF did not want to involve itself with the operation of the bank.

**Differences with the DGF:** (a) the BC does not deal with banks in the process of liquidation; (b) the BC can only support problem banks under its administration through long-term credit, and not through the purchase of the bank's non-performing assets.

**Abolition:** BC's activities are now limited to finishing up prior interventions, and is scheduled to be abolished when it has liquidated all its pending business.

**Financing:** The BC, like the DGF, is funded half by the private banks and half by the Central Bank. It was established with a capital of Ptas. 500 million. (no mention of annual assessments)

### SOURCES:

Larrain, Mauricio, and Fernando Montes, "The Spanish Deposit Guarantee Fund", unpublished manuscript, The World Bank, February 1986.

Cuervo, Alvaro, La Crisis Bancaria en Espana 1977-1985, Barcelona: Ed. Ariel, January 1988.

Fondo de Garantias de Depositos en Establecimientos Bancarios, Memoria Correspondiente al Ejercicio 1983. 1985.

McCarthy, Ian, "Deposit Insurance: Theory and Practice", IMF Staff Papers, Vol. 27 No.3, September 1980.

Pecchioli, R. M., Prudential Supervision in Banking, OECD, 1987.

THAILAND

Fund for the Rehabilitation and Development of Financial Institutions (RF)

\*\*\* NOTE: This is an implicit deposit protection scheme.

Origins: Thailand faced a severe financial crisis in early 1980s, as poor managerial practices and inadequate regulation/supervision was compounded by recession. Beginning in 1983, about 5 commercial banks and 50 finance and security companies (together accounting for 25% of banking assets) were in trouble and eventually had to be intervened.

Creation: 1985.

Administration: Legally distinct entity from the Central Bank, possessing its own Board and management.

Functions: To rehabilitate financial institutions. It operates as a "hospital bank" along the Spanish model. Unlike most deposit insurance corporations, the RF plays no role in bank liquidations.

Modalities of operation: Provide support to troubled institutions by lending to, placing deposits in, acquiring assets from, and underwriting or holding equity in financial institutions. Thus, it can inject liquidity and/or new capital to banks.

Relationship with Central Bank interventions: The Central Bank can also grant "soft loans" to ailing institutions, and can set financial programs requiring banks to reduce their present capital, achieve certain new capital levels, or replace management. However, it cannot take equity participations -- this is the main distinguishing feature with the RF. All actions on ailing institutions are initiated by the Central Bank.

Financing: Banks are required to make contributions up to 0.5% of outstanding deposits; currently the rate is set at 0.1%. It has also received major funding from the Central Bank through a capital subscription and loans. As of November 1988, the fund had B12.2 billion, of which 84% was put in by the Central Bank.

Supervision and enforcement powers: These lie entirely with the Central Bank. The RF can enforce its actions through the ownership of equity rather than through supervision.

Use of facility: By November 1988, had lent B4.2 billion and purchased equity worth B5.3 billion. In all, 5 banks have received financial assistance. A number of schemes have been applied in these cases, as different modalities of operation were used in each.

SOURCES:

IMF, "Distressed Financial Institutions in Thailand: Structural Weaknesses,

Support Operations and Economic Consequences," January 1989.

World Bank, Report No. 7445-TH.

**TURKEY****I. The Bank Liquidation Fund (BLF)**

**Origins:** Prior to 1944, Turkey had a State banking system. In 1944, a liberalization program was introduced, under which private banking was encouraged. Three private banks were created in the next four years, and they flourished in the new liberalized environment. But in the 1950s six banks collapsed.

**Creation:** 1960.

**Functions:** Strictly paying off depositors of failed banks.

**Modalities of Operation:** The Ministry of Finance decides on the closure of banks. The management of the liquidation process is handled by another bank by appointment from the Ministry of Finance. BLF reimburses the liquidator for operating expenditures and to cover the excess of liabilities over assets.

**Administration:** Administration is by the Central Bank, but decisions on liquidation are taken by the Ministry of Finance.

**Coverage:** BLF provided 100% insurance to all depositors and other general creditors. Only shareholders are left out.

**Financing:** The fund was fed with a one-time premium of 0.05% of commercial and savings deposits (note - that's not all of liabilities insured). In practice the fund was empty. In case of bank failure, the BLF would use Central Bank credit, which would then be paid off with ex-post assessments.

