

Deposit Insurance around the World

Issues of Design and Implementation

Edited by Aslı Demirgüç-Kunt, Edward Kane, and Luc Laeven

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1 Deposit Insurance Design and Implementation: Policy Lessons from Research and Practice

Aslı Demirgüç-Kunt, Edward Kane, and Luc Laeven

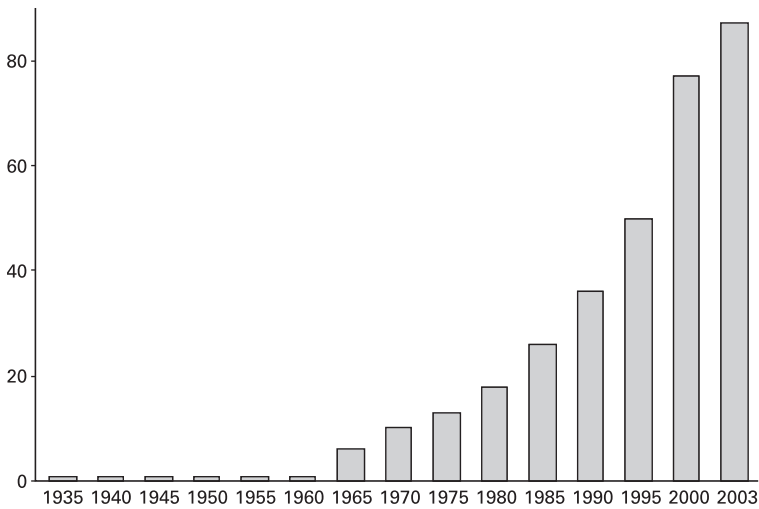
1.1 Introduction

Deposit insurance can be explicit or merely implicit. Explicit insurance coverages are contractual obligations; implicit coverages are only conjectural. Implicit insurance exists to the extent political incentives that influence a government's reaction to large or widespread banking problems make taxpayer bailouts of insolvent banks seem inevitable. Every country offers implicit insurance because, during banking crises, the pressure on government officials to rescue at least some bank stakeholders becomes difficult to resist. While still far from universal, explicit deposit insurance (DI) systems are multiplying rapidly. Countries explicitly guaranteeing deposits surged from twenty in 1980 to eighty-seven by the end of 2003 (see figure 1.1).

One reason for this surge is that having an explicit deposit insurance scheme has come to be seen as one of the pillars of modern financial safety nets. Establishing explicit deposit insurance has become a principal feature of policy advice on financial architecture that outside experts give to countries undergoing reform. Starting in the 1990s, IMF crisis management advice recommended erecting DI as a way of either containing crisis or winding down crisis-generated blanket guarantees (Folkerts-Landau and Lindgren 1998; Garcia 1999). The World Bank has also actively supported the adoption of DI and provided adjustment loans for initial capital of deposit insurance funds in a number of countries.¹

Table 1.1 lists countries that have adopted DI since 1995. Although many recent adopters were transition countries of Eastern Europe seeking to comply with the European Union (EU) Directive on Deposit Insurance, adopters can be found in every region of the world.

Total number of explicit deposit insurance systems established

**Figure 1.1**

The rise of deposit insurance around the world, 1935–2003

Table 1.1

Recent establishment of deposit insurance schemes

Year adopted	Countries that have established an explicit scheme
2003	Malta, Paraguay, Russia, Zimbabwe
2002	Albania
2001	Nicaragua, Serbia and Montenegro, Slovenia
2000	Cyprus, Jordan, Vietnam
1999	Bahamas, Ecuador,* El Salvador, Guatemala, Honduras, Kazakhstan (Cameroon, Central African Republic, Chad, Equatorial Guinea, Gabon, Republic of Congo: deposit insurance law ratified by two out of these six CEMAC countries)
1998	Bosnia and Herzegovina, Estonia, Gibraltar, Indonesia,* Jamaica, Latvia, Malaysia,* Ukraine
1997	Algeria, Croatia, Thailand*
1996	Belarus, Korea, Lithuania, Macedonia, Romania, Slovak Republic, Sweden
1995	Brazil, Bulgaria, Oman, Poland

*Blanket coverage

Countries with and without DI at year-end 2003 are mapped in figure 1.2. Holdouts outnumber DI adopters. China and most African countries do not offer explicit deposit insurance. In the developed world, Australia, New Zealand, and Israel stand out as important exceptions.

Trends in DI adoption should not be interpreted as evidence that designing and operating an efficient system are straightforward tasks. On the contrary, system personnel are tasked with conflicting objectives that make both jobs exceedingly difficult. Conflict comes from differences in the size and distribution of costs and benefits. The central challenge of deposit insurance management is to strike an optimal balance between the benefits of preventing crises and the costs of controlling bank and customer risk taking. Protecting against crises and shocks absorbs considerable resources and can easily end up subsidizing bank risk taking. When such subsidies exist, they foster imprudent banking practices and support inefficient borrower investments in real resources.

Given the difficulties policymakers face in designing and operating a country's safety net, they typically look to experts to help them decide whether to adopt explicit deposit insurance and, if so, how to design a workable system. Cost-benefit analysts should want to conduct a careful review of cross-country econometric evidence as well as to collect and examine testimony from practitioners in individual countries.

This study adds some new data points to the evidence available to guide decisions about deposit insurance adoption, design, and implementation. The next section summarizes the dimensions of the data set and highlights cross-country differences in deposit insurance design. Section 1.3 reviews cross-country econometric evidence on the costs and benefits of deposit insurance. Section 1.4 develops practical lessons from individual country experiences. Section 1.5 distills both kinds of evidence into a set of principles of good design.

