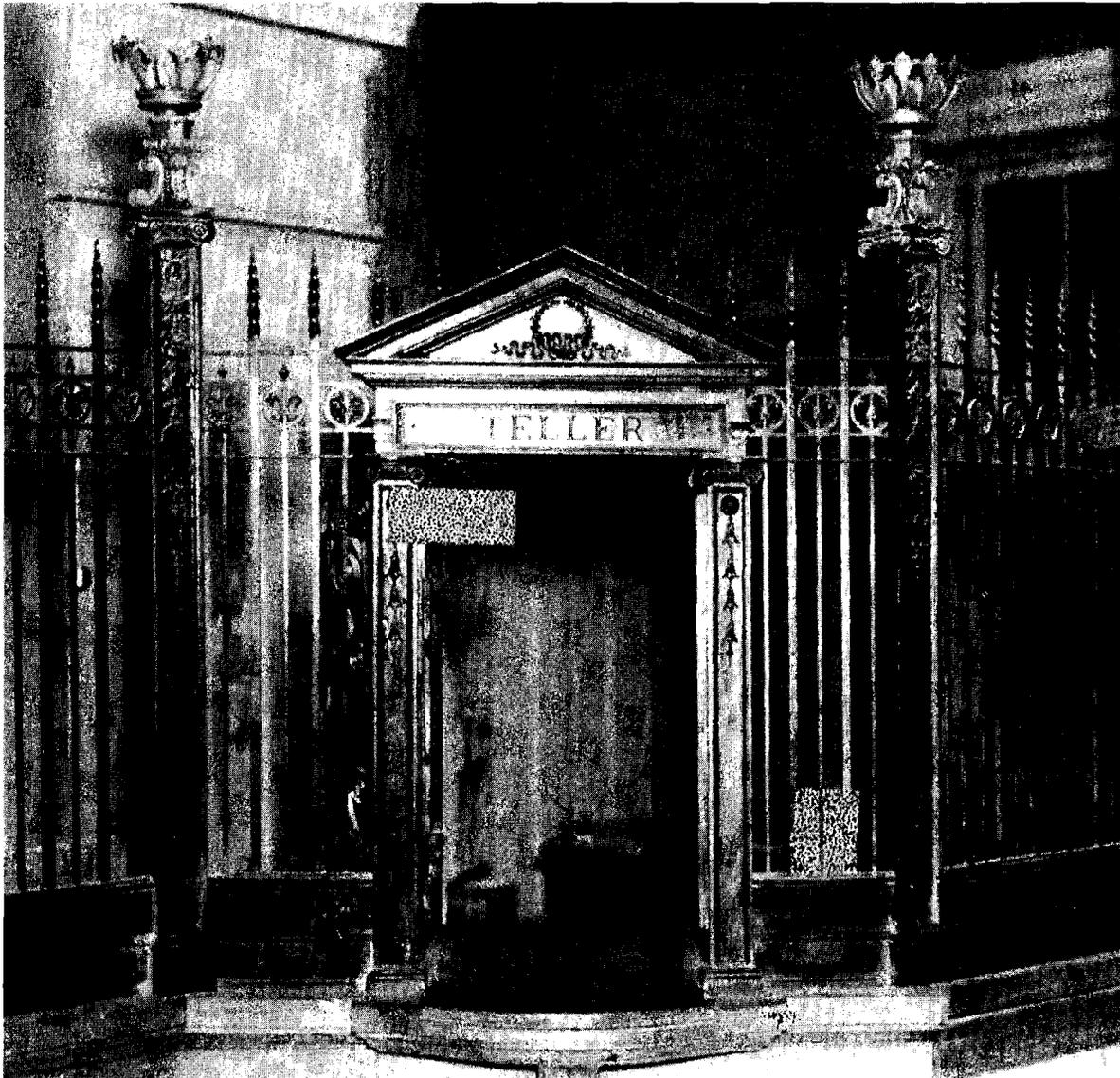




Reforming Federal Deposit Insurance



A CBO STUDY

REFORMING FEDERAL DEPOSIT INSURANCE

The Congress of the United States
Congressional Budget Office

NOTE

The cover photograph was taken by Russell Lee in 1937 at Shawneetown, Illinois, for the Farm Security Administration. It is from the Prints and Photographs Division of the Library of Congress.

PREFACE

The United States has operated a system of federal deposit insurance for more than 50 years. Over this time, the federal guarantee of deposits has contributed to the stability of the depository institutions industry, which includes commercial banks, thrifts, and credit unions. Recent events, however, have revealed that the operation of the federal system of deposit insurance under its current structure is far too costly. This study analyzes a wide range of strategies that have been proposed to reform the federal deposit insurance system. The study was requested by the House Committee on Banking, Finance and Urban Affairs. In keeping with the mandate of the Congressional Budget Office to provide nonpartisan analysis, no recommendations are made.

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SUMMARY AND CONCLUSIONS

The United States has operated a system of federal deposit insurance for more than 50 years. The government established deposit insurance as a guarantee against loss in response to the financial crisis of the 1930s when the public's lack of confidence in the banking system contributed to thousands of bank failures. Unlike private insurance, the government's guarantee is an assurance policy that promises to back depositors' funds with the full faith and credit of the government--in other words, with its power to tax. Through this assurance, the federal system of deposit insurance has contributed to the stability of depository institutions. As a result, depositories--which include commercial banks, savings institutions (or thrifts), and credit unions--have effectively provided the financial services required by a healthy, growing national economy.

Recent events, however, have revealed flaws in the current structure of the federal deposit insurance system. These flaws have proved extremely costly for the federal budget and, ultimately, the taxpayer. If the benefits of federal deposit insurance warrant continued support, the system needs reform to reduce its costs. Reforms can be directed at any or all of three players: the insurer, the insured, and the institutions that offer insured deposits. For example, the deposit insurer may be required to strengthen its prudential supervision, insured depositors may have their coverage reduced, and depository institutions may be required to hold more capital.

As currently structured, there are three federal deposit insurance funds that are administered by two federal agencies. The Federal Deposit Insurance Corporation (FDIC) administers the Bank Insurance Fund (BIF), which insures deposits at commercial banks and some savings banks, and the Savings Association Insurance Fund (SAIF), which insures deposits at savings and loans and at savings banks not insured by BIF. The National Credit Union Administration (NCUA) administers the National Credit Union Share Insurance Fund (NCUSIF), which insures deposits at credit unions. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989

(FIRREA), the major legislation enacted to address the thrift crisis, abolished the Federal Savings and Loan Insurance Corporation (FSLIC), which had previously insured thrifts, and transferred its responsibilities to the FDIC through the SAIF.

THE GOAL AND OBJECTIVES OF FEDERAL DEPOSIT INSURANCE

The central goal of regulating depositories is to ensure effective and efficient financial services that contribute to economic growth and stability. In pursuing that goal, regulators must balance the sometimes conflicting objectives of assuring the safety and soundness of the depository institutions while encouraging a competitive environment for the depository industry. Deposit insurance contributes to meeting the regulatory objective of safety in two ways. First, public confidence in the government's guarantee of deposits minimizes the likelihood of a contagion of bank runs, which is the spread of excessive and persistent withdrawals of deposits from troubled depositories to healthy ones. Second, the safe haven provided by insured deposits protects small and unsophisticated depositors from loss. Achieving this objective assures depositories of a relatively stable supply of funds that they may then lend to borrowers.

The major drawback of deposit insurance is that it creates a "moral hazard"--that is, financial institutions, especially those in trouble, have an incentive to undertake riskier investments with depositors' funds when those funds are insured. In the absence of deposit insurance, the threat of withdrawals by depositors curbs the degree of risk that a depository is willing to take and still be able to service any claims. The government has attempted to control the moral hazard of deposit insurance through the regulation, supervision, and examination of depository institutions to ensure the prudent management of insured deposits.

Even in the normal course of business, some depository institutions are expected to fail. As a result of these failures, the deposit insurer will incur some losses. The federal insurer provides for these losses--much as a private insurer would--by establishing a reserve

fund. To accumulate the government's reserves, the federal deposit insurer imposes a premium on depositories that offer insured deposits. This fund avoids the need for the federal insurer to request appropriations from the Congress every time a loss is incurred. Instead, the burden of financing normal losses is on the primary beneficiaries, which are depository institutions and depositors. In the event that the fund is unable to handle current losses, the federal deposit insurer is also able to borrow, within limits, from the Department of the Treasury. In the event of catastrophic loss, the federal insurer can ask, as it has recently, that taxpayers foot the bill. The justification for this recourse is that all Americans benefit from avoiding systemwide bank runs and maintaining a viable financial system. The general assurance of the government guarantee makes the taxpayer the ultimate insurer.

Under the current structure of federal deposit insurance, depositors--not depository institutions--are the ones insured. The institutions are granted the privilege of offering insured deposits. By making its guarantee unconditional to qualified depositors, the government is ultimately at risk for losses to the total amount of all insured deposits. While the risk of total loss is minuscule, losses beyond roughly 1 percent of all insured deposits would bankrupt the insurance funds. In that event, current claims against the funds would exceed their immediate resources. While the government ultimately backs the deposit insurance funds, invoking government assistance beyond the resources of the funds is viewed, in itself, as extraordinary or catastrophic.

Two situations can cause such a catastrophe. First, a temporary, but systemwide financial calamity caused by events beyond the immediate control of the depositories could put a large number of them in jeopardy. Such a crisis lies beyond the scope of the federal deposit insurer and, thus, is probably best left to the Federal Reserve System in its role as "lender of last resort." Second, a permanent, structural change in the depository industry to a more competitive environment could cause many depositories to leave the industry. While some restructuring could take place without cost to the insurer, such as troubled depositories being absorbed by healthy ones, the government might also have to resolve many insolvent or failing depositories,

either by closing or merging them. The thrift crisis stemmed from a combination of these two situations.

Distinguishing between the two types of catastrophe is difficult. One possible description of the thrift crisis is that regulators misjudged the problems of the thrift industry in the early 1980s as only a temporary systemwide crisis. In viewing it as a temporary problem, regulators were lenient in the hope that the thrift industry would recover. This regulatory forbearance was insufficient to cope with an industry that was going through a permanent change associated with deregulation. As a result, uncompetitive firms that should have been closed were allowed to stay open. Beyond the intended safety net, regulatory forbearance prevented the aggressive but self-correcting attributes of a competitive environment from functioning.

The temporary problems of high and volatile interest rates combined with the permanently increased competition both within the thrift industry and with other financial institutions to cause the catastrophe for the thrift insurance fund. These problems were compounded by excessive regulatory forbearance and the inherent moral hazard of federal deposit insurance. When many thrifts became insolvent, they were not forced to close because regulators were reluctant to debit the fund for which they were responsible. Thus, institutions were permitted to "gamble for resurrection" by undertaking inordinately risky strategies. The result was that the thrift insurer, FSLIC, became insolvent. Consequently, the federal budget must carry the burden of the government's insurance guarantee.

One lesson from this experience is that the bankruptcy of FSLIC could have been averted and the costs minimized if regulators had assessed the situation correctly and early and had used their authority to close institutions rather than assist them to remain open. Although BIF, the bank insurer, and NCUSIF, the credit union insurer, appear solvent, the catastrophe that bankrupted the FSLIC could happen to the other federal deposit insurers. Correcting the deficiencies of the current structure of federal deposit insurance can help reduce the likelihood that a similar crisis will happen again.

A FRAMEWORK FOR EXAMINING FEDERAL DEPOSIT INSURANCE

The task of reforming federal deposit insurance is extraordinarily complex. Straightforward solutions to weaknesses in the system are not readily apparent. Many proposals for reform have been suggested and submitted to the Treasury for consideration. Most of these proposals advance some type of standard insurance practice to reform the federal deposit insurance system. Thus, at the risk of oversimplifying, concepts adapted from standard insurance practices can provide a useful framework to evaluate the strengths and weaknesses of the various proposals.

Standard insurance involves one party, the insured, who seeks protection against a specific risk by paying a premium to another party, the insurer, who agrees to compensate the insured for any losses resulting from the risk specified in the contract. The insurer is then exposed to the potential losses of the insured. To manage this exposure, insurers typically try to employ a combination of three standard practices:

- o Underwriting risk,
- o Controlling risk, and
- o Transferring risk.

Although the federal system of deposit insurance is, in effect, an assurance policy, incorporating strategies from standard insurance practices could reduce the risk to which taxpayers are exposed. At one extreme, deposit insurance could be completely privatized; alternatively, a reformed government system could rely on stricter regulation.

Strategies for Underwriting Risk

Underwriting is the practice of establishing limits to coverage and then setting the appropriate premiums to charge. Changing how risk is underwritten is limited by the unconditional nature of the govern-

ment guarantee on deposits, but higher premiums could be charged, and the amount of coverage could be changed. In addition, risks that are assumed could be limited by more careful chartering of the depository institutions that are allowed to offer insured deposits.

The chief difference between the operation of federal deposit insurance and insurance provided by the private sector is in underwriting. Private insurers would never underwrite deposits as the federal government does for three reasons. First, private insurers will typically only insure independent events--that is, the risk of insuring one thing is unaffected by insuring another. Deposit insurance is different because the insurer's guarantee of deposits at one institution can affect others. If depositors lose confidence in the insurer's ability to cover its potential liabilities, they can trigger contagious bank runs, thus creating a self-fulfilling condition. Second, federal deposit insurance provides an unconditional guarantee, which means that the government assures depositors that their funds are safe regardless of the risks taken by an insured depository. In contrast, a private insurer would adjust its insurance contract to account for the risk to which it is exposed. Third, deposit insurance implicitly extends coverage beyond the contract amount. Because it operates for the public good, the federal deposit insurance funds have covered more than the explicitly stated \$100,000 per account. A private insurer would not extend such coverage.

The most prominent reform proposal to change the underwriting practice applies to the terms of the insurance contract. This reform can be achieved by restricting coverage to the individual or by lowering the coverage ceiling for accounts below the current \$100,000 limit. These changes would reduce the taxpayers' liability by offering less insurance but would also offer less protection to depositors and to depositories.

Limiting the coverage to an individual rather than to an account could be hard to carry out and might encourage depositors that need more protection (particularly pension funds and other institutional depositors) to withdraw their money and place it elsewhere. Lowering the coverage ceiling below \$100,000 could have the same effect. These withdrawals may not present a problem to the economy as a whole,

since many close substitutes are available. For example, large depositors might place their funds instead in Treasury securities or similar investments. These alternatives, however, might increase the overall cost of financial services to the economy. Large withdrawals might also undercut the profits of some depositories and create further instability in the financial system. The uncertainties and losses as a result of reducing insurance coverage may preclude making such a change.

Underwriting also involves covering risk by securing funds or making provisions for expected losses. Because insured depositories and their customers are viewed as the primary beneficiaries, the depositories are charged a premium, which they pass on to customers through higher fees for financial services. These premiums and fees give the fund an appearance of being self-financing.

Several proposals have recommended increasing the size of the reserves by increasing the premium assessments. This increase would allow the insurance funds greater flexibility in how they resolve insolvent institutions, and it would enable them to handle more cases before needing to tax the public. The risk of insuring deposits would not change. The only change would be in shifting the burden of how or by whom the fund is financed. Moreover, strong competition within the industry from nondepository sources limits how high premiums can go before the viability of depositories is threatened.

A further concern in underwriting is monitoring the solvency of both the insured depositories and the insurance fund itself. Greater use of market-value accounting has been proposed for monitoring the riskiness of depositories. Insured depositories could be required to value their assets and liabilities more on a market basis, which would provide better information and enhance the regulators' ability to spot problems earlier than they now can using book-value methods. Improved public reporting by the federal insurance agencies of their contingent liabilities would help in monitoring the solvency of the insurance funds.

Strategies for Controlling Risk

Controlling risk is the practice of creating incentives to prevent or reduce the risk. It includes adjusting premiums in response to changes in the risk or targeting the insured directly, such as charging lower premiums for good drivers or nonsmokers. In preference to affecting the behavior of insured depositors, federal deposit insurance has relied heavily on controlling risks through prudential regulation, supervision, and examination of the depositories.

One approach for controlling risk would be to rely on the market more than on government regulation to provide supervision. The advantage of calling on the market is that it may create a more effective level of supervision by forcing prompt remedial action and closure, if necessary, than can be provided by the government alone. Certainly, the market is likely to be less forgiving. The disadvantage is that market supervision would discipline imprudent depositories, possibly causing withdrawals and effecting runs, which is just what the system has tried since the 1930s to avoid. It is also possible that, under certain circumstances, some institutions should be assisted because liquidation would impose too high a cost.

Other measures for controlling risk seek to improve the regulation of deposit insurance. Federal regulators could require the owners of depositories with insured deposits to hold more equity. Imposing a greater burden on the owners would provide a greater incentive to manage prudently. Federal regulators could tighten the rules on closing troubled depositories, which may discourage repeating past mistakes of regulatory forbearance. The deposit insurer could also invoke risk-based capital requirements or assess risk-based insurance premiums as another incentive for prudent management. Moreover, if increased losses to uninsured creditors were explicitly threatened, market discipline would improve.

One proposal would radically change the amount and quality of risk held by depositories. The so-called narrow bank proposal requires that insured deposits be pledged against either risk-free assets, such as Treasury securities, or assets that are readily valued on a market basis. This proposal would minimize the risk of guaranteeing deposits;

however, it requires a radical restructuring of the depository industry with consequent adjustments in financial markets.

Strategies for Transferring Risk

Another insurance practice is to transfer risk to others. One technique would establish a deductible of coverage, which requires that the insured bear some of the risk through coinsurance. Alternatively, the insurer may reduce some of its coverage through reinsurance, which shares some of the risk with other insuring agents. Neither of these techniques is now used by federal deposit insurers, but several reform proposals include them.

Coinsurance would place a greater burden of risk on depositors. This strategy, used in several foreign deposit insurance systems, is similar to reducing coverage but more effective because a deductible exposes the insured depositor to some loss regardless of the coverage limit. Because of this exposure, depositors would exert greater discipline on depository institutions. Most experts, however, doubt that reliance on individual depositors alone could provide the level of discipline needed.

Alternatively, the insurer may share some of the risk with other insuring agents through reinsurance. One extreme form of reinsurance would transfer all risks to the private sector by establishing an industrywide system of self-insurance. Several countries have used this strategy but apparently still retain an implicit government guarantee. Another proposal would require the federal insurer to buy private insurance for a portion of its potential liabilities. Still another proposal would require insured depositories to issue a class of subordinated debt that is unsecured and uninsured. This measure would absorb some of the risk to the depository by vesting a class of debt holders with the means and the incentive to evaluate risks.

The benefit of both coinsurance and reinsurance is that each would create incentives through the marketplace to discipline depositories. Each would also lower the potential liability of the government by putting others at risk for some portion of the potential losses. The

drawback of these methods, as with underwriting strategies for assessing risk, is that they fail to provide the same level of assurance that the current deposit insurance system does. For example, while self-insurance or reinsurance offers depositors the illusion of full protection, they retain the same implicit guarantee that now exists if a catastrophe were to occur. The guarantee is that the federal budget, through taxation or other powers of government, will bail them out.

CONCLUSIONS

All of the current proposals for reforming federal deposit insurance suggest ways to contain moral hazard and reduce the exposure of taxpayers. Consensus exists on two points: that capital requirements be strengthened, and that prudential supervision be enhanced. Strengthening capital requirements can mean increasing the amount of capital an institution must hold, making the closure rule more explicit with regard to a minimum level of capital, and assigning risk-based capital requirements. Enhancing supervision can mean improving regulatory practices or placing greater reliance on market forces.

Two proposals for strengthening capital requirements have particular appeal. One essentially proposes that a depository institution be closed or reorganized by the government, with due process, when its capital falls to a certain ratio of its assets but before it becomes insolvent. The other proposes that some form of market-value accounting be implemented, at least partially, which would provide more adequate information to measure economic solvency. These changes would reduce the risk to taxpayers and strengthen the regulatory system of depositories.