**Membership:** compulsory.

**Supervision and enforcement powers:** none.

**Use of facility:** The Fund was originally used to deal with the six banks that failed prior to its own creation. A total of TL 351.7 million were paid initially with Central Bank credit. It took until 1978 to repay these debts, so that the Fund was actually negative for a long time in spite of the fact that there were no new bank failures between 1960 and 1983.

**II. The Savings Deposit Insurance Fund (SDIF)**

**Origins:** The banking sector was flourishing in the 1970s. The economy was growing, and fixed interest rates in the face of high inflation created profit opportunities for banks. But a stabilization program in January 1980 created variable interest rates, which consequently rose dramatically. Many banks'

condition became precarious by 1983, and several banks threatened to fail. The collapse of a dubious scheme by a money broker had severe repercussions.

**Creation:** July 23, 1983. The BLF was transferred to the SDIF.

**Functions:** To provide assistance to banks in receivership, and to pay off depositors if the bank is liquidated. However, it is the Ministry of Finance who decides on the actions to be taken, and appoints receivers to either restructure or liquidate the bank.

**Modalities of operation:** In case of restructuring, the Ministry of Finance can request that the SDIF purchase part or all of the assets of the problem bank to strengthen its liquidity. In case the bank is merged, the SDIF will be instructed to provide direct financial assistance to the acquiring bank. If the bank is to be liquidated, the SDIF will pay off the depositors by opening accounts on other banks in the name of each depositor up to the insured limit. The SDIF then becomes a preferential creditor in the bankruptcy proceedings.

**Administration:** By the Central Bank. All administrative decisions must be approved by the Central Bank, and the head of the SDIF is the Governor of the Central Bank. Some decisions (e.g. rate, method and time of collection of assessments) must be taken by the Council of Ministers upon the proposal of the Ministry.

**Membership:** Compulsory for all domestic or foreign banks.

**Coverage:** All non-commercial deposits, both resident and non-resident, in domestic or foreign banks, up to TL 3 million per person in each bank. Interbank deposits and the deposits at branches abroad are not covered. The deposits of the bank's major shareholders and managers are not insured.

**Financing:** Premiums levied on member banks, amounting to 0.3% of insured deposits at year end. Premiums on foreign currency accounts are collected in the same denomination. The SDIF can also use the resources collected from miscellaneous fines and unclaimed deposits in member banks, the resources transferred from the BLF, and the revenues from its assets.

**Tax treatment:** The Fund is not subject to taxes. Also, premiums paid by banks are tax-deductible.

**Borrowing capacity:** The Central Bank can provide credit to the SDIF, at the request of the Ministry of Finance, who will decide on the amount, terms and other conditions of that advance.

**Supervision and enforcement powers:** none (done by the Ministry of Finance).

**Main differences with BLF:** Collects higher premium income. The use of its funds is wider, not just for paying off depositors in case of liquidation. But it still has no powers to deal with problem banks itself or to supervise banks. It is severely handicapped by legal constraints and lack of adequate autonomy.

Use of facility: As of October 1987, two banks had been liquidated and the SDIF paid off their depositors, three failed banks were merged into the Agricultural Bank, and two more were being supported by loans made by the SDIF - all in 1984.

SOURCES:

Erol, Cengiz and Eugene Sauls, "The History of Deposit Insurance in Turkey", Middle East Business and Banking, 3:20-22, July 1984.

McCarthy, Ian, "Deposit Insurance: Theory and Practice", IMF Central Banking Service, January 1980.

Pecchioli, R. M., Prudential Supervision in Banking, OECD, 1987.

Banks Association of Turkey, Banks Act, Part 10: SDIF, February 1986.

President's Report on the Second FSAL to Turkey, The World Bank, April 1988.

VENEZUELA

Deposit Guarantee Fund (FOGADE)

**Precursor:** An early deposit insurance scheme was limited to institutions in the Savings and Loan System ascribed to the National S&L Bank. In this scheme, coverage was up to Bs 500,000 and member banks paid an annual premium of 0.10% of total deposits annually (which could be raised to 0.25%).

