Deposit Insurance: Handle with Care

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Abstract: Explicit deposit insurance has been spreading rapidly in the past decades, most recently to countries with low levels of financial and institutional development. This paper documents the extent of cross-country differences in deposit-insurance design and reviews empirical evidence on how particular design features affect private market discipline, banking stability, financial development, and the effectiveness of crisis resolution. This evidence challenges the wisdom of encouraging countries to adopt explicit deposit insurance without first stopping to assess and remedy weaknesses in their informational and supervisory environments.

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1. Introduction

During the last two decades, systemic banking crises have afflicted developed and developing countries alike. A systemic crisis occurs when widespread depositor runs reveal that most or all of the accounting capital in a country's banking system is illusory. Systemic crisis have hit 93 countries and borderline crises have afflicted 46 countries. Numerous countries have suffered several crises.

Banking crises are costly and disruptive. As measured by the increased debt generated in the crisis year, fiscal costs incurred in 1997-98 crises exceeded 30 percent of Gross Domestic Product in Thailand and Korea and 50 percent in Indonesia. But the true cost of a crisis far exceeds its immediate fiscal cost. Severe banking crises may derail macroeconomic stabilization programs, slow future growth, and increase poverty. During a crisis, depositors typically lose the use of their balances and would-be borrowers and equity issuers find that financial markets have dried up. Working-class and retired households may be forced into a hand-to-mouth existence and good borrowers and sound banks may lose access to credit and be forced into bankruptcy. Diminished confidence in domestic financial institutions may fuel a panicky flight of foreign and domestic capital and a severe currency crisis.

To control these costs, policymakers erect a financial safety net. The net seeks both to make a systemic financial breakdown less likely and to limit the damage done when one occurs. Deposit insurance is a critical component of such safety nets. Establishing explicit deposit-insurance guarantees has come to be seen as one of the pillars on which any truly modern financial system must be built. Indeed, the number of countries offering explicit deposit insurance has almost tripled

during the last decades. Today, most OECD countries and an increasing number of developing countries feature explicit depositor protection.

Popularity of explicit deposit insurance may give the misleading impression that designing and operating an efficient system is easy. Quite to the contrary, safety-net managers are assigned conflicting objectives which make their task very difficult. They are asked not only to project against financial crises and related economic shocks, but also to avoid subsidizing bank risk-taking lest they foster inefficient bank risk-taking and other imprudent banking practices. The central challenge safety-net managers face is to strike an appropriate balance between preventing crises and at the same time controlling bank risk-taking.

Given the difficulties involved in designing and operating a safety net, policymakers often seek expert advice on how best to design an explicit deposit-insurance systems. Expert advice needs to be grounded in carefully interpreted cross-country empirical evidence. A recent World Bank research project developed such a database for researchers worldwide and answered questions about how explicit deposit insurance affects three items: financial stability, how markets discipline bank risk-taking, the development of the overall financial system, and crisis management. This paper, which is based on Demirguc-Kunt and Kane (2002), provides a synthesis of this research effort. The next section characterizes the data set and uses it to summarize the extent of cross-country differences in deposit insurance design. Section 3 summarizes the empirical evidence on the impact of deposit insurance. Section 4 concludes with policy implications.

2. The Rise of Deposit Insurance Around the World

Deposit insurance can be explicit or merely implicit. Implicit insurance exists to the extent that the political incentives that shape a government's reaction to crisis make a taxpayer bailout of insolvent banks seem inevitable. Explicit deposit insurance has spread rapidly in recent years. The number of countries offering explicit deposit guarantees has surged from 12 in 1974 to 71 in 1999 (see Figure 1). Establishing explicit deposit insurance has become a principal feature of policy advice on financial architecture that outside experts give to countries undergoing reform (Folkerts-Landau and Lindgren, 1998; Garcia, 1999).

It is not hard to see why deposit insurance appeals to policymakers. In the short run, government accountants can book income from periodic insurance premiums without acknowledging the parallel buildup of formal obligations that guarantees create. Such one-sided accounting paints deposit insurance as a costless way of reducing the threat of bank runs. Other attractions include protecting small depositors and improving opportunities for small domestic banks to compete with larger national and foreign institutions. In programs of privatization or post-crisis restructuring, explicit deposit insurance is sometimes adopted to curtail the size of implicit guarantees. When banks were previously either government-owned or given blanket guarantees, limiting the maximum size of balances covered by deposit insurance is an important goal.