The current system of deposit insurance also could be strengthened through measures designed to make sure that the regulators of depositories will act differently than they did in the thrift crisis. Reform, therefore, should consider the incentives of the regulators, particularly the insurer. One approach may be to strengthen the powers and resources of the regulators. Reliance on regulators would be less necessary, however, if market forces could increase the number of depositors or creditors with a vested interest in the prudent manage-

ment of depositories. Thus, enhancing the current regulatory system through a greater reliance on the marketplace could change the burden of risk and the incentives for depository institutions.

Although strengthening capital and enhancing supervision are different strategies, they are not mutually exclusive. Both strategies can help create a safer, sounder, and less costly deposit insurance system. Dangers exist, however. On the one hand, imposing too many controls could overburden the depositories, make them unduly cautious in their lending, and threaten their ability to compete for services with other financial institutions. On the other hand, weakening the assurances now provided to depositors could undercut the protection provided by federal deposit insurance.

In conclusion, federal deposit insurance is best viewed as a system that assures the safety of depositors' funds, as opposed to a system that merely insures depository institutions. These deposits are the primary element in the money stock, which is the means of payment for the U.S. economy. Because the benefits of assuring deposits are shared by all, the insurance system need not rely only on depositors. In the event of a catastrophe, taxpayers are a legitimate insurer of last resort.

To achieve the objectives of deposit insurance effectively, the system relies heavily on prudential regulation, supervision, and examination of depository institutions. In large measure, the costs borne today for the thrift bailout stem from the breakdown of this regulatory system. The proposals for reforming federal deposit insurance range from minor modifications to major structural changes. Each has advantages and disadvantages; none will solve all of the problems.

This analysis has an important limitation. The reform of deposit insurance is analyzed here apart from other regulations applying to depository institutions. Moreover, the analysis is limited in its considerations of international competition. This analysis sheds light on only some policy questions regarding depositories. Reforming deposit insurance, by itself, will not necessarily prevent future costs to taxpayers caused by a permanent, structural change in the depository industry. Other policy questions on bank powers, housing credit, inter-

national competitiveness, and rules for transition need to be resolved before deposit insurance reform takes shape.

Whatever reform proposals are adopted should be implemented in a cautious manner. At present, the nation's financial system is under considerable strain, and many institutions are extremely fragile. Many reforms that could strengthen the system in the long run would impose short-run burdens that could further destabilize the industry. Therefore, it may be best to avoid abrupt changes and to allow a fairly long period of adjustment to meet any new standards that may be imposed.

CHAPTER I

INTRODUCTION

The failure of depository institutions in the 1980s has raised serious concerns about the federal system of deposit insurance. Several factors have been identified as having contributed to the failure of numerous thrifts (savings and loan institutions and savings banks) and many commercial banks. A consensus is emerging that the most important underlying cause was "the *specific way* in which the deposit insurance system for thrifts was structured and administered in the early 1980s."¹

The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) addressed the thrift crisis of the 1980s. The act made provisions for dealing with insolvent thrifts, restructuring the thrifts' regulatory agency, and reforming the regulatory system (see Figure 1). In addition, FIRREA stipulated that the Department of the Treasury and the General Accounting Office (GAO) undertake studies to consider the need for reforming deposit insurance.

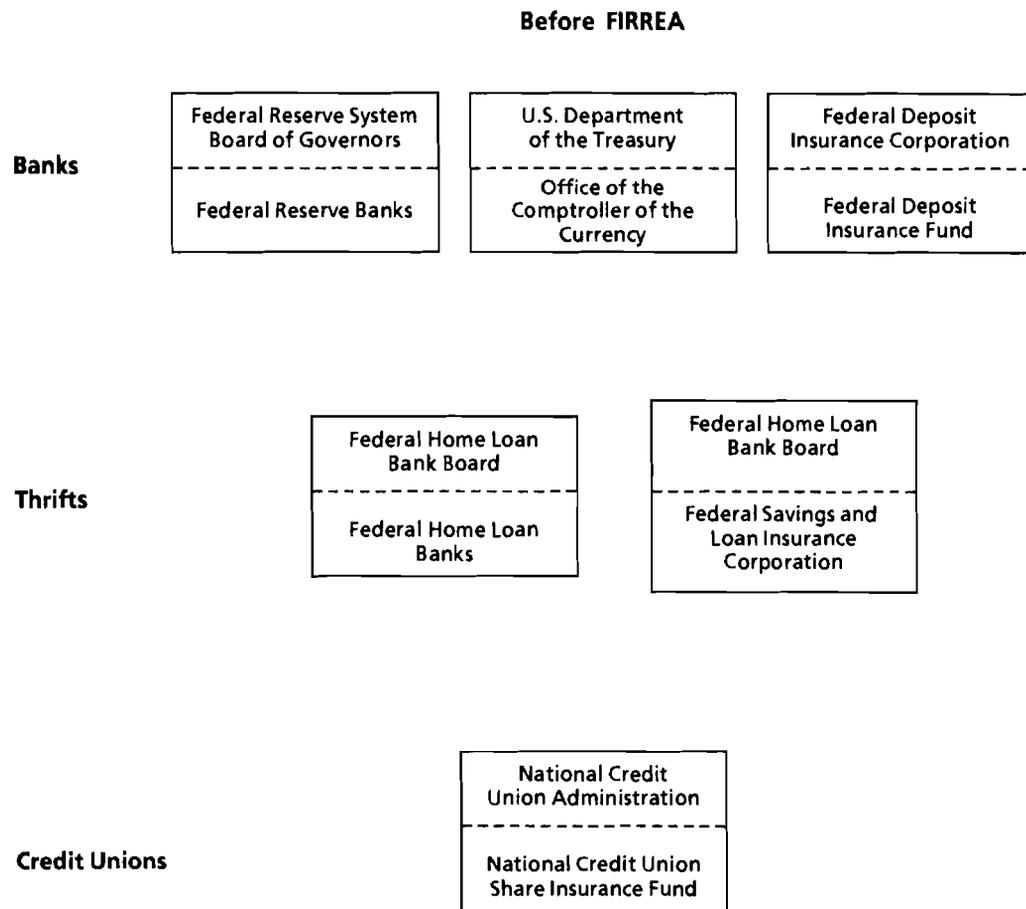
This study by the Congressional Budget Office (CBO) discusses the federal deposit insurance system and identifies specific problems with its current structure. In anticipation of the studies by the Treasury and GAO (due in February 1991), a framework is presented for evaluating the advantages and disadvantages of various strategies suggested in current proposals to reform the federal deposit insurance system. Information on state systems of deposit insurance in this country and on national systems in other countries is provided in Appendixes A and B, respectively.

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1. Lawrence J. White, *The S&L Debacle: Public Policy Lessons for Bank and Thrift Regulation* (Oxford: Oxford University Press, forthcoming), chap. 11, p. 1, emphasis by author. For a discussion of the causes of the thrift crisis and the problems with federal deposit insurance, see, for example, James R. Barth, Philip F. Bartholomew, and Carol J. Labich, "Moral Hazard and the Thrift Crisis: An Empirical Analysis," *Consumer Finance Law: Quarterly Report*, vol. 44, no. 1 (Winter 1990); George J. Benston and George G. Kaufman, "Understanding the Savings-and-Loan Debacle," *Public Interest*, no. 99 (Spring 1990); and Edward J. Kane, *The S&L Insurance Mess: How Did It Happen?* (Washington, D.C.: Urban Institute Press, 1989).

WHY INSURE DEPOSITS?

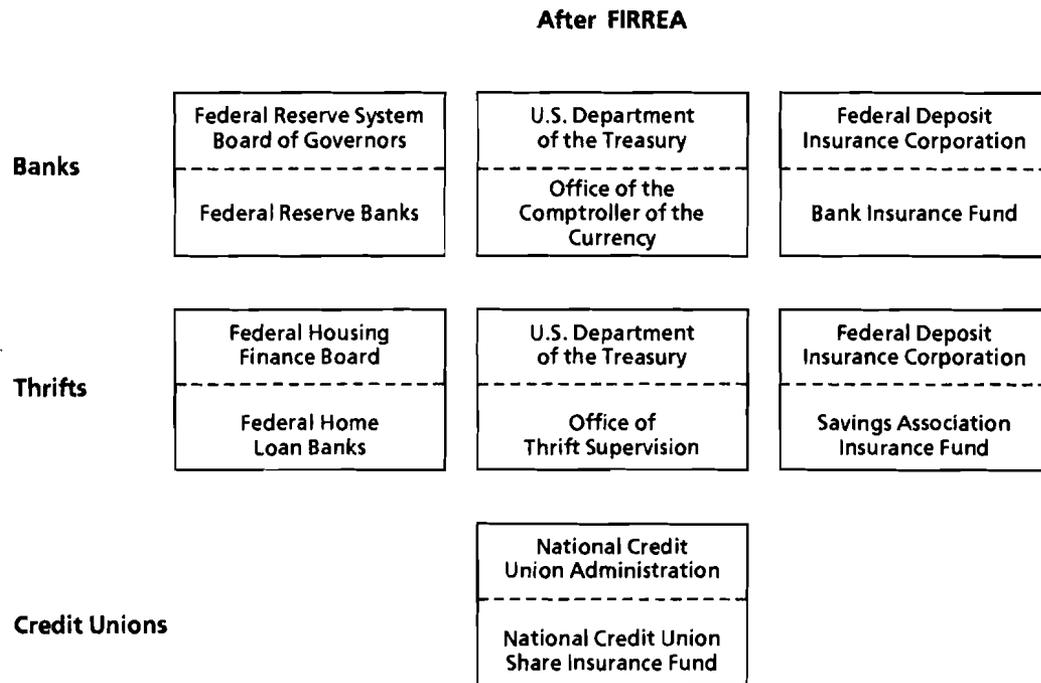
Federal deposit insurance is the system through which the government conveys its guarantee of the safe deposit of funds at commercial banks, thrifts, and credit unions. Depositors are currently insured against the loss of their funds up to a specified limit. The federal government

Figure 1.
Federal Agencies That Regulate Depository Institutions,
Before and After FIRREA



grants the privilege of offering this insurance guarantee to qualifying depositories. Depositors are not charged explicitly for this insurance; rather, the institutions are assessed an insurance premium for the portion of their deposits that is insured.

Figure 1.
Continued



SOURCE: Congressional Budget Office.

NOTES: FIRREA is the Financial Institutions Reform, Recovery, and Enforcement Act of 1989.

Dashed lines indicate some subordinating interagency relationship. The deposit insurance funds have always been administered by some regulatory agency; FIRREA changed the name of the Federal Deposit Insurance Fund to Bank Insurance Fund, abolished the Federal Savings and Loan Insurance Corporation, and created the Savings Association Insurance Fund under the administration of the Federal Deposit Insurance Corporation.

There are two major reasons for guaranteeing deposits. The first reason, preventing contagion or the spread of bank runs, reflects the importance of deposits to the financial system of the nation's economy. The second reason, protecting small and unsophisticated depositors, relates to the imbalance in the availability of information between depository institutions and their customers.

Preventing Contagion

A lack of confidence in the ability of a depository to pay all of its depositors and other general creditors could trigger excessive or persistent withdrawals, known as bank runs. A bank run at one depository may spread to another or to depositories systemwide, a problem known as contagion. Preventing contagion is necessary because of an inherent problem of depository institutions. Depositories use most of the funds deposited with them for relatively illiquid investments that take the form of loans to businesses and consumers in order to earn profits. Therefore, these institutions do not hold sufficient cash to be able to pay all depositors if they were to demand all their money at once. Depositories hold cash or accounts with the Federal Reserve System to cover the withdrawals by depositors expected under normal business conditions.

In the absence of any guarantee of deposits, it is understandable that depositors would try to get their funds out of a depository that is in financial trouble while it is still open. Unfortunately, even institutions that are solvent may not have sufficient cash to satisfy excessive withdrawals. The quick conversion of their investments into cash--possibly at fire-sale prices--to satisfy depositors panicked by a perceived problem may force the closing of an otherwise solvent institution.

Depositories have mechanisms to deal with runs. If withdrawals threaten to exhaust reserves, depositories can borrow from other depository institutions. This mechanism works as long as the runs do not spread through the whole system. One reason for establishing the Federal Reserve System in 1913 was to contain such runs by creating a "lender of last resort." The Federal Reserve accomplishes this function

by permitting qualified banks to borrow from its discount window, using certain investment assets as collateral. When allowing the banks to borrow, the Federal Reserve must distinguish between two different needs. A bank's borrowing may satisfy unanticipated withdrawals (a liquidity problem), or its borrowing may cover losses that have caused the depository's insolvency (a solvency problem).

During the early 1930s, bank failures triggered a general lack of public confidence in the banking system, which spread to an unprecedented number of banks that had to suspend operations. Most banks were unable to reopen. The Federal Reserve did not meet the needs of banks experiencing runs, possibly because at first it considered them as having a solvency problem and not a liquidity problem. The delay in last-resort lending by the Federal Reserve exacerbated the public's lack of confidence in the banking system. Depositors demanded their deposits in cash and did not redeposit their funds in other banks. As a result, the banking system suffered a major contraction in the money supply that seriously imperiled the entire financial system.²

Federal deposit insurance was introduced, in part, as a response to the spread of bank runs in the early 1930s. The assurance provided by the federal guarantee of deposits prevents contagion by maintaining the public's confidence that depositories can make good on demands for cash. Even if an institution is insolvent, depositors are still assured the value of their funds up to the insured limit. While federal deposit insurance may be redundant to last-resort lending, it assures depositors so that runs may never start.

Protecting Depositors

Protecting small and unsophisticated depositors, the second major reason for deposit insurance, stems from another inherent problem of depository institutions. In performing their role as intermediaries between savers and borrowers, depositories develop information about the quality of their portfolios. This information gives them an ad-

2. For example, see Milton Friedman and Anna J. Schwartz, *A Monetary History of the United States, 1867-1960* (Princeton: Princeton University Press, 1963).

vantage over most depositors. Large and sophisticated depositors and other general creditors may acquire information comparable with that of depositories; most depositors, however, have small balances and lack the incentive and the expertise to obtain and evaluate comparable information and, thus, are at a disadvantage. This disadvantage is known as information asymmetry.

To correct this disadvantage, the federal guarantee of deposits protects the interests of all insured depositors by acting like a large and sophisticated creditor to the depository. So that it may protect the government's guarantee, the federal insurer is granted access by the depository to better and more reliable information than small depositors could obtain. The government also has the ability to discipline or close a depository that is insolvent or is operating in an unsafe and unsound manner.

Inherent Problems and Recent Failures

Deposit insurance has an inherent problem of "moral hazard," which is common to all types of insurance. Providing a risk-taking financial institution with insurance may induce it to undertake greater risk with depositors' money because the negative consequences are passed through to the insurer. Private insurers compensate for moral hazard by charging risk-related premiums or by using other preventive measures, such as limiting coverage. Federal deposit insurance relies instead on prudential regulation, supervision, and examination of the institution's management of depositors' funds.

The recent thrift crisis occurred, in part, because the regulator failed to provide adequate prudential supervision. This failure may have been caused to some extent by an incentive system that led regulators to understate the size of the problem. Such incentives are common to the principal-agent problem--that is, a situation in which the agent (in this case, the regulators) have a different incentive than the principal (in this case, both taxpayers and depositors) on whose behalf the agent is acting. The deposit insurer, as agent, is supposed to impose discipline on insured depositories as if the insurer were a creditor, thus protecting depositors from suffering losses associated with failed

banks, thrifts, and credit unions. The insurer must also protect the taxpayer from having to bail out the deposit insurance fund if it becomes insolvent.

The conflict of incentives and interests on the part of regulators led to a policy of forbearance--that is, a tolerance by regulators of certain questionable practices that were widespread throughout the thrift industry. Either regulators expected troubled thrifts to recover from supposedly temporary difficulties, or they lacked sufficient funds to close depositories that had obviously failed. In either case, this policy was meant to bide time. Unfortunately, the trouble was not temporary, and not enough new resources were added to the insurance funds. Thus, forbearance led to delay in closing hundreds of insolvent thrifts and increased the cost of disposing of their assets and liabilities.³

With little capital of their own at risk, owners and directors of insolvent or failing thrifts were free to "gamble for resurrection" with the funds of insured depositors. This notion of "heads I win, tails the insurer loses" led to the high cost of resolving failed depository institutions. In addition, troubled thrifts offered significantly higher rates of interest on their deposits and borrowings than did depositories with adequate capital. These higher rates raised the overall cost of funds for otherwise healthy depositories, which caused them either to undertake greater risk in their investments or to diminish their capital because operating income fell.

ESTABLISHING DEPOSIT INSURANCE IN THE UNITED STATES

The Federal Deposit Insurance Corporation (FDIC), established in the 1930s, is the oldest currently operating national system of deposit in-

3. For example, see Barth, Bartholomew, and Labich, "Moral Hazard and the Thrift Crisis"; and General Accounting Office, *Thrift Industry Forbearance for Troubled Institutions, 1982-1986* (May 1987).

insurance.⁴ The first formal deposit insurance system, however, was established in 1829 in the state of New York to guarantee both bank notes and deposits. It was patterned after a mutual guarantee scheme used by Cantonese merchants in the last century.⁵ Instances of government guarantees of deposits are recorded as early as the Romans, who provided a guarantee for investors in failed merchant banks during their Panic of 33 A.D.⁶

The FDIC was established in the United States by the Banking Act of 1933 as a temporary insurance fund for deposits at commercial banks and some savings banks. It was made permanent by the Banking Act of 1935. Because thrift institutions also experienced high numbers of failures during the Great Depression, the Federal Savings and Loan Insurance Corporation (FSLIC) was created by the National Housing Act of 1934. Credit unions had no federal deposit insurance system until 1970 when the National Credit Union Share Insurance Fund (NCUSIF) was established under the aegis of the National Credit Union Administration (NCUA).

Federal deposit insurance was one response to the widespread bank failures of 1930 through early 1933. During the speculative expansion of the Roaring Twenties (1921-1929), 5,711 commercial banks suspended operations (see Table 1). Depositors lost more than \$500 million. In the first three years of the 1930s, 5,096 banks closed with losses to depositors of almost \$800 million. In only the first two months of 1933, 4,000 banks suspended operations with losses to depositors of more than \$500 million.⁷

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4. The FDIC is predated by the no-longer-operating U.S. Postal Savings System, a type of federal deposit insurance system that was established in 1910 and continued operating until 1966. See Maureen O'Hara and David Easley, "The Postal Savings System in the Depression," *The Journal of Economic History*, vol. 39, no. 3 (September 1979).
 5. Ian McCarthy, "Deposit Insurance: Theory and Practice," *Staff Papers*, vol. 27, no. 3 (Washington, D.C.: International Monetary Fund, September 1980).
 6. Charles W. Calomiris, "Deposit Insurance: Lessons from the Record," *Economic Perspectives*, Federal Reserve Bank of Chicago (May/June 1989).
 7. In contrast, the Canadian banking system suffered similar economic problems but without bank failures. Canada's more concentrated banking system and nationwide branch banking (see Glossary) is generally attributed with helping diversify its risk geographically. The emergency

(Continued)

TABLE 1. COMMERCIAL BANK SUSPENSIONS, 1921-1933

Year	Number of Suspensions	Deposits (Thousands of dollars)	Losses to Depositors	
			Thousands of Dollars	As a Percentage of Deposits in All Commercial Banks
1921	506	172,806	59,967	0.21
1922	366	91,182	38,223	0.13
1923	646	149,601	62,142	0.19
1924	775	210,150	79,381	0.23
1925	617	166,937	60,799	0.16
1926	975	260,153	83,066	0.21
1927	669	199,332	60,681	0.15
1928	498	142,386	43,813	0.10
1929	659	230,643	76,659	0.18
1930	1,350	837,096	237,359	0.57
1931	2,293	1,690,232	390,476	1.01
1932	1,453	706,187	168,302	0.57
1933	4,000	3,596,708	540,396	2.15

SOURCE: Congressional Budget Office adapted from Federal Deposit Insurance Corporation, *The First Fifty Years: A History of the FDIC, 1933-1983* (Washington, D.C.: 1984), p. 36. Data for calculating losses to depositors as a percentage of deposits in all commercial banks from Milton Friedman and Anna J. Schwartz, *A Monetary History of the United States, 1867-1960* (Princeton: National Bureau of Economic Research, Inc., 1963).

