

DEPOSIT INSURANCE AND BANKING CRISES IN THE SHORT AND LONG RUN

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There has been a rising global trend for countries, especially in the emerging economies, to institute explicit deposit insurance schemes in the last two decades. During this period, financial markets in the world have been frequently plagued by instabilities and banking crises, notably the Mexican crisis in 1995 and the Asian financial crisis in 1997, not to mention the recent meltdown of Argentina. Among the many arguments in favor of deposit insurance, protection of small depositors and prevention of systemic banking crises are the ones most often put forward by regulators to rationalize deposit insurance from a public-interest perspective.¹ Nonetheless, the public-interest argument based on protection of small depositors cannot adequately justify deposit insurance because there are alternatives such as short-term treasury securities (Benston and Kaufman 1988: 65), checkable money market mutual funds (Cowen and Kroszner 1990), and government savings bonds (Chu 2000) that can achieve the same goals at lower cost.

The justification of deposit insurance therefore rests to a large extent on its effectiveness in averting systemic banking crises and contagious bank runs due to asymmetric information (Diamond and Dybvig 1983). That public fear is widespread, even though several studies have clearly demonstrated that the contagion argument is exaggerated (Benston and Kaufman 1995; Calomiris and Mason 1997; Kaufman 1994, 2000), and that asymmetric information does not necessarily lead to bank runs because banks have incentives to signal their quality (Chu 1999). As Kaufman (2000) summarizes, the evidence for the United States strongly suggests that contagious bank

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¹For the major pros and cons of deposit insurance, see World Bank (2001) and Demirgüç-Kunt and Kane (2002).

runs are neither widespread nor long lasting, and there is no evidence that a bank run drives a solvent bank into insolvency.² Nonetheless, many countries have established deposit insurance during or after banking crises or financial instabilities, hoping to restore stability and prevent future crises. A well-known example is the Federal Deposit Insurance Corporation, which was set up after the United States experienced massive bank failures during the Great Depression. More recent examples include those East Asian countries, such as Malaysia and Indonesia, hit hard by the Asian financial crisis. Indeed, financial crises can be extremely costly. Although the cost of restructuring the banking industry varies from country to country, ranging from 4.3 percent to 45 percent of GDP (Dziobek and Pazarbasioglu 1997), its distribution appears to skew toward the high-cost end.³ These high-cost figures tend to justify, at least on the surface, the existence of a financial safety net such as deposit insurance.

However, are countries entirely immune from banking crises after instituting deposit insurance schemes? The answer is definitely no, as evidenced by the notorious U.S. saving-and-loans debacle in the 1980s (Kane 1989), not to mention similar incidents in other countries like Canada (Carr, Mathewson, and Quigley 1995). In evaluating feasibility of deposit insurance, therefore, a relevant question is, does deposit insurance reduce the likelihood of a banking crisis? If so, deposit insurance is justifiable because the expected benefits from avoiding substantial welfare or output losses due to a severe banking crisis are likely to outweigh the total cost of deposit insurance. Against that backdrop, this paper compares the banking stabilities of 174 countries during the 1980–2000 period to examine whether banking crises are less likely to occur in countries with deposit insurance than in those without. The empirical approach and findings of this study shed light on the relation between deposit insurance and banking crises over time.

Some empirical studies have addressed the issue of whether deposit insurance undermines or promotes banking stability. These include individual country studies such as those by Keeley (1990), Grossman (1992), Cebula and Belton (1997) for the United States, and by Carr,

²Carr, Mathewson, and Quigley (1995) find similar historical evidence for Canada.

³The estimated costs of rescuing banks vary from study to study. For instance, the recent Asian financial crisis cost Thailand a total of \$43 billion, nearly 32 percent of its GDP, to restructure its banking sector, and some 29 percent for Indonesia and 18 percent for Malaysia (Hawkins 1999). Caprio and Klugebiel (1999) also provide cost figures for some banking crises. Overall, the estimates of these studies reach a similar conclusion that banking crises are costly and in most cases are large relative to GDP.