A cross-country database developed as part of the World Bank research program characterizes deposit insurance arrangements in 178 countries (Demirguc-Kunt and Sobaci, 2001). This database documents how widely deposit-insurance design varies across countries. For example, account coverage varies from unlimited guarantees to tight coverage limits. On the

one hand, Mexico, Turkey and Japan promise 100 percent depositor coverage. However, countries like Chile, Switzerland, and U.K. cover individual deposits up to an amount that is actually less than their per capita GDP. Also, although many countries cover deposits denominated in foreign currency, most schemes exclude interbank deposits. Besides setting a maximum level of coverage, some countries insist that accountholders "coinsure" a proportion of their deposit balances. Coinsurance provisions are still relatively rare, but are more frequent in recently adopted schemes.

Deposit insurance obligations are typically advance-funded, most commonly from a blend of government and bank sources. To allow the insurer to build and maintain an appropriate fund of reserves against its loss exposures, such countries generally assess their banks an annual premium that is based entirely or in large part on the amount of insured deposits. Efforts to make these annual premiums sensitive to bank risk exposure have begun in recent years.

Insurance schemes are typically managed in a government agency or in a public-private partnership. However, a few countries, such as Switzerland, Germany and Argentina, manage their schemes privately. Finally, in almost all countries, membership is compulsory for chartered banks. The most notable exception is Switzerland.

Table 1 records countries that either established or extensively revised their deposit insurance scheme during the second half of 1990s. A number of countries adopted or expanded their deposit insurance scheme as a crisis-management measure. For example, Thailand, Malaysia, and Korea moved to blanket coverage in response to their recent crises. The 1990s saw a rapid spread in transitional countries – perhaps partly motivated by their long-term interest in joining the EU – and in some African countries. Countries that adopted deposit insurance in

1999 are Ecuador, El Salvador, and as part of the Central African Currency Union, Cameroon, Central African Republic, Chad, Equatorial Guinea, Gabon, and Republic of Congo. Most of these new schemes show generous coverage levels. For example, Central African Republic and Chad offer coverage ratios that lie between 13 and 15 times their GDP per capita.

Precisely because the range of design features is so extensive, this data set can permit analysts to compare and contrast how well different features work in different circumstances. In the next section we summarize the implications of research that uses this database to make inferences about key deposit-insurance issues.

3. Deposit Insurance: Empirical Evidence

An extensive theoretical literature analyzes the benefits and costs of deposit insurance and explores the challenge of balancing these benefits and costs to produce an optimal deposit-insurance system. This literature has been summarized by Kane (2000), Calomiris (1996), and others.

However, cross-country empirical evidence on the efficiency of real-world deposit-insurance systems has been harder to come by. We begin this section by posing four empirical questions whose answers indicate how effective an individual country's deposit-insurance system happens to be. The four 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?

Deposit insurance and Banking Crises.. Economic theory offers a mixed message on how deposit insurance affects banking stability. On the one hand, credible deposit insurance contributes to financial stability by making depositor runs less likely. On the other hand, unless insured institutions' capital positions and risk-taking are supervised carefully, the insurer will 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 need to control moral hazard in banking has been emphasized by academics, but dismissed or denigrated by many policymakers.

Demirgüç-Kunt and Detragiache (2002) are the first to use the cross-county database to study the link between deposit insurance and financial crises. They use data from 61 countries for the period 1980-1997 to estimate a model of banking crisis. After controlling for other determinants, they find that the presence of poorly designed explicit deposit insurance tends to increase the likelihood that a country will experience a banking crisis and show that this result does not appear to be driven by reverse causality. Investigating individual design features, Demirguc-Kunt and Detragiache also show that deposit insurance causes the most trouble 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 administered by government officials rather than the private sector. Finally, they also show that the contribution of deposit insurance to bank fragility is significant in countries where the institutional environment is underdeveloped, but is not significant in countries whose environment is strong. These findings support the hypothesis that where the contracting environment controls incentive conflict,

effective prudential regulation and supervision can offset the adverse incentives created by deposit insurance so that moral hazard need not be worrisome.

Deposit Insurance and Market Discipline. In high-transparency environments, depositors can discipline banks that engage in excessive risk-taking by demanding higher deposit interest rates or by withdrawing their deposits. However, to the extent that deposit insurance reduces the stake that depositors have in monitoring and policing bank capital and loss exposures, it shifts responsibility for controlling bank risk-taking to the regulatory system. Wherever deposit-insurance managers displace more discipline than they exert, bank performance is undermined.

Demirgüç-Kunt and Huizinga (DKH, 2000) build a bank-level dataset covering 43 countries over 1990-1997, and study depositor discipline by looking at interest rates and deposit growth. The evidence shows that explicit insurance lowers banks' interest expenses and makes interest payments less sensitive to bank risk and liquidity. However, regardless of the character of a country's safety net, some market discipline survives. DKH particularly focus on how variation in design characteristics affect market discipline. They find that market discipline is stronger in countries with higher levels of institutional development. Nevertheless, even in countries whose institutional development is strong, badly designed deposit insurance curtails market discipline. Setting higher coverage limits, extending coverage to interbank deposits, establishing an ex-ante fund of reserves, funding reserves from government sources, and insisting on public management each displaces market discipline. On the other hand, market discipline is enhanced by coinsurance provisions, covering foreign currency deposits, and establishing private or joint management of the insurance enterprise.

Such individual-bank data provide direct evidence of the way in which deposit insurance design can affect bank risk-taking incentives. Although deposit insurance displaces market discipline even in advanced countries, the net effect may be improved by strong regulation and supervision. These findings reinforce the evidence on deposit insurance and banking crises and accord with cross-country variation in the risk-shifting incentives that one can infer from bank stock prices (Hovakimian, Kane, and Laeven, 2002).. Countries with poor contracting environments are apt to suffer adverse consequences from deposit insurance.

Deposit Insurance and Financial Development. Countries adopt deposit insurance for different reasons. However, a common goal is to augment the flow of bank credit by increasing the confidence that the general public has in the formal banking system and to do this without having to explicitly set aside or expend current fiscal resources. To the extent that deposit insurance bolsters depositors' faith in the stability of the banking system, it may mobilize household savings for use by the financial system. However, what matters is whether or not the funds mobilized go on to support improved patterns of real investment and sustainably higher aggregate economic growth.

Recent adopters of deposit insurance have included African and Latin American countries with low levels of financial development. To investigate whether and how explicit deposit insurance contributes to financial development, Cull, Senbet and Sorge (2000) examine time-series data for 58 countries. These authors find that explicit deposit insurance favorably impacts the level of financial activity and its volatility only in the presence of strong institutional development. Thus, in institutionally weak environments, deposit insurance appears to distort the pattern of real investment and to retard rather than to promote financial development.

Deposit Insurance and Crisis Management. It is 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). More recently, Turkey tried to halt its financial panic 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 helpful, even essential, in halting depositors' 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 some countries have managed to scale back formal insurance coverage once a crisis has receded, it is very difficult to scale back informal coverage in a credible manner.

Honohan and Klingebiel (2000) analyze the impact of blanket guarantees and other crisis-management strategies on the ultimate fiscal cost of resolving banking-system distress. Data covering forty crises around the world indicate that unlimited depositor guarantees, open-ended liquidity support, and regulatory forbearance significantly increase the ultimate fiscal cost of resolving a banking crisis. Moreover, these authors find no trade-off between fiscal costs and the speed of economic recovery. In their sample, depositor guarantees and regulatory forbearance failed to significantly reduce either crisis duration or the crisis-induced decline in aggregate real output. Providing liquidity support for insolvent institutions appears to prolong a crisis by destabilizing bank-lending incentives so extensively that healthy adjustments are delayed and additional output loss is generated.

4. Conclusions

Cross-country evidence is disturbing because many of the countries that have recently installed explicit insurance are known to have poor contracting environments. What makes this research timely is that 60 percent of the countries in the world still have not adopted explicit deposit insurance. For example, in Africa where the institutional environment is the least developed, only 9 of the continent's more than 50 countries offer explicit insurance.

Cross-country empirical research indicates that, for now, officials in many countries would do well to resist the siren call of explicit deposit insurance. The reason explicit insurance must be handled with care is that it reduces the incentive for depositors to monitor the riskiness of their banks. Studies show that, in institutionally weak environments, deposit-insurance design is apt to be defective, intensifying rather than reducing the probability and depth of future crises. Unless the insurer can effectively replace the monitoring it displaces, formal guarantees tend to encourage excessive risk-taking. Banks can offer interest rates to depositors that are much lower than the interest rates at which their high-risk loan portfolios deserve to be funded. Depositors can afford to tolerate aggressive bank lending, as long as they remain secure in the knowledge that whether or not bank loans pay off, their claims to repayment are protected by credible deposit insurance.

Although explicit insurance may help develop a robust financial system, it can do this only in countries whose contracting environment embodies reliable institutions of loss control. The difficulty is one of sequencing. In a country with weak controls, explicit deposit insurance can at best spur financial development only in the very short run. Formal guarantees undermine longstanding patterns of bank bonding and depositor discipline. Over longer periods, the loss of private discipline is likely to reduce bank solvency, destroy real economic capital, increase financial

fragility, and deter financial development.

