Preventing Banking Crises in the Future

Lessons from Past Mistakes

GEORGE G. KAUFMAN

Almost every country—large or small, developed or developing, free market or planned, free enterprise or socialistic, democratic or authoritarian, western or eastern, northern or southern—has experienced serious banking (depository institution) problems in recent years.[1] Few countries have escaped unscathed. The cost of resolving these problems has been, or will be in most instances, borne primarily by the taxpayers. The cost of resolution to the public is equivalent to the part of the aggregate negative net worth of the banking institutions that is not paid by the financially healthy banks or other private sources. To date, the public's contribution has ranged from a small percentage of the respective nation's GDP, about 2 1/2 percent for the United States, to more than 20 percent in some countries. Not surprisingly, taxpayers have not been overly enthusiastic about paying this amount and have blamed the political party in power, as well as the regulators and the bankers, for their misfortune.

How did so many countries get themselves into such a mess? My analysis of the causes of the banking debacles suggests that a number of causes

George G. Kaufman is the John F. Smith Professor of Finance and Economics at Loyola University Chicago.

1. According to Lindgren, Garcia, and Saal (1996), more than 130 of the 181 IMF member countries have experienced serious banking problems in the past decade or so. See also Garcia and Saal (1996) and Caprio and Klingebiel (1996).

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are common to all countries regardless of their type of banking system or economic structure. Moreover, the commonality spills over to the strategies initially employed by the governments to solve the problem, albeit with little if any success. Thus, we can learn much from the mistakes of the past.

The most important common mistake made is believing that banking differs significantly from other industries and treating it as special for purposes of public policy. This has resulted in the almost universal adoption of government safety nets under banking, which unfortunately have been so poorly designed for the most part that over time, by contributing to the problem they were intended to solve, they have done more damage than good. Avoidance of similar banking problems in the future requires a better understanding of banking as a business and of the implications of bank failures, as well as a better design of the safety net.

Is Banking Special?

I, along with my frequent coauthor George Benston and others, have recently reexamined whether banks are "special" and, if so, in what ways (Benston and Kaufman 1995). Many observers have long considered banks special both because they are "fragile" and thus likely to break and because they are an integral part of the payments system through providing deposits, which constitute a large part of a country's money supply, and, in some countries, operating the clearing system for checks and electronic funds. The latter functions make them the primary channel through which the central bank transmits monetary policy. Thus, some people fear that large-scale and even individual large institution failures could have major adverse effects on the financial system and possibly beyond to the domestic and even international macroeconomy that would be greater than those created by the failure of other business firms. Bank failures might start a domino or snowball effect, knocking down other banks and nonbanking firms in their path. Some have used this fear to justify special public policies toward banks to reduce both the probability and cost of failures. Indeed, arguments for considering banks special date back to Adam Smith (Short and Robinson 1997).

Analysts view banks as fragile because they have (1) low cash-to-asset ratios, (2) low capital-to-asset ratios, and (3) high demand-to-total-deposit ratios. Under these conditions, sudden large-scale withdrawals of deposits could force them to have to sell opaque and less-liquid earning assets at fire-sale losses that would exceed their capital and drive them into insolvency. Thus, their greater fragility might lead to greater breakage. But many items are fragile—fine glass, fine china, and even economists' egos, for example. Yet they do not necessarily break more often than less fragile items, but they receive more careful handling. Evidently, banks did too, at least in the

United States and most developed countries before the introduction of special public policies to counteract the fragility. The market—shareholders, depositors, loan customers—appreciated the fragility and handled banks with greater care than other, less fragile firms. In the United States, for instance, the annual bank failure rate from 1870 to 1913, before the introduction of the initial bank safety net in the form of the lender-of-last-resort facilities of the Federal Reserve in 1914, was lower than either the failure rate for nonbanks in the same period or for banks from 1914 to 1994 (Kaufman 1996b). This low rate occurred despite legal and regulatory restrictions that prohibited banks from reducing risk as much as they may have wished through geographic and product-line diversification. Indeed, the U.S. banking structure appears to have been designed almost to maximize failures.

But the annual variance of the failure rate was substantially higher for banks than for nonbanks. Thus, in the few years when bank failures were numerous, they were very numerous. Moreover, the large-scale failures were consistent with the best known symptom of systemic risk: individual bank failures igniting an exploding series of further bank failures.

This pattern served to reinforce the public perception of bank failures as serious economic disasters. This perception rested at least partially on fear of the unknown. The public knows far less about the operation of banks and other firms that deal in intangibles than about the operation of firms that deal in tangibles such as steel, automobiles, or computers. For most, mystery shrouds the operation of banks and most other financial institutions; many cannot distinguish between factual and fictional descriptions. The failure of banks and financial institutions remains a favorite topic for both writers of fiction and scriptwriters for movies, particularly those who seek to portray scenes of widespread fear and suffering.

Although the lumpiness of bank failures suggests systemic risk, it does not by itself constitute proof. The evidence from many countries strongly suggests that bank failures follow problems in the overall or regional macroeconomy rather than either igniting them or resulting from a shock wave set in motion by the failure of a single bank or a small number of banks, although wide-scale bank failures do exacerbate problems in the real sector. (The evidence is reviewed in Benston and Kaufman 1995, and a number of important essays are published in Hubbard 1991; see also Selgin 1992.) When many banks fail concurrently, the empirical evidence suggests that the failures occur among banks whose balance sheets are all exposed to the same credit and interest-rate risks (Kaufman 1994; Flannery 1995); that is, bank runs tend to be firm-specific or informational, rather than industry-wide.

Bank fragility reveals itself and bank failures occur most frequently when

the macroeconomy experiences rapid inflation and, in particular, bubbles in asset prices and interest rates (Goodhart 1995; Schwartz 1987; Caprio and Klingebiel 1996; Nakajima and Taguchi 1995).[2] Because activities on both sides of the bank balance sheet effectively involve forward contracts priced on the basis of predictions of prices, income, employment, and interest rates, unexpected adverse changes in these variables have caused banks to suffer large losses from loan defaults and high costs of deposits. However, at least in the United States before the safety net, such losses were too small to drive more than a small percentage of banks into insolvency and even more rarely any even reasonably large and diversified bank into insolvency. When the appropriate economic incentives exist, at least large marginal depositors can differentiate financially healthy from financially sick banks and exert discipline on the latter. At the same time, banks can signal the state of their financial health to depositors and other customers by rearranging their asset and liability portfolios and changing their capital ratios. Unlike actual runs, the threat of runs exerts powerful market discipline (Kaufman 1988).