Mathewson, and Quigley (1995) for Canada. In brief, these studies provide evidence that deposit insurance tends to cause banking instability because of the moral hazard problem that induces depository institutions toward excessive risk taking. On a global scale, Demirgüç-Kunt and Detragiache (2002) have recently used a panel of 61 countries for 1980–97 to examine post-deposit insurance banking stabilities. They find that deposit insurance does tend to induce banking crises, particularly among countries with weak institutional environments.

The main finding of these empirical studies is reinforced by my own findings in this study, albeit different approaches and methods of investigation are adopted. Although the shared objective is to determine whether deposit insurance promotes or reduces banking stability, I allow for the possibility that the likelihood of a banking crisis after the introduction of deposit insurance may change over time. To address that possibility, I employ contingency table analysis to analyse the data. The findings suggest that deposit insurance promotes short-run banking stability but induces long-run instability. Those results have significant policy implications for banking regulation and reform.

Exploring the Historical Record

Caprio and Klingebiel (1996, 1999, 2000) have recently compiled the major banking crises—systemic and borderline—in the world during the last three decades. Meanwhile, Garcia (2000), Demirgüç-Kunt and Sobaci (2001), and Lee and Kwok (2000) have provided detailed information about deposit insurance around the world, including the years when they were set up. From the information provided by these studies, the experiences of 174 economies regarding deposit insurance and banking crises during the period 1980–2000 are compared using contingency table analysis to examine the effectiveness of deposit insurance in averting banking crises.⁴ The intuition behind the empirical method is straightforward and similar to a typical statistical study in epidemiology. Countries are classified into two groups depending on whether they have established explicit deposit insurance schemes or not as of a particular year. The proportions of countries

⁴To apply this statistical method, the occurrence of major financial crises in each country is assumed to be independent of each other. In other words, it is assumed that there are no financial contagions at the global level. The contagion effect remains controversial, both theoretically and empirically. However, some studies, for example the historical study by Bordo and Schwartz (1996), indicate that financial crises are mainly due to economic fundamentals rather than international contagion.

having systemic banking crises and borderline crises in subsequent years in each group are then compared to see whether they are statistically different.⁵ Analogous to a statistical study in epidemiology, the absence of deposit insurance is the exposure status or risk factor and the existence of banking crisis is the disease status in this study.

Unlike the epidemiologist, however, the macroeconomist usually does not enjoy the privilege of conducting controlled experiments. Nevertheless, a prospective study, also known as a cohort study, is applied here: Imagine back in 1980 a “natural experiment” was conducted, in which sample countries were classified on the basis of the presence or absence of deposit insurance as of 1980, followed forward in time, and in each group the proportions of countries subsequently having major banking crises were recorded.⁶ As the statistical analysis compares the proportions of countries having banking crises in each group, a country would be counted only once even though in reality banking crises recurred in some countries. To avoid double counting, a country is classified as having a systemic crisis if it had experienced both systemic and borderline crises during the period under study. It is noted that a total of 57 countries set up explicit deposit insurance schemes after 1980. The prospective study briefly described earlier considers only their pre-deposit insurance experiences with banking crisis. However, these countries’ pre- and post-deposit insurance experiences with banking stability are also compared in another statistical analysis below.

For the prospective study, only 19 countries, including the United States and Canada, had set up deposit insurance schemes by 1980. In spite of deposit insurance, about two-thirds of them encountered either systemic or borderline banking crises in subsequent years. Similarly, out of the 155 countries without deposit insurance schemes at that time, 110 later experienced banking crises. In the former group, the proportions of countries with systemic crises and borderline crises are 0.42 and 0.26, respectively. Both figures are not statistically different from their respective counterparts of 0.50 and 0.21 in the latter group. Results of the 2 x 3 contingency table analysis are summarized in Table 1. In other words, countries with deposit insurance are equally likely to suffer crises in subsequent years when

⁵For details about statistical concepts and techniques used in this study, see Everitt (1991) and Fleiss (1981).