1.2 Deposit Insurance around the World

Banking crises are painful and disruptive. During a crisis, liquidity typically dries up. Customers lose access to bank balances, and some worthy borrowers and equity issuers find that financial markets cannot accommodate their need for funding. Working-class and retired households may be forced into a hand-to-mouth existence. Severe crises derail macroeconomic stabilization programs, slow future growth, and increase poverty. Solid businesses may lose access to credit and be

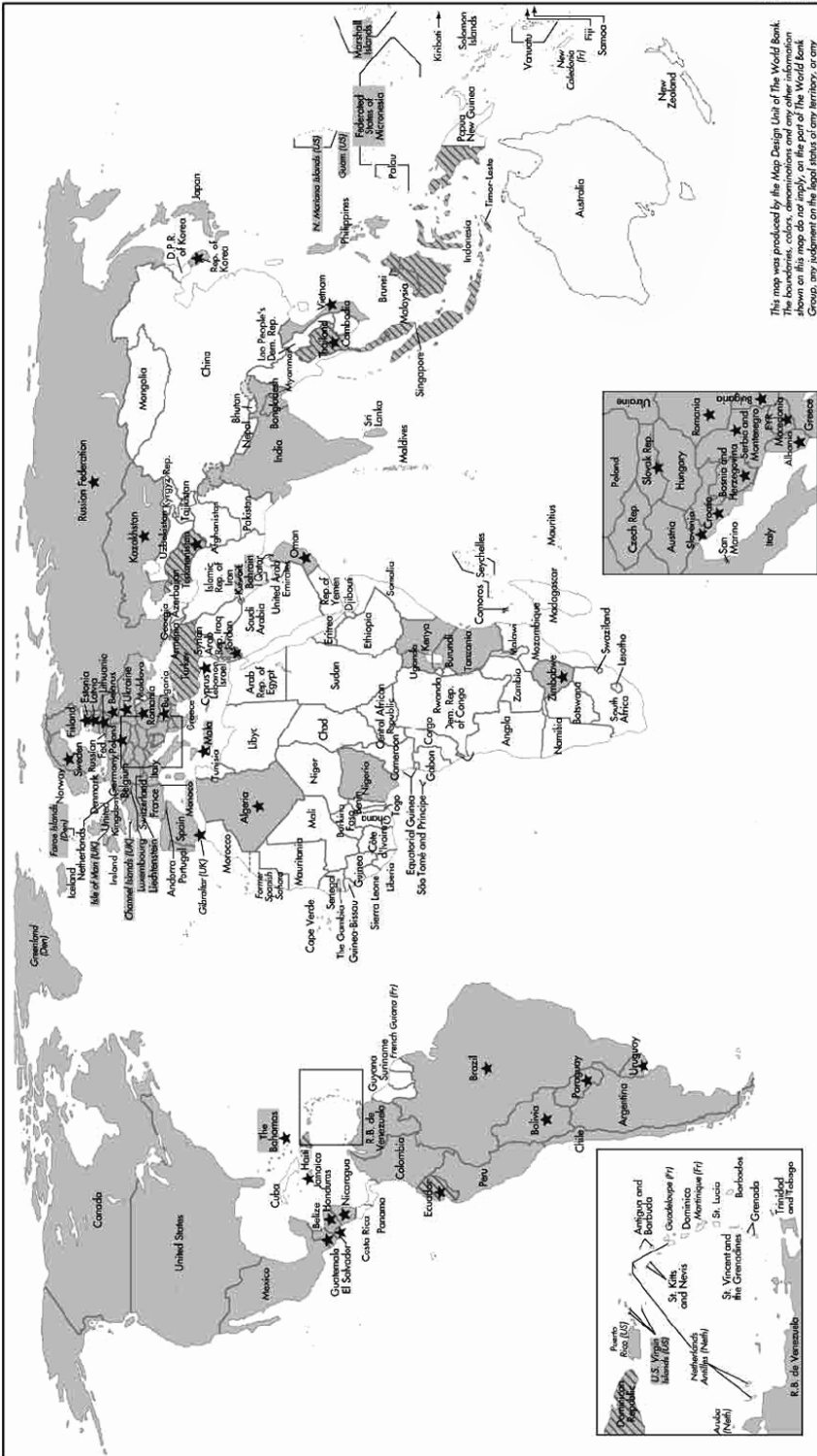




Figure 1.2
Adoption of deposit insurance around the world (as of 2003)

forced into bankruptcy. Diminished confidence in domestic financial institutions may fuel a panicky flight of foreign and domestic capital that not only closes down institutions but generates a currency crisis.

To minimize pain and disruption, policymakers erect a financial safety net. The net seeks simultaneously to make crises less likely and to limit the harm suffered when insolvencies occur. Implicit and explicit deposit insurance are critical components of national safety nets.

Deposit insurance guarantees appeal to policymakers for multiple reasons. One reason is that their costs are less immediately visible than their benefits. In the short run, installing explicit deposit insurance can actually lower reported budget deficits. This is because accountants can book premium revenue paid by banks without fully recording on the other side of the government's income statement the incremental value of the financial obligations that DI guarantees generate. Such one-sided accounting paints deposit insurance as a costless way of reducing the threat of bank runs. More lasting benefits include protecting unsophisticated depositors and improving opportunities for small and opaque domestic banks to compete with larger and more transparent domestic and foreign institutions. Also, when adopted as part of a program of privatization or postcrisis restructuring, cutting back the maximum size of balances covered by government guarantees becomes an important goal. Explicit deposit insurance can formally curtail the size of guarantees previously conveyed to banks that were government-owned or granted emergency blanket coverage.

To document differences in deposit insurance systems, the authors assembled a cross-country and time-series database covering 181 countries. This database provides comprehensive information on the existence and timing of deposit insurance adoption, design features installed, and any changes in features made over time. Chapter 11 describes the sample in detail.²

Table 1.2 shows that 75 percent of high-income countries offer DI, but only 16 percent of low-income countries do. DI is widespread in Europe and Latin America, but less common in the Middle East (29 percent) and sub-Saharan Africa (11 percent).

Figures 1.3 and 1.4 display trends in the adoption of DI by size of per capita income and by region, respectively. The frequency of adoption varies markedly across regions and per capita income classes. Except in the low-income category, countries have been adopting DI at an increasing rate. Regionally, Europe, Central Asia, and the Latin-Caribbean region show accelerated adoption activity.

Table 1.2

Proportion of countries with explicit deposit insurance to total by category (in percent, as of 2003)

Category	Proportion based on		
	Number of countries	GDP	GDP per capita
<i>By income level</i>			
High-income	75.00	96.35	83.45
Upper-middle-income	60.71	86.20	63.26
Lower-middle-income	58.82	57.56	64.25
Low-income	16.39	78.11	17.26
<i>By geographical region*</i>			
Asia and Pacific	38.46	48.76	53.78
Europe and Central Asia	74.07	97.24	93.40
Latin America and Caribbean	66.67	98.34	71.11
Middle East and North Africa	28.57	16.36	42.84
Sub-Saharan Africa	10.87	17.12	3.63

*Regional breakdown excludes high-income countries.

The database indicates that deposit insurance design features vary widely across countries. For example, account coverages range from unlimited guarantees to tight coverage limits. Whereas Mexico, Turkey, and Japan promise 100 percent coverage, Chile, Switzerland, and the United Kingdom limit individual depositor reimbursements to amounts less than their nation's per capita GDP.

Table 1.3 summarizes how selected design features vary across different income groups and regions. Besides setting a maximum level of guarantees, countries limit their *coverages* in several other ways. First, some countries insist that accountholders "coinsure" a proportion of their balances. However, coinsurance provisions remain relatively rare and are particularly infrequent in low-income countries. Second, countries do not always cover deposits denominated in foreign currency. Finally, although most schemes exclude interbank deposits, a disproportionately large number of countries in the low- to middle-income categories choose to guarantee such deposits.

Deposit insurance obligations are *funded* in diverse ways. Most are advance funded, commonly from a blend of government and bank sources. To enable managers to build and maintain a dedicated fund of reserves against loss exposures, insurers usually assess client banks an annual user charge. Premiums are typically based on the amount of

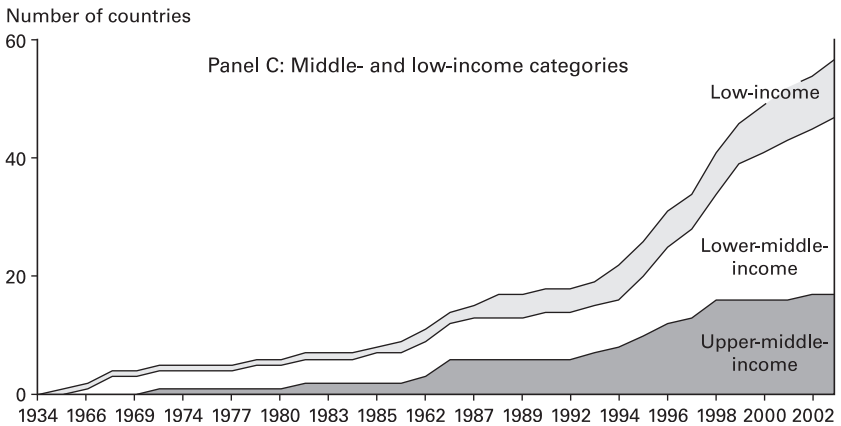
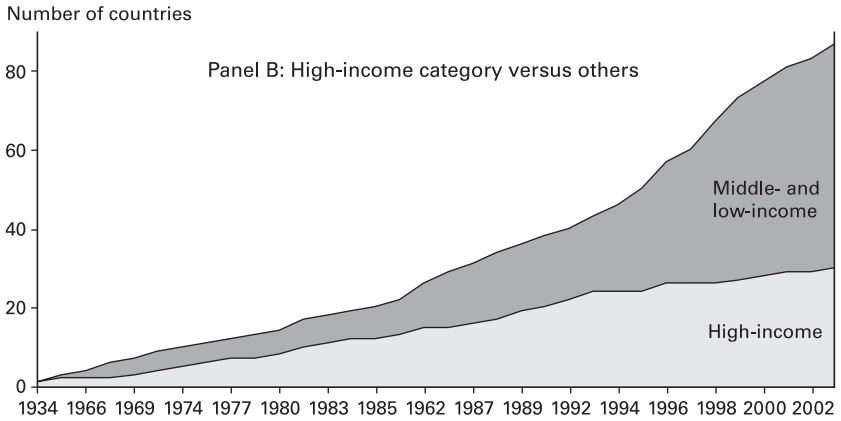
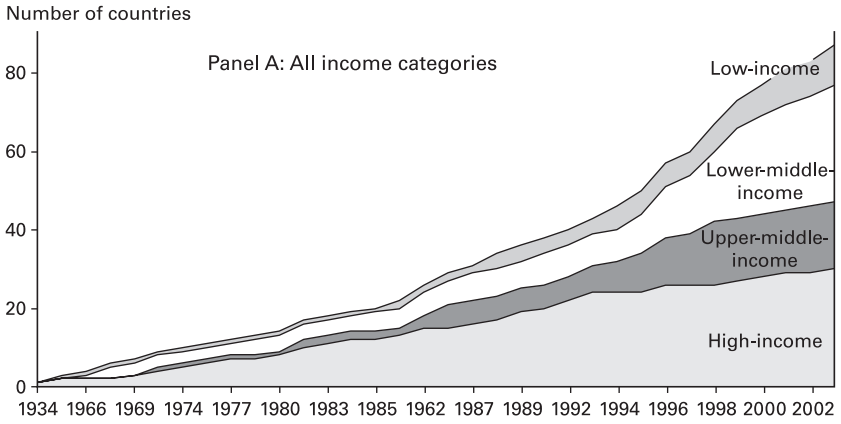


Figure 1.3
Trends in the adoption of explicit deposit insurance by income level

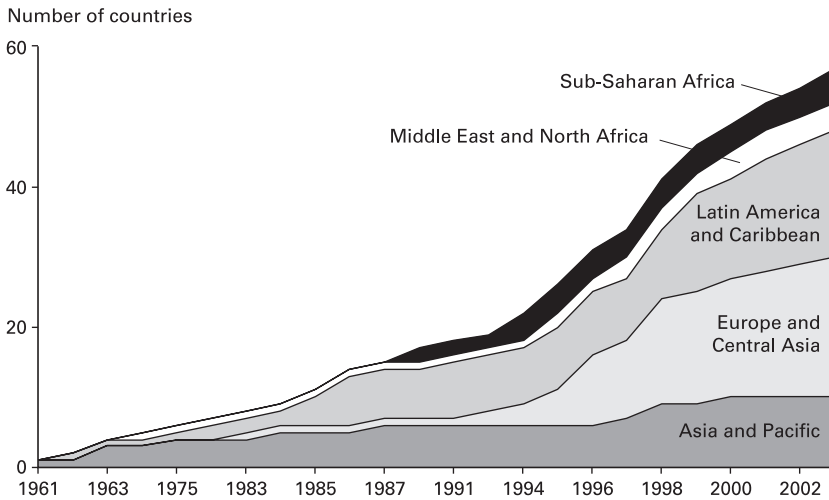


Figure 1.4

Trends in the adoption of explicit deposit insurance by region

Note: High-income countries are excluded from the analysis.

insured deposits, but efforts to tie premiums to individual bank risk exposures have gained momentum in recent years. Risk rating is a difficult task. Assessing risk requires a sophisticated staff and access to reliable balance sheet information from client banks. Difficulties in meeting staff and informational requirements help to explain why flat rate systems predominate among low-income adopters.

Insurance schemes are typically *managed* by a government agency or by a public-private partnership. Only a few countries (such as Argentina, Germany, and Switzerland) manage their schemes privately. Finally, in many countries, *membership* is compulsory for chartered banks. Here, too, Switzerland is a notable exception.

When countries are grouped by regions, similarities emerge. Compulsory membership is less common in Asia and the Pacific, and management is almost always official. Sub-Saharan African countries cover interbank deposits much more frequently than other countries.

Precisely because combinations of design features are so diverse, the value of the database lies in allowing investigators to compare and contrast the ways in which different features work in different environments. Section 1.3 summarizes what econometric analysis of this database can tell us about how individual features work in various circumstances.

Table 1.3

Design features of explicit deposit insurance schemes: Proportion of countries with each feature in a given category (as of 2003, in percent)

By income level					
Feature	High-income	Upper-middle-income	Lower-middle-income	Low-income	Proportion in all countries
Foreign currency deposits covered	73	80	82	57	76
Interbank deposits covered	7	7	29	43	18
Coinsurance exists	27	44	21	0	25
Payment per depositor	77	94	72	78	79
Scheme is permanently funded	63	94	97	100	84
Premiums are risk-adjusted	20	19	39	0	25
Membership is compulsory	93	100	82	100	91
Source of funding:					
Private	50	7	42	14	36
Joint	50	87	58	86	63
Public	0	7	0	0	1
Administration:					
Official	47	63	70	75	60
Joint	30	31	26	13	27
Private	23	6	4	13	12
By region*					
Feature	Asia and Pacific	Europe and Central Asia	Latin America and Caribbean	Middle East and North Africa	Sub-Saharan Africa
Foreign currency deposits covered	71	100	75	25	40
Interbank deposits covered	57	5	19	25	75
Coinsurance exists	0	45	18	25	0
Payment per depositor	75	80	82	75	80
Scheme is permanently funded	86	100	94	100	100
Premiums are risk-adjusted	33	35	29	0	0
Membership is compulsory	50	95	94	100	100

Table 1.3
(continued)

By region*					
Feature	Asia and Pacific	Europe and Central Asia	Latin America and Caribbean	Middle East and North Africa	Sub-Saharan Africa
Source of funding:					
Private	33	26	33	25	0
Joint	67	74	60	75	100
Public	0	0	7	0	0
Administration:					
Official	100	63	71	50	60
Joint	0	37	18	50	20
Private	0	0	12	0	20

*Regional breakdown excludes high-income countries.

1.3 Deposit Insurance: Empirical Evidence

An extensive body of economic theory analyzes the benefits and costs of deposit insurance and explores how balancing these benefits and costs can produce an optimal deposit insurance system. Foundational studies include Merton 1977, 1978; Buser, Chen, and Kane 1981; Diamond and Dybvig 1983; Chari and Jagannathan 1988; Kane 1995, 2000; Calomiris 1996; Bhattacharya et al. 1998; and Allen and Gale 1998. Starting from the premise that the main benefit of deposit insurance is to prevent wasteful (i.e., value-destroying) liquidations of bank assets caused by deposit runs, the theoretical debate centers on the question of how effectively hypothetical variations in deposit insurance arrangements can curtail voluntary risk taking (i.e., moral hazard).

Empirical evidence on the actual operation and design of deposit insurance systems is relatively scarce and limited in geographic coverage. An adequate body of cross-country econometric research is just emerging. Empirical research addresses five questions about the design and effectiveness of individual country deposit insurance systems and about the circumstances that might lead a country to establish an explicit scheme. These questions are:

- How does deposit insurance affect bank stability?
- How does deposit insurance affect market discipline?
- How does deposit insurance impact financial development?

- What role does deposit insurance play in managing crises?
- What factors and circumstances influence deposit insurance adoption and design?

The answer to the first four questions is “It depends.” Chief among the items on which outcomes depend are the factors and circumstances that influence DI adoption and design decisions.

1.3.1 Deposit Insurance and Banking Crises

Economic theory indicates that, depending on how it is designed and managed, deposit insurance can either increase or decrease banking stability. On the one hand, credible deposit insurance can enhance financial stability by making depositor runs less likely. On the other hand, if insured institutions’ capital positions and risk taking are not supervised carefully, the insurer tends to accrue loss exposures that undermine bank stability in the long run. Economists label insurance-induced risk taking as “moral hazard.” Moral hazard occurs because sheltering risk takers from the negative consequences of their behavior increases their appetite for risk. The importance of controlling moral hazard in banking has been stressed by academics, but disparaged by many policymakers.

Demirgüç-Kunt and Detragiache (2002) are the first to use a cross-country database to study the link between deposit insurance and financial crises. Their model of banking crisis uses 1980–1997 data from sixty-one countries. After controlling for numerous other determinants, they find that weaknesses in deposit insurance design increase the likelihood that a country will experience a banking crisis. More precisely, deposit insurance significantly reduces banking stability in countries whose contracting environment is poorly developed, but in stronger environments deposit insurance schemes have little significant effect on stability. Sensitivity tests indicate that this finding is not driven by reverse causality.³ Investigation of individual design features shows that deposit insurance proves troublesome in countries where coverage is extensive, where authorities amass a large fund of explicit reserves and earmark it for insolvency resolution, and where the scheme is managed by government officials rather than administered in the private sector.

An overriding theme that emerges from research on financial crises concerns the adverse influence defects in bank transparency and in mechanisms for enforcing counterparty obligations exert on the quality

of a country's regulatory regime. A large and growing body of evidence supports the hypothesis that the more effectively the private and public contracting environment serves to control incentive conflict, the more readily prudential regulation and supervision can rein in the moral hazard incentives that deposit insurance might otherwise generate.

1.3.2 Deposit Insurance and Market Discipline

In high-transparency environments, depositors discipline banks that engage in excessive risk taking by demanding higher deposit interest rates and/or moving balances to safer institutions. Because and to the extent that deposit insurance reduces a depositor's stake in monitoring and policing bank capital and loss exposures, it shifts responsibility for assuring transparency and controlling bank risk taking to the regulatory system.

Of course, even if a country's safety net covered all bank balances, depositors would remain at risk for the opportunity costs of claiming and reinvesting the amounts they are due and for costs occasioned by delays in receiving deposit insurance disbursements. This means that government guarantees never completely extinguish market discipline. Still, stability can be undermined if deposit insurance managers displace more discipline than they are able to exert.

Using a bank level dataset covering forty-three countries over 1990–1997, Demirgüç-Kunt and Huizinga (2004) study depositor discipline by modeling deposit interest rates. They show that explicit insurance does lower a bank's interest expense and does make interest payments less sensitive to individual bank risk and liquidity.

It is important to investigate how particular DI design characteristics affect bank risk-taking incentives. Statistical research establishes that, although market discipline increases with institutional development, particular deposit insurance design features consistently strengthen or weaken market discipline. On the one hand, market discipline is enhanced by coinsurance provisions, covering accounts denominated in foreign currency, and involving private managers in the insurance enterprise. On the other hand, significant amounts of private market discipline is displaced by setting high coverage limits, extending coverage to interbank deposits, establishing an *ex ante* fund of reserves, granting the insurer direct access to government resources, or insisting on public management.

Although deposit insurance displaces some market discipline even in advanced countries, the net effect DI has on stability need not be

negative. At the margin, stability is improved if DI is accompanied by appropriate regulation and supervision. This conclusion further clarifies the link between insurance and banking crises.

A complementary body of research explores the risk-shifting incentives that one can infer from the behavior of estimates of safety net subsidies imbedded in individual bank stock prices (e.g., Hovakimian, Kane, and Laeven 2003). These studies show that countries with poor private and public contracting environments are less apt to design their DI system well. This implies countries with weak contracting environments are apt to suffer adverse consequences from installing a DI scheme.

1.3.3 Deposit Insurance and Financial Development

Individual countries adopt deposit insurance for different reasons. In developing countries, a common goal is to expand the reach of the formal banking system and to increase the flow of bank credit by minimizing depositor doubts about the banking system's ability to redeem depositor claims when funds are needed. To the extent that deposit insurance bolsters depositors' faith in the stability of a country's banking industry, it mobilizes household savings and allows these savings to be invested in more efficient ways. A considerable body of research shows that financial development does indeed improve the productivity of real investment and sustain higher levels of aggregate economic growth (e.g., Levine 1997).

The quality of a nation's contracting environment limits the contribution that variations in regulatory structure can make to economic development and macroeconomic growth. Recent adopters of deposit insurance include African and Latin American countries with low levels of financial development and government accountability. Using time-series data for fifty-eight countries, Cull, Senbet, and Sorge (2005) find that explicit deposit insurance favorably impacts the level and volatility of financial activity only in the presence of strong institutional development. In institutionally weak environments, deposit insurance appears to undermine the productivity of real investment and retards, rather than promotes, sustainable financial development.

1.3.4 Deposit Insurance and Crisis Management

Crisis management entails a number of difficult policy trade-offs between recovery speed, economic efficiency, and distributional fairness. Due to deficiencies in prior disaster planning, it has become common

practice to issue blanket guarantees to arrest a banking crisis. Countries adopting this strategy include Sweden (1992), Japan (1996), Thailand (1997), Korea (1997), Malaysia (1998), and Indonesia (1998). Turkey tried to halt its financial panic in 2000 by guaranteeing not just bank depositors, but all domestic and foreign nondeposit creditors of Turkish banks.

Advocates of using blanket guarantees to halt a systemic crisis argue that sweeping guarantees can be immediately helpful—if not essential—in stopping a spreading flight to quality. However, because blanket guarantees create an expectation of their future use in similar circumstances, they undermine market discipline and may prove greatly destabilizing over longer periods. Although countries can formally scale back explicit DI coverages when a crisis recedes, it is very difficult to eliminate conjectural coverages in a credible manner.

Honohan and Klingebiel (2003) analyze the impact of blanket guarantees and other crisis management strategies on the full fiscal costs of resolving banking system distress. Their analysis of forty separate crises experienced in 1980–1997 indicates that unlimited deposit guarantees, open-ended liquidity support, and capital forbearance significantly increase the ultimate fiscal cost of resolving a banking crisis. Moreover, the data show no trade-off between fiscal costs and the speed of economic recovery. In their sample, depositor guarantees and regulatory forbearance failed to reduce significantly either the length of a country's crisis or the size of the crisis-induced decline in aggregate real output the crisis induced.

Providing liquidity support for economically insolvent institutions appears to prolong a crisis. It does this by distorting bank incentives: disposing bank managers to favor risky longshot investments over less risky projects. Bank-level gambles for resurrection delay healthy adjustments and tend to generate further declines in aggregate output.

1.3.5 Determinants of Deposit Insurance Adoption and Design

Our review of the literature indicates that introducing explicit deposit insurance into weak private and public contracting environments tends to undermine market discipline in ways that reduce bank stability, destroy real economic capital, and sidetrack economic development. To understand and counter this threat, one must examine the factors that dispose a country to adopt deposit insurance and influence its design. Demirgüç-Kunt, Kane, and Laeven (chapter 2) investigate this question using 1960–2003 data covering 170 countries.

Their goal is to assemble a comprehensive dataset with which to determine whether and how outside influences, economic circumstances, crisis pressures, and political institutions affect deposit insurance adoption and design. To study this sample robustly, the authors use three complementary regression strategies: limited dependent-variable regression, hazard analysis, and Heckman selection models. They estimate adoption and design decisions simultaneously and control for the influence of economic and political characteristics, disruptive events (such as macroeconomic shocks), occurrence and severity of crises, and the nature of the contracting environment. They find that outside pressure to emulate developed-country regulatory frameworks and political arrangements that facilitate intersectoral deal making dispose a country toward adopting a DI scheme. Another strong and robust conclusion is that countries design their schemes especially poorly when they install DI in response to a financial crisis. In Demirgüç-Kunt, Kane, and Laeven (2007), the authors further investigate the impact of the source and impact of external pressures. They find that while external pressures indeed make a country more likely to adopt deposit insurance, expert advice that sometimes accompanies this pressure (from international financial institutions, the European Union, and the like) is also more likely to lead to prudent design.

To summarize, research on the first four questions suggests that, to install DI successfully, weaknesses in a country's contracting environment must be identified so that design features can be adapted to them. Decisions to install DI during and after a crisis must not proceed hastily. Policymakers must make a concerted effort to appreciate that preexisting weaknesses in transparency, government accountability, and private contract enforcement limit the kinds of reforms they may advantageously pursue.

1.4 Lessons from Country Experiences

This section reviews a few instructive examples of good and bad experience with deposit insurance. The United States was the first country to establish nationwide deposit insurance. It did so in 1934 in response to the Great Depression as Kane and Wilson (1998) explain. Kroszner and Mellick review U.S. experience in chapter 5. Initially, the coverage limit was set at \$2,500, but rose quickly to \$5,000. The limit has been increased many times since then: to \$10,000 in 1950, \$15,000 in 1966, \$20,000 in 1969, \$40,000 in 1974, and to \$100,000 in 1980. Legislation

passed in 2006 indexes coverage limits for inflation and extends coverage for retirement accounts to \$250,000.

In chapter 2, Demirgüç-Kunt, Kane, and Laeven show that outside influences and crisis pressures are major determinants of deposit insurance adoption and design. Many countries installed DI countries during times of banking crisis. To stop bank runs quickly and to forestall civil unrest, organizations such as the IMF and the World Bank often advise the prompt introduction of sweeping government guarantees of bank deposits.

During financial crises, response speed is important, but authorities must not allow it to become the only consideration. Guaranteeing the liabilities of deeply insolvent banks is invariably a mistake. This is because insolvent banks have strong incentives to book risk exposures that abuse government guarantees. Even though broad coverages—including blanket guarantees—can stem bank runs, they adversely constrain a nation's future policy options (Kane and Klingebiel 2004). After issuing broad guarantees, countries typically find themselves forced to support sweeping coverages for many years after the crisis has receded. When guarantees are issued abruptly without prior planning (as in Turkey in 2000), it becomes particularly difficult to scale back the guarantees when the emergency ends. After its 1986 banking crisis, Mexico covered deposit balances in full for more than a decade.

Haber (chapter 6) reviews Mexico's experience with deposit insurance over the last 120 years. During the period 1884–1982, Mexico did not have explicit deposit insurance. Potentially imprudent behavior by insiders was mitigated by arrangements that served simultaneously to promote good corporate governance and to limit competition by controlling the entry of new banks. The resulting banking system proved stable and profitable, but attracted extremely low levels of deposits. Supplemental activity by government development banks generated a large number of inefficient public-sector enterprises. During the period 1991–2004, Mexico introduced deposit insurance, but because the scheme countenanced minimal bank regulation and weak corporate governance, it led to reckless lending, high borrower default rates, and a taxpayer-financed bailout of various bank stockholders.

Among more recent adopters, Russia has received considerable attention. Russia is a large country that has experienced financial crisis and taken nearly ten years to finalize its decision to introduce deposit insurance. Camara and Montes-Negret (chapter 9) review Russian

experience with deposit insurance planning. Partly because of poor licensing policies, during Russia's post-Soviet transition, authorities had to cope with a number of very weak banks. Many institutions were severely underdiversified, having had to limit their lending activity to enterprises operating within an assigned business group.

Russia suffered a major banking crisis in 1998. A unilateral restructuring of government debt resulted in depositor runs and a collapse of the payments system. In the absence of formal deposit insurance, officials rescued many households by transferring their deposits from privately owned banks to the government-owned Sberbank. The collapse of several private banks and the resulting expansion of loanable funds allowed Sberbank to transform itself from a savings bank to a universal bank. Sberbank now holds 75 percent of the country's retail deposits and roughly 25 percent of banking assets overall.

In the wake of these events, government-sponsored deposit insurance was seen as a way both to increase trust in the payments system and to create a level playing field between the state-owned Sberbank and the private banks. Legislation providing for a system of deposit insurance was adopted at the end of 2003.

In this instance, because the regulatory and supervisory framework of Russia was seen as weak, the international community cautioned against DI adoption. Possibilities and incentives for depositors to exert market discipline on banks were limited and had been further undermined by the government's willingness to protect well-connected bank owners from the consequences of the 1998 crisis. Incentives for additional risk taking established by deposit insurance could easily increase financial fragility and slow financial and economic development. It seemed wiser to consolidate and restructure the banking sector and establish a competitive balance between Sberbank and the private banks before deposit insurance was implemented. In this way, authorities could build trust by enforcing bank rules and regulations effectively, by delicensing fragile banks, and by allowing only sound and relatively transparent financial institutions to operate. This would give private creditors and investors the ability to monitor banks and an incentive to exert market discipline.

However, the Russian government chose a different path. It put deposit insurance into effect in early 2004. In the hopes of mitigating moral hazard, the new scheme covered only balances in household accounts up to Rb 100,000 (around US\$3,400). This limit was roughly the same as the country's per capita GDP. Excluding corporate depos-

its from the scheme lessened the participation of banks that were connected to business groups. Membership in the scheme required approval from the Central Bank of Russia so that distressed banks could in principle be excluded from the scheme. A special state guarantee on deposits in the state-owned Sberbank was scheduled to be phased out by January 2007.⁴

Apart from crises, efforts to integrate national financial markets exert strong extraterritorial influence on deposit insurance design. For example, the EU Directive on Deposit Insurance dictates that each member state insure individual accounts up to at least 20,000 euros. In low-income countries, this minimum has generated inefficiently high coverage. Nenovsky and Dimitrova (chapter 8) show that efforts by EU accession countries in Central and Eastern Europe to comply with the EU Directive produced deposit insurance coverages that are inordinately high relative both to bank capital and to GDP per capita. Nenovsky and Dimitrova argue that the overinsurance in accession countries has increased moral hazard by distorting the incentives of their poorly capitalized domestic banks. Huizinga (chapter 7) also shows that the high coverage limits of the EU Directive is more in line with the preferred policies of the higher income EU-15, and that overinsurance is visible in several new members in Eastern Europe.

Financial integration also led six Francophone African countries that had previously established a common central bank to plan for deposit insurance: Cameroon, Central African Republic, Chad, Equatorial Guinea, Gabon, and Republic of Congo. Together, these countries form the *Communauté Économique et Monétaire de l'Afrique Centrale* (CEMAC), an organization that plans to install explicit deposit insurance in all six member countries. As in the EU case, large differences in the level of GDP per capita exist across member states and these differences make it difficult to negotiate a common level of deposit insurance coverage for all member states. The result is that, although proposed in 1999, so far the DI plan has only been ratified by two of the six CEMAC countries.

Although it is unusual for a country to revoke explicit deposit insurance once it is in place, a few exceptional cases exist. Argentina provides a recent example. Before 1979, deposits in Argentina were unconditionally guaranteed by the Argentinean government. In 1979, a deposit insurance scheme was installed by the military government. The scheme provided full coverage for an accountholder's first million pesos (about \$640) and 90 percent coinsurance thereafter. In 1991, this

scheme was abolished and replaced by a system that intensified the supervision of Argentine banks. However, after supervisors suspended the operations of five private banks in April 1995, deposit insurance was reintroduced. Current accounts, savings accounts, and time deposits are now covered up to \$30,000.

Other countries have considered and rejected explicit deposit insurance. Namibia is a case in point. Spurred by neighboring South Africa's debate on whether or not to adopt deposit insurance, the Central Bank of Namibia formally investigated the desirability and feasibility of installing deposit insurance in Namibia. The Namibian banking system is dominated by a few South African banks. The study concluded that domestic banks were too small and too few to warrant an insurance scheme.

Yet other countries, such as Malaysia, have made a conscious decision to restructure their financial system before undertaking a deposit insurance program. For many years, China has been studying the wisdom of DI adoption. Although burdened by a large proportion of nonperforming loans, the Chinese have developed one of the deepest banking systems in the world and done so without introducing deposit insurance or other kinds of formal guarantees. Chinese authorities are now proposing a deposit insurance scheme that would combine a high threshold for complete coverage of individual accounts with a low coinsurance rate for balances that exceed the ceiling. In chapter 10, Honohan examines some of the benefits and costs of this proposal. The potential benefit is that, by relieving pressure on the Chinese central bank to rescue insolvent banks, a well-designed scheme could improve regulatory incentives. However, without a prior restructuring to assign definitely the losses imbedded in state banks, deposit insurance is likely—rather than to correct bank and regulator incentives—to introduce further distortions.

1.5 Principles of Good Design

Cross-country empirical research and individual country experiences confirm that, for at least the time being, officials in many countries would do well to delay the installation of a deposit insurance system. Explicit insurance can help to develop a robust financial system. But it does so only when it is carefully designed and introduced into a country whose public and private contracting environment includes reliable institutions of loss control. The difficulty is one of sequencing. Where financial controls are poor, explicit deposit insurance can spur financial

development only in the very short run. Although formal guarantees make banks more eager to lend, they also undermine longstanding patterns of bank bonding and depositor discipline. Over longer periods, the displacement of preexisting private discipline can encourage patterns of lending that increase financial fragility and deter financial development. In this case, excessive risk taking leads to financial and nonfinancial insolvencies that destroy real economic capital.

The downside of installing explicit insurance is that it reduces incentives for depositors to monitor the riskiness of their banks. Depositors are prepared to tolerate aggressive bank lending whenever they believe that, even if borrowers cannot repay the bank, their deposit claims will be paid by the deposit insurer. Unless the insurer can effectively replace the (private) monitoring that government guarantees displace, aggressive banks can fund a portfolio of risky loans at a deposit interest rate that lies far below the yield at which the resulting exposure to loss deserves to be funded. In institutionally weak environments, effective deposit insurance design is often blocked by political obstacles that end up intensifying rather than reducing the probability and depth of future crises.

For countries that have already installed or are in the process of designing an explicit deposit insurance scheme, cross-country empirical research identifies six commonsense principles of good design. No government can afford to neglect these principles. Even in the strong institutional environments, weaknesses in deposit insurance design and distortionary political pressures that support them can fuel financial fragility and lessen the discipline that banks receive from private counterparties. To control and offset these effects, six design features have proved themselves useful.

The most straightforward principle entails setting enforceable coverage limits. Insurers' first priority must be to assure that official supervision complements private monitoring. To accomplish this, the scheme must be designed and managed in ways that convince large depositors, subordinated debtholders, and correspondent banks that their funds are truly and inescapably at risk. Maintaining strong incentives for private parties to bond and police bank risk exposures is especially important in contracting environments where accounting transparency and government accountability are deficient.

A second principle is to make membership in the deposit insurance system compulsory. This increases the size of the insurance pool and prevents strong institutions from selecting out of the pool whenever the fund needs an injection of new capital.

A third principle supported by cross-country evidence is to make the public and private sectors jointly responsible for overseeing the scheme. A public-private partnership establishes checks and balances that improve management performance.

The fourth principle is to limit the fund's ability to shift losses and loss exposures to the general taxpayer. Whether or not the insurer holds a formal fund of reserves, it must be crystal clear that except, in truly catastrophic circumstances, funds to cover bank losses will come principally from the pool of surviving banks. Access to taxpayer assistance should be legally impeded by statutory provisions that can be relaxed only in extraordinary circumstances and by following extraordinary procedures.

The fifth principle is to price deposit insurance services appropriately. Laeven (chapter 3) shows that countries have typically underpriced deposit insurance because banks in many developing countries cannot afford to pay actuarially fair premiums. He describes several methods for pricing deposit insurance accurately but his results suggest that many of these countries cannot afford deposit insurance.

The sixth and final principle is that deposit insurers must actively involve themselves in decisions about when and how to resolve individual bank insolvencies. Because deposit insurers are responsible for paying off insured depositors, they have a strong interest in assuring the prompt and speedy resolution of insolvent banks. Beck and Laeven (chapter 4) argue that deposit insurers are more efficient than courts because banking supervisors better understand bank risk-taking incentives and how to remedy them. Using data for over large number of banks in over fifty countries, they show that banks are more stable and less likely to become insolvent in countries where the deposit insurer has responsibility for intervening failed banks and the power to revoke membership in the deposit insurance scheme.

Deposit insurance is strong medicine. Whether it benefits or harms a country depends on how well it is designed and administered. It can be a useful part of a country's overall system of bank regulation and financial markets, but cross-country research stresses the importance of promptly identifying and eliminating individual bank insolvencies, fostering informative accounting standards, and establishing reliable procedures for contract enforcement before adopting explicit deposit insurance. Research also underscores the need to build in a capacity to adapt dynamically to financial changes. Managers must be empowered and incentivized to upgrade their loss controls to disable unfor-

seeable loopholes that regulation-induced financial innovation will inevitably open in their system.

Notes

1. A World Bank report (OED) found that, during the period 1993–2004, the World Bank concerned itself in a total of sixty instances with reforms in the deposit insurance schemes of thirty-five countries.
2. This database updates and extends an earlier database by Demirgüç-Kunt and Sobaci (2001).
3. The experience of countries that introduce deposit insurance as a result of a crisis does not contribute to these results; in fact, observations for each country's crisis period are dropped from the sample. To double check this issue, the authors also analyze a two-stage model that first estimates the probability of adopting explicit deposit insurance and then inserts this estimated variable into a second-stage crisis equation. The first-stage results indicate that sample countries decide to adopt deposit insurance because other countries adopt it as it becomes perceived to be best practice. In the second stage, the influence of deposit insurance variables becomes even more significant, indicating that allowing for reverse causality does not alter the results.
4. Sberbank's DI premia were to be maintained in a separate account until its share of household deposits fell below 50 percent or until January 1, 2007, whichever came first. The funds accumulated in this account could only be used for payouts on Sberbank deposits.

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