Nevertheless, even though U.S. banks before 1914 on average failed no more frequently than firms in other industries and depositors at failed banks lost less on average than creditors at failed nonbanks, the combination of periodic large-scale bank failures and the widespread fear of bank failures and systemic risk caused policymakers to impose special regulations on banks. In banking, the perfect became the enemy of the good. Almost every country has thrust some sort of safety net under banks through the central bank's lender-of-last-resort facilities, deposit insurance, or both. Deposit insurance is often implicit rather than explicit, especially in countries where the government owns or operates one or more large banks. Depositors at these banks assume that the government views the deposits as its own debt obligations and would not permit a default. So far, these depositors have been proven right in every case I know: depositors at no state-owned bank appear ever to have lost a penny of their principal. Hence, the depositors have exerted little discipline on the banks, and, although some of the banks have had prolonged periods of economic insolvency, they have been able to continue operations because the depositors have not withdrawn their funds. Where private banks have competed with the state-owned banks, the implicit insurance has spilled over to them. Otherwise, dramatic shifts of funds would

2. This association appeared in both the United States and Japan. The magnitude of the asset bubble in Japan may be gauged by the fact that stock market prices declined by more than 60 percent from their peak in 1989 to their trough in 1992 and urban real estate prices by nearly 40 percent between their peak in 1991 and trough in 1994. An estimated 60 percent of the collateral underlying loans at Japanese banks was reportedly in real estate (Nanto 1995). Summary accounts of the Japanese banking crisis appear in English in Cargill, Hutchinson, and Ito (1996, chap. 6), Ito and Veda (1993), Nanto (1995), and Ostrom (1992–95).

have occurred from the possibly not fully insured private banks to the fully insured state-owned banks. Implicit deposit insurance dominates any coexisting explicit insurance that does not cover all deposits or depositors.

Thanks to the implicit insurance that allows economically insolvent banks to avoid closure, governments can use such banks to allocate credit to the most politically desirable borrowers rather than the most efficient or profitable ones. State-owned banks frequently are banks in name only; they act more as an arm of government policy.[3] Indeed, the use of even privately owned banks to generate political favors for the chartering government is as old as the granting of the first private bank charter. Early banks were chartered to extend loans at below-market rates to the chartering government, often to finance armed conflicts and adventures abroad. To enhance the profitability of the banks, governments granted only a limited number of charters, thereby bestowing various degrees of monopoly power. Frequently, the government taxed the resulting large earnings or participated directly in the ownership. In the early United States, some states, prohibited by the federal Constitution from the profitable business of printing currency directly, did so indirectly through the notes and deposits of private banks chartered by them and received significant portions of their tax revenues from taxes on bank profits (McCarthy 1984; Wallis, Sylla, and Legler 1994; Sylla 1995).

Because they are highly profitable in monopolistic environments, an efficient mechanism for bestowing political favors, and useful for implementing public policies indirectly that governments may be reluctant to implement directly, state-owned or -operated banks frequently comprise the last industry governments willingly privatize or surrender control over. They would rather relinquish steel, transportation, or utility firms than banks. Among the many advantages that the United States enjoys relative to most other countries is that it has had no state-owned banks since the First and Second Banks of the United States, the latter of which was liquidated in 1836 and both of which, although privately owned, performed many government functions.

Thus, although banks may not fail more frequently in a market economy or give rise to more adverse consequences of failure than other firms of similar size, they are special inasmuch as governments use them to generate revenues, allocate credit, and bestow political favors. Their government-provided safety nets are frequently so poorly designed that they are counterproductive. Together with poor macroeconomic policies that have encouraged inflation and price bubbles in a number of important assets, safety nets

3. In Japan the postal savings system seems to be a case in point (Cargill, Hutchinson, and Ito 1996).

have contributed to creating the worldwide banking debacles of the last two decades at least as much as, if not more than, they contributed to preventing them (Kaufman, 1996a). It follows that avoiding bank debacles in the future hinges importantly on eliminating the flaws in the design of deposit insurance.[4]

The Implications of Poorly Designed Deposit Insurance Structures[5]

If poorly designed, safety nets in the form of deposit insurance, as well as in the form of lender of last resort and settlements finality by the central bank, have both good and bad effects.

The good effect is that, if deposits are fully protected up to some maximum amount, credible insurance prevents runs by small depositors who have doubts about the solvency of their banks and seek to exchange bank deposits for currency. Such runs would drain reserves from the banking system as a whole and give rise to potential multiple contractions in aggregate deposits (money) and credit.

Bad effects are as follows:

1. Moral-hazard behavior by banks is encouraged. Insured banks adopt lower capital-to-asset ratios and riskier credit and interest-rate portfolios as depositors and other bank customers exert less discipline.

2. Principal-agent problems between the regulator agent and the financially healthy bank and taxpayer principals intensify. Regulators have little or no incentive to recognize and resolve economically insolvent institutions promptly, as depositors do not flee from insolvent banks as before. Deposit insurance in effect shifts the control of the timing of the resolution of insolvencies from the market—through runs and liquidity problems—to the regulators. As a result, to minimize adverse pressures on themselves, regulators may allow insolvent institutions to remain in

4. In light of the seriousness of the past problems caused by the safety net, it may be asked: Why not eliminate the net outright rather than try to reform it? My reading of recent history suggests that it is politically impossible to do so. Every country has either explicit insurance for at least small depositors or implicit insurance for all depositors as soon as any problem arises. All deposits at state-owned or -controlled banks are effectively automatically insured. Even Argentina, which explicitly underwent a full elimination of deposit insurance in the early 1990s, quickly reinstated it when problems arose only a few years later. Thus, attempts to repeal deposit insurance or the central bank's lender-of-last-resort facilities outright are likely either to fall entirely on deaf ears or to be self-defeating. The pros and cons of preferring insurance reform to repeal are discussed further in Dowd (1996) and Benston and Kaufman (1996).