⁶The choice of 1980 is not entirely arbitrary: Financial deregulation or liberalization started to evolve in the 1980s. The global trend of instituting deposit insurance schemes, however, did not gain momentum until the late 1980s. At the same time, banking crises occurred more frequently in the late 1980s and 1990s than in earlier years.

TABLE 1
COUNTRIES WITH OR WITHOUT DEPOSIT INSURANCE IN 1980
ARE EQUALLY LIKELY TO EXPERIENCE BANKING CRISES IN
SUBSEQUENT YEARS

Deposit Insurance in 1980	Banking Crises in Subsequent Years			Total
	Systemic	Borderline	None	
Present	8	5	6	19
Absent	78	32	45	155
Total	86	37	51	174

NOTES: For hypothesis testing the χ^2 with two degrees of freedom is 0.5246, lower than the critical value of 5.99 at the 5 percent level. Thus, the null hypothesis of no association between deposit insurance and banking crises is not rejected. For measurement of association the phi coefficient (ϕ) is 0.055, suggesting no strong association between deposit insurance and banking crises.

compared with countries without deposit insurance.⁷ There is no evidence indicating that deposit insurance promotes banking stability.

To be sure, the relation between deposit insurance and banking crises is more complex than the above results indicate or suggest. In all likelihood, it is going to vary over time because of institutional and regulatory changes in the banking industry as well as other changes in the business and economic environments. To further examine the relation, the pre- and post-deposit insurance banking stabilities of 36 countries that set up their deposit insurance schemes during the 1981–96 period are compared.⁸ Their experiences are tabulated in Table 2. In this case, the Stuart-Maxwell test (Stuart 1957, Maxwell 1970) for dependent samples is applied, and the value of the computed test statistic suggests that the null hypothesis of no association between deposit insurance and banking crises can be rejected. Thus, there is some good news for proponents of deposit insurance: deposit insurance promotes banking stability, as can be seen from the fact that 15 countries previously hit by systemic crises have successfully

⁷Statistically, the overall χ^2 for a contingency table can be further partitioned to examine the independence of the variables in the subtables. In our case the χ^2 statistic of 0.5284 is even lower than the critical value of 3.84 with one degree of freedom. Consequently, partitioning the 2 x 3 table is unnecessary to conclude that both the null hypotheses of no association between deposit insurance and systemic crises and of no association between deposit insurance and borderline crises cannot be rejected.

⁸A total of 21 deposit insurance schemes were introduced after the Asian financial crisis in 1997, but their effectiveness in stabilizing the banking system remains to be seen. To avoid potential bias in statistical inference, I excluded those schemes from this statistical analysis.

TABLE 2
DEPOSIT INSURANCE PROMOTES BANKING STABILITY IN THE
SHORT RUN

Post-Deposit Insurance Banking Crises	Pre-Deposit Insurance Banking Crises			Total
	Systemic	Borderline	None	
Systemic	3	2	4	9
Borderline	1	3	1	5
None	15	2	5	22
Total	19	7	10	36

NOTES: For hypothesis testing the χ^2 with two degrees of freedom is 6.5691, higher than the critical value of 5.99 at the 5 percent level. The null hypothesis of no association between deposit insurance and banking crises is thus rejected. For measurement of association the phi coefficient (ϕ) is 0.4272, suggesting a fairly strong association between deposit insurance and banking crises.

resurrected banking stability after the introduction of deposit insurance.

In spite of this finding, the effectiveness of deposit insurance in averting banking crises should not be exaggerated. Further analysis of the data discloses that deposit insurance is no panacea for banking instability as its effectiveness varies from country to country. First, about 40 percent of these 36 countries still suffer either systemic or borderline banking crises notwithstanding the presence of deposit insurance. Second, deposit insurance seems to have no apparent significant impact on banking stability in about one-third of these 36 countries. Three countries had systemic banking crises both before and after the introduction of deposit insurance, another three had both pre- and post- deposit insurance borderline crises, and five did not have any major banking crises during the period under study. More ironic, banking instability took place after the introduction of deposit insurance in five countries that had no reported major banking crises before. Finally, of the 57 countries that set up deposit insurance schemes during the 1981–2000 period, 21 of them set up their programs after the 1997 Asian financial crisis. The effectiveness of those programs in stabilizing the banking system is still subject to trial.