The idea of a national system of deposit insurance was not new. Between 1886 and 1933, 150 proposals for some type of formal federal guarantee of deposits were introduced in the Congress. Most of these proposals were prompted by the financial crises that occurred during this period.⁸ As discussed in the previous section, the inordinate number of bank failures has been attributed to the failure of the Federal Reserve to respond adequately to the spread of bank runs. While the Banking Act of 1935 made provisions for reforming the Federal Reserve, part of the legislative response to the banking crisis was

7. Continued

cash provided by the Canadian government to the banking system has recently been suggested as the actual reason why Canada was able to avoid bank failures during this economic downturn. See, for example, Lawrence Kryzanowski and Gordon S. Roberts, "The Performance of the Canadian Banking System, 1920-1940," in Federal Reserve Bank of Chicago, *Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1989).

8. Federal Deposit Insurance Corporation, *The First Fifty Years: A History of the FDIC, 1933-1983* (Washington, D.C.: 1984), p. 3.

establishing federal deposit insurance. The Roosevelt Administration and segments of the banking industry initially opposed enacting a system of federal deposit insurance. The system's eventual enactment, however, was to the industry's advantage. Depositors no longer faced the prospect of losing their savings and had no incentive to withdraw their deposits if they lost confidence in an individual bank or in the banking system.

DEPOSITORY INSTITUTIONS: 1933-1980

From the 1930s through the 1970s, federal deposit insurance appeared to perform its function well. Relatively few banks or thrifts failed, and the FDIC, the FSLIC, and the NCUSIF were solvent. (See Appendix C for the history of failures and costs of resolution for FDIC-insured banks, FSLIC-insured thrifts, and NCUSIF-insured credit unions.) Runs by depositors on individual institutions were a rarity, and no systemwide bank runs occurred. Because of deposit insurance, depositors were compensated at those few banks or thrifts that did fail during this period.

Other banking legislation besides that for federal deposit insurance was enacted in the 1930s. This package of banking legislation set ceilings on interest rates offered on deposits and placed controls on the investment activities of depositories. These restrictions may have contributed to the apparent success of federal deposit insurance during its first 50 years.

Legislated ceilings on the interest rates paid on deposits permitted depositories to function as intermediaries between savers and borrowers at lower costs than would otherwise be possible. These ceilings did not appear to distort financial markets so long as depositories were the primary intermediaries and general market interest rates remained below the regulated ceiling. The ceilings afforded thrifts a slight advantage over commercial banks by permitting thrifts to offer a higher rate of interest on deposits. In counterbalance, commercial banks were granted a virtual monopoly in offering checking account deposits.

Legislative controls also restricted depositories in their investment activities. Thrifts were essentially confined to investing in mortgages, a restriction that exposed them to the risk of borrowing short and lending long. (Thrifts obtain funds through deposits that mature in less time than the mortgages in which the thrifts invest. The risk is that interest rates will increase, causing the cost of borrowing to exceed the return on investment.)

Because commercial banks tended to concentrate on short-term, secured commercial lending, their terms for borrowing and lending were traditionally better matched than those of thrifts. The banking legislation of the 1930s, however, prohibited commercial banks from engaging in other investment activities, such as offering insurance and underwriting securities.

In response to the cash problems experienced during the banking crisis of the late 1930s, insured commercial banks and thrifts were extremely conservative in their lending practices. Commercial banks curtailed lending to such a degree that even the Federal Reserve could not entice banking institutions to make credit more available. Banks mistrusted the Federal Reserve because it had failed to provide the banking system with sufficient cash during its crisis. As a result, banks held unusually high levels of reserves. This restriction of credit may have delayed recovery from the Depression.

During World War II, savings deposits increased because of the limited availability of products for consumers to purchase; depository institutions channeled these savings to the war effort. In the postwar period, these savings were used for peacetime economic expansion and increased household consumption. The low rates of interest in the 1950s and early 1960s were below the ceilings of the regulated interest rates for deposits. Coupled with government subsidies for mortgages, thrifts had ample investment opportunities. Commercial banks, however, sought greater expansion in the newly developing market for consumer finance.

By the mid-1960s, market forces led to increased competition among depository institutions and between depositories and non-depository financial institutions, such as securities and mutual funds.

(Figure 2 shows the structure of the U.S. financial industry.) During the credit crunch of 1966, both thrifts and commercial banks suffered the effects of competition from nondepository financial institutions that offered higher rates of interest, which prompted depositors to shift their funds--a process known as disintermediation. Moreover, commercial borrowers developed other sources for short-term borrowing, which avoided the need to make short-term business loans from commercial banks.

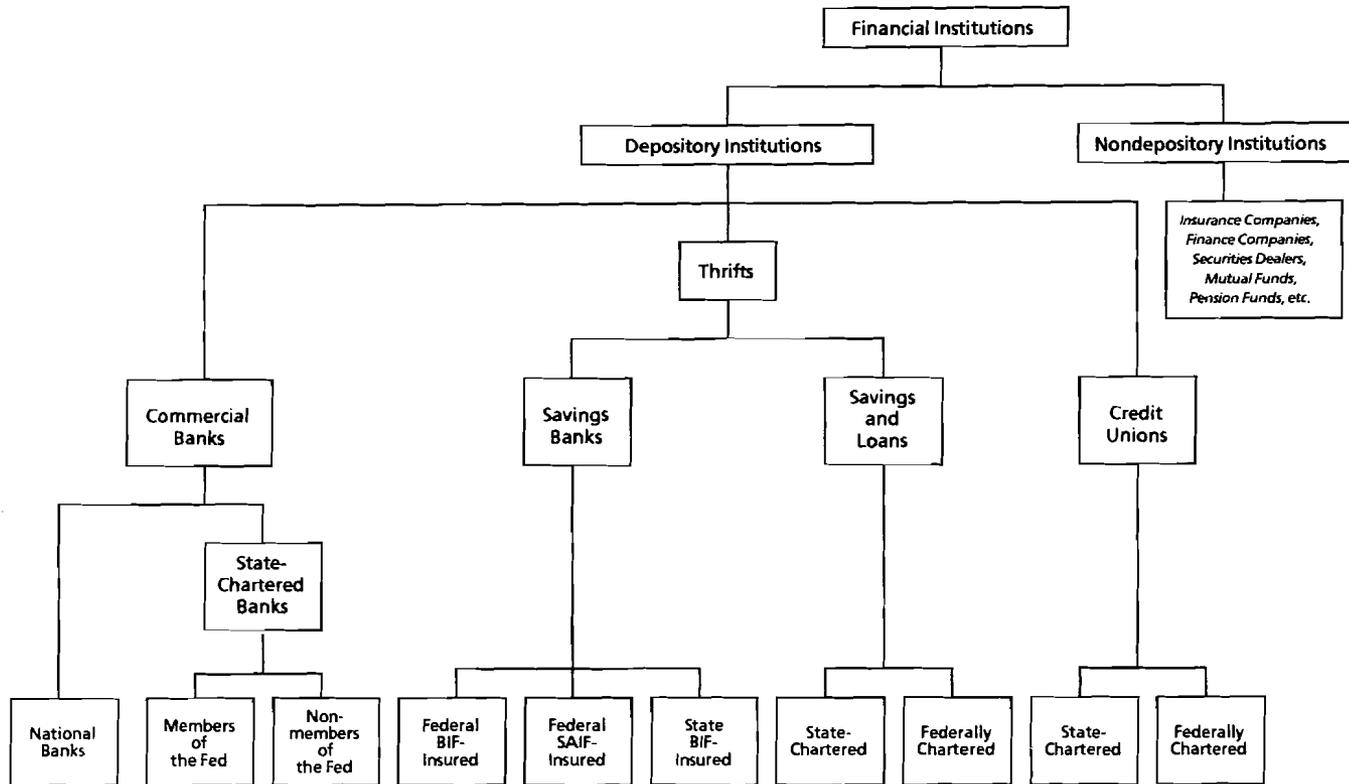
By the 1970s, commercial banks, thrifts, and credit unions began to compete across traditional lines of commerce. Full-service banking began at all banks and thrifts, which now offered services that included credit cards, wire transfers, and automated tellers. Commercial banks began to expand their operations internationally, both lending to foreign borrowers and setting up branches abroad. Thrifts and credit unions next entered the once exclusive domain of commercial banks by offering nearly perfect substitutes for checking account deposits--that is, negotiable order of withdrawal (NOW) accounts and credit union share draft accounts. Because depositories were still limited in the rate of interest they could offer to depositors, a type of nondepository institution known as a money market mutual fund (which was not so restricted) emerged.

Because of this increased competition, profit margins narrowed. Depositories argued successfully for reducing the level of capital they were required to retain, giving them an economic advantage by increasing the leverage of their available capital.⁹ Although increased leverage enabled depositories to have lower net returns on total assets while maintaining or increasing returns on equity, it implicitly put the federal deposit insurance funds in jeopardy because owners of depositories had less of their own capital at stake.

While competition increased among banks, thrifts, and credit unions, depositories that could no longer compete merged with those that were expanding or better serving their geographic markets.

9. For example, see Ronald D. Watson, "Banking Capital Shortage: The Malaise and the Myth," *Business Review*, Federal Reserve Bank of Philadelphia (September 1979).

Figure 2.
Structure of the U.S. Financial Industry



SOURCE: Congressional Budget Office.

NOTES: Currently, some state-chartered commercial banks that are not members of the Federal Reserve System and some state-chartered credit unions are not federally insured. Fed is the Federal Reserve System. BIF is the Bank Insurance Fund. SAIF is the Savings Association Insurance Fund.

These bank and thrift mergers during the 1960s and 1970s may have improved the efficiency of the remaining depositories. In fact, assets grew in the 1980s from \$1.9 trillion to \$3.3 trillion at banks and from \$600 billion to \$1.3 trillion at thrifts.

In response to pressures on the industry, the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980 was enacted to "level the playing field" for depositories. This act started a six-year phaseout of ceilings on interest rates for savings and time deposits and permitted limited expansion of investment activities by both banks and thrifts. More significant, the act raised the ceiling of coverage for deposit insurance from \$40,000 to \$100,000 per account. This increase in coverage had already been extended to time and savings accounts held by state and local governments in 1974 and to Individual Retirement Accounts (IRAs) and Keough accounts in 1978. Unfortunately, the DIDMCA was enacted just after the Federal Reserve had embarked on a restrictive monetary policy that was intended to reduce inflation dramatically. This restrictive monetary policy and the Federal Reserve's operating procedure led to high and volatile rates of interest. The combination of high interest rates and deregulation set the stage for serious problems with depositories.

INCREASED BANK FAILURES AND THE THRIFT CRISIS

Increased competition generally leads to lower profits, which can result in fewer participants surviving in the market. Increased competition in the 1960s and 1970s did consolidate the depository industry through mergers among existing institutions. In the 1980s, states also began to relax restrictions on interstate branching, which, in turn, encouraged geographic expansion and further consolidation.

During the 1960s and 1970s, the FDIC and the FSLIC still experienced no abnormal failures among banks and thrifts that endangered either insurance fund seriously. While some large banks failed (for example, Franklin National in 1974 and First Pennsylvania in 1978), the FDIC was able to resolve them--by closing or merging them--with relatively little cost to the fund and with no serious bank runs. The FDIC resolved 76 commercial bank failures during the 1970s with

losses to the fund of about \$110 million. During the same period, the FSLIC resolved 43 depositories at a cost of about \$200 million. During the 1980s, however, the FDIC and the FSLIC were required to resolve more than 10 times the number of depositories that were resolved during the 1970s. These costs bankrupted the FSLIC and have seriously reduced reserves at the FDIC.

The high number of failures may be the result of the general consolidation of an industry that, since the passage of DIDMCA, was no longer as protected from internal and external market forces. The thrift industry was consolidated from more than 4,000 institutions at the end of 1979 to fewer than 3,000 institutions by the end of 1989. It could further contract to about 1,200 institutions over the next five years.¹⁰ The number of FDIC-insured banks also declined, from about 14,400 at the beginning of the decade to about 12,700 institutions by the end of 1989.

Banks in the 1980s

In the early 1980s, regulatory forbearance prevented numerous troubled banks from failing. Many large commercial banks experienced difficulties with international loans that were made to certain developing countries. Rather than force these banks to recognize losses on these loans, banking regulators and other government policymakers intervened to avert a potential crisis. Commercial banks were permitted to carry loans on their books that, under ordinary circumstances, would have been written off as losses. At the same time, negotiations ensued among the federal government, those commercial banks, and the countries threatening to default on their loans. Agreements were made to reschedule these loans, thus reducing the burden on the countries and permitting the banks to carry the troubled loans on their books. Some analysts argue that it is still too early to judge the success of this policy of forbearance; others worry that it discriminated against small banks that did not engage in this type of lending.

10. Congressional Budget Office, *The Economic and Budget Outlook: An Update* (July 1990).

The FDIC was forced to resolve some large bank and group-bank failures on domestic loans. Gross misbehavior by the Butcher brothers' chain of banks in Tennessee and Kentucky led to a high number of failures in the early 1980s. The excessively risky and imprudent activities of Penn Square Bank, a small bank in Oklahoma, led to troubles at many money-center banks--large banks located in cities that are major financial centers--that had inappropriately lent to Penn Square Bank. Penn Square's failure directly led to the collapse of Continental Illinois, the ninth largest bank in the United States. While some other major regional banks experienced difficulties, the FDIC was able to resolve these problems without seriously endangering the solvency of its insurance fund.

Depressed commodity prices and the collapse of real estate markets in the Southwest led to increased bank failures in the middle to late 1980s. These economic conditions may have triggered the numerous bank failures in Texas, which stemmed, in part, from the state's prohibition against branch banking. Many analysts have argued that prohibitions or limitations on branch banking, as well as other geographic limitations that may be imposed on depositories, adversely restrict the ability of depositories to diversify risk. Such restrictions result in having more institutions than if more liberal branch banking were permitted. Although there is still considerable debate, most analysts hold that branch banking systems are generally more efficient than unit banking systems (such as in Texas) that do not permit banks to branch.

In general, banks were not affected to the extent thrifts were by high interest rates in the early 1980s because the maturities of their assets and liabilities were well matched. Increased expansion by the banks into real estate lending, however, has recently posed credit problems for many banks--including recently some large banks in the Northeast.

During the years 1980 through 1987, the FDIC resolved 631 banks at a cost of more than \$10 billion--more than it had done for the first 47 years of its existence. While bank failures during the 1980s did not present as serious a problem as the thrift crisis did for the FSLIC,

questions have been raised about the viability of the FDIC as the banks' insurance fund.¹¹

Thrifts in the 1980s

Thrifts suffered first from the high and volatile interest rates of the early 1980s; regional credit problems, similar to those experienced by banks, came later. These economic problems were coincidental with increased competition in the thrift industry. This competition was stimulated in 1982 by the Garn-St Germain Depositories Institutions Act, which hastened the deregulation of controls on the interest rates on deposits. The act permitted thrifts to diversify their investment portfolios, a departure from the previous rigid design of holding mainly mortgages. A number of states also deregulated restrictions on investment opportunities for thrifts.

While deregulation permitted thrifts greater diversification of risk, the timing and decentralization of the deregulation, in retrospect, may have aggravated the problems. Deregulation of investment powers should have allowed thrifts to reduce their risk. The interest rate problems of the early 1980s, however, left many thrifts threatened with insolvency. In 1982, 85 percent of the thrift industry suffered net income losses. With little capital at risk and deposits insured, many thrifts "gambled for resurrection."¹² They undertook risky investments in the hope that a big payoff would improve their viability.

The failure of regulators to respond adequately worsened the problem of troubled thrifts. Rather than increase capital requirements, which would force thrifts to be more prudent, the Federal Home Loan

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11. For example, see statement of Robert D. Reischauer before the Senate Committee on Banking, Housing, and Urban Affairs, Washington, D.C., September 12, 1990.
 12. For evidence of increased moral hazard, see Barth, Bartholomew, and Labich, "Moral Hazard and the Thrift Crisis"; and Elijah Brewer, "Full-Blown Crisis, Half-Measure Cure," *Economic Perspectives*, Federal Reserve Bank of Chicago (November/December 1990).

Bank Board (Bank Board) lowered capital requirements.¹³ Because the FSLIC, which operated under the aegis of the Bank Board, had limited funds to resolve insolvent thrifts, many troubled thrifts were merged through supervisory actions with healthy thrifts. These supervisory actions imposed no explicit costs to the FSLIC. Other thrifts were permitted to remain open even though they were insolvent in terms of the tangible value of their capital. The supervisory mergers resulted in the creation of intangible assets, or "goodwill," which were quantified, shown in the balance books with generous terms of depreciation, and counted by the Bank Board toward satisfying a depository's capital requirements. Not surprisingly, many of these merged thrifts were later resolved by the FSLIC, and many are currently candidates for takeover by the Resolution Trust Corporation.

The Bank Board's policy of regulatory forbearance during the 1980s was contrary to standard insurance practices. Incentives always exist for a depository institution to delay the recognition of loss, either in the hope that losses may be recouped somehow or that the owners may be able to extract value from the firm's assets before bankruptcy. Managers of the insurance fund face similar incentives when the recognition of losses threatens the fund's own solvency.

The Bank Board also encouraged new capital infusions to the thrift industry. Mutual institutions--a class of thrifts in which the depositors are owners--were encouraged to convert to stock ownership. Restrictions on chartering a new stock-held thrift were relaxed. These changes permitted closer control of institutions by fewer individuals. Although analysis is still preliminary, some economists view this concentration of control as a contributing factor to moral hazard because closely held firms can more easily pursue risky strategies and engage in fraud. Fraud was not limited to closely controlled depositories, but it was a significant factor in the thrift crisis.

13. For a discussion of capital requirements and industry solvency during the 1980s, see James R. Barth and Philip F. Bartholomew, "The Thrift-Industry Crisis: Revealed Weaknesses in the Federal Deposit Insurance System" (paper presented at a conference on Reform of Deposit Insurance and the Regulation of Depository Institutions in the 1990s: Setting the Agenda, sponsored by the Center for Economic Policy Research, Stanford University, held in Washington, D.C., May 18-19, 1990).

From 1980 through 1988, 489 thrifts were resolved by the Bank Board and the FSLIC at a present value cost, estimated in 1989, of about \$42 billion. These losses bankrupted the FSLIC's reserve fund and became the responsibility of the federal budget. During the same period, an additional 333 troubled thrifts were merged with supervisory assistance but without cost to the FSLIC. An additional 900 to 1,700 thrift institutions may still need to be closed. If these institutions could be fully resolved today, the present value cost would be between \$90 billion and \$150 billion.¹⁴ If the pessimistic view of the number of expected thrift resolutions is realized, the thrift industry will shrink from more than 4,000 institutions in 1980 to fewer than 1,200 institutions by the mid-1990s.