**Origins:** FOGADE came in the wake of a bank failure (Banco de Comercio) that patently showed the inability of currently existing institutions to deal with banking crises. The bank failure was allowed to fester, and at one point this one bank was the recipient of about 48% of total Central Bank rediscounts.

**Creation:** March 1985.

**Administration:** Legally separate entity from the Central Bank and the Superintendency of Banks. Reports to the Government through the Ministry of Finance.

**Membership:** Compulsory for all formal banks and credit institutions. Membership requires external audits of each institution every six months.

**Coverage:** All types of deposits are covered, but not money market funds. The maximum coverage currently stands at Bs 250,000 per depositor, but can be increased up to Bs 500,000 subject to the approval of the National Executive.

**Financing:** There are two assessments annually based on the volume of total deposits. The premium currently stands at 0.16% but is scheduled to increase up to 0.25% by January 1990. An initial capital contribution from the Government was envisioned, but none has been made so far.

**Borrowing Capacity:** FOGADE started off with a line of credit from the Central Bank of Bs 5 billion, but has up to present been extended to Bs 11 billion. Such credit has a 5 year maturity, but can be rolled over.

**Functions:** To guarantee public deposits, to facilitate the intervention of banks, and to provide financial support to troubled banks prior to intervention when such support would help to preserve financial stability. Therefore, its function is quite broad.

**Modalities of Operation:** The FOGADE is authorized to: (a) grant credits of maturities of up to 10 years backed by any asset and with the possibility of subsidization; (b) to acquire and subscribe shares of banks; (c) to purchase any assets from banks. These it can do in the favor of private or intervened banks, and does not require changing bank management or wiping out existing shareholders. In case of intervention, it is the Superintendency, not FOGADE, that acts as receiver. FOGADE itself cannot single-handedly liquidate banks, intervene in banks or replace management.

**Supervisory and Enforcement Powers:** Supervision is split up into a number of Superintendencies (for Banks, S&Ls, insurance companies, etc.). The Superintendent has the power to force changes in bank, intervene in them, penalize them for non-compliance with regulations, etc. In some cases, the Superintendency must act in consultation with FOGADE, but it is the Superintendent that initiates and carries through any actions. FOGADE has developed its own bank analysis capability.

**Use of the Facility:** Upon its creation the Central Bank transferred to FOGADE all the assets acquired through intervention in the previous 10 years. Asset recovery is sub-contracted by FOGADE. Several of its recent actions have made apparent that FOGADE is harmed by its insufficient human resources, lack of decision-making power, poor coordination with other banking oversight agencies like the Central Bank and the Superintendency, inadequate capitalization, and vulnerability to political pressures. Aside from dealing with the Banco de Comercio which failed prior to FOGADE's coming into being, FOGADE has been called upon to liquidate two small finance companies through depositor payoff, has assisted two mortgage banks, and supported one commercial bank. The Superintendency has intervened in at least 4 other commercial banks, without FOGADE's involvement.

**SOURCES:**

Background paper for "Latin America's Financial Systems in the 1980s: a Cross-Country Comparison," LATTF, June 1989.

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Gutierrez, Joaquín, "Prudential Regulation and Banking Supervision: The Venezuelan Institutional Framework," August 1989.

YUGOSLAVIA

Unconditional Government Guarantee

It is unclear when the government first committed itself to guaranteeing deposits. The commitment appears in the 1985 and draft 1988 laws regulating, respectively, the principles of the banking and credit system and the National Bank of Yugoslavia.

According to the 1985 law, the legal guarantor depends on the nature of the deposits. The National Bank guarantees domestic currency savings deposits held by basic banks, the Post Office Savings Bank, and savings banks; the federal government guarantees foreign currency deposits held by private citizens and foreigners; and autonomous republics or provinces may extend guarantees on domestic currency savings accounts held at other financial institutions.

According to the 1988 draft law, the National Bank is the only legal guarantor for all financial institutions. However, coverage is limited to domestic currency savings deposits held by individuals.

SOURCES:

Ognjanovic, Vuk, The Banking and Credit System in Yugoslavia, Belgrade, 1986.

Draft of the Law on the National Bank of Yugoslavia and of the Bank Law, October 1988.