For countries that have already installed or are in the process of designing an explicit deposit-insurance scheme, cross-country empirical research offers lessons as well. No government can afford to neglect these lessons. No matter how strong a country's institutional environment might be, weaknesses in deposit insurance design fuel financial fragility by undermining the discipline that banks receive from private parties. To control and offset these effects, four particular design features have proved useful.

The most straightforward of these features of good design entails setting enforceable coverage limits to convince large depositors, subordinated debtholders, and correspondent banks that their funds are truly and inescapably at risk. Private monitoring must complement official supervision. Providing strong incentives for private parties to bond and police bank risk exposures is critically important in contracting environments where government policing is bound to be deficient.

A second proven feature 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 system when it needs to be recapitalized.

Cross-country evidence further indicates that making the public and private sectors jointly responsible for overseeing the scheme establishes checks and balances that improve management performance. Finally, whether or not the insurer holds a formal fund of reserves, it must be made clear that except in the most extreme circumstances, funds to cover bank losses will come principally from surviving banks. Taxpayer assistance should be expected only in the special case of a profound crisis.

Depending on its design, deposit insurance is neither always good nor always bad. It can be a useful part of a country's overall system of bank regulation and financial markets. Cross-country research by no means implies that every country with an explicit system should close it down at the first opportunity. Rather the research stresses the importance of identifying and fostering informative accounting standards and reliable procedures for contract enforcement before adopting deposit insurance. It also underscores the importance of planning to intelligently re-adapt the insurer's loss-control system to close loopholes opened by financial innovation. Like any strong medicine, users must ensure that the side effects of the prescription are not worse than the course of the disease they intend to treat.

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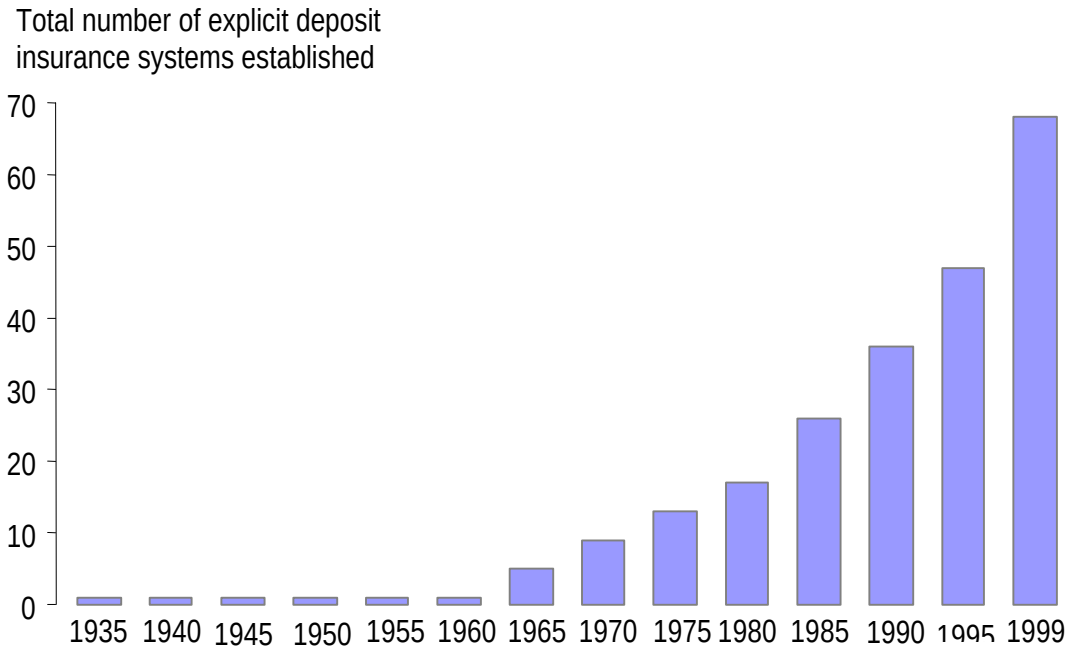
Figure 1. The rise of deposit insurance around the world, 1934-99



Source: Demirgüç-Kunt and Sobaci (2001).

Table 1. Recent Establishment of Deposit Insurance Schemes

Year Adopted	Countries that have established an explicit scheme
1999	Cameroon, Central African Republic, Chad, Ecuador, El Salvador, Equatorial Guinea,Gabon, Republic of Congo
1998	Estonia, Gibraltar, Indonesia*, Jamaica, Latvia, Malaysia*, Ukraine
1997	Croatia, Thailand*
1996	Korea, Lithuania, Macedonia, Romania, Slovak Republic, Sweden
1995	Brazil, Bulgaria, Oman, Poland

* Blanket coverage

Source: Demirgüç-Kunt and Sobaci (2001).