LESSONS OF THE 1980s FOR DEPOSIT INSURANCE

The high cost of the thrift crisis of the 1980s and the potential cost of bank failures in the 1990s lead many analysts to argue for restructuring federal deposit insurance. Although deposit insurance may have done its job of preventing contagion and protecting depositors, the cost to taxpayers has proved to be too high. Other analysts argue that deposit insurance itself was not part of the problem and so need not be part of the solution. In this view, the failure of regulators to supervise adequately the operations of insured thrifts was the primary cause of the thrift crisis and, therefore, the regulatory process is what needs reform. A counterview holds that prudential regulatory control is an integral part of the operation of federal deposit insurance. Issues involving prudential regulation and supervision of financial institutions cannot be easily separated from issues related to the structure and operation of the deposit insurance system.

As currently structured, federal deposit insurance is a government assurance.¹⁵ The intent, when creating the federal agencies to admin-

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14. Statement of Nicholas Brady before the House Committee on Banking, Finance and Urban Affairs, June 14, 1990; and Congressional Budget Office, *The Economic and Budget Outlook: An Update*, pp. 5-7.
 15. James R. Barth, Philip F. Bartholomew, and Michael G. Bradley, "Reforming Federal Deposit Insurance: What Can Be Learned from Private Insurance Practices," *Consumer Finance Law: Quarterly Report* (forthcoming); Edward J. Kane, "No Room for Weak Links in the Chain of Deposit Insurance Reform," *Journal of Financial Services Research*, vol. 1 (1987).

ister deposit insurance, was to convey the federal government's guarantee to depositors; it is unclear whether the intent was ever for these deposit insurance funds to be self-sustaining. A self-sustaining fund, such as most private insurers operate, would require that the income from premiums charged for the insurance sufficiently cover anticipated losses, with some provision made for unanticipated or catastrophic loss. The original premium rate charged by the FDIC was not based on the fund's ability to cover anticipated losses; rather, it was based on the ability of banks to pay.¹⁶

Despite that basis for funding, federal deposit insurance has been able to handle normal losses for years. This good fortune gave the appearance of a self-sustaining fund. The FSLIC's bankruptcy illustrates that the deposit insurance funds, as structured, may not be self-sustaining. The newly created Bank Insurance Fund and the Savings Association Insurance Fund now face that prospect. Backing the deposit insurance funds with the full faith and credit of the federal government covers any catastrophic loss that might bankrupt the funds; however, this pledge exposes taxpayers to those losses.

As a government assurance, federal deposit insurance has some flexibility in its design. Like private insurance, federal deposit insurance provides coverage against the occurrence of some specified risk of loss, but the nature of the risk and the current specifics of the guarantee differ from private insurance for three reasons. First, the risk of loss at one depository is not independent of the risk of loss at another because a loss of confidence may spread between depositories or systemwide. Federal deposit insurance addresses this problem by assuring depositors of the safety of their deposits at all institutions; a private insurance system would not be able to do so. Second, depositors are insured, not the depository institutions; thus, the coverage is, in a sense, unconditional. Depositors are covered regardless of the risk they take when placing their funds with a depository. Private insurers would not cover depositors in this way unless they could make the risk uniform for all depositories. Third, when the federal government re-

16. See James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Paper No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989); and Leo G. Crowley, statement before the House Committee on Banking and Currency, February 21, 1935.

solves insolvent depositories, it does so in a way that extends coverage to all deposits, even those that were not intended to be covered. Extending such coverage beyond the contract amount is something no private insurer would do. The federal deposit insurer does this because its objectives extend beyond the mere coverage of deposits to the entire financial system.

These features distinguish the assurance provided by the federal deposit insurance system from the insurance provided by private industry. (A fuller comparison of federal deposit insurance and private insurance is contained in Chapter II.) This distinction is a major constraint in structuring a balance among the insurance practices available for federal insurers to use. Federal deposit insurance relies heavily on controlling the risks through prudential regulation, supervision, and examination. Private insurers face different constraints and rely on a balance of controls that respond to variations in risk, primarily by using the underwriting practices of limiting coverage and charging premiums. Other countries, facing constraints similar to those of the U.S. federal deposit insurers, have chosen still different balances, often limiting coverage or transferring risk to others.

While a minority of analysts call for abolishing federal deposit insurance, most analysts suggest that the federal insurer rely on a different balance of insurance practices; some suggest strengthening certain aspects of regulatory control. An underlying principle of most reform proposals, however, is a greater reliance than previously on market controls. This common denominator comes, in part, from the belief that market discipline is more efficient than government regulation. That belief may also be a reaction to the regulatory failure that contributed to the extent of the thrift crisis. Relying on the market, however, runs the risk of weakening the assurances now provided by the government's guarantee of deposits.

The following chapters consider the principles and problems of deposit insurance. A framework is presented to evaluate various strategies within the proposals for reforming deposit insurance. In any proposal for reform, the objectives of a deposit insurance system should be kept in mind. These objectives are to prevent the contagion of bank runs, to protect small and unsophisticated depositors from loss, to

maintain the viability of insured depository institutions, and to minimize the burden of losses on taxpayers. A major assumption of the analysis for this study is that the objectives of deposit insurance are also consistent with the desired goals of regulating depository institutions--that is, safety, soundness, and competitiveness.

CHAPTER II

THE PRINCIPLES OF INSURANCE AND THEIR APPLICATION TO DEPOSITS

Although federal deposit insurance is more accurately described as an assurance of the government's guarantee of deposits up to a certain limit, it has, in effect, operated like an insurance system. The standard insurance contract involves one party, the insured, who seeks protection against a specific risk by paying a premium to another party, the insurer, who agrees to compensate any losses that the insured suffers from the risk specified in the contract. Operating within an insurance structure, however, is only one way to assure depositors of the safety of their funds. Some countries do not even operate formal deposit insurance systems, although they implicitly or explicitly guarantee some or all deposits. Other countries do operate formal deposit insurance systems, but many of these systems are administered by agencies that only serve to formalize the government guarantee. In still other countries, depositories essentially self-insure each other, and the government may or may not be involved in the operations of the funds. In these countries, the guarantee is still implicit, with the government as the insurer of last resort. The U.S. system of deposit insurance uses an agency structure that combines certain operational aspects of an insurance system with a bank regulatory system.

This chapter discusses the similarities and differences between the government's assurance of deposits and other forms of insurance. The standard principles of insurance apply to all its forms, whether private or government. Private insurers use all of the practices applicable to the type of insurance they offer. Federal deposit insurance is a special case and, therefore, uses standard insurance practices in special ways. It may use some practices applicable to a particular insurance function, but not others; it may employ a different balance of insurance practices, depending on the constraints imposed on it as a policy of assurance to the public. Despite the significant differences that separate private and government insurance, much can be learned from examining private insurance practices. Deposit insurance may be improved through a greater, if still limited, reliance on those practices.

INSURANCE AND GOVERNMENT ASSURANCE

Federal deposit insurance is not actually insurance at all; rather, it is an assurance that the government will guarantee deposits up to a certain limit. This guarantee offsets instability and inefficiencies in the monetary and financial system and corrects the imbalance of information that places small and unsophisticated depositors at a disadvantage. This distinction between insurance and government assurance is subtle and subject to confusion. An insurance system must be self-sustaining; its credibility rests on the level of capital it holds in reserves, its premium structure, and the conditions of its coverage. A government assurance system need not be self-sustaining, its premiums need not be based on risk, and its coverage can lack conditions that would otherwise be fundamental to insurance.¹ The federal government's assurance is an unconditional guarantee of deposits up to a nominal limit, currently \$100,000; it relies on uniform premium charges to fund a reserve for losses, but, ultimately, the Department of the Treasury and the taxpayer stand behind the guarantee.

The key distinction between an insurance system and a government assurance policy is the credibility of the insurer's (or assurer's) ability to pay claims. An insurer's credibility is limited by the possibility that it may go bankrupt if it misestimates its risks and fails to maintain sufficient reserves to cover claims. An assurer's credibility must be ironclad. It can allow no room for doubt that it has sufficient resources to make good on claims and stands ready to do so. That is why the federal government backs deposit insurance with its "full faith and credit." It wants to assure everyone that its guarantee of deposits is unshakable. Without this absolute assurance, it is hard to imagine a credible pledge that would convince all insured depositors at U.S. banks, thrifts, and credit unions that their funds are safe.

Evidence of the credibility of the government's guarantee on insured deposits is the lack of general runs on depositories by the public

1. Edward J. Kane argues that, "Because the guarantee contract does not limit the set of unfavorable events to which the guarantor's credit is exposed, and because the degree of effective risk can be increased by the guaranteed party, deposit insurance represents an unconditional third-party guarantee of a firm's capacity to repay a particular class of its debts." Edward J. Kane, *The S&L Insurance Mess: How Did it Happen?* (Washington, D.C.: Urban Institute Press, 1989), p. 4.

during the bank failures and thrift crisis of the 1980s. Although deposit withdrawals were experienced and runs by uninsured depositors and other creditors took place, runs by insured depositors were rare. The government's guarantee was strengthened by its willingness to tax or to borrow additional resources beyond the insurance fund to pay off insured depositors. The state deposit insurance crises of the 1980s, however, may have occurred because most states with deposit insurance systems did not explicitly guarantee deposits with a pledge of any financial resources beyond their own insurance funds.²

Operating an assurance system has both advantages and disadvantages. Under normal business conditions, the system can function as if it were a self-sustaining insurance fund. At other times, when the insurance fund is under stress because of its unconditional guarantee, the disadvantages become more obvious. The coverage of the assurance policy is theoretically unlimited. The private insurer might take steps to limit its exposure to risk by refusing to underwrite any further insurance, but the government assurer cannot.

Economists have argued that private insurance of deposits is, in practice, impossible because deposits at financial institutions are ultimately uninsurable.³ An insurable risk is one in which losses are independent, in the sense that one party's loss does not affect the likelihood of another party's loss.⁴ Moreover, insurability ordinarily rules out risks caused by the insurer itself. Only under these conditions would the insurer be protected from catastrophic loss--that is, its own bankruptcy. The potential within the depository industry for contagious bank runs, which are clearly not independent events, would appear to rule out private insurance of deposits. A private insurer

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2. For example, see Edward J. Kane, "Who Should Learn What from the Failure and Delayed Bailout of the ODGF?" in Federal Reserve Bank of Chicago, *Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1987).
 3. For example, see Thomas F. Cargill and Gillian G. Garcia, *Financial Reform in the 1980s* (Stanford: Hoover Institution Press, 1985), p. 151; and James R. Barth, Philip F. Bartholomew, and Michael G. Bradley, "Reforming Federal Deposit Insurance: What Can Be Learned from Private Insurance Practices," *Consumer Finance Law: Quarterly Report* (forthcoming).
 4. Frederick G. Crane, *Insurance Principles and Practices* (New York: John Wiley and Sons, 1980), pp. 20-22.

TABLE 2. PRIVATE VERSUS FEDERAL PRACTICES IN HANDLING INSURANCE RISK

Practice	Private Insurance	Federal Deposit Insurance
Underwriting Risk	Denies, limits, cancels, or makes coverage conditional on certain behavior.	Grants full insurance coverage to depositors at institutions licensed to offer insured deposits, as the Congress requires; selective protection is politically or economically restricted.
	Evaluates risk continually by postselection.	Examines institutions periodically by postselection.
	Establishes adequate reserves to cover expected normal losses.	Sets insurance reserve levels by statute and not by historical or projected losses.
Controlling Risk	Establishes the ability to raise additional equity or borrow funds for catastrophic loss.	Does not make explicit who would cover catastrophic loss; relies implicitly on taxpayers.
	Tracks actual loss experience closely.	Does not tie rates to loss experience or the coverage amount.
	Classifies risks and sets risk-based rates.	Charges all institutions the same premium rate regardless of risk.
	Monitors legal and economic developments.	Does not charge for changing conditions, such as deregulation or increased competition.
	Builds cross-subsidies between lines of insurance.	Employs no cross-subsidies with other types of social insurance.
	Covers only accidental or unexpected losses; uses warrants to deny coverage if insured acts inappropriately.	Regulates and supervises behavior of the insured to reduce risk and prevent misbehavior.
	Insures against catastrophic loss by isolating losses as unrelated events; payments are predictable and modest.	Requires that owners adequately capitalize insured depositories.
Transferring Risk	Monitors risk of insured and offers incentive to reduce risk.	Examines institutions to assess risk and solvency.
	Recognizes and resolves losses quickly.	Closes insolvent institutions or manages troubled ones.
	Uses coinsurance so insured bears a percentage of the loss.	Does not use coinsurance or a deductible.
	Uses deductible to cover normal losses and reduce moral hazard and adverse selection.	Offers no reinsurance.
	Uses reinsurance to transfer some risk to another insurer.	

SOURCE: Congressional Budget Office adapted from James R. Barth, Philip F. Bartholomew, and Michael G. Bradley, "Reforming Federal Deposit Insurance: What Can Be Learned from Private Insurance Practices," Research Report No. 161 (Office of Policy and Economic Research, Federal Home Loan Bank Board, June 1989).

would have no basis for setting premiums for risks of this nature and could only offer a limited guarantee on the safety of deposited funds.

Private insurers are compensated for the risk of insuring against a loss. Their objective is to maximize profits (the difference between revenues and expenses), unless the insurer is mutually owned by those whom it insures (such insurance companies only need to break even because they are owned by the insured). To meet this objective, private insurers employ multiple and interdependent strategies to address the risk in offering insurance. These strategies are underwriting, controlling, and transferring risk.⁵ Underwriting includes both assessing and covering insurance risk; controlling risk uses ratemaking and nonpremium-related incentives to reduce losses; and transferring risk applies procedures that shift insurance risk to other parties. The similarities and differences between the standard practices of private insurance and the government system of deposit insurance are summarized in Table 2.

UNDERWRITING RISK

The insurer assesses the risk of insurance through underwriting, which determines the premium and the terms of coverage. A major problem for underwriting is adverse selection--that is, the tendency for those with a higher risk or a greater-than-average probability of loss to seek coverage. Private insurers address adverse selection by setting premiums and adjusting the terms of coverage according to risk; the insurer may also deny coverage. In addition, insured risks are periodically reviewed in a process known as postselection, which allows the insurer to cancel, deny renewal of, or change the terms of the insurance contract (for example, by changing the premium or the coverage).

Federal deposit insurance differs from private insurance in its use of standard underwriting practices because its goals are different from those of private insurers. Unlike private insurers, the government cannot engage in underwriting practices that provide sufficient reserves to cover all assumed risk. Thus, the federal insurance fund is

5. This discussion draws heavily upon Barth, Bartholomew, and Bradley, "Reforming Federal Deposit Insurance."

overexposed to loss, relative to how a private insurance fund would operate. In addition, because it operates for the public good, the government insurer may extend coverage beyond the contract amount.

Premiums and Reserves

Private insurance operates through a self-sustaining fund by basing the level of capital needed in reserve on actuarial assessments of past and potential losses. Accordingly, premiums are assessed so that the targeted level of reserves is achieved. The insurer charges different premium rates to different clients based upon an assessment of their risk of loss. Private insurers uniformly underwrite risks that are similar in quality and variety by using historical data to set premium rates. In contrast, federal deposit insurance treats the risks of guaranteeing all deposits as similar, even though the levels of risk may vary considerably for individual depository institutions. The government insurer does not require a reserve fund to secure against loss, as a private insurer would.

Federal deposit insurance, therefore, charges a uniform premium rate for the coverage of insured deposits regardless of variations in risk. The original premium rate was not established based upon actuarial, or historical, losses.⁶ Adjustments that have been made to the premium rate have been uniform rate changes, based on evaluations of overall risk and desired levels of reserves to cover that risk. Moreover, premiums for all depositories were not increased when the industry was deregulated in the early 1980s and deposit insurance coverage was increased. Thus, the same premiums were charged for a higher level of exposure to risk. The Federal Savings and Loan Insurance Corporation increased its premium level in 1985 by levying a special assessment, but it did so for all insured thrifts. This assess-

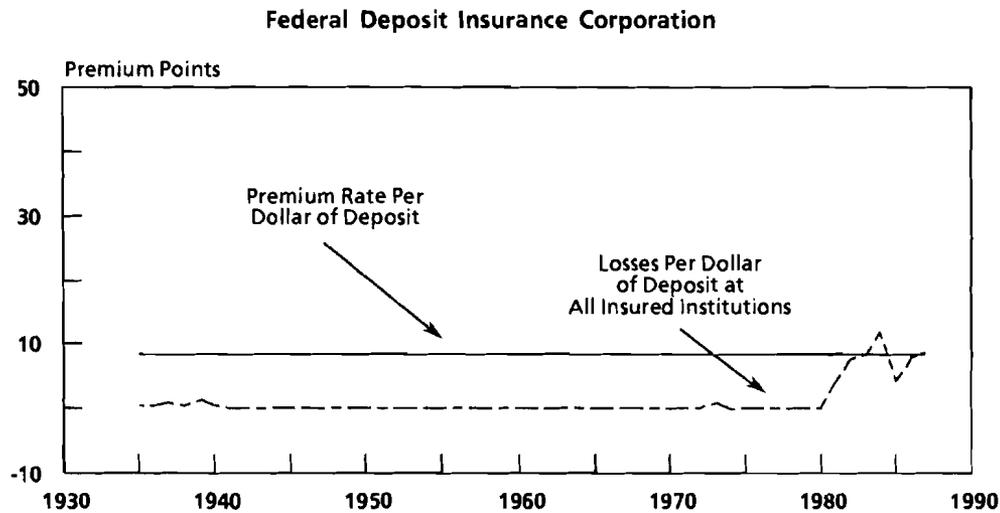
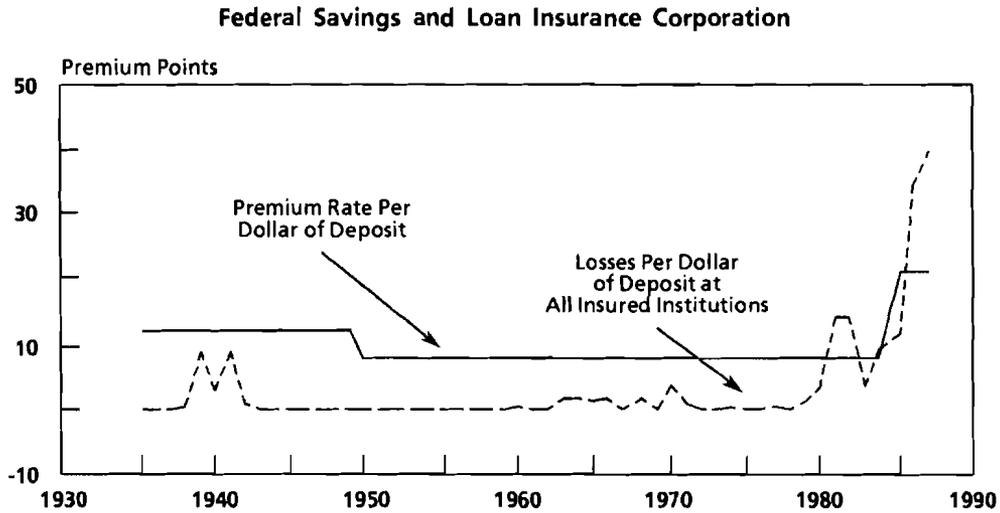
6. Statement of Leo T. Crowley before the House Committee on Banking and Currency, 1935. Crowley testified that the rate of one-twelfth of 1 percent was determined not from loss experience, but from the FDIC's assessment of banks' ability to pay. Some analysts have suggested that, if the premium level had been left at 1933 levels, the reserves of the Federal Savings and Loan Insurance Corporation would have been adequate to deal with the thrift crisis. See James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Report No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989).

ment was imposed not as a means of disciplining thrifts and reducing risk, but as a means of increasing the resources of the insurance fund. Unfortunately, this action had the adverse effect of worsening the catastrophic situation faced by the thrifts during the 1980s because it placed a greater burden on already weakening profits. Most recently, the Federal Deposit Insurance Corporation recommended that the premium rate for bank deposits be increased in response to a fall in the ratio of reserves to insured deposits.