TABLE 1: DEPOSIT PROTECTION SCHEMES - SURVEY OF ORGANIZATION AND FUNCTIONS

Country	Institutional Organization			Functions and Use of Resources				Comments	
	Dates	Ownership	Organizational Setup	Degree of Decision Making	Liquidation	Mergers/Restruct.	Assistance		Supervision
Argentina 1946-79		general govt. commitment	none	entirely by CB	pay depositors	may encourage but not assist mergers	no	by same body, CB	Unconditional govt guarantee.
Argentina 1979-		govt.	an account at CB	entirely by CB	pay depositors	mgmt replaced, purchase assets, grant credit		by same body, CB	
Austria 1979-		private	within banking associations	not discretionary	pay depositors	no	no	no	Mutual insurance of deposits.
Belgium 1985-		pub./priv.	by public institute	limited	pay depositors	no	grant advances	no	
Brazil 1989-		private	inexistent as yet	limited; CB deci- des bank closures	pay depositors	no	no	no	
Canada 1967-		govt.	independent corporation		pay depositors, act as receiver		grant credit, guarantees	no	
Chile 1977-86		owned by CB, run by SBFI	none	in the hands of SBFI	pay depositors	no	no	by same body, SBFI	Unconditional govt guarantee.
Chile 1981-83 complementary		owned by CB, run by SBFI	none	in the hands of SBFI	pay depositors	mgmt replaced, purchase assets with repurchase, write-off capital	no	by same body, SBFI	Scheme complementary to the other general insurance.

TABLE 1: DEPOSIT PROTECTION SCHEMES - SURVEY OF ORGANIZATION AND FUNCTIONS

Country	Institutional Organization			Functions and Use of Resources			Supervision	Comments
	Ownership	Organizational Setup	Degree of Decision Making	Liquidation	Mergers/Restruct.	Assistance		
Colombia 1985-	govt.	offshoot of CB limited; 58 dec- for 5 years; des bank closures independent corporation	SB deci- pay depositors	pay depositors	mgmt replaced, purchase assets, write-off capital, capital injection, privatization	grant credit, guarantee, under concerted program	no	
Cuba 1952-7	private/govt.	independent board	limited; CB deci- des bank closures	pay depositors pay workers	no	no	no	
France 1980-	private	within banking associations	not discretionary	pay depositors	no	no	no	
Germany 1976-	private	within banking associations	discretionary	pay depositors	no	no	no	
Germany 1969-	private	within banking associations	discretionary	pay depositors	no	no	no	
India 1962-	Reserve Bank	independent corporation		pay depositors	pay claims not assumed	no	no	Merged with the Credit Guarantee Corporation.
Japan 1971-	private/govt.	independent corporation	limited	pay depositors	no	grant credit to assuming bank	no	
Kenya 1985-	govt.	provided by CB	can initiate actions	pay depositors	no	purchase assets, grant credit, guarantees		

TABLE 1: DEPOSIT PROTECTION SCHEMES - SURVEY OF ORGANIZATION AND FUNCTIONS

Country	Institutional Organization	Degree of	Liquidation	Mergers/Restruct.	Assistance	Supervision	Comments
	Organizational Setup	Decision Making					
Netherlands 1979-	offshoot of CB	joint with CB	pay depositors	no	no	no	mutual insurance deposits.
Nigeria	starting off as offshoot of CB	can initiate actions, with consent of Minfin	pay depositors, act as receiver	ngnt replaced, purchase assets, grant credit	grant credit, guarantees	no	
Norway 1961-	private/govt. independent corporation	can initiate actions	pay depositors	no	grant credit, guarantees	no	
Paraguay 1971-	umbrella bank	complete power over members	yes	yes, through transfers of assets	grant credit, guarantees	exclusive over members	Banco Nacional is legally the parent of member institutions
Philippines 1969-	offshoot of CB; now independent corporation	limited; CB decisions	pay depositors	no	purchase assets, grant credit	in parallel with CB	
Spain 1977-80	govt. by the CB	entirely by CB	pay depositors	up to value of insured deposits	by same body,	CS	
Spain 1980-	govt./private independent corporation	can initiate actions	pay depositors, act as receiver	ngnt replaced, purchase assets, write-off capital, capital injection, privatization	up to value of insured deposits	no	
Switzerland 1984-	private within banking associations	not discretionary	pay depositors	no	no	no	private agreement among banks for mutual insurance.