Despite the short-run banking stability, there is evidence suggesting that banking crises are more likely to occur in the longer run in the presence of deposit insurance. To show this, the 76 countries with deposit insurance schemes as of 2000 are divided into three groups according to when their deposit insurance schemes were set up. As

can be readily inferred from Table 3, in which the cell entries for the deposit insurance schemes established in the 1990s are conspicuously different from the others, deposit insurance and banking crises are not independent of each other. That result is indeed confirmed by the goodness-of-fit test. To formally identify the sources of departure from independence, the adjusted residuals (Haberman 1973) are computed and tabulated in Table 4. By examining the signs and magnitudes of the adjusted residuals, it can be observed that the performance of the deposit insurance schemes established in the 1990s differs from the older schemes. The adjusted residuals for the newly established deposit insurance schemes are all statistically significant and have signs opposite to those for the older systems. As a group, the newly established deposit insurance schemes enjoy higher-than-expected banking stability in terms of the proportion of countries without banking crises.

By sharp contrast, banking stabilities of the other two groups—the older deposit insurance schemes—are lower-than-expected (as shown in the last column of Table 4). At the same time, the frequencies of banking crises, both systemic and borderline, to occur among the recently established deposit insurance schemes are also lower than expected. On the contrary, borderline banking crises are more likely to occur among deposit insurance schemes set up during the 1981–90 period, whereas systemic crises are more likely to take place in the schemes set up before 1981. These are clearly revealed by the diagonal elements in Table 4, which strongly suggest a positive relation

TABLE 3
DEPOSIT INSURANCE INDUCES BANKING INSTABILITY IN THE
LONG RUN

Deposit Insurance Introduced in	Post-Deposit Insurance Banking Crises			Total
	Systemic	Borderline	None	
1980 or earlier	9	4	6	19
1981–1990	7	5	6	18
1991–2000	1	0	38	39
Total	17	9	50	76

NOTES: For hypothesis testing the χ^2 with four degrees of freedom is 36.38, substantially higher than the critical value of 9.48 at the 5 percent level. The null hypothesis of no association between deposit insurance and banking crises is thus rejected. For measurement of association the phi coefficient (ϕ) is 0.6919, suggesting a strong association between deposit insurance and banking crises.

TABLE 4
ANALYSIS OF ADJUSTED RESIDUALS FOR TABLE 3

Deposit Insurance Introduced in	Post-Deposit Insurance Banking Crises		
	Systemic	Borderline	None
1980 or earlier	3.020*	1.435	-3.630*
1981–1990	1.925	2.395*	-3.322*
1991–2000	-4.254*	-3.280*	5.970*

NOTES: Under the null hypothesis that the variables forming the contingency table are independent of each other, the adjusted residuals are approximately normally distributed with mean zero and standard deviation one. Hence, adjusted residuals with absolute values greater than two give evidence of departure from independence. All statistically significant values at the 5 percent level are denoted by asterisk in the table. A positive sign indicates that the actual or observed frequency is higher than the expected frequency, whereas a negative sign means just the opposite. For more details, see Haberman (1973).

between the age of the deposit insurance scheme and the likelihood of post-deposit insurance banking instability.

The Stabilizing Effects of Deposit Insurance in the Short and Long Run

Do the previous findings mean that older deposit insurance schemes are more poorly designed than their newer counterparts and hence more prone to banking instability? Possibly, but it is not the sole factor attributable to the findings. It is true that in almost all cases when deposit insurance schemes were initially introduced, the insurance premiums were not risk-rated. The moral hazard problem associated with a flat-premium deposit insurance scheme has long been recognized (Emerson 1934), even before the formal analysis of many modern theoretical studies (e.g., Merton 1977). It was only recently that some deposit insurance schemes introduced risk-rated premiums to mitigate the moral hazard problem.⁹ Needless to say, the institutional structure of a deposit insurance scheme matters in maintaining and promoting banking stability. However, it is not necessarily true that older deposit insurance schemes are more prone to financial