Although the premium assessments have not been explicitly based on risk, the premiums in effect until 1980 were well above the rates of loss experienced by either the FDIC or the FSLIC (see Figure 3). Consequently, the level of reserves in both funds increased significantly (see Figure 4). This increase demonstrates one problem with the structure of federal deposit insurance. Because the premium rates were well above historical rates of loss and a continual surplus was kept in the funds, the FDIC maintained a policy of rebating a portion of the premiums based upon surpluses above targeted reserve levels. This policy kept reserves at a targeted level, but it ignored the potential for catastrophic loss.

Although private enterprises have self-insurance systems, the viability of such systems depends on the resources of the members and the conditions of the insurance contract. The U.S. deposit insurance system provides a reserve fund against normal loss that is funded through periodic premium assessments. Because the federal government has monetary and taxing authority, however, the financial resources available to the federal insurer are theoretically unlimited. The advantage of creating a reserve fund is that its resources are readily available to the federal insuring agency to handle normal losses as the agency resolves insolvent depositories. Under normal business conditions, the deposit insurer does not require special government actions or appropriations to satisfy claims. The insurer, moreover, need not wait for assessments applied after the fact, as in some foreign systems of deposit insurance. In addition, premiums paid into the reserve are collected from the system's primary beneficiaries, the depository institutions and their customers.

Figure 3.
 Premiums and Losses in the Deposit Insurance Funds, 1935-1987

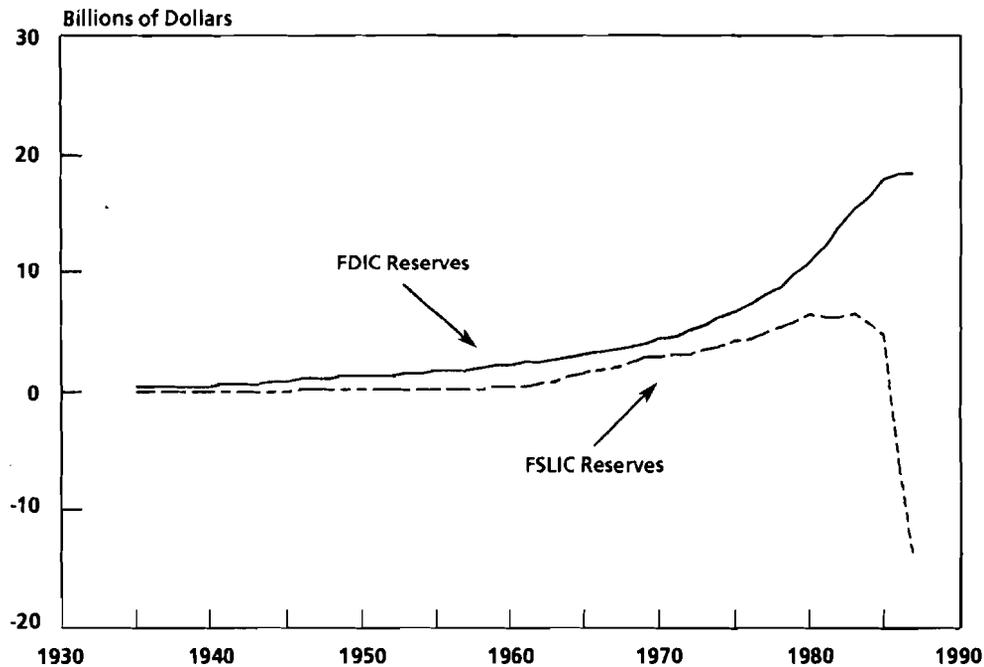


SOURCES: Congressional Budget Office using data from the Federal Deposit Insurance Corporation; and James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Report No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989).

NOTE: One premium point equals 1/10,000 of a dollar.

The reserve levels of the deposit insurance funds are set somewhat arbitrarily as they are not important for maintaining confidence in the government's guarantee of deposits. Rather, the reserve level is a useful indicator for the Congress in determining the stability of depositories and the cost of maintaining the guarantee. Moreover, a target for the reserve level may be useful if small, short-term adjustments to premium rates are appropriate.

Figure 4.
Reserves in the Deposit Insurance Funds, 1935-1987



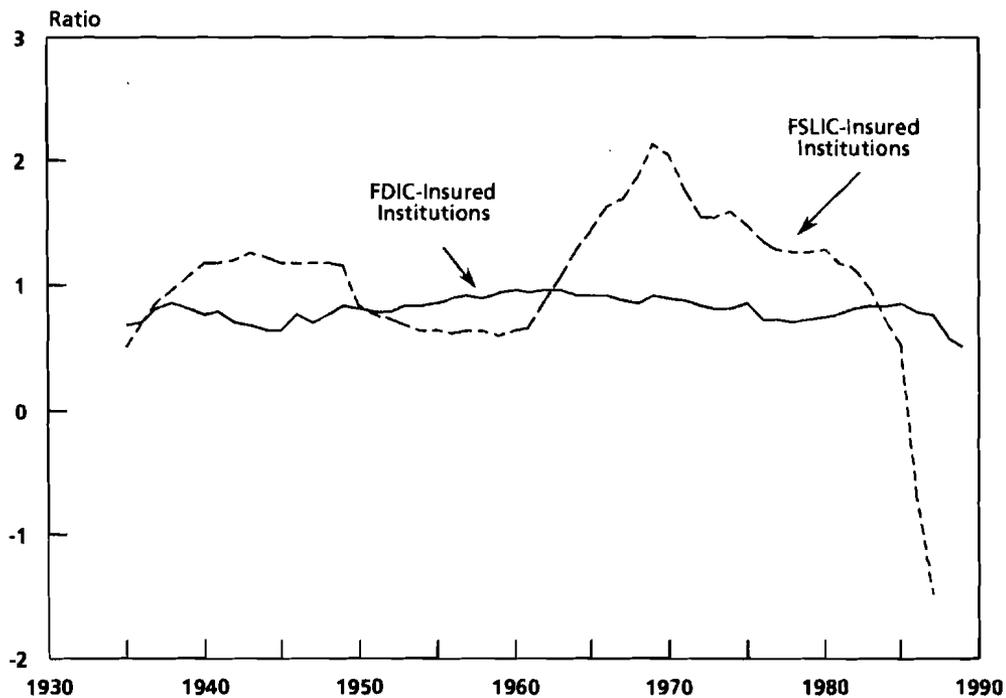
SOURCES: Congressional Budget Office using data from the Federal Deposit Insurance Corporation; and James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Report No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989).

NOTE: FSLIC = Federal Savings and Loan Insurance Corporation; FDIC = Federal Deposit Insurance Corporation.

The FDIC has maintained a fairly constant ratio of reserves to deposits--approximately 1 percent. The reserve ratio at the FSLIC was slightly less stable, being both above and below the FDIC ratio until 1980. The thrift crisis dramatically reduced the reserve level; by 1986, the FSLIC insurance fund had gone into deficit. Figure 5 shows the ratio of reserves to deposits at insured institutions.

Even a reserve fund, however, cannot deal with catastrophic loss, such as the thrift crisis. Thus, reserve funds also need a mechanism for dealing with losses that swamp the fund's ability to pay. Lacking such

Figure 5.
Ratio of Insurance Fund Reserves to Deposits at Insured
Depository Institutions, 1935-1989



SOURCES: Congressional Budget Office using data from the Federal Deposit Insurance Corporation; and James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Report No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989).

a mechanism, managers of the insurance fund, as regulators, have an incentive to be lenient and thus delay the recognition of catastrophic loss. Federal deposit insurance has minimal provisions for catastrophic loss, despite the ability to borrow from the Treasury. Until passage of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), federal deposit legislation was never specific about who was to cover in the event of catastrophic loss.⁷ While FIRREA has demonstrated the government's commitment to its guarantee of deposits, some ambiguity remains over how the statutory commitment is to be carried out. Bailing out the federal deposit insurer requires Congressional appropriations. Delay in obtaining appropriations can increase the ultimate cost of the expenditures required to fulfill the government's commitment.

Coverage

Coverage refers to the amount for which the insurer agrees to compensate the insured if a stipulated event occurs. It also takes into account the type of loss, the events that may cause loss, and the time period during which the insurance is in effect. In life insurance, for example, the insurer agrees to pay the designated beneficiary of an insurance policy a set amount in the event of the death of the person covered by the policy; term coverage limits the duration of the contract to a specified period. Property-casualty insurers may limit the extent of compensation for loss or agree to pay only a portion of losses incurred by the insured or to pay only under certain limited conditions.

Federal insurance provides coverage to depositors at depositories that are licensed by the federal government. Depositors will be compensated fully up to the limit of coverage--currently, \$100,000 per deposit account--in the event that the depository is unable to honor the depositors' claims. No time period limits this coverage. The federal agencies that administer this insurance determine when a depository

7. James R. Barth and Michael G. Bradley, "Thrift Deregulation and Federal Deposit Insurance," *Journal of Financial Services Research*, vol. 2 (1989).

TABLE 3. HISTORY OF CHANGES IN FEDERAL DEPOSIT INSURANCE PREMIUMS AND COVERAGE

Year	Federal Savings and Loan Insurance Corporation	Federal Deposit Insurance Corporation
1933		Banking Act of 1933: Premium set at 1/2 of 1 percent of total insured deposits. One-half of total assessment paid upon admission to the fund, the remainder subject to call. Authority granted to impose special assessments, if necessary. Basic insurance coverage set at \$2,500 per depositor per insured institution. Effective July 1, 1934, insurance coverage was increased to \$5,000, except for mutual savings banks, which could remain at a coverage of \$2,500.
1934	National Housing Act: Annual premium set at 1/4 of 1 percent of the total amount of all accounts at insured institutions plus any creditor obligations. Premium assessed annually until a reserve fund equal to 5 percent of all accounts plus creditor obligations is established. Authority granted to improve special assessments, if necessary. Basic insurance coverage set at \$5,000 per depositor per insured institution.	
1935	Home Mortgage Relief Act: Premium reduced to 1/8 of 1 percent. Maximum special assessment reduced to 1/8 of 1 percent.	Banking Act of 1935: Premium assessment base changed to total domestic deposits and reduced to 1/12 of 1 percent per annum. Maximum emergency borrowings from the Treasury are \$975 million, and emergency assessment rights are eliminated.
1947		Amendment to Banking Act of 1935: Line of credit at the Treasury increased to \$3 billion.
1950	Amendment to the National Housing Act: Premium reduced to 1/12 of 1 percent. Maximum special assessment remains at 1/8 of 1 percent. Line of credit at the Treasury established at \$750 million. Basic insurance coverage set at \$10,000 per account.	Federal Deposit Insurance Act: Premium rebates set at 60 percent of net assessment income. Basic insurance coverage raised to \$10,000 per account.
1960		Amendment to the Federal Deposit Insurance Act: Rebates increased to 66.66 percent of net assessment income.
1961	Amendment to the National Housing Act: Established secondary reserve, a prepayment reserve with a 2 percent annual assessment on anticipated net increases in total deposits.	

(Continued)

TABLE 3. Continued

Year	Federal Savings and Loan Insurance Corporation	Federal Deposit Insurance Corporation
1966	Financial Institutions Supervisory Act of 1966: Basic insurance coverage raised to \$15,000 per account.	Financial Institutions Supervisory Act of 1966: Basic insurance coverage raised to \$15,000 per account.
1969	Credit Control Act: Basic insurance coverage raised to \$20,000 per account.	Credit Control Act: Basic insurance coverage raised to \$20,000 per account.
1973	Amendment to the National Housing Act: Eliminated payment into secondary reserve.	
1974	Amendment to Federal Deposit Insurance Act: Basic insurance coverage raised to \$40,000 per account.	Amendment to Federal Deposit Insurance Act: Basic insurance coverage raised to \$40,000 per account. Insurance limit for time and savings accounts held by state and political subdivisions increased to \$100,000.
1978		Financial Institutions Regulatory and Interest Rate Control Act of 1978: Insurance limit for Individual Retirement Accounts (IRA) and Keough accounts raised to \$100,000.
1980	Depository Institutions Deregulation and Monetary Control Act of 1980: Basic insurance coverage raised to \$100,000 per account.	Depository Institutions Deregulation and Monetary Control Act of 1980: Basic insurance coverage raised to \$100,000 per account. Rebates decreased to 60 percent of net assessment income.
1985	Administrative Action: The Bank Board levied a special assessment (1/8 of 1 percent annually) against FSLIC-insured institutions for the first time.	
1989	Financial Institutions Reform, Recovery, and Enforcement Act of 1989: FSLIC abolished, replaced with Savings Association Insurance Fund (SAIF) administered by FDIC. Premiums to be 5/24 of 1 percent in 1990 (1/12 of 1 percent plus special assessment of 1/8 of 1 percent), 23/100 of 1 percent in 1991-1993, 18/100 of 1 percent in 1994-1997, and 15/100 of 1 percent after 1997.	Financial Institutions Reform, Recovery, and Enforcement Act of 1989: FSLIC abolished, replaced with Savings Association Insurance Fund (SAIF) administered by FDIC. FDIC to administer original fund now called Bank Insurance Fund (BIF). Premiums increased to 12/100 of 1 percent in 1990, 15/100 of 1 percent after 1990. In 1998, both BIF and SAIF are to have same premium.

SOURCE: Congressional Budget Office adapted from James R. Barth, Michael G. Bradley, and John J. Feid, "The Federal Deposit Insurance System: Origins and Omissions," Research Report No. 153 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989).

is unable to honor its claims and how to compensate insured depositors: either by direct payment or by arranging for another depository to assume the depositors' accounts.

Deposit insurance coverage has been changed several times since it began. Table 3 on pages 34 and 35 provides a history of these changes. Changes were made for various reasons: to catch up with inflation, to allow more competition with nondepositories, and to provide for a level of coverage consistent with growth of personal income. Because coverage is set by statute rather than by the insurer, the frequency of change is limited.

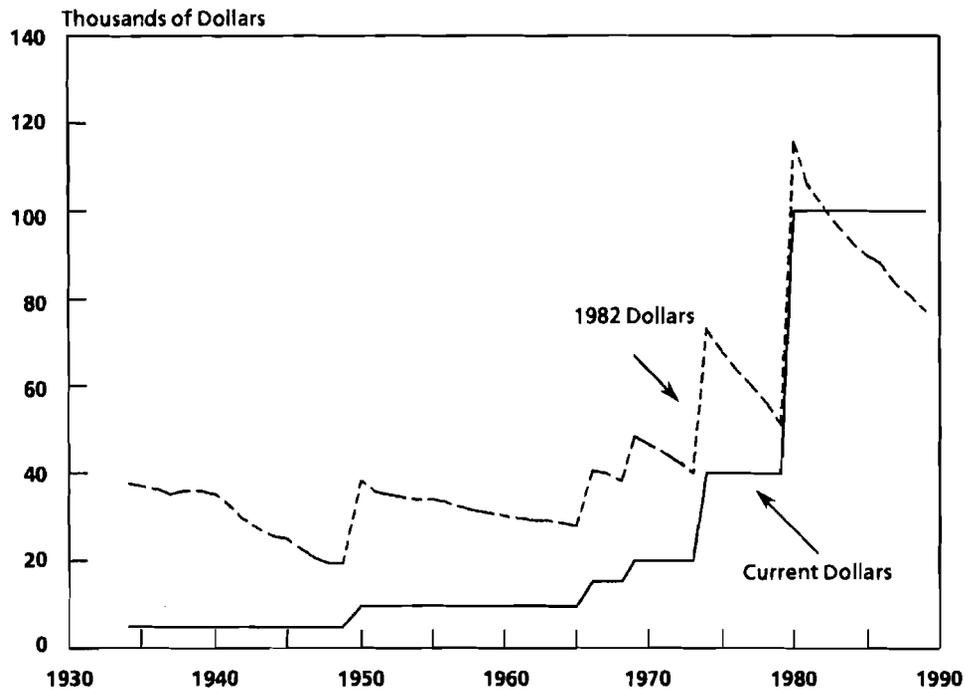
Inflation. Between 1934 and 1950, coverage by the FDIC and the FSLIC was set at \$5,000; it was increased to \$10,000 in 1950 (see Figure 6). Coverage was increased again in 1966, 1969, and 1974, with inflation eroding the value of coverage after each increase. By 1980, the high rate of inflation had caused the real value of coverage to decline almost to 1974 levels. Late that year, coverage was increased to \$100,000.⁸

Some analysts have argued that deposit insurance coverage should be lowered; others have noted the effect of inflation in doing just that. Current coverage (nominally, \$100,000) is approximately twice the original level of coverage, stated in real terms (using 1982 dollars)--\$80,000 today versus \$40,000 in 1934. If future inflation occurred at a 5 percent rate, today's nominal \$100,000 coverage would be reduced in real terms to the original real level of coverage by the year 2003. If inflation had remained at 12 percent--the rate in 1980 when deposit insurance coverage was last increased--the real value of coverage would reach the original level by 1992.

Competition. The FDIC reported that the increase to the \$100,000 level of coverage was intended not just to keep pace with inflation, but to put depositories on a more competitive footing relative to nondeposi-

8. Certain types of accounts had their coverage increased in 1974 and 1978 to the 1980 level.

Figure 6.
Federal Deposit Insurance Coverage in Real and
Nominal Terms, 1934-1989



SOURCE: Congressional Budget Office.

tory financial institutions.⁹ High interest rates in the late 1970s and early 1980s had placed depositories at a competitive disadvantage because regulators limited the maximum interest rate they could offer for deposits. Time deposits of \$100,000 and over were exempt from the rate limit. Increasing the limit on coverage allowed depositories to retain some of the deposits that would otherwise have gone to competitors.

9. Federal Deposit Insurance Corporation, *The First Fifty Years: A History of the FDIC, 1933-1983* (Washington, D.C.: 1984).

Today, households have much better access than they did in 1934 to other safe havens for liquid assets--Treasury bills, Treasury bonds, savings bonds, and mutual funds that invest in secure assets. These instruments are not perfect substitutes, however, for deposits at banks, thrifts, and credit unions because these substitutes have higher transaction costs and are less liquid. Reducing deposit insurance coverage makes these substitutes more attractive and increases the threat of funds being diverted away from the depositories, which are the traditional financial intermediaries. While depositors may directly benefit from such competition in the short run, the long-term consequences could be higher costs for inefficiencies caused by a decline in financial intermediation by depositories.

Personal Income. If the objective of coverage is to provide a safe haven for deposits, particularly savings accounts, adequate coverage might be judged better in the context of household financial resources than in relation to changes in the overall price level, that is, inflation.¹⁰ Figure 7 compares deposit insurance coverage with per capita personal income. On the basis of income, current coverage is approximately one-half that of the 1934 coverage. The significant drop in the ratio of coverage to per capita personal income between 1934 and 1950 stems from the substantial increase in per capita income during that period. The average ratio between 1934 and 1989 was 5.9, which is about equal to the ratio now. On this basis, an argument could be made that, at least for savings accounts, coverage could be slightly increased.