TABLE 1: DEPOSIT PROTECTION SCHEMES - SURVEY OF ORGANIZATION AND FUNCTIONS

Country	Ownership	Institutional Organization	Degree of Decision Making	Liquidation	Mergers/Restruct.	Assistance	Supervision	Comments
Turkey 1960-83	govt.	an account at CB	shared CB/MinFin	pay depositors, reimburse expenses to liquidator	no	no	by MinFin	
Turkey 1983-	govt.	offshoot of CB	shared CB/MinFin	pay depositors	purchase assets, grant credit	no	by MinFin	
UK 1982-	govt.	independent Board		pay depositors	no	no	no	
US 1933-	govt.	independent corporation	can initiate actions	pay depositors, act as receiver	replaced, purchase assets, grant credit	purchase assets, grant credit	shared	

TABLE 2: DEPOSIT PROTECTION SCHEMES - SURVEY OF FINANCING SCHEMES

Country	Bank Assessments Dates	Govt. Contributions Initial	Fund Maintained	Borrowing Authority	Comments
Argentina 1946-79	no bank assessments	none	after 1971	not necessary	
Argentina 1979-	0.05%/mo. avg. monthly deposits	none	discretionary	not necessary	Rebate of 10% of assessments in case of compliance with regulations.
Austria 1979-	ex-post assessment of actual payoffs	none	none	none	After '86 there is limit on bank contributions; other institutions may contribute as needed.
Belgium 1985-	0.02%/a insured liabilities	none	none	yes	Unused contributions refunded after 10 years. Separate funds for commercial banks, private savings institutions.
Brazil 1989-	not yet determined liabilities	none	none	yes	Ex-post assessments allowed.
Canada 1987-	0.1%/a insured liabilities	none	none	yes	available
Chile 1977-86	no bank assessments	none	as needed to cover claims	no	not necessary
Chile complementary 1981-83	0.1%/mo. avg. monthly insured deposits	none	discretionary	yes	
Colombia 1985-	initial fee possible; 0.3%/a deposits	none	not to exceed fines paid to Bank Superin.	yes	Bank assessments not to exceed 0.05%/m of total deposits; levies may be differentially set or rebated, or reduced when fund is large enough.

TABLE 2: DEPOSIT PROTECTION SCHEMES - SURVEY OF FINANCING SCHEMES

Country Dates	Bank Assessments Rate Base	Govt. Contributions Initial Regular	Fund Maintained	Borrowing Authority	Comments
Ocha 1952-?	as needed to reach and maintain P. 10 m	none as needed to reach P. 10m	yes	unlimited	Target for fund at P. 10 million. Contributions depend on deviation from this figure.
France 1960-	ex-post assessment of actual payoffs	none none	no	none	Payoffs in regressive scale of size, up to  FS0 billion cutoff.
Germany 1976-	0.03X/a; total additional deposits 0.03X/a possible	none none	yes	none	Insurance scheme for commercial banks only.
Germany 1969-	0.03X/a; outstanding bank claims	none none	yes	none	Bank contributions due until fund reaches 0.15X of outstanding claims on customers. Insurance scheme for savings banks.
India 1962-	0.05X/a assessable up to '71; deposits 0.04X/a	entire paid only to raise in capital paid capital of Rs. 10m Rs.90m total	yes	up to Rs. 50m	Merger with the Credit Guarantee Corporation; financing of 2 sides supposed to be separate.
Japan 1971-	1/3 of paid year-end in capital; insured 0.000X/a deposits	2/3 of paid in capital none	yes	available	
Kenya 1965-	0.15X/a avg. insured deposits	none none	yes	unlimited	Minimum bank assessment is K.shs 100,000.