⁹According to Demirgüç-Kunt and Kane (2002), 21 countries now use some form of risk-based deposit insurance and 17 countries have coinsurance provisions to discourage excessive risk taking. However, such measures are not yet widely adopted when compared with the total number of deposit insurance schemes in existence.

instability than their newly established counterparts, simply because in practice countries do reform their original deposit insurance schemes to adopt newer and better designs whenever necessary and appropriate.¹⁰ Therefore, the design of the deposit insurance scheme, rather than when it is set up, is a crucial factor causing banking instability.¹¹

What then are the possible explanations for the findings in the preceding tables? A plausible, though not necessarily unique, explanation based on short-run and long-run analyses is proposed here. First of all, it is recognized that deposit insurance can possibly have a therapeutic effect, at least in the short run, in aborting banking crises, as reflected by the experience of the United States during the Great Depression (Friedman and Schwartz 1963: 163–68). When introduced as a remedial measure to stem a systemic crisis, deposit insurance may create a tendency toward a self-fulfilling stable equilibrium when depositors stop running on their banks. Therefore, deposit insurance is able to stabilize, or at least not to destabilize, the banking system in the short run.

The short-run banking stability, however, will diminish over time and ultimately vanish when the moral hazard problem associated with deposit insurance rears its ugly head. The time lags between the introduction of deposit insurance and a subsequent banking crisis can be due to various reasons. First, the time lags can be related to the changing economic environment over time, such as increased price instability and more intense competition in the banking industry. Price level stability, as Schwartz (1988) correctly pointed out more than a decade ago, contributes to sound banking and is essential for financial stability. The relatively stable world price level until the 1970s promoted sound banking in both countries with and without deposit insurance. More recently, Goldstein and Turner (1996) also attribute macroeconomic volatility to international banking crises. Besides macroeconomic instability, increased banking competition is a major factor. To illustrate, consider the U.S. banking industry. Deposit insurance had a more profound impact on failures of commercial banks during the competitive eras of the 1980s and 1990s than in earlier years. One well-known explanation for this phenomenon is the charter-value hypothesis (Keeley 1990): The propensity for the per-

¹⁰According to Garcia (2000), 33 countries reformed their deposit insurance schemes during the 1990s to improve the incentive structure.

¹¹For more detailed expositions of the theoretical and empirical relations between deposit insurance design and banking stability, see World Bank (2001), Demirgüç-Kunt and Kane (2002), and Demirgüç-Kunt and Detragiache (2002).

verse incentives of deposit insurance to encourage commercial banks toward excessive risk taking and hence bank failures increased in the competitive 1980s because of a general decline in the value of bank charters coupled with increased competition in the banking industry. Given the global trend of financial deregulation in the last two decades other countries might have similar experiences. However, the generalization of this hypothesis needs to be further verified by case studies for individual countries.¹²

Second, even in the absence of increased macroeconomic volatilities and banking competition, there are still time lags before the perverse effect of deposit insurance turns into a banking crisis. Such time lags arise simply from banks' portfolio diversification and the laws of probability. Simply put, even though deposit insurance induces banks toward excessive risk taking, and hence raises their default risk, in the short run banks do not necessarily go bankrupt as long as their losses from unsound investment or loan projects are offset by earnings from profitable investment projects or absorbed by their capital.¹³ However, the series of errors due to excessive risk taking and imprudent banking practices, if not rectified, would accumulate over time and ultimately result in bank failures or financial distresses—and a systemic banking crisis if many banks are in trouble at the same time. The underlying notion is to a certain extent analogous to the Wicksellian cumulative process or Austrian business-cycle theory (see Laidler 1992: chap. 2). In this case, the money rate of interest on loans is artificially distorted and lowered by deposit insurance and hence deviates from the “natural” rate.¹⁴ Credit creation by banks could prolong and accentuate the disequilibrium process but could not prevent it from ending in a banking crisis. The longer the process is delayed, the more severe the ensuing banking crisis will be.