Other aspects of coverage are also important. Currently, individuals may obtain more than \$100,000 of coverage by opening multiple accounts at one insured depository institution or by holding single accounts at more than one insured institution. Financial innovations, such as brokered deposits and other vehicles that pass coverage through to third parties, have dramatically increased the ability of depositors to extend their coverage. Moreover, coverage may be extended beyond the limit by the way in which the deposit insurance agency resolves failed institutions. This extension of coverage is

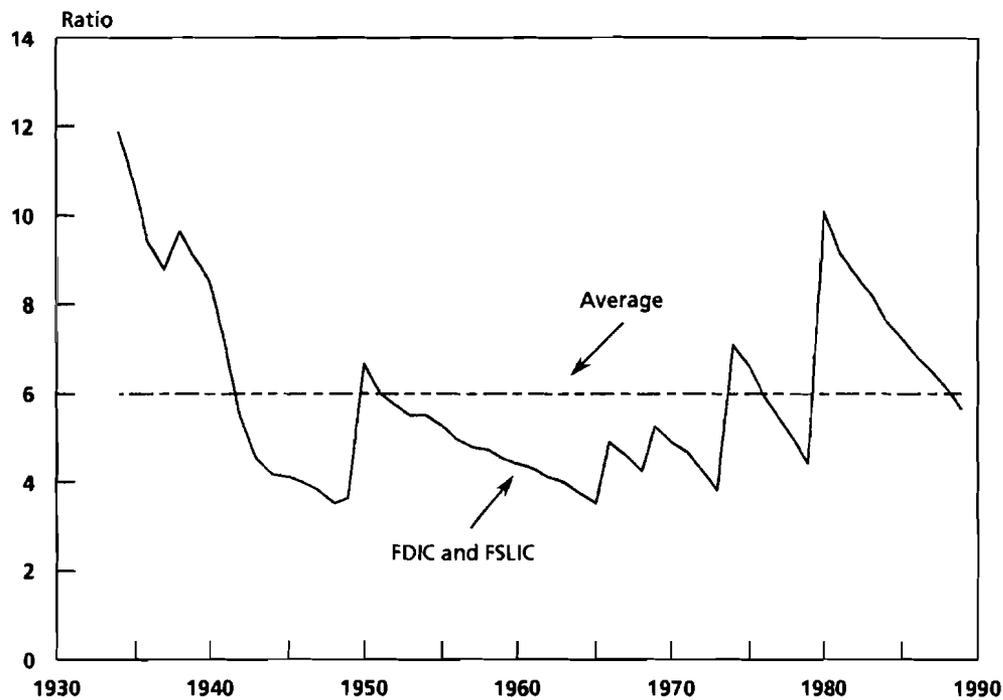
10. Deposits may also be tied to the amount needed for transaction purposes, which is related to what economists call the velocity of money, that is, the rapidity with which money changes hands. Until recently, the velocity of money was increasing at a high rate, implying that less money was needed to be held in deposits for transaction purposes.

discussed in more detail in Chapter III as a problem of the current structure of federal deposit insurance.

Postselection

Insurers constantly reevaluate the risk of those insured. This reevaluation, known as postselection, should indicate any change in the risk to which the insurer is exposed. Postselection is also used to

Figure 7.
Ratio of Deposit Insurance Coverage to Per Capita
Personal Income, 1934-1989



SOURCE: Congressional Budget Office.

NOTES: Average is for 1934 through 1989.

FSLIC = Federal Savings and Loan Insurance Corporation; FDIC = Federal Deposit Insurance Corporation.

verify that insured parties conform with stipulations of the insurance contract.

The insurer has recourse if information obtained through post-selection reveals that the risk of insurance has changed. If the insured has not complied with stipulations of the contract, then the insurer may argue that coverage is void or cancel existing coverage. If post-selection reveals a change in the insured risk, the insurer, at the time of renewal, may deny renewal or change the terms of the insurance contract. The terms of the contract may be altered by changing the premium or the extent of coverage.

Federal deposit insurance relies heavily upon postselection. Depository institutions that are licensed to offer insured deposits are subject to intensive examination by either depository regulators or the deposit insurer. The United States uses a system that permits regulators to scrutinize the financial condition of depositories. Both reported financial statements and verification of the accuracy of those statements are used by regulators to evaluate the condition and risk of insured depositories. The examination process differs greatly among countries, but most other countries rely upon a less intensive examination process (see Appendix B).

Cross-subsidies

Another way that insurers can limit their losses is through cross-subsidization. By insuring more than one type of insurance risk, unanticipated losses associated with one type of insurance may be offset by profits from another. In the long run, actuarial expectations should be realized, and anticipated losses from both types of insurance should be within normal bounds. In theory, cross-subsidization provides the insurer with a cushion at any point in time, so that unanticipated losses at one time do not immediately threaten the solvency of the insurance fund.

Because the government operates each of its deposit insurance funds separately, potential gains from cross-subsidization are not possible. To some degree, the federal budget benefits from cross-

subsidization in that each of the separate funds contribute to it. Treating these funds separately, however, makes transmission of this benefit less direct. During the debate leading to the passage of FIRREA, it was argued that the insurance fund for banks should be used temporarily to assist the fund for savings institutions. Bankers, however, fearful of a raid on their insurance fund, were able to exert sufficient pressure to block this proposal.

CONTROLLING RISK

Private insurers try hard to control risk and thus limit their loss. Strategies to control risk rely on affecting the behavior of the insured, either through monetary incentives tied to the premium structure or by using other types of incentives. The premium structure represents a strategy for controlling risk, as long as premiums are charged according to the risk of the insured event or party. The insurer may also require the insured to take steps to reduce risk directly.

Adjusting Premiums

Ratemaking involves the prediction of losses and expenses and their allocation among the insured. In most cases, premium rates are set actuarially, based on loss experience. Insurers set the schedule of premiums, or the pricing system, based upon the number of parties insured, the expected losses, and their own net operating expenses. In the premium schedule, the premium rate must try to be responsive to changing conditions and serve as an incentive for the insured to limit risk.

Private insurers generally are permitted to charge different rates based upon classes of risk. The insurer uses a premium schedule that sets premium rates for similar groups with similar levels of risk and adjusts the premiums for different levels of insured risk. Private insurers also adjust for loss through incentives provided by the premium. Auto insurers offer premium reductions to drivers with safe records; health and life insurers offer lower rates to nonsmokers. In contrast, federal deposit insurers do not try to control risk through

premium pricing. Rather than having a schedule of different premiums for different levels of risk, a uniform premium is charged for all levels of risk.

Nonpremium Incentives

Insurers also adjust for loss through nonpremium incentives. Auto insurers lobby for seat belt laws, lower speed limits, sturdier automobiles, student driver education programs, and so forth. Property-casualty insurers may require insured businesses to initiate safety procedures or safety inspections. Private insurers also require reports to determine whether the insured has provided accurate information to establish the correct risk classification. The federal deposit insurer, however, relies on prudential regulation and supervision of depository institutions. It uses prudential regulation to limit the risk of depositories and prudential supervision to monitor compliance with regulations, to prevent misbehavior, to ensure that depositories supply correct information, and to supervise the risk-taking behavior of these institutions.

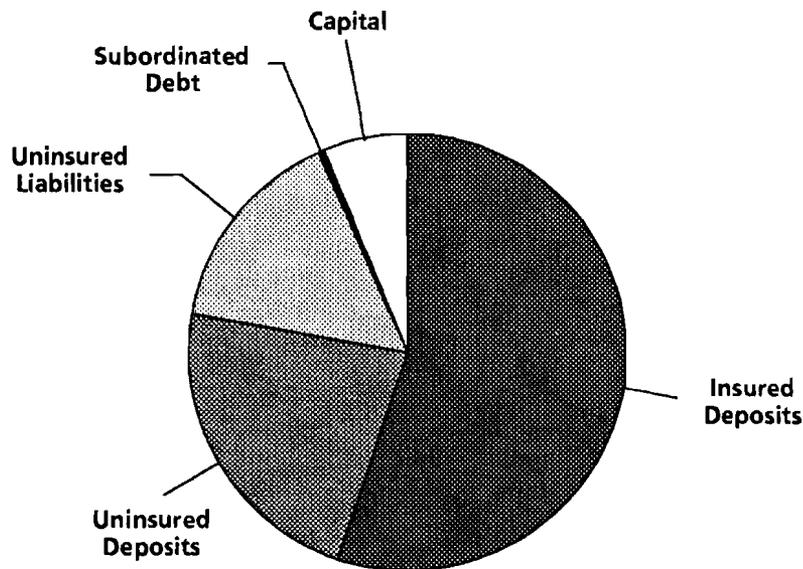
Many forms of government regulation of depository institutions have existed, both at the federal and state level. Regulations have been made with regard to chartering and licensing of institutions, investment activities, branch banking, mergers, insider transactions, size of loans, interest rates charged on loans, interest rates offered on deposits, and so forth. These regulations reflect the government's goal of providing a safe, sound, and competitive environment for the depository institutions industry.

Supervision is the enforcement of compliance with regulations and laws that govern depositories. Because supervision may involve the judgment of regulators concerning safe and sound behavior, it is referred to as prudential supervision. Enforcement actions may be both formal and informal. The actions may also be represented by agreements between regulators and depository institutions that certain stipulated conditions be followed. Federal regulators can recommend or force the removal of officers and directors if they or their actions

violate regulations. One powerful tool available to regulators is the order to cease and desist an activity that has been judged to be unsafe and unsound.

The government deposit insurer represents insured depositors in order to exercise better creditor discipline than could the insured depositors themselves. Figure 8 shows the shares of liabilities and capital at insured banks to illustrate the sources of control by those who have a stake in the assets of a financial institution--stockholders, liability holders, subordinated debt holders, and depositors. While insured depositors represent the greatest share of liabilities and capital, they have the least ability to control the institution. This is one compelling reason for having the government represent their interests.

Figure 8.
Shares of Liabilities and Capital in Insured Banks, 1987



SOURCES: Congressional Budget Office using data from the Federal Deposit Insurance Corporation.

Depositors have less ability to exercise creditor control for two reasons. First, information costs are high. Second, creditor control is more difficult to exercise by so many. Depositors, however, exercise some control through the threat that they might withdraw their funds, although deposit insurance serves to temper this threat.

Stockholders exercise control over management in order to maintain the value of their equity in the institution. While keeping equity low in relation to total assets contributes to the stockholders' returns, it also decreases the effectiveness of their control over the institution's behavior. If capital deteriorates, managers have a greater incentive to increase financial risk in hopes of recouping stockholders' losses.

Liability holders (uninsured depositors and uninsured lenders to the depository) exercise creditor control either by threatening to withdraw funding or by increasing the rates charged for their loans to the institution. Uninsured liability holders, realizing their risk beforehand, also may hedge their financial risk by securing their loans through collateral demands upon the institution.

TRANSFERRING RISK

One way for an insurer to reduce risk is to transfer a portion of the insured risk either to the insured in the form of coinsurance or to another insurer through reinsurance. Coinsurance is usually achieved through a deductible, which makes the depositor liable for a certain portion of his or her losses, or through sharing losses on a proportional basis between insurer and insured. Thus, coinsurance reduces coverage. Reinsurance does not reduce general coverage but spreads the risk of insurance to other parties.

Private insurers use coinsurance and reinsurance to adjust their exposure to insured risk. Reducing the insurer's coverage through coinsurance places the insured at risk for almost all levels of the coverage. Reinsurance is used if the insurer wants to insure a certain risk but is not willing to cover it fully. Because the insurer wishes to provide only a portion of the desired insurance, but does not wish to lose

the policy, the insurer underwrites the entire risk and sells a portion of the policy to the reinsurer.

Coinsurance

Deductibles under coinsurance take two forms. First, the insured may be responsible for some amount of loss and the insurer would be liable for amounts above that level to the limit of coverage. This form of deductible is commonly used in health insurance and property-casualty insurance. The deductible may apply to each occurrence of loss or for a specified time period. The second form of coinsurance stipulates that the insured is responsible for a specified fraction of the loss at all levels of coverage. For minimal levels, the fraction may be zero and the insured fully covered; above these minimal levels, both the insured and the insurer are liable for portions of the loss.

Coinsurance is a feature of a number of foreign national systems of deposit insurance, notably some of those that have most recently been established. The U.S. system, however, does not currently use coinsurance. The temporary federal deposit insurance plan, which was established by the Banking Act of 1933, initially limited coverage to \$2,500 for each depositor. It also provided for the establishment of a permanent plan that was never implemented; it was superseded by passage of the Banking Act of 1935, which made the FDIC a permanent agency. The original permanent plan contained a coinsurance feature. The plan provided for full coverage of the first \$10,000 per depositor, 75 percent coverage for the next \$40,000 of deposits, and 50 percent of all deposits in excess of \$50,000.

Reinsurance

The insurer may sell a portion of its insurance coverage to other insurers. This form of risk transfer does not reduce the insured's coverage but reduces the exposure of the insurer that wrote the policy. Reinsurers purchase a portion of the policy from the originating insurer, while making full use of underwriting in accepting the reinsurance. The originating insurer pays a premium to the reinsurer,

based upon the risk that was initially insured. Thus, the reinsurer may effectively alter the policy as it affects the original insurer. The insured party is generally unaffected by the act of reinsurance, at least for the original term of the insurance policy. The originating insurer, however, may alter the terms of the insurance policy when it is renewed, or it may decide not to renew the policy. These actions may occur in response to the terms of the reinsurance contract.

Federal deposit insurance has not used reinsurance. Implicitly, it has passed on the risk of insuring deposits to taxpayers, who may be considered the ultimate reinsurers. Taxpayers, however, are not afforded the opportunity, except through Congressional review of the deposit insurers, of using the process of underwriting to assess for themselves the risk of such reinsurance.

CHAPTER III

SPECIFIC PROBLEMS WITH FEDERAL

DEPOSIT INSURANCE

The enormous cost to the taxpayer for reimbursing depositors in the recent thrift crisis resulted primarily from problems in the structure and operation of federal deposit insurance. The initial difficulties of many failed depository institutions may be attributed to high and volatile interest rates during the late 1970s and early 1980s, and subsequent difficulties may have resulted, in part, from deregulation in the early 1980s and regional economic factors in the mid-1980s. But the extent of the crisis and its unprecedented cost are directly attributable to general incentives built into federal deposit insurance and specific responses to the problems that arose. Structural factors, such as general economic and regional conditions as well as the moral hazard inherent in deposit insurance, set the size of the risk to the financial system. Operational factors, such as how much risk becomes loss and how those losses are distributed, determined the effect of the crisis on owners, depositors, other creditors, and taxpayers.

The moral hazard induced by deposit insurance, as described in Chapter I, created the incentives for greater levels of risk-taking in the financial decisions of the owners, directors, and managers of depositories. With little capital of their own at stake, some of them "gambled for resurrection" with depositors' funds. In addition, some owners, directors, managers, and others defrauded depositories by misdirecting resources to their personal benefit.

The current structure of the deposit insurance system in the United States, as described in Chapter II, is highly dependent on adequate prudential regulation, supervision, and examination. Thus, the bankruptcy of the Federal Savings and Loan Insurance Corporation was caused by a failure to supervise and regulate the behavior of depository institutions holding insured deposits. By contrast, the Federal Deposit Insurance Corporation and the National Credit Union Share Insurance Fund may have been more successful at protecting themselves from excessive losses by exercising more effective control.

This chapter examines specific problems that have contributed to the high cost of the federal system of deposit insurance. Most of these problems are operational, rooted in the conflicts among the objectives of the deposit insurance system. These problems include:

- o Increased costs resulting from the delay in closing failed institutions;
- o Differences in the measures used to judge a depository's solvency;
- o Difficulty in determining the appropriate level of required capital;
- o The effect of a large bank's failure on the entire system;
- o How cost and coverage are affected by the method chosen to resolve insolvent institutions;
- o Multiple accounts that circumvent coverage limits;
- o Inability to deny coverage based on risk; and
- o Selecting incentives and penalties to control misbehavior and fraud.

DELAY IN CLOSING INSOLVENT INSTITUTIONS

The delay in closing insolvent thrift institutions that resulted from regulatory forbearance by the Federal Home Loan Bank Board (Bank Board) and the FSLIC is well documented.¹ This forbearance was granted, initially, in the hopes that troubled thrifts would overcome their problems and, later, in the absence of sufficient funds in the FSLIC insurance fund to close all insolvent thrifts. Some analysts sug-

1. For details on the length of insolvency of institutions resolved before 1989, see James R. Barth, Philip F. Bartholomew, and Michael G. Bradley, "The Determinants of Thrift Institution Resolution Costs," Research Paper No. 89-03 (Office of the Chief Economist, Office of Thrift Supervision, November 1989). For details on the length of insolvency of thrifts operating as of year-

gest that the closing of insolvent banks was also delayed for the same reasons.²

Because insolvent thrift institutions were not closed quickly, the cost of resolving them increased.³ A number of factors were responsible for this increase. First, with no capital at stake, thrift operators had every incentive to undertake highly risky investments for which they might earn a high rate of return. Second, incentives for misbehavior, fraud, and other illegal acts increased. Third, not removing the managers who may have been responsible for the thrifts' problems allowed them to continue exercising poor judgment. Fourth, with insufficient capital, thrifts still needed to attract depositors. Thus, operating losses have continued to accrue since the mid-1980s.

In June 1990, the Congressional Budget Office estimated a baseline cost for the Resolution Trust Corporation (RTC) to resolve 925 thrifts.⁴ The present value cost of immediately resolving the 925 thrifts was estimated to be \$100 billion. CBO assumed, however, that these institutions would not be resolved immediately and, therefore, also reported the present value cost of resolving them with delay--that is, including the extra costs resulting from the factors described above, or \$150 billion.

1. Continued

end 1989, see James R. Barth and Philip F. Bartholomew, "The Thrift-Industry Crisis: Revealed Weaknesses in the Federal Deposit Insurance System" (paper presented at a conference on Reform of Deposit Insurance and the Regulation of Depository Institutions in the 1990s: Setting the Agenda, sponsored by the Center for Economic Policy Research, Stanford University, held in Washington, D.C., May 18-19, 1990).

2. Statement by R. Dan Brumbaugh, Jr., and Robert E. Litan before the House Committee on Banking, Finance and Urban Affairs, Washington, D.C., November 1989.

3. For a discussion of the costs associated with delay in closing insolvent thrifts, see, for example, James R. Barth, R. Dan Brumbaugh, Jr., Daniel Sauerhaft, and George H. K. Wang, "Insolvency and Risk-Taking in the Thrift Industry: Implications for the Future," *Contemporary Policy Issues* (Fall 1985); General Accounting Office, "The Thrift Industry Restructuring and the Net Worth Certificate Program" (1985); and Edward J. Kane, *The S&L Insurance Mess: How Did it Happen?* (Washington, D.C.: Urban Institute Press, 1989).

4. Congressional Budget Office, *The Economic and Budget Outlook: An Update* (July 1990).

Dealing with Troubled Depositories

A federally insured depository institution may be closed if it is insolvent.⁵ The federal deposit insurer is not always the agency that closes a troubled depository. For example, FDIC-insured banks are not closed by the FDIC. The Office of the Comptroller of the Currency (OCC) closes failed national banks, and state banking authorities close state-chartered banks: both appoint the receiver. The OCC automatically appoints the FDIC as receiver, whereas states have the option to do so. In the first 63 liquidations of state banks, the FDIC was only appointed receiver in 7; however, in recent years, the FDIC has almost always been named as receiver.⁶

Under the Financial Institutions Reform, Recovery, and Enforcement Act, a failed depository institution that is insured through the Bank Insurance Fund (BIF) or the Savings Association Insurance Fund (SAIF) is first placed into conservatorship (if the institution was deemed unsound) or directly into receivership (if the institution is closed). It is then taken over by the FDIC, which manages each fund separately. Currently, an FDIC-insured depository may be placed into conservatorship if it meets one of eight conditions (see Box 1).

The FSLIC and FDIC have dealt with troubled depositories using methods that are less drastic than placing the institution into conservatorship or receivership. These methods, generally referred to as open assistance, provide financial support from the deposit insurer or, in some cases, the Federal Reserve to the troubled institution. Open assistance may be used in lieu of closing the institution or in anticipation of closure. The justification is that the assistance is temporary. The depository may be reorganized, under federal supervision, and financial assistance provided until the new organization is recapitalized.

5. For specifics on closing and suspending banks and thrifts, and on placing them into either conservatorship or receivership, see Federal Deposit Insurance Corporation, *The First Fifty Years: A History of the FDIC, 1933-1983* (Washington, D.C.: 1984), pp. 81-108; and James R. Barth, Philip F. Bartholomew, and Michael G. Bradley, "Determinants of Thrift Institution Resolution Costs," *Journal of Finance*, vol. 45, no. 3 (July 1990), pp. 732-736.

6. Federal Deposit Insurance Corporation, *The First Fifty Years*, p. 83.

BOX 1
GROUNDS FOR PLACING AN INSURED
DEPOSITORY INTO CONSERVATORSHIP

Savings Association
Insurance Fund
(Insured Thrifts)

Bank Insurance Fund
(Insured Banks)

Insolvency; assets less than liabilities.

Solvency as defined by one or more of the conditions specified in the first section of the National Bank Act of June 30, 1876.

Likelihood that the institution will be unable to pay depositors or meet other obligations in the normal course of business.

Same.

Unsound condition for conducting business, including insufficient capital.

Same.

Depletion or likely depletion of all or most of all capital with little prospect of replenishment without federal assistance.

Same.

Violation of law or unsound practice that is likely to cause insolvency, substantially dissipate assets, weaken the condition of the institution, or prejudice depositor interests.

Same.

Concealment of records or refusal to submit records to regulator.

Same.

Willful violation of a cease-and-desist order that has become final.

Willful or continuing violation of an order against the bank.

Substantial dissipation of assets as a result of violation of law or unsound practice.

Bank board of directors consisting of fewer than five members.

SOURCE: Financial Institutions Reform, Recovery, and Enforcement Act of 1989.

The power of the government to take control of a troubled thrift is limited by the "Taking Clause" of the Fifth Amendment to the U.S. Constitution. That amendment stipulates that "due process" be observed and "just compensation" be made for what is seized. While violation of a rule or operating in an unsafe and unsound manner is grounds for closure, the legality of any particular regulatory action is subject to interpretation by the courts. Insolvency seems to be the most obviously sound reason to close institutions, but the definition of solvency is itself subject to interpretation.

Determining Solvency

The notion of solvency is treated differently by economists, accountants, and regulators (see Box 2). Historically, bank and thrift regulators have been able to delay closure of insolvent depositories by altering the definition of solvency and what counts toward it. To the economist, a justification for delay is that book-value insolvency may be temporary; to the regulator, the depository may still be viable—even if viability were temporarily maintained through government assistance. This judgment about viability is subject to the discretion of the regulator, and these different definitions are reflected in the policy decisions of thrift regulators. The Bank Board, for example, adopted a policy on capital requirements in the early 1980s that was far more liberal than generally accepted accounting principles (GAAP). This accounting standard was based on "regulatory accounting of assets and liabilities" but is generally known as RAP (see Glossary for definitions of accounting practices). RAP was also more liberal than accounting on a tangible basis (known as TAP), which only counts assets that can be easily liquidated.⁷

The legislation governing depositories leaves the question of solvency open to interpretation by regulators and by the courts. Since the discretion of regulators led to many of FSLIC's problems, many analysts have argued for an explicit rule on closing a troubled depository that would limit the ability of regulators to grant leniency to

7. Edward J. Kane, "Principal-Agent Problems in S&L Salvage," *Journal of Finance*, vol. 45, no. 3 (July 1990).

depositories in meeting capital requirements. Other analysts claim that a rule on early closure should apply when a depository's capital-to-asset ratio falls to some threshold. Still others have argued that certain supervisory actions that can be taken before closure, such as

BOX 2
ECONOMIC AND ACCOUNTING VERSUS
REGULATORY APPROACHES TO INSOLVENCY

Insolvency occurs when an organization's net worth--assets minus liabilities--is negative. Economists are more interested in a conceptual definition of insolvency, accountants more interested in measuring it, and regulators more interested in a workable definition for policy-making.

Economists measure insolvency on the basis of the market value of assets and liabilities. To determine these market values, the economist recognizes all explicit and implicit sources of value and claims associated with an institution.

Accountants measure insolvency by using book values, as opposed to market values, for many categories of assets and liabilities that are difficult to measure. These book values represent adjusted or unadjusted historical values rather than estimates of current market value. Rules that dictate accounting definitions or measurements are what accountants call "generally accepted accounting principles" (GAAP).

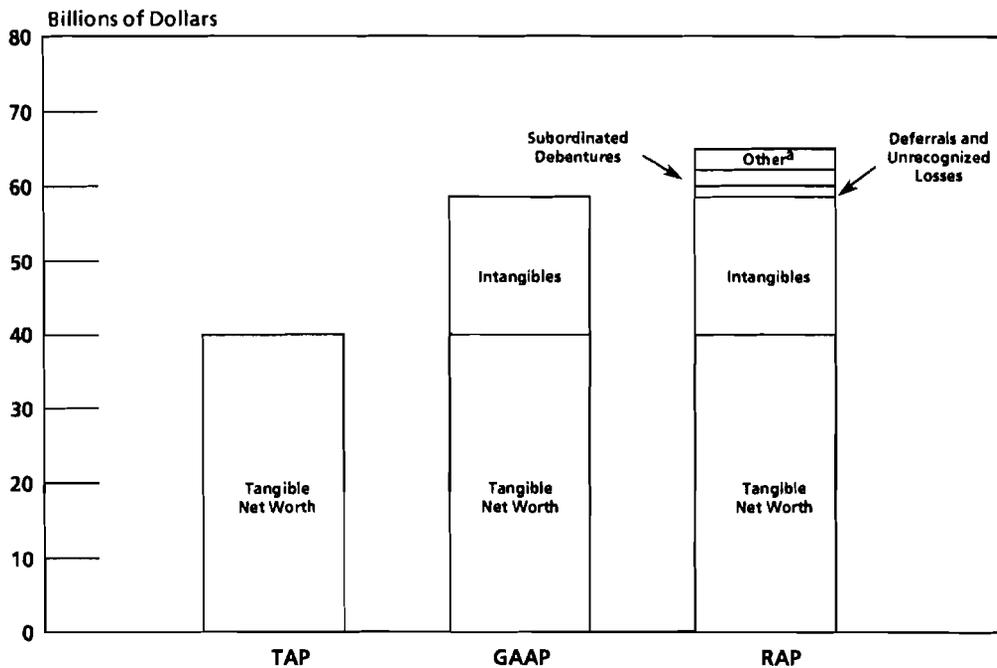
Regulators focus more upon the viability or liquidity of a firm than on its economic or accounting solvency. The condition for viability rests with the organization's ability to meet its liabilities to its creditors. Creditors will be satisfied if the organization pays its scheduled interest and principal on a loan and has the capacity to pay in the future. Regulators have used their authority to allow depository institutions to recognize income or capital gains and to defer losses or capital costs that GAAP would not necessarily allow. Regulators can also allow an insolvent depository to continue operating by not recognizing its losses, or they can maintain the depository by lending it capital.

SOURCE: Congressional Budget Office adapted from Edward J. Kane, "How Incentive-Incompatible Deposit-Insurance Funds Fail," Working Paper No. 2836 (National Bureau of Economic Research, Inc., 1989).

curbing dividend payments to stockholders, should be made mandatory.

The differences between TAP, GAAP, and RAP accounting measures of thrift capital are illustrated in Figure 9. TAP is the most con-

Figure 9.
Accounting Measures of Thrift Capital



SOURCE: Congressional Budget Office using data from James R. Barth, Philip F. Bartholomew, and David A. Whidbee, "Higher Capital Requirements and the Restructuring of the Thrift Industry" (paper presented at the Annual Meeting of the National Association of Business Economists, San Francisco, California, September 1989).

NOTES: For thrifts that were solvent according to generally accepted accounting principles as of June 1989.

TAP = tangible accounting practice; GAAP = generally accepted accounting principles; RAP = regulatory accounting practice.

a. Includes pledged deposits, qualifying certificates, appraised equity, unamortized deferred gains, gains or losses on futures transactions, loan origination fees, accounting forbearances, and general valuation allowances.

servative book measure of capital. It only counts those assets and liabilities that are tangible and that can be sold in the event of liquidation. GAAP includes everything counted under TAP as well as almost all intangibles. The major intangible asset for thrifts is "goodwill," which is normally created in the merger or acquisition of institutions. If the acquirer pays more for an institution than its tangible value, the acquirer may book the difference as goodwill and depreciate it over time. Goodwill includes a firm's favorable reputation and its existing relationships with suppliers and customers. In many cases, its value depreciates much more rapidly than the books of the acquirer reflect.

A substantial amount of "goodwill" was created in the early 1980s when healthy (on some accounting basis) thrifts were encouraged to merge with troubled thrifts. These mergers were arranged with the assistance of the Bank Board but at little or no cost to the FSLIC. The Bank Board permitted acquiring institutions to depreciate the goodwill on the books for long periods, thus providing them with a forbearance on capital requirements.

In the early 1980s, the Bank Board's accounting standards also became more liberal than GAAP through its interpretation of what counted toward capital for regulatory purposes, creating RAP. This leniency toward counting capital permitted many institutions to remain open, even though they were insolvent on a GAAP or TAP basis.

The FIRREA implemented new capital requirements, stipulating that all federal regulators of depository institutions adopt rules no less stringent than those of the OCC. The current requirement is that primary capital (which is equity), loan loss reserves, and some convertible debt and preferred stock must be at least 5.5 percent of total assets. In addition, total capital (which is primary capital plus subordinated debt and the remaining preferred stock) must be at least 6 percent of assets. Depositories failing to meet this requirement are subject to supervisory action. When this ratio falls to zero, the depositories are no longer solvent and will presumably be closed.

MEASURES USED TO ACCOUNT FOR MARKET VALUE

Closely related to the closure problem is the problem of determining the financial health or solvency of depository institutions. Book-value accounting used by depositories and their regulators may significantly understate a depository's market value.⁸ Accurate information is crucial to the deposit insurer. If the deposit insurer can assess the true market value of a depository's assets and liabilities, then it can accurately assess its economic solvency. Market values, however, are not readily available for all categories of assets and liabilities.

Market-value accounting for depositories takes into consideration the risk of change in interest rates (or interest rate risk) and the risk of default on investments (or credit risk). Since many depositories make investments in assets valued in foreign currency, the risk of changes in foreign exchange rates is also important but is similar to interest rate risk. Generally, rising interest rates or default rates would lower a depository's market value.

Financial theory is sophisticated in its treatment of interest rate risk in market valuation. Evaluation of credit risk is more of an art form.⁹ This latter point is probably a major reason why bank examiners prefer not to use a standardized method of market-value accounting.

The sensitivity of depository institutions to interest rate risk increases with the term of the investment. While a depository may expect to hold a loan or a security to maturity, thus avoiding the need to reevaluate, the cost of funding its investment may increase if the funding reflects market interest rates. Thrifts were particularly sensitive to increases in interest rates in the late 1970s and early 1980s because their assets typically had longer terms than their liabilities. Thus,

8. Market-value estimates, based on interest rate risk, of the solvency of the aggregate thrift industry were lower than the book-value measures of solvency during the years 1980 through 1984 and in 1987. In 1985 and 1986, the market-value estimates were greater than the tangible accounting practice (TAP) measure, but less than the generally accepted accounting principles or the regulatory accounting practice measures. In 1988, the market-value estimate equaled the reported TAP measure. See Barth and Bartholomew, "The Thrift Industry Crisis."

9. William M. Isaac, "Early Intervention Proposal Is a Snake Oil Prescription," *American Banker*, May 30, 1990.

they had to raise sharply the rates paid for deposits, while the yields of their assets rose slowly.

One innovation in mortgage lending was the variable-rate mortgage, which allowed the depository to change the interest rate on the mortgage periodically during its term.¹⁰ Changing the interest rate on these long-term investments provided the depository with a way to address the risk that interest rates on liabilities might increase above the interest rates charged on mortgages. Commercial banks had traditionally used this form of mortgage, but thrifts were only permitted to do this in the early 1980s. Variable-rate mortgages are now used by thrifts, but they have not yet fully replaced conventional fixed-price mortgages. Moreover, some restrictions exist for variable-rate mortgages, such as how much the interest rate may be changed in any given year. Thus, while variable-rate mortgages offer thrifts a more flexible investment vehicle, their limited use and the existing restrictions on repricing have diminished their effectiveness in providing protection against interest rate risk.

The market value of assets must also reflect the risk of default. Depository institutions cover for expected losses based upon their experience of loan repayments. In order to delay the realization of loss, however, depositories have an incentive to underestimate the capital needed to cover for loan losses. An important aspect of prudential supervision is for examiners independently to classify investments for default risk.

Many analysts suggest that market-value accounting, applied wholly or in part, would be an improvement over book-value accounting.¹¹ Others suggest that market-value accounting is imprecise

10. Canadian mortgage lenders use what are effectively variable-rate mortgages to a greater extent than in the United States. Their mortgages are repriced frequently, while reductions in the mortgage principal are scheduled over a long term. For example, see Helmut H. Binhammer, *Money, Banking and the Canadian Financial System*, 5th ed. (Scarborough, Ontario: Nelson Canada, 1988), pp. 87-92 and 214-215.

11. For example, see George J. Benston, Robert A. Eisenbeis, Paul M. Horovitz, Edward J. Kane, and George G. Kaufman, *Perspectives on Safe and Sound Banking* (Cambridge: MIT Press, 1986); and Lawrence J. White, "Problems of the FSLIC: A Former Policy Maker's View," *Contemporary Policy Issues*, vol. 8, no. 2 (April 1990).

and provides no better estimate than book-value accounting.¹² These opposing views suggest that improvements to the system for measuring insolvency should be made with some caution. As the measurement problem is addressed, the discretion granted regulators also needs consideration.

ASSIGNING APPROPRIATE CAPITAL REQUIREMENTS

In addition to problems with measuring capital, problems occur in setting the level of capital required. Capital serves the deposit insurer in two ways. First, it provides a buffer for the uncertainty in determining the economic solvency of an institution, whether by book- or market-value accounting. Second, capital provides an incentive for owners to manage their institutions prudently because their money is at risk. In both cases, more capital is better than less. Unfortunately, there is no way to know what the appropriate amount of capital is.¹³ The debate over adequate capital requirements is not new, nor will it be resolved easily.

In retrospect, lowering capital requirements in the 1980s escalated the thrift crisis and its cost.¹⁴ FIRREA effectively increased capital requirements but restored them only to 1979 levels.¹⁵ Many analysts

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12. For example, see James R. Barth and Philip F. Bartholomew, "The Thrift Industry Crisis"; and Allen N. Berger, Kathleen A. Kuester, and James M. O'Brien, "Some Red Flags Concerning Market Value Accounting," in Federal Reserve Bank of Chicago, *Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1989).
 13. The issue of capital requirements is the subject of much discussion in academic literature. For example, see Stephen A. Buser, Andrew H. Chen, and Edward J. Kane, "Federal Deposit Insurance, Regulatory Policy, and Optimal Bank Capital," *Journal of Finance* (March 1981); Frederick T. Furlong and Michael C. Keeley, "Bank Capital Regulation and Asset Risk," *Economic Review*, Federal Reserve Bank of San Francisco (Spring 1987); and Tyran Smith and Raymond E. Hengren, "Bank Capital: The Problem Restated," *Journal of Political Economy*, vol. 55, no. 6 (December 1947).
 14. For a history of capital requirements for institutions insured by the Federal Savings and Loan Insurance Corporation, see James R. Barth and Michael G. Bradley, "Thrift Deregulation and Federal Deposit Insurance," *Journal of Financial Services Research*, vol. 2 (1989).
 15. James R. Barth, George J. Benston, and Philip Wiest, "The Financial Institutions Reform, Recovery, and Enforcement Act of 1989: Description, Effects, and Implications," *Issues in Bank Regulation*, vol. 13 (Winter 1990).

now suggest increasing capital requirements beyond those levels.¹⁶ The act provides flexibility by establishing a minimum rather than a fixed standard for thrifts. Moreover, FIRREA curtailed the ability of regulators to be lenient toward capital requirements by strengthening and making more consistent the capital requirements of banks and thrifts.

As discussed in Chapter II, increasing capital requirements tends to lower returns on equity. Thus, depositories with insufficient capital are currently faced with serious problems of raising new capital. In addition, higher capital requirements may force the depository to undertake even greater risk--which is opposite to what was intended--in order to achieve higher returns on equity.

Assigning appropriate capital requirements, however, also presents a measurement problem. The requirement is stated as a ratio of capital to total assets, but some items that affect the balance sheet are not counted as assets. Accountants consider some economic assets and liabilities of an institution as off-balance-sheet items. An example is a contract for the future purchase or sale of assets.¹⁷ The balance sheet does not reflect such items until the option to buy or sell is exercised; however, off-balance-sheet items can alter the balance quickly and drastically. These items would include loan commitments, letters of credit, foreign exchange contracts, financial futures and forward contracts, and interest rate or foreign currency swaps. Depository institutions engage in these and other activities that are not reflected on the balance sheet, such as trust operations, check clearing, fund transfers, and so forth. Regulators of depositories are aware of these activities and have greatly improved their measurement and evaluation of them. Regulators are in the process of adjusting capital requirements to reflect off-balance-sheet items. The pace of financial innovation, however, generally exceeds the speed at which regulation of financial institutions can be modified.

16. For example, see statement of Alan Greenspan before the Senate Committee on Banking, Housing, and Urban Affairs, July 12, 1990.

17. Much has been written about off-balance-sheet items. This discussion is adapted from Richard W. Nelson, "Off-Balance Sheet Banking and Bank Capital," in Federal Reserve Bank of Chicago, *Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1985), pp. 511-527.

One possible way to set capital requirements and measure capital would be to introduce risk-based capital requirements. These requirements set a desired level of capital based upon the risk that regulators assign to certain assets and liabilities. They also measure the value of capital for financial risk.

Risk-based capital requirements would give the regulator a means of managing the risks of depositories without arbitrarily denying or restricting the institution's investment powers. Instead, the regulator would set capital requirements as an explicit cost for undertaking greater risk. Incentives would be established for the depositories to contain the risk themselves; at the same time, they would be given the flexibility to adjust their portfolios in order to maximize profits. Risk-based requirements are currently being phased into use by both bank and thrift regulators. With its acceptance of the Basle Accord on International Capital Standards, one of the first agreements that addresses the international regulation of depository institutions, the United States will begin to implement risk-based capital requirements in 1992 (see Appendix B).¹⁸

TOO BIG TO FAIL

Regulators have created another problem with deposit insurance by declaring that some banks are too large to be allowed to fail. This policy, which had been implicit in many regulatory actions, was stated explicitly by the OCC and other federal regulators in the wake of the failure of the Continental Illinois Bank. The argument is that the failure of a large bank would so shake confidence in the entire banking system that it must be prevented from happening. Reducing the confidence of depositors would increase the potential for a spread of bank runs caused by massive withdrawals. Of course, some big banks do become insolvent. The policy means that they are not liquidated but are kept open through government assistance.

18. For a discussion of the specifics of risk-based capital requirements, see, for example, Larry D. Wall, "Capital Requirements for Banks: A Look at 1981 and 1988 Standards," *Economic Review*, Federal Reserve Bank of Atlanta (March/April 1989).

The U.S. financial system may be sufficiently resilient to deal with the failure of a single large bank.¹⁹ Currency withdrawn from one institution will likely be redeposited into another within the system or rechanneled into less-risky Treasury securities. Temporary flights to currency or flights to quality from depositories, which could cause a general credit crunch, may be offset by the Federal Reserve through monetary policy. The Federal Reserve's ability to correct for flights to currency is effective so long as the associated runs do not spread too far and the Federal Reserve responds in a timely and appropriate manner.

Because international financial markets are far more integrated now than in the past, runs by foreign depositors or by domestic depositors with foreign accounts pose a potential problem. This type of run would be a flight to quality, one in which depositors transfer their holdings to some other investment that is considered of better quality than the one that they now hold. This systemwide run of withdrawals from the U.S. financial system to foreign ones would, as an international flight to quality, pose a greater threat to the entire U.S. financial system than a spate of domestic runs.²⁰

Systemwide domestic runs are thwarted by deposit insurance but may be dealt with better by the Federal Reserve, either through last-resort lending or open-market operations. For example, large banks that engaged in lending to developing countries have been granted leniency by the Federal Reserve and the OCC. These regulatory forbearances, which were accompanied by intervention of the Treasury in arranging debt rescheduling, permitted the orderly write-down of loan losses--that is, writing off portions over time to depreciate the assets slowly.

The notion of systemwide problems highlights another aspect of the too-big-to-fail policy. Closure of insolvent institutions may force the realization of loss in whole categories of financial instruments. For example, depositories faced with short-term liquidity problems often sell some securities from their portfolio of assets with the agreement to repurchase them at a later date. Called "repos," these securities effec-

19. Benston, Eisenbeis, Horovitz, Kane, and Kaufman, *Perspectives on Safe and Sound Banking*.

20. Benston, Eisenbeis, Horovitz, Kane, and Kaufman, *Perspectives on Safe and Sound Banking*, p. 53.

tively represent a secured form of lending to depositories. If these loans are not repaid and the security of the loan is called into question, as would be the case if the depository were closed and the collateral not turned over, then lenders in the "repo-market" would be reluctant to make these loans in the future. The uncertainty created would greatly impair the efficiency of the repo-market. Currently, secured borrowings are honored fully in a receivership, but compensation may be delayed. If a troubled depository has borrowed an amount that represents a significant share of the market of a particular type of financial instrument, the regulator may be reluctant to close that depository because of the subsequent disruptions to that market.

One problem with the too-big-to-fail policy is that it may be used too frequently, thus reducing the internal discipline of the financial market. Although use of this policy in the event of systemwide problems may be appropriate, its use on a day-to-day basis to address smaller problems creates the wrong incentives. The right balance would tolerate some situations as exceptional, while retaining discipline overall. Closing a large depository that is insolvent may actually improve the discipline of all depositories.²¹

Another problem with the too-big-to-fail policy is that the Federal Reserve can undermine the ability of the federal deposit insurer to resolve a depository, thus increasing the insurer's losses. This situation reportedly occurred in the failure of Penn Square Bank in Oklahoma in 1984. The Federal Reserve indicated that it might continue to fund that mismanaged and insolvent institution unless the FDIC agreed to protect uninsured depositors.²² Thus, because the Federal Reserve was concerned with the closure's effect on large banks, the FDIC delayed in closing a troubled bank and the insurance fund was exposed to greater cost.

21. Statement of George G. Kaufman before the Senate Committee on Banking, Housing, and Urban Affairs, May 21, 1990.

22. William M. Isaac, "Deposit Insurance Reform Still Faces Impediments," *American Banker*, July 5, 1990.

METHODS OF RESOLVING FAILED INSTITUTIONS

Many analysts have criticized the federal deposit insurance system for providing coverage to uninsured creditors--depositors with accounts over the \$100,000 insured limit and others to whom the depository owes money. This uninsured coverage resulted from the method used to resolve failed depositories. The FDIC reports that between the mid-1960s and through at least the mid-1980s, bank failures were handled in such a way that all general creditors were, in practice, afforded 100 percent insurance.²³

Two general methods--liquidation and merger--are used to resolve insolvent institutions with a number of specific variations (see Box 3). The insurer may liquidate an institution, reimbursing insured depositors and putting the assets in a receivership in which the proceeds are shared with uninsured creditors. Alternatively, the insurer may sell the institution in whole or in parts, transfer the insured deposits and uninsured liabilities to the acquirer, and pay the acquirer the estimated difference between the market value of the assets and liabilities--that is, pay off the insolvency.

The liquidation method is faster than the merger method for suspending the operations of the insolvent depository, although it may be more costly. Because of the time needed to arrange for a buyer, the merger method can delay suspension of operations, but passing on the assets to the acquirer may speed up their disposition and prove cheaper in the long run.

The merger method can realize more franchise value for the insurer, thus lowering the overall cost of resolution.²⁴ Historically, federal deposit insurers found that mergers were less costly than liquidations; thus, far fewer liquidations occurred. An insolvent depository may possess some franchise value as an ongoing concern through its customer relationships. While some methods of liquidating a deposi-

23. Federal Deposit Insurance Corporation, *The First Fifty Years*, p. 66.

24. James R. Barth, Philip F. Bartholomew, and Peter Elmer, "The Cost of Liquidating Versus Selling Failed Thrift Institutions," Research Paper No. 89-02 (Office of the Chief Economist, Office of Thrift Supervision, November 1989).

BOX 3 METHODS OF RESOLVING FAILED DEPOSITORY INSTITUTIONS

Two general methods exist for resolving a failed depository institution. The insurer may liquidate the institution or merge it with another.

Liquidation

Liquidation closes an institution and settles its accounts. It is the most drastic resolution method. Two types of liquidation are "pure liquidation," also known as the "insured deposit payout," and the "insured deposit transfer" or IDT. Both types generally imply that uninsured deposits are not compensated, although some uninsured deposits may be included in the liquidation under the IDT, thereby reducing the insurer's cost.¹

Insured Deposit Payout. Using this type of liquidation, insured depositors are paid off by the insurance fund. The insurance fund, in its role of receiver, disposes of the assets and shares the proceeds of the sold assets with uninsured, unsecured creditors. This disposition causes the insurance fund to lose all of the franchise value, if any, of the troubled depository as an ongoing concern. This type of liquidation requires the insurance fund to spend a considerable amount of cash up front because disposing of the assets can take a long time, yet depositors need to be paid right away.

Insured Deposit Transfer. This type of liquidation preserves the franchise value associated with deposits. IDTs involve auctioning liabilities (generally only the insured deposits); some assets, such as branch offices, may be included. These liabilities are auctioned to an acquirer who is willing to secure existing customer relationships. The premium for these deposits is the difference between their value and what the insurance fund pays the acquirer.² If branch offices are included, this method is not purely a liquidation but has some characteristics similar to those of a merger.

1. In some cases, the insurer may find that it is less costly to resolve an institution if some insured deposits are sold in the insured deposit transfer.
2. The Resolution Trust Corporation reported in April 1990 that it captured a premium of 0.82 percent on core deposits in 35 resolutions of insured deposit transfers (IDTs). Data on IDTs of the Federal Savings and Loan Insurance Corporation (FSLIC) for the 1984-1988 period show that FSLIC captured a premium of between 0 percent and 30.17 percent.

Merger

The merger method of resolving a failed depository institution is to sell it to another depository. Mergers arranged by the regulator with no explicit cost to the insurer are known as supervisory mergers. Typically, mergers that explicitly cost the insurer are accomplished through a technique known as purchase and assumption (P&A). Under P&A, an acquiring institution (determined through auction) purchases the assets of the troubled institution and assumes its liabilities. The insurance fund compensates the acquirer of the troubled institution for the difference in value between its assets and liabilities. This method reduces the cost to the insurer because it captures the positive franchise value of the troubled depository. This method requires time, however, to conduct a "due diligence" audit of the troubled depository to determine the fair market value of its assets. Because this costly and time-consuming procedure may delay mergers, the insurance fund may permit the acquirer to "put back" all or any assets of the troubled depository that the acquirer feels were unfairly valued.

The P&A method of mergers has many variations. The "whole bank" variation involves the purchase of all assets and the assumption of all liabilities. The "clean bank" variation involves the sale of only supposedly good assets and the assumption of all liabilities. Numerous other variations are possible.

Advantages and Disadvantages

The pure liquidation method generally ensures that the insurance fund does not compensate uninsured creditors. Liquidations terminate the institution more quickly than other methods. Unfortunately, the liquidation method requires a considerable amount of working capital and is more costly than other methods if there is franchise value in the troubled depository. Auctioning an institution, through either the IDT or merger methods, may recapture some, if not all, of this franchise value. Auctioning an institution, however, even in part, can be highly time consuming. Delays in finding P&A acquirers allow the failed depository to continue operation and thus incur even greater liabilities.

tory may preserve the franchise value of customer relationships and thus reduce some of the insurer's losses, selling both assets and liabilities to an acquirer can preserve more franchise value. The merger method, however, passes most, if not all, uninsured liabilities to the acquirer, thus effectively extending coverage to all liabilities of depository institutions, even though premiums are assessed based upon the level of insured deposits.

The government deposit insurer is required to resolve an insolvent institution in the least costly manner. Prior to FIRREA, the FSLIC was bound to resolve a thrift institution in the least costly manner to only the insurance fund. As a consequence, some resolutions heavily used tax breaks and other deferred forms of financing that were not charged to the insurance fund but to the Treasury. FIRREA subsequently stipulated that minimizing cost is further determined relative to the federal government's budget.

Under a pure liquidation, uninsured depositors and other creditors would not ordinarily be covered. The decision to extend deposit insurance to uninsured depositors results from the initial estimate of the cost of liquidation or merger at the time of resolution. Limited information available from FSLIC resolutions shows that the estimated cost of liquidation may be subject to considerable error. The estimated cost of merger, however, is fairly close to the mark.

The extension of coverage to uninsured creditors should not be viewed as certain. These creditors generally compensate for this uncertainty by securing their advances through collateral in the form of assets from these depositories.

The FDIC has argued in the past that, on behalf of insured depositors, it should be given preferred status in receiverships over uninsured depositors and other creditors, rather than its current status as a general creditor.²⁵ In other words, the FDIC would be paid before others after a depository fails. The Banking Act of 1933 granted this preferred status to the temporary deposit insurance fund, but the

25. Benston, Eisenbeis, Horovitz, Kane, and Kaufman, *Perspectives on Safe and Sound Banking*, p. 106. Some states have statutes that provide a preference for depositors in a receivership.

status was repealed in 1935. Although the FDIC proposal may have economic merit because it compensates those insured first, it sets a questionable legal precedent for federal claims in receiverships because it would break existing contracts.

UNINTENDED COVERAGE

The current structure of deposit insurance permits individuals to hold more than \$100,000 in insured deposits by using multiple accounts with different registrations or by holding deposits at multiple institutions. Other multiple deposits, known as super accounts, include bank insurance contracts, pension funds, and other passthrough types of group accounts, such as brokered deposits, in which the individual is insured. Such super accounts are a concern to policymakers.²⁶

With brokered deposits, the broker either combines funds from individuals into a single deposit or divides an individual's funds that exceed \$100,000 into smaller amounts. The former provides individuals with the higher rates given to larger deposits; the latter provides insured deposits to individuals with more than \$100,000. The broker thus reduces information and transaction costs to the individual. Moreover, the broker's ability to move these funds around knowledgeably provides the individual with the highest rate on insured deposits offered among institutions.

Brokered and multiple deposits are a much less stable source of funds to depository institutions than their traditional core deposits from individuals. Brokers are more likely to move their funds in response to changes in interest rates. Core depositors, who usually have balances of less than \$80,000, are generally more concerned with convenience factors, such as location. They have, however, become more sensitive to interest rates since deregulation in the early 1980s.

26. George J. Benston, *An Analysis of the Causes of Savings and Loan Association Failures* (New York: New York University, 1986); Thomas F. Cargill and Gillian G. Garcia, *Financial Reform in the 1980s* (Stanford: Hoover Institution Press, 1986); and Kenneth Spong, *Banking Regulation: Its Purposes, Implementations and Effects*, 2nd ed. (Kansas City: Federal Reserve Bank of Kansas, 1985).

Brokered deposits became a regulatory concern because some problem banks and thrifts relied on them heavily "to expand rapidly, fund speculative investments, and avoid curtailing unprofitable activities."²⁷ Both the FDIC and the Bank Board have reported that failed depositories had a higher number of brokered deposits than the industry average.²⁸ In 1983, the FDIC required more frequent monitoring and reporting from depositories with significant numbers of brokered deposits. The Congress also has considered placing limits on brokered deposits. In 1984, the FDIC attempted to limit insurance coverage for brokered deposits, but a federal district court ruled that such limits are inconsistent with federal statutes.²⁹

Reports from a study by the Federal Reserve show that in 1983 between 1.0 percent and 1.5 percent of the nation's households had deposit balances in excess of \$100,000, but these households owned nearly 30 percent of the nation's deposits.³⁰ Thus, it is obvious that the \$100,000 coverage disproportionately benefits a small number of large depositors.

The evidence presented in the report also suggests that a reduction in coverage may result in the transfer of a substantial portion of funds from insured deposits to other risk-free assets. Individuals may decide to buy Treasury securities, which are nearly as risk-free, or they may put their money in mutual funds that invest in short-term Treasury securities, which have a very low risk and are highly liquid. If depositors exercised this option, limiting coverage could increase the cost of funds for depository institutions. The government could offset this effect through other subsidies to depositories, but limiting deposit insurance coverage may seriously restrict the availability of financial services offered by depositories.

27. Spong, *Banking Regulation*, p. 75.

28. Spong, *Banking Regulation*, p. 75; and Barth, Bartholomew, and Labich, "Moral Hazard and the Thrift Crisis."

29. Spong, *Banking Regulation*; and Cargill and Garcia, *Financial Reform in the 1980s*.

30. Statement of Alan Greenspan before the House Committee on Banking, Finance and Urban Affairs, September 13, 1990.

UNDENIABILITY OF COVERAGE

Because almost all depository institutions are covered by federal deposit insurance, canceling the insurance of an institution is an action of last resort. This action is as drastic as revoking a charter because it almost surely would force the failure of an institution. Rather than cancel insurance, regulators have opted to manage failure. Whereas a private insurer can avoid risk by canceling insurance, federal insurers cannot use that as a regulatory discipline--and depository institutions know this.

Undeniability of coverage applies to existing insured depositories. The federal insurers, however, have denied coverage to newly chartered depositories. This discipline was used, in part, to impose federal standards on state-chartering authorities. In 1985, the Bank Board targeted three states--California, Florida, and Texas--for a general moratorium on applications for deposit insurance made by new state-chartered thrifts.³¹ The Bank Board determined that, in chartering new thrifts, these states were not providing adequate supervision and examination. The Bank Board reached agreements with Florida and Texas in 1985 and lifted their moratorium, but the moratorium on California was in effect when the Bank Board was abolished in 1989.³²

Selective cancellation of an institution's deposit insurance may not be a workable regulatory discipline. Nevertheless, refusal by the federal insurer to insure newly chartered depositories may be a useful discipline on state-chartering authorities. Moreover, the application for insurance provides the federal insurer with the opportunity to review the chartering process of federally insured depositories.

Revocation of charters has been used in other countries as a disciplinary tool. For example, lacking explicit and intermediate enforcement powers, the Inspector General of Banks in Canada did revoke at least one charter. The suspension of charters, however, has limited use

31. David Satterfield, "Giving Thrifts Room to Grow," *American Banker*, November 4, 1985; and Barth, Bartholomew, and Bradley, "Reforming Federal Deposit Insurance."

32. Federal Home Loan Bank Board, *Annual Report* (1985); and Barth, Bartholomew, and Bradley, "Reforming Federal Deposit Insurance."

as a policy tool because it could only be applied to small and foreign-owned chartered banks whose closure has no serious economic impact. The Inspector General may have relied upon the threat of open-hearing Parliamentary inquiry in order to exert some control over the few large chartered banks.

ADDRESSING MISBEHAVIOR

Fraud is considered by some analysts to be the most important risk factor faced by a depository.³³ The moral hazard inherent in deposit insurance, coupled with an institution's depleted capital, induces more fraud and abuse than would otherwise occur.³⁴ An analysis of failures of chartered banks and near banks in Canada concluded that institutions are their own best agents to guard against fraud.³⁵ Owners and directors have the best incentive to prevent fraud--unless they are committing it. This view, however, is not universal. Other analysts argue that the government, or at least an impartial party, may deal better with fraud.³⁶ Transferring the risk of fraud to owners and directors is one solution. The early Scottish banking system accomplished this by making directors and shareholders doubly liable for loss. Increased examination and prudential supervision is another but more costly method of limiting fraud.

A depository institution may be so large that it is difficult for owners and directors to control misbehavior effectively. Moreover, the technicalities of prosecuting white-collar crime make culpability difficult to prove. A greater incentive for owners and directors to prevent fraud may be to have the insurer close depositories when they become insolvent and suspend the salaries of senior executives and directors as

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33. George J. Benston and George G. Kaufman, "Risk and Failures in Banking: Overview, History and Evaluation," in G. Kaufman and R. Kormendi, eds., *Deregulating Financial Services: Public Policy in Flux* (Cambridge: Ballinger, 1986), pp. 52-53.
 34. Barth and Bartholomew, "The Thrift Industry Crisis," p. 6; and statement of William Black before the House Committee on Banking, Finance and Urban Affairs, April 11, 1990.
 35. Willard Z. Estey, *Report of the Inquiry into the Collapse of the CCB and the Northland Bank* (Ottawa: Minister of Supply and Services, 1986). Near banks are similar to U.S. thrift institutions.
 36. For example, see Cargill and Garcia, *Financial Reform in the 1980s*, p. 155.

well as dividend payments to stockholders. Increased penalties, mandatory prison time, compulsory restitution, and a longer statute of limitations for those who defraud the federal deposit insurance system may provide additional incentives.³⁷

The fear that involuntary misbehavior or negligence may be interpreted as fraud could dissuade capable and prudent individuals from owning or directing depository institutions. To address this issue, reform might balance stiffer penalties with higher levels of private liability insurance that would be mandatory for owners and directors. The deposit insurer would reinsure this aspect of deposit insurance and allow higher premiums to discipline owners and directors, who would have greater incentive to implement safeguards against fraud. This scheme would also establish the private reinsurer as a new third party to police fraudulent practice. The high cost of liability insurance, however, may preclude capable and prudent individuals from serving as directors, much as malpractice insurance has driven out capable doctors, or may place an excessive cost on depositories that would limit their ability to raise capital.

Another possible reform to address misbehavior is to strengthen the chartering process of depository institutions. Chartering authority currently rests with various state and federal agencies. With numerous authorities, the potential exists for wide differences in preconditions for chartering and review. Once a charter has been granted, revoking it may not be warranted for many types of misbehavior or the failure to deter misbehavior. Thus, regulators have resorted to intermediate supervision or enforcement, such as orders to cease and desist.

37. For example, see statement of Benton E. Gup before the Senate Committee on Banking, Housing, and Urban Affairs, July 1, 1990; and statement of Philip F. Bartholomew before the U.S. Sentencing Commission, April 7, 1989.

CHAPTER IV

A FRAMEWORK FOR EVALUATING

REFORM PROPOSALS

A variety of reforms to the federal deposit insurance system have been proposed. In fact, 22 separate submissions have been made to the Department of the Treasury for consideration in its study of deposit insurance. These proposals, by sponsor, appear in Appendix D. Many of the proposals are complementary, and few are incompatible with each other. No single proposal addresses all of the problems.

This chapter introduces a framework for evaluating these and other reform proposals in the final three chapters. The framework--derived from the standard insurance practices of underwriting, controlling, and transferring risk--integrates separate analyses of the various reform measures that have been proposed. The merits and limitations of each proposed measure are evaluated by its ability to address the general problem of moral hazard and the specific structural and operational problems of deposit insurance.

The central goal in regulating depository institutions is to ensure economic growth and stability. In the United States and abroad, depositories have performed valuable services in this regard. In achieving the central goal, regulators attempt to create an environment for depositories that balances the sometimes conflicting objectives of safety, soundness, and fair competition. Deposit insurance is a part of the regulatory structure. Its specific objectives--preventing the spread of bank runs, and protecting small and unsophisticated deposits--relates to safety. In addition, a consensus is now emerging that minimizing the exposure of taxpayers to loss needs to be reasserted as a basic objective of deposit insurance.

POSSIBLE TARGETS FOR REFORM

Federal deposit insurance has pursued its objectives by imposing licensing and prudential