TABLE 2: DEPOSIT PROTECTION SCHEMES - SURVEY OF FINANCING SCHEMES

Country Date	Bank Assessments Rate Base ----- -----	Govt. Contributions Initial -----	Regular -----	Fund Maintained -----	Borrowing Authority -----	Comments -----
Netherlands 1979-	ex-post assessment of actual payoffs	none	none	no	may advance assessments if in excess of a % of bank's own resources	Each bank's assessments can't exceed a certain % of own resources; if the needs exceed that, the fund will obtain an advance.
Norway 1961-	0.15% /a total till fund = assets 2% total dep.	none	none	yes		Bank contributions due until fund reaches 2% of aggregate non-bank deposits.
Nigeria	1.5/16% /a year-end deposits	US\$0m paid in US\$0% authorized	none	yes	unlimited	
Paraguay 1971-	0.25% /a total avg. deposits	(by USAID and IDB)	none	no	available	Central Bank is responsible for Banco Nacional, the umbrella bank covering member institutions.
Philippines 1969-	0.1/18% /a avg. insured up to '85; deposits 1.5/16% /a	entire paid only to raise in capital paid capital of P5 m Rs.15m in '73 Rs.2b in '85	none	yes	up to P100m up to '75; un- limited since. May issue bonds	Rebate of 60% of net income (after paying expenses and claims) on bank assessments.
Spain 1977-80	one-time assessment; 0.1% insured dep. revised yearly w/ needs	matches contributions from banks	none	yes	none	Variable assessments and contributions.
Spain 1980-	0.1%/a year-end insured up to '82; 0.12%/a deposits	matches contributions from banks	none	yes	Limited to 4X annual contribu- tions; after '81 unlimited.	

TABLE 2: DEPOSIT PROTECTION SCHEMES - SURVEY OF FINANCING SCHEMES

Country Dates	Bank Assessments		Govt. Contributions		Fund Maintained	Borrowing Authority	Comments
	Rate	Base	Initial	Regular			
-----	----	----	-----	-----	-----	-----	-----
Switzerland 1984-	none	none	none	none	no	none	Private agreement among banks for mutual insurance.
Turkey 1960-83	one-time premium 0.05%; also ex-post.	commercial & savings deposits (<insured)	none	none	yes	unlimited	If claims exceed size of fund, borrow from Central Bank and repay with expost assessments.
Turkey 1983-	0.3%/a	year-end insured dep.	none	none	yes	unlimited	Also financed from fun.'s transferred from earlier fund and unclaimed deposits.
UK 1982-	Levies proportional to deposits, between 2500-300000, not to exceed 0.3% of deposit base		none	none	yes		
US 1933-	1/12 of 1%/a	avg. total deposits	none	none	yes	up to \$3b	Assessment rate varied to keep fund between 1.1 and 1.4% of total insured deposits; 60% of net income of FDIC to be credited to banks against future assessments.
Yugoslavia 1985-	no bank assessments		none	as needed to cover claims	no	not necessary	

TABLE 3: DEPOSIT PROTECTION SCHEMES - SURVEY OF EXTENT OF COVERAGE

Country Dates	Institutional Coverage				Financial Instrument Coverage				Maximal Coverage /depositor	Comments
	nature of institutions covered	ownership of banks covered	foreign banks	participation	accounts covered	for-ex accounts	interbank deposits	non-residents' deposits		
Argentina 1946-79	all financial institutions	all up to '57; mixed/private		compuls. (costless)	after '74, all not after deposit liab. 1961				unlimited excl.'57-73	
Argentina 1979-	all financial institutions	all		volunt.	demand, savings, term, CDs.	no	no	yes	P100m;A81000	only 90% of total deposits reimbursed for those over limit.
Austria 1979-	credit inst., grouped by type		yes	compuls.	savings	yes	no	yes	AS 200,000	each group of credit institutions establish independent insurance groups.
Belgium 1985-	commercial banks, savings inst.	private	yes	volunt.	deposits, bonds, cash certificates	no	no	yes	BF 500,000, large enough	depositors don't have a legal right to payment.
Brazil 1989-	universal banks financial inst.	private		compuls. volunt.	demand, time, CDs, bills of exchange				3,500 OTM	passbook accounts excluded as they have alternative insurance.
Canada 1967-	banks, trust, mortgage & loan co.			compuls.		no	yes	yes	CS 60,000	
Chile 1977-86	all financial & non-fin. inst.	all		compuls. (costless)				yes	100 t.u.	
Chile complementary 1981-83	all financial & non-fin. inst.	all		volunt.	demand, savings, term		no	yes	additional 150 t.u.	only 75% of total deposits reimbursed for those over limit.