¹²For example, Saunders and Wilson (2001) reexamine the charter-value hypothesis using U.S. data from 1893 to 1992. Although their results lend support to the hypothesis for some subperiods, the hypothesis does not hold for the entire sample period. The relation between charter value and bank leverage, they conclude, is sensitive to market conditions.

¹³To illustrate, consider a classical ruin problem in which a gambler (banker) with initial capital z plays against an infinitely rich adversary (nature). The gambler wins or loses a dollar with probabilities p and q , respectively. The game continues until the gambler's capital is reduced to zero. When $p > q$, the probability of ultimate ruin is $(q/p)^z$ and the expected duration of the game is infinite, whereas when $p < q$ they are respectively 1 and $z(q-p)^{-1}$ (see Feller 1968: 342–49). What these results suggest is that even if deposit insurance has increased the value of q , the banker is expected to ruin ultimately only when $q > p$.

¹⁴In our case the “natural rate” can be defined as the interest rate at which banks and ultimate lenders and borrowers maximize their profits with undistorted tradeoffs between risks and expected returns, and at the same time the credit market clears.

This cumulative process explains not only the time lags between the introduction of deposit insurance and the outbreak of a subsequent banking crisis but also why systemic banking crises are more commonly found in older deposit insurance schemes than in newly established ones. This process is also empirically supported by many case studies, which indicate that the seeds of bank failures were usually sown some time ago and the problem banks' financial conditions deteriorated over time, usually undetected or undisclosed, long before bankruptcies actually took place—for example, Hong Kong in the early and mid-1980s (Jao 1989), and Western Canada in the mid-1980s when three chartered banks failed (Dowd 1990).¹⁵

Last but not least, a closely related reason for the time lags is regulators' delayed decisions and actions. Analogous to Friedman's (1953) classic argument of long and variable lags in monetary policy, there are recognition and implementation lags for bank regulators to recognize the potential problems in the financial system as well as to formulate and implement the appropriate remedial measures to avert the outbreak of a banking crisis. Similarly, these time lags can be due to various factors such as difficulties in identifying bank insolvencies and failures to take appropriate actions in a timely manner. In some cases, regulators adopt a policy of forbearance even though financial institutions in distress have already been identified. During the U.S. savings and loan debacle, for example, the number of insolvent thrifts at the end of 1982 was 222, but 145 of them were allowed to continue to operate four years later despite the fact that 80 of them remained insolvent and incurred heavy losses (Garcia 1988). One reason, as Kane (1990) points out, is that some regulators have incentives to delay the disclosure of troubled financial institutions under their supervision because of their own career objectives.

The foregoing reasons provide a basis for the findings of this study. In the long run, deposit insurance tends to be destabilizing if the moral hazard problem is not tamed. Over time, the short-run gains from deposit insurance, in terms of banking stability, can be partly or entirely offset by its long-run costs. That outcome explains why banking crises are equally likely to occur in countries with or without deposit insurance. If the findings in Tables 3 and 4 are taken into consideration, it is highly likely that in the long run countries with deposit insurance suffer more banking crises than countries without

¹⁵More examples can be found in Goodhart and Schoemaker (1995) and Gup (1998). The former two authors survey 104 bank failures in 24 countries between 1970 and 1992, whereas the latter documents the bank problems in Group-of-Ten countries during the 1980–96 period.

deposit insurance, assuming the moral hazard problem is not contained by appropriate reform of the deposit insurance scheme.

Admittedly, the foregoing statistical analysis does not take into account other variables that potentially influence banking instability. However, as already mentioned, many other empirical studies have also indicated that deposit insurance can be destabilizing. For example, the recent econometric study by Demirgüç-Kunt and Detragiache (2002) indicates that deposit insurance, on average, increases the probability of banking instability because of the moral hazard problem associated with nonrisk-rated deposit insurance, although countries with stricter banking regulations and stronger institutional environments are more likely to reap the benefits of a stable banking system by instituting deposit insurance schemes. Some economists, however, may still question whether the post-deposit insurance banking stability in those countries could be largely, if not completely, attributable to the “effectiveness” of increased banking regulation rather than deposit insurance per se. Indeed, it is widely recognized in the literature that the provision of flat-rate deposit insurance has to be accompanied by increased regulation to reduce moral hazard. Unless the effects due to enhanced regulation and to deposit insurance are disentangled, the actual contribution of deposit insurance to banking stability remains controversial.¹⁶

Conclusion

The statistical analysis in this study, though simple, is highly revealing. More important, the empirical results shed some light on the effectiveness of deposit insurance in maintaining and promoting banking stability. As the findings indicate, although deposit insurance has a stabilizing effect in the short run when it is initially introduced, this positive effect tends to diminish over time and vanish eventually. Our findings also suggest that over the long run there may be virtually no significant difference in the likelihoods of banking crises to occur whether deposit insurance is present or not. And even worse, deposit insurance is highly likely to destabilize the banking system if the moral hazard problem is not contained. These findings should provide some useful insights to countries or economies, such as China and Hong Kong, which plan to institute explicit deposit insurance schemes in the foreseeable future. Undeniably, banking and financial

¹⁶Although unlikely, the hypothesis that banking regulation and deposit insurance are complements in maintaining banking stability should not be ruled out.

crises are very costly. In the short run, deposit insurance is a highly tempting “solution” to maintaining banking stability because to launch an explicit deposit insurance scheme does not require huge initial budgetary outlays from the government, financial institutions, and depositors. But this does not imply that deposit insurance comes at no cost, especially in the long run. Apart from the administrative costs of operating a deposit insurance scheme, there are other costs to society—in particular, the misallocation of resources resulting from increased banking regulation. Furthermore, the results of this study, together with those of other studies, suggest there is no social welfare gain, on average, from instituting a deposit insurance scheme, because the banking system is equally, if not more, likely to suffer from crises in the long run regardless of the presence of deposit insurance. From that perspective, the introduction of deposit insurance merely postpones the occurrence of a banking crisis to a later day.

This is, however, not to totally deny other valid reasons for setting up a deposit insurance scheme. For example, it may be socially desirable for the government to set up an explicit deposit insurance scheme for some pragmatic reasons.¹⁷ Admittedly, these reasons cannot be omitted from the list of decision factors related to the choice of deposit insurance. Nevertheless, Kane (1990) argues that deposit insurance cannot be presumed to achieve the best interests of the covered financial institutions and their customers because regulators may have their own career objectives. Similarly, deposit insurance can be potentially exploited by politicians and bureaucrats to enhance their own prestige and power (Niskanen 1971) or by pressure groups to seek their own interests rather than to serve the public interest. As a result, deposit insurance, like other regulations, may tend to be a redistributive scheme that creates and allocates economic rents to serve the interests of certain groups (Peltzman 1989), like risky banks, which are subsidized by prudently managed banks in a nonrisk-rated deposit insurance scheme. Therefore, the possibility of deviation from the public interest in practice cannot be entirely ruled out. Even if policymakers are able to escape from being captured by political groups, the empirical findings of this study suggest that deposit in-

¹⁷There are at least three reasons to justify deposit insurance for small depositors: (1) to achieve social externalities because the costs of monitoring banks for small depositors outweigh the benefits, (2) to reduce systemic risk, because small depositors are the most likely to run on banks, and (3) to avoid political battling between the government and small depositors when a bank failure does occur (Kaufman 1996: 30). Although the validity of the second reason has been weakened by the empirical findings of this study and many others in the literature, the other two reasons can still be valid and are subject to further investigation.

urance does not necessarily improve social welfare in the long run because it may merely postpone rather than cure banking instability. Given the huge cost of deposit insurance and the difficulty of abolishing it once introduced, policymakers should carefully calculate the expected costs and benefits of deposit insurance before they jump on the bandwagon of instituting deposit insurance schemes.

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