5. Parts of this section and the "What Can Be Learned from the 1991 U.S. Deposit Insurance Reform" section of this article are adapted from my paper, "Lessons for Transitional and Developing Economies from U.S. Deposit Insurance Reform."

operation longer and losses tend to increase.[6] This problem particularly affects state-owned banks that engage heavily in credit allocation, which may have contributed to their insolvency.

These effects appear universal, occurring in banking systems in countries that differ greatly in economic, political, cultural, and legal structure. Unfortunately, observers often see the good effects of the safety net first and the bad effects, which increase the fragility of banks, only later, when they are costlier to correct. For many countries, later is now.

More specifically, Kane (1996) has identified five more or less sequential propensities that entrap bank policymakers in almost all countries and hinder their efforts to act as faithful agents for their healthy bank and taxpayer principals:

1. The ostrich reflex: the officials stick their heads in the sand and refuse to see the problem.

2. The denial or dismissal reflex: the officials deny the seriousness of the problem, dismiss its significance, criticize as irresponsible those who argue otherwise, and release disinformation to calm those still concerned.

3. The cover-up reflex: the officials attempt to hide their past actions, after the seriousness of the problem increases to the point that it can no longer be denied.

4. The distraction reflex: the officials attempt to direct public attention away from themselves and toward other problems, for which other officials are responsible.

5. The whitewash reflex: the officials attempt to rewrite history to leave themselves blameless.

U.S. officials yielded to all five propensities during the banking crisis of the 1980s, as have the officials in other countries as a rule during their banking crises (Kane and Kaufman 1993). Any reform of deposit insurance or the broader safety net needs to include provisions that minimize if not prevent both moral-hazard and principal-agent problems.

Indeed, the introduction of the safety net has increased the fragility of banks by encouraging them to reduce their capital-to-asset ratios at the

6. Such agency problems are reported to be serious in Japan. The Wall Street Journal reported that the Taiheiyo Bank was closed at the end of March 1996 but not before the liabilities of the $5.5 billion deposit bank exceeded its assets by $1.2 billion. Except for a small ATM run on the last day, depositors did not run on the bank in its last six months, although small deposit losses had been reported at a number of other "small" banks since November 1995 (Sapsford 1996). Forbearance in the resolution of previous insolvent banks in Japan is discussed in Cargill, Hutchinson, and Ito (1996), Kane (1993), Nanto (1995), and Folkerts-Landau and Ito (1995).

same time that they were increasing both credit and interest-rate risk in their asset and liability portfolios. As a result, the banks became less able to withstand adverse economic shocks, and insolvencies increased in both average frequency and importance. By far the two worst episodes of bank failures in U.S. history occurred after the imposition of the safety net. The first occurred during the Great Depression of 1929 to 1933, less than twenty years after the establishment of the Federal Reserve and the introduction of its lender-of-last-resort facility. The second occurred in the 1980s, fifty years after the introduction of deposit insurance by the FDIC and less than twenty years after the introduction of finality by the Federal Reserve on real-time, uncollected large-value fund transfers on its Fedwire, which gave rise to intraday or daylight overdrafts until day-end settlement. All these parts of the safety net were and in most instances still are badly underpriced. This pattern suggests that, although market failures in banking may be more frequent, regulatory (government) failures are larger and more costly when they do occur.[7]

Clearing the Decks for Deposit-Insurance Reform: Resolving Insolvencies and Recapitalizing the Banking System

Effective and lasting deposit-insurance reform requires that the banking system and most individual banks first be adequately capitalized, so depositors would be willing to maintain their funds at banks without government guarantees. Depositors will maintain funds at insolvent or inadequately capitalized banks only if the funds are credibly guaranteed, explicitly or implicitly. Without such guarantees, depositors would run either to individually adequately capitalized domestic or foreign banks or to currency. But, as we have seen, government guarantee programs frequently create incentives for banks and regulators to engage in undesirable moral-hazard and agency behavior, respectively, that contributes substantially to the causes and magnitude of bank failure. Any reform program introduced before these problems are corrected will serve only as a facade soon to be undermined and come tumbling down. Indeed, in many countries, the task is not to introduce deposit insurance for the first time but to narrow and make explicit the existing implicit and all-encompassing guarantee structure.

7. In basically free-market economies, market and government regulation of banking compete with each other. When people perceive one to be working poorly, support grows for the other. A market-government regulation cycle may be depicted as

> Market regulation→ market failures→ "horror" stories→
> government intervention and regulation→ government failures→
> government deregulation→ market regulation→

When any firm becomes economically or legally insolvent, so that the market value of its assets is less than the market value of its liabilities, its shareholders, creditors, and managers bear losses. In time, the firm's assets are sold to new shareholders, or to other firms through merger, or they are liquidated. Which outcome occurs depends on the demand for the firm's output. If demand is sufficient, the firm will be recapitalized as an independent entity or merged with another financially healthy institution. Liquidation occurs only if demand is insufficient.

Banking works the same way. If demand is sufficient for an insolvent bank's services, the institution is unlikely to be liquidated and disappear. But deposit insurance and the fear of imposing losses on depositors—for reasons of perceived loss of banking services, systemic risk, political backlash, and such—often delay resolution and shift the loss to the deposit insurance agency or the government. To conceal the loss, governments may merge "sick" banks with "healthy" banks. Such a merger frequently requires financial assistance to the healthy bank to absorb the sick bank, particularly if the insolvency is large.[8] To avoid out-of-pocket payments, the government promises the acquiring banks that it will guarantee some or all of the acquired assets or deposits. In some countries, in which few if any major banks are economically solvent, badly insolvent banks are merged with less insolvent banks. Such a merger is not a lasting solution. Instead, it is likely to lead only to larger, more insolvent, and even harder to resolve banks, which will cause bigger and more costly problems later. In addition, excessive mergers and consolidations may reduce competition, efficiency, and the incentive of larger and more monopolistic insolvent or near-insolvent banks to privatize or recapitalize themselves. The larger a bank, the more its actions are likely to resemble those of a state-owned bank.

It would be better for the insurer or government recognize and assume the losses of existing bank insolvencies when they first occur and in most cases to keep the individual banks independent as much as possible by selling the insolvent banks (less their economic insolvency) to new domestic or foreign shareholders or to smaller solvent domestic banks (Kaufman 1997).

In the absence of credible guarantees by well-capitalized banks, any lasting negative net worth in the banking system, whether explicitly recognized or not, becomes effectively part of the central government's debt. The insolvent banks are substituting public capital for private capital. This substitution represents a governmental policy of capital forbearance and is part of the agency problem discussed earlier. But unlike private capital, the public capital shares in only the downside risk. If the banks return to profitabil-

8. A description of this policy in Japan appears in Cargill, Hutchinson, and Ito (1995, 1996) and Kuroda (1996).

ity and eliminate their negative net worth, the public capital is effectively canceled and all the returns accrue to the private shareholders. Moreover, the longer the banks' private net worth remains negative, the more likely the banks will continue to generate losses from continuing their regular ongoing activities that have been unprofitable in the past and from additional moral-hazard gambling for resurrection (Eisenbeis and Horvitz 1994; Brinkman, Horvitz, and Huang 1996; Kane and Yu 1996). For the same reason, they are also more likely to engage in fraud and self-dealing and, because they have less incentive and ability to operate effective internal control systems, they are also more likely to become victims of such schemes by outsiders.

Operating insolvent institutions compete unfairly with solvent institutions by both underpricing their loans and overpricing their deposits. As long as their private net worth is negative, the insolvent banks are effectively government-owned (nationalized) but privately managed. But, in return for permission to remain in operation, the private managers tend to be highly sensitive to government intervention in a number of areas such as credit allocation. As noted earlier, although politically profitable, such policies are unlikely to be financially profitable through time. Thus, this arrangement is unstable and potentially explosive.

Whether the situation is officially recognized or not, the government is financing the banks' private negative net worth. If not explicitly recognized as part of government debt, the banks' deficit is financed through bank deposits. If explicitly recognized, it is financed by additional tax receipts or new debt. Which costs more depends on the interest expense and noninterest expense of explicit government debt versus that of explicitly or implicitly insured bank deposits. At least in the United States, explicit government debt had a lower interest cost in the 1980s than bank deposits. Moreover, even if explicit government debt costs more, it may still be the better way to finance the banks' negative capital position if the government can at the same time impose more effective rules to resolve the insolvencies more quickly and restrict moral-hazard gambling until then.

But, for political reasons, government officials may prefer not to recognize the government's obligation; the larger the magnitude of the banks' negative net worth, the greater their reluctance to do so. Among other things, recognition involves admitting past errors, accepting blame, forcing an explicit or implicit write-down of bank assets from book to market value, and potentially exposing fraud and other criminal activity in addition to "honest" errors of bank mismanagement. Moreover, it may foster a widespread perception that the government budget deficit will increase and as a result raise interest rates and that the government funds will be used to "bail out" the "guilty" bank managers and shareholders. Thus, governments are tempted to delay taking this step as long as possible, until the severity of the

problem becomes so widely recognized and so explosive if not corrected that the costs of remaining in the ostrichlike position, hoping to last until a successor becomes responsible, finally outweigh the benefits (Kane 1993).

In the United States, the initial legislative response to the thrift problem of the 1980s did not occur until some eight years after the massive initial decapitalization of the thrift industry, and then only in the form of insufficient and industry-financed support in the Competitive Equality Banking Act (CEBA) of 1987. Appropriation of public funds for the thrift debacle did not occur until two years later in the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) of 1989. Recognition of the concurrent problem in commercial banking, appropriation of public funds for that purpose, and meaningful deposit-insurance reform did not occur until 1991, with the enactment of the FDIC Improvement Act (FDICIA).

Neither the government nor the bank regulators took the lead in exposing the problems and warning the public of their consequences. It was the analyses of some academics and independent staff members of the bank regulatory agencies and congressional banking committees that importantly contributed to alerting the media and ultimately the public to the seriousness of the problem. Indeed, consistent with the previously noted Kane reflexes, officials criticized and belittled the "truthsayers," denying and dismissing their message as the ravings of uninformed, permanent critics. After all, according to the regulators and the government, everyone knew or should have known that they—the regulators and the government—had more analysts and better access to the data and were the true guardians of the public welfare! One can observe a similar pattern in other countries.

Public support for official government intervention and explicit assumption of the banks' negative net worth might be easier to obtain if the government were to make it clear from the outset that the funds raised would be used for liquidating the assets of the insolvent institutions and not for supporting the shareholders or management. The government could signal its commitment by establishing an independent liquidating agency— a government-sponsored "bad bank"—to which all insolvent institutions would be transferred. The agency, which could be modeled in large part after the Resolution Trust Corporation (RTC), would be charged with selling the insolvent institutions as a whole or their assets separately in a quick but orderly fashion. In the meantime, the agency would appoint and oversee the management of the transferred banks. The government could allow currently insolvent institutions to avoid being transferred to this agency if, in a short period, they raised sufficient private capital to meet the capital standards discussed in the following section.

The elimination of the individual bad banks and the negative net worth

in the banking system is primarily a political problem. The question is not so much whether they should be eliminated but when and who should, and practically or politically could, bear the cost—depositors, shareholders, healthy banks, or nonbank taxpayers. The answer hinges on the strength and will of the central government. The size of the banks' deficit is given, only the distribution of the burden is at stake. In such a setting, questions of economic efficiency are frequently of secondary importance. That is why it is so difficult for governments in many countries to take this step. Generally, it is possible only after lengthy delays during which alternative means of allocating the costs prove unacceptable. If and when the insolvent and near-insolvent institutions have been recapitalized or transferred to the resolution agency, the government should put in place a new, efficient deposit insurance structure. This task is primarily an economic problem. The deposit-insurance reform legislation enacted in the United States in 1991 can serve as a partial model.

What Can Be Learned from the 1991 U.S. Deposit-Insurance Reform?

Congress changed the deposit insurance system dramatically in 1991 in response to the major savings-and-loan debacle of the 1980s, in which one-quarter of the S&L industry failed at a cost of some $150 billion to the U.S. taxpayers, and the fear arose that the commercial banking system was about to experience similar problems (Kane 1989; Kaufman 1995). Some 1,500 banks had failed, and the FDIC had effectively exhausted its reserves. Taxpayers exerted substantial pressure on Congress and the administration to reform bank regulation and the deposit-insurance system to reduce both the likelihood and the costs of such debacles in the future. As a result, a brief opportunity appeared in 1991 both to recapitalize the industry with public funds and to introduce major changes to correct the flaws in the deposit-insurance structure. This opportunity did not exist before the debacle; nor, in retrospect, would it have remained much longer as the banking and thrift industries recovered, easing public pressure to make changes. The banks' improved performance also would have increased the opposition to such changes by those in the industry likely to be adversely affected, including regulators who wished to continue the existing system of regulation and legislators who wished to continue the existing system of "selling" political favors. At the height of the crisis, neither bankers nor bank regulators had sufficient public credibility and stature to fight the reforms effectively. The situation in Japan today seems similar.

Deposit insurance differs fundamentally from other forms of insurance, such as life, property, or fire insurance. Although the firms that sell the lat-

ter insurance can partially control moral-hazard behavior and reduce the likelihood of the insured event's occurring by requiring preventive behavior or action (e.g., smoke detectors, safety belts, more solid construction), they cannot prevent the events from occurring altogether. Some remain "acts of God." Depositor insurers, however, can control their loss experiences almost totally by resolving insured institutions before they deplete their shareholder capital completely. The loss is endogenized. Outside of the event that inadequate monitoring, major fraud, or very large, abrupt declines in asset prices occur, only shareholders would suffer losses in bank insolvencies and the deposit insurance would become effectively redundant.

Framers of the 1991 changes in the deposit-insurance structure sought to keep the good aspects of deposit insurance—full protection for only small depositors to minimize runs into currency—and to correct the bad aspects—the risk-taking, moral-hazard behavior of insured institutions and the forbearing behavior of regulators as agents for their healthy bank and taxpayer principals (Benston and Kaufman 1988, 1994b; Carnell 1993a, 1993b).

The underlying premise of the reform was that limited government deposit insurance was not only politically realistic, but economically beneficial if designed correctly. Continuation of government deposit insurance requires continued supervision and regulation of banks by the government, but not necessarily as before. The incentives of both the insured institutions and the bank regulators had to be changed in order to change their behavior in the future and thereby to avoid the reestablishment of underlying conditions for debacles, for example, excessive credit and interest-rate exposures by banks. In the jargon of economics, the structure had to be made "incentive compatible." Moreover, because, as noted earlier, if any troubled institution was resolved before its own private capital was fully depleted, losses would accrue only to shareholders and not to depositors and other creditors, an explicit and firm "closure rule" must apply. The numerical cut-off value selected for this rule must be set somewhat above zero capital in order to provide a safety margin for errors and minimize incurring losses from all but major fraud or unusually large and sudden declines in asset values that could drive capital negative before resolution could be achieved. Indeed, without an explicit and firm closure rule, no deposit-insurance reform scheme can be effective. Shareholders receive any economic value remaining in the bank when it is resolved. No private capital is expropriated. Any losses from delayed resolution would be shared by the FDIC and depositors with uninsured deposits.

Because, with such a closure rule, losses to depositors at failed banks would be minimized or avoided altogether, systemic risk problems also would be minimized. For purposes of public policy, one should view the fail-

ure of banks as no more important or damaging than the failure of any other firm of comparable size, and one should not disguise economic insolvencies by manipulative accounting. The magnitude of any loss associated with failure matters much more than the failure per se. The approach I have described is referred to as structured early intervention and resolution (SEIR) or, in the language of FDICIA, prompt corrective action (PCA) and least cost resolution (LCR) (Benston and Kaufman 1988).

The underlying strategy calls for regulatory sanctions to mimic the prudential sanctions (penalty function) that the private market imposes on financially troubled non-insured firms as their condition deteriorates. Such sanctions include reducing or eliminating dividends, restricting asset growth and acquisitions, changing management, and raising additional capital. To limit moral-hazard behavior, the new structure imposes explicit and progressively harsher sanctions as a bank's financial condition, measured primarily by its capital position, deteriorates; it thereby affects the bank incentives ex ante and attempts to reverse its decline and to avoid its failure. If this procedure fails and the existing shareholders do not recapitalize the bank, it must be resolved before its economic capital turns negative. Insolvent banks should be given no opportunities to "gamble for resurrection" with potential large losses to the FDIC.

The new structure specifies explicit and preannounced multiple performance zones or trip wires for banks with different associated explicit and preannounced sanctions and, equally important, rewards. The top performance zone requires levels of capital adequacy in line with the capital ratios maintained by uninsured bank competitors. The poorer a bank's performance—the lower the performance zone—the harsher the regulatory sanctions ("sticks") and the smaller the rewards ("carrots"). Conversely, the better the performance, the milder any sanctions and the greater the rewards. Such a multiple-step performance-evaluation ladder has two major advantages. First, it contains carrots as well as sticks to encourage better than satisfactory or adequate performance, which sanctions alone cannot do. Second, one can graduate the harshness of sanctions moderately. Small steps make banks view the implementation of sanctions as more likely, increasing their credibility, and decrease the banks' incentive to increase their moral-hazard behavior sharply as they approach the floor values of a particular zone. With only a two-zone scale—open or closed—the increase in the sanctions becomes too great to be highly credible, and banks are more likely to increase their risk taking significantly as their performance declines toward the lower boundary of the open zone.

The success of this structure depends on the quality and motivation of the bank supervisors and regulators. However, the strict regulatory discipline is supplemented by increased reliance on market discipline from larger,

de facto as well as de jure uninsured depositors and other creditors, who are accustomed to and experienced in evaluating the credit worthiness of their investments. The combination of intensified regulatory and market disciplines should greatly reduce the likelihood of banks sinking through all the zones and failing. If some did so, they most likely would experience a "soft landing" with minimum losses.

To limit the agency problem, the regulatory sanctions are explicit and become progressively more mandatory (less discretionary) as an insured institution's performance deteriorates. This graduation reduces the ability of regulators to delay, forbear, and treat different banks differently.[9] But regulators retain their freedom to use discretion in the higher performance zones. The use of explicit multiple performance zones and the resulting moderate changes in the severity of the mandatory sanctions should make regulators less reluctant to impose them and, therefore, also less opposed to the mandatory feature and the loss of some of their discretionary authority in the lower performance zones.

Table 1 presents a summary of the major features of the deposit-insurance structure imposed by the FDICIA. The reforms were phased in concurrently with the elimination of the negative net worth in the industry through the resolution of insolvent and near-insolvent institutions. These provisions apply to all surviving banks and savings-and-loan associations. Five capital zones were put in place. Three capital-asset ratios—risk-based total and tier 1 and leverage tier 1—serve as the primary measure of performance. With the exception of the requirement of a minimum 2 percent tangible equity leverage capital for critically undercapitalized banks, which the legislation specifies, the regulatory agencies set numerical values for capital for each of the other zones.

Unfortunately, although the legislation encourages use of market-value accounting, capital is measured in book (historical) values rather than the more accurate and useful market values. Because book values frequently overstate market values, the currently specified values of the capital levels for each zone are probably too low either to always impose sanctions in a timely and preventive fashion or to always resolve critically undercapitalized institutions with no or only minimal loss to the FDIC.[10] In addition, the risk-based capital measures are arbitrary, can be "gamed" by the banks to show higher values than warranted, and tend to overstate the size of a bank's

9. The FDICIA also imposed limited restrictions on Federal Reserve discount-window lending to insolvent or near-insolvent institutions.

10. However, for purposes of protecting domestic depositors and the FDIC, the capital ratio of large banks was effectively increased sharply in 1993 with the enactment of depositor-preference legislation that gives domestic depositors and the FDIC preference in resolution over foreign depositors and nondepositor creditors, including sellers of Fed funds.

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cushion to absorb losses of all types.[11] Moreover, despite their weakened state, the regulators and banking industry had some success in lobbying Congress to water down some of the prudential provisions before enactment and later in drafting implementing regulations that further weakened the intent of the act (Benston and Kaufman 1994a; Kane 1994).

Nevertheless, the new structure has many advantages:

—It requires little modification of the existing banking structure.

—By simulating a market environment in which noninsured firms operate, it is incentive compatible.

—It relies on both "carrots" and "sticks" to motivate bank behavior.

—Because the sanctions mimic market forces and are broad, they reduce the need for regulatory micromanagement.

—It maintains full explicit protection for "small" depositors, who are likely to run into currency, unlikely to be very efficient in evaluating the financial condition of banks, and most likely to successfully pressure the government for protection if losses from failure threaten.

—Insurance is explicit, so the rules are known beforehand and political fighting regarding coverage is minimized at or after a failure(s).

—By restricting deposit insurance to $100,000 and not protecting uninsured deposits, market discipline is permitted to supplement regulatory discipline at larger banks.

—There is no need for "too-big-to-fail" (TBTF), which really means "too-big-to-not-protect-uninsured-depositors." If a bank of any size is resolved promptly, losses to depositors should be small at worst, hence concern about systemic risk minimal. FDICIA does provide an exception that permits protecting all depositors at institutions if not doing so "would have serious adverse effects on economic conditions or financial stability." But the use of this exception requires a number of difficult steps, including effective approval by the president of the United States and repayment of any loss to the FDIC primarily by other large and competitor banks, whose owners might reasonably oppose providing such assistance. Thus, it is unlikely to be used frequently.

—Insurance premiums would be low, because losses to the FDIC would be low and needed primarily to pay the FDIC's operating expenses.

11. References to a criticism of risk-based capital standards are noted in Kaufman (1997). One can observe the misleading nature of the use of book values and risk-based capital as well as underreserving losses by noting that the reported BIS risk-weighted capital ratio of Japanese banks actually increased between early 1992 and 1994, during the height of the banking crisis (data from Goldstein and Folkerts-Landau 1994).

—Prudential regulation would increase in credibility.

—As the rules are explicit and known ahead of time, they help to shape the expectations and behavior of banks.

—By making some sanctions, including ultimate resolution, mandatory, the law lessens political pressures on regulators, who have no choice but to take the legislatively specified actions, which may be politically unpopular.

Since its introduction, FDICIA has had positive effects. Together with high bank profits from a prolonged period of economic expansion since 1991; a low level of interest rates; a steeply upward slope of the yield curve; and no return of price bubbles in energy products and real estate, which contributed importantly to the earlier losses, the market's fear of sanctions for being undercapitalized has caused banks to maintain significantly higher capital ratios than in any other period since the early 1960s. These same factors, as well as the taking of prompt corrective actions, have helped reduce the number of bank failures from some 125 in 1991 to fewer than 10 each in 1995 and 1996. Only infrequently and less so in the most recent years have uninsured depositors received protection at banks resolved with a loss to the FDIC (Benston and Kaufman 1997). Thus, in contrast to pre-FDICIA days, market participants know that uninsured depositors at all failed banks probably will experience some loss if the FDIC suffers a loss. This knowledge has served to strengthen market discipline on banks.

What should other countries copy from the U.S. experience? Among the most important lessons are

—Keep or impose explicit full protection for small depositors, but not for larger depositors, who have the ability and experience to evaluate credit worthiness and are accustomed to experiencing losses.

—Make all sanctions explicit and some, including ultimate resolution (the closure rule), mandatory. To minimize political fighting when sanctions have to be imposed, to achieve fairness, and to affect ex ante bank and regulatory behavior, permit no exceptions.

—Resolve pending insolvencies sooner rather than later, so any losses will be smaller and the insurance agency can pay them without subterfuge or forbearance.

—Intervene in problem institutions promptly, to raise the odds of turning them around and avoiding insolvency.

—Specify multiple performance zones, making the sanctions moderately graduated, credible, and enforceable.

—Charge deposit insurance premiums related to the risk exposure an institution represents to the insurer to discourage moral-hazard behavior, but

recognize that the insurer's loss depends on the closure rule and that risk premiums require an accompanying closure rule.

—Develop adequately trained and motivated supervisory and regulatory personnel.

—Require sufficient economic capital. Only capital can absorb losses and avoid insolvencies. The greater the risks from the macroeconomy, financial markets, and inadequately trained or motivated bankers or supervisors, the higher should be the required capital. The "correct" capital is the amount the market would require if the bank were not insured. This may be judged by the capital ratios maintained by noninsured bank competitors in the particular country. Generally, these ratios substantially exceed those of the banks, even under FDICIA. The lesson from the history of banking is clear: it is far cheaper in the long run for both banks and the economy as a whole to err on the side of requiring too much capital in banks than too little.[12]

Conclusions

Although frequently considered special, banks are not unique with respect to their stability or the damage caused by their failure. To the extent that banks are special, special public policies, particularly safety nets and the banks' usefulness in taking actions indirectly that governments may be reluctant to take directly and in bestowing political favors, make them so. Ironically, some of the prudential policies imposed on the banks have been so poorly designed that they have been counterproductive, increasing the fragility of the banks to adverse economic shocks. This heightened vulnerability has resulted in more frequent and costly failures in almost all countries, spuriously validating the widespread fears that bank fragility translates into bank failure. In the absence of reductions in the magnitude or frequency of economic shocks, governments can improve bank stability by correcting the flaws in the existing design of the safety net, particularly government-operated deposit insurance, that encouraged moral-hazard behavior by the banks and poor agency by the regulators.

The United States reformed its deposit insurance structure in the FDICIA of 1991 to reduce the incentives that foster both problems. The reform rests on the truism that if a bank is resolved before its economic net worth turns negative, only shareholders, not depositors, bear losses. Deposit insurance becomes effectively redundant. The reform attempts to achieve

12. For countries with state-owned banks, it is necessary to capitalize them separately or, better yet, privatize them and subject them to the same prudential provisions required of competing private institutions.

this outcome by explicitly maintaining insurance for small depositors; increasing bank capital levels; imposing graduated regulatory sanctions that mimic market sanctions on troubled noninsured bank competitors and that become progressively harsher as a bank's performance deteriorates through a number of performance zones, making the imposition of the sanctions by the regulators more mandatory as the bank's performance deteriorates; and introducing a closure rule that requires resolution before the total dissipation of a bank's capital.

This structure has a number of attractive features that recommend it to other countries, particularly developed ones. Developed countries generally have better capitalized banking systems and the financial resources, although not always the political will, to recapitalize individual insolvent banks, which are too often state-owned institutions. They also have a highly educated and sophisticated labor force from which to attract bank regulators and supervisors. Thus, they possess the most important prerequisites for the successful implementation of this reform. Less-developed countries are likely to have more poorly capitalized, often insolvent, banking systems; to encounter more serious constraints in recapitalizing them; and to have fewer educated and trained bankers and examiners. These conditions make these reforms more difficult, but not impractical nor unimportant, to implement in these countries. To date, the scheme has worked well in the United States in reducing both the number and cost of bank failures and in raising capital ratios. It took effect only after the bank and thrift systems had been recapitalized with public funds and insolvent institutions resolved by an independent agency. High bank profits from a continuing economic expansion, elimination of price bubbles, and a favorable interest-rate structure assisted its success. Ultimately, no deposit-insurance reform can substitute for or long survive in the absence of effective stabilizing macroeconomic policies that avoid inflation and asset-price bubbles.

References

Benston, George J., and George G. Kaufman. 1988. Risk and Solvency Regulation of Depository Institutions: Past Policies and Current Options. New York: Salomon Brothers Center, Graduate School of Business, New York University.

———. 1994a. Improving the FDIC Improvement Act of 1991: What Was Done and What Still Needs to Be Done to Fix the Deposit Insurance Problem. In Reforming Financial Institutions and Markets in the United States, edited by G. G. Kaufman. Boston: Kluwer.

———. 1994b. The Intellectual History of the FDIC Improvement Act of 1991. In Reforming Financial Institutions and Markets in the United States, edited by G. G. Kaufman. Boston: Kluwer.

———. 1995. Is the Banking and Payments System Fragile? Journal of Financial Services Research (December): 209–40.

———. 1996. Appropriate Role of Bank Regulation. Economic Journal (May): 688–97.

———. 1997. FDICIA After Five Years. Journal of Economic Perspectives, forthcoming.

Brinkman, Emile J., Paul M. Horvitz, and Ying-Lin Huang. 1996. Forbearance: An Empirical Analysis. Journal of Financial Services Research (March): 27–42.

Caprio, Gerard Jr., and Daniela Klingebiel. 1996. Dealing with Bank Insolvencies: Cross Country Experience. Working paper, World Bank.

Cargill, Thomas F., Michael M. Hutchinson, and Takatoshi Ito. 1995. Lessons from Financial Crisis: The Japanese Case. Working paper, University of California, Davis.

———. 1996. The Political Economy of Japanese Monetary Policy. Draft book manuscript.

Carnell, Richard Scott. 1993a. The Culture of Ad Hoc Discretion. In Assessing Bank Reform: FDICIA One Year Later, edited by G. G. Kaufman and R. E. Litan. Washington, D.C.: Brookings Institution.

———. 1993b. A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991. Annual Review of Banking Law (Warner, Gorham, and Lamont): 317–71.

Dowd, Kevin. 1996. The Case for Financial Laissez-Faire. Economic Journal (May): 679–87.

Eisenbeis, Robert A., and Paul M. Horvitz. 1994. The Role of Forbearance and Its Costs in Handling Troubled and Failed Depository Institutions. In Reforming Financial Institutions and Markets in the United States, edited by G. G. Kaufman. Boston: Kluwer, 49–68.

Flannery, Mark J. 1995. Prudential Regulation for Banks. In Financial Stability in a Changing Environment, edited by K. Sawamoto, Z. Nakajima, and H. Taguchi. New York: St. Martin's Press.

Folkerts-Landau, David, and Takatoshi Ito. 1995. International Capital Markets (World Economic and Financial Surveys). Washington, D.C.: International Monetary Fund, August.

Garcia, Gillian, and Matthew Saal. 1996. Internal Governance, Market Discipline, and Regulatory Restraint: International Evidence. Working paper, International Monetary Fund, Washington, D.C.

Goldstein, Morris, and David Folkerts-Landau. 1993. International Capital Markets (World Economic and Financial Surveys). Washington, D.C.: International Monetary Fund, August.

———. 1994. International Capital Markets (World Economic and Financial Surveys). Washington, D.C.: International Monetary Fund, September.

Goodhart, C. A. E. 1995. Price Stability and Financial Fragility. In The Central Bank and the Financial System, edited by C. A. E. Goodhart. Cambridge: MIT Press.

Hubbard, R. Glenn. 1991. Financial Markets and Financial Crises. Chicago: University of

Chicago Press.

Ito, Takatoshi, and Kazuo Veda. 1993. Editors' Introduction. Journal of the Japanese and International Economies (December): 323–28.

Kane, Edward J. 1989. The S&L Mess. Washington, D.C.: Urban Institute.

———. 1993. What Lessons Should Japan Learn from the U.S. Deposit-Insurance Mess? Journal of the Japanese and International Economies (December): 329–55.

———. 1994. Taxpayer Loss Exposure in the Bank Insurance Fund. In Reforming Financial Institutions and Markets in the United States, edited by G. G. Kaufman. Boston: Kluwer.

———. 1996. Foundations of Financial Regulation. In Rethinking Bank Regulation: What Should Regulators Do? Chicago: Federal Reserve Bank of Chicago.

Kane, Edward J., and George G. Kaufman. 1993. Incentive Conflict in Deposit-Institution Regulation: Evidence from Australia. Pacific-Basin Journal of Finance (March): 13–29.

Kane, Edward J. and Min-Teh Yu. 1996. Opportunity Cost of Capital Forbearance during the Final Years of the FSLIC Mess. Quarterly Review of Economics and Finance (Fall): 271–90.

Kaufman, George G. 1988. Bank Runs: Causes, Benefits and Costs. Cato Journal (Winter): 559–87.

———. 1994. Bank Contagion: A Review of the Theory and Evidence. Journal of Financial Services Research (April): 123–50.

———. 1995. The U.S. Banking Debacle of the 1980s. Financier (May): 9–26.

———. 1996a. Bank Failures, Systemic Risk and Bank Regulation. Cato Journal (Spring/Summer): 17–45.

———. 1996b. Bank Fragility: Perception and Historical Evidence. Working paper, Loyola University.

———. 1997. Lessons for Transitional and Developing Economies from U.S. Deposit Insurance Reform. In Regulation and Supervision of Financial Institutions in the NAFTA Countries and Beyond, edited by George M. von Furstenberg. Boston: Kluwer, 16–35.

Kuroda, Akio. 1996. Prudential Policy in Japan. In Rethinking Bank Regulation: What Should Regulators Do? Chicago: Federal Reserve Bank of Chicago: 59–78.

Lindgren, Carl-Johan, Gillian Garcia, and Matthew Saal. 1996. Bank Soundness and Macroeconomic Policy. Washington, D.C.: International Monetary Fund.

McCarthy, F. Ward Jr. 1984. The Evolution of the Bank Regulatory Structure: A Reappraisal. Economic Review (Federal Reserve Bank of Richmond; March/April): 3–21.

Nakajima, Zenta, and Hiroo Taguchi. 1995. Toward a More Stable Financial Framework: Long-Term Alternatives—An Overview of Recent Bank Disruption Worldwide. In Financial Stability in a Changing Environment, edited by K. Sawamoto, Z. Nakajima,

and H. Taguchi. New York: St. Martin's.

Nanto, Dick K. 1995. Japan's Banking Crisis: Causes and Probable Effects. Washington, D.C.: Congressional Research Service, The Library of Congress.

Ostrom, Douglas. 1992–95. Series on Japanese Banking in JEI Report. Washington, D.C.: Japan Economic Institute, 2 October 1992, 21 October 1994, 9 December 1994, 16 December 1994, 10 February 1995, 7 April 1995, 18 August 1995, and 1 September 1995.

Sapsford, Jathon. 1996. Japanese Bank's Collapse Sends a Message. Wall Street Journal. 1 April, A10.

Schwartz, Anna J. 1987. The Lender of Last Resort and the Federal Safety Net. Journal of Financial Services Research (September): 1–18.

Selgin, George. 1992. Bank Lending 'Manias' in Theory and History. Journal of Financial Services Research (August): 169–86.

Short, Genie D. and Kenneth J. Robinson. 1997. Banking and the Global Evolution of 100% Deposit Guarantees: Why Won't We Trust the Market? In Money and the Nation State, edited by Kevin Dowd and Richard H. Timberlake, Jr. New Brunswick, N.J.: Transaction Publishers, forthcoming.

Sylla, Richard. 1995. The Forgotten Private Banker. Freeman (April): 210–14.

Wallis, John J., Richard E. Sylla, and John B. Legler. 1994. The Interaction of Taxation and Regulation in Nineteenth-Century U.S. Banking. In The Regulated Economy, edited by C. Goldin and G. Libecap. Chicago: University of Chicago Press.

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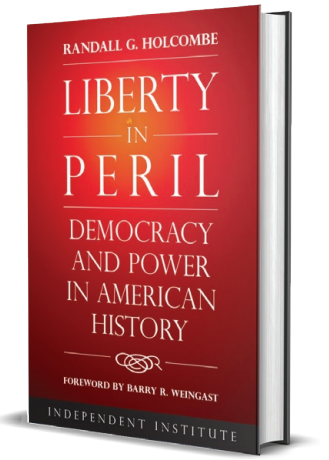

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