TABLE 3: DEPOSIT PROTECTION SCHEMES - SURVEY OF EXTENT OF COVERAGE

Country	Institutional Coverage				Financial Instrument Coverage				Maximal Coverage /depositor	Comments
	nature of institutions covered	ownership of banks covered	foreign banks	participation	accounts covered	for-ex accounts	interbank deposits	non-residents' deposits		
Colombia 1985-	all financial institutions	all	yes	compuls.	all deposits		yes	yes	Col\$ 200,000	
Cuba 1952-?	national banks	all	no	compuls.		no			P 10,000	
France 1980-	all banks	private	yes	volunt.	deposits excl. CDs	no	no	yes	FF 400,000	total payoffs not to exceed FF 200m per year.
Germany 1976-	commercial, mortgage banks		yes	volunt.		yes	no	yes	30% of bank's liable cap.	depositors don't have a legal right to payment; most banks are members.
Germany 1969-	savings banks, regional giro inst.		yes	volunt.		yes	no	yes	unlimited	
India 1962-	commercial banks; cooperative, rural since 1970s.	all		compuls.	all deposits		no	yes	Rs. 5000 '62 Rs. 10000 '70 Rs. 30000 '80	
Japan 1971-	banks, credit coops and associations		no	compuls.	all deposits excl. CDs	no	no	yes	Y 10m	
Kenya 1985-	all financial institutions	all		compuls.	all liabilities		yes	yes	Kshs 100,000	individual insurance is for excess of liab. over assets held at the bank
Netherlands 1979-	credit inst.		yes	compuls.	registered non-commercial debt not in bearer form	yes	no	yes	Fl 35000 '86 revised with wage index	

TABLE 3: DEPOSIT PROTECTION SCHEMES - SURVEY OF EXTENT OF COVERAGE

Country	Institutional Coverage	Financial Instrument Coverage	Maximal Coverage	Comments					
Dates	nature of institutions covered	ownership of banks covered	participation	accounts covered	for-ex accounts	Interbank deposits	non-residents' deposits	depositor / depositor	
Nigeria	commercial, merchant banks	all	compuls.	deposits excl. CDs	yes	yes	yes	N 50,000	
Norway 1961-	commercial banks		compuls.		yes	yes	yes	unlimited	
Paraguay 1971-	mortgage banks	private	volunt.	all deposits	no	no	yes	65 million	Open to members of home loan bank system.
Philippines 1969-	all banking institutions	all	volunt.	all deposits		no		P 10,000 '69 P 40,000 now	
Spain 1977-80	all banking institutions	private	volunt.	all deposits	no	no	yes	ptas. 0.5m	
Spain 1980-	all banking institutions	private	volunt.	all deposits	no	no	yes	P 0.75m '80 P 1.5m '81	membership a prerequisite for access to CG financing.
Switzerland 1964-	members of bank association		volunt.	savings, wages accounts	yes	no	yes	SF 30,000	Almost all banks have joined.
Turkey 1960-83	all banking institutions	all	compuls. (costless)	all liabilities excl. equity		no	yes	unlimited	
Turkey 1983-	all banking institutions	all	compuls.	non-commercial deposits and CDs	yes	no	yes	TL 3m	

TABLE 3: DEPOSIT PROTECTION SCHEMES - SURVEY OF EXTENT OF COVERAGE

Country	Institutional Coverage				Financial Instrument Coverage				Maximal Coverage /depositor	Comments
	nature of institutions covered	ownership of banks covered	foreign banks	participation	accounts covered	for-ex accounts	interbank deposits	non-residents' deposits		
UK 1982-	banks & licensed deposit takers		yes	compuls.	deposits under 5 yrs, excl. CDs & secured deposits	no	no	yes	75% coverage up to 10,000 pounds	
US 1933-	commercial, mutual savings, industrial banks with deposits		yes since '78	compuls. for Fed members	checking, time savings	yes	yes	yes	\$40,000 up to '80; \$100,000	
Yugoslavia 1985-	all financial institutions	all		compuls. (costless)	savings deposits	yes till '88	yes till '88	yes	unlimited	guarantees are by different govt. agencies depending on nature of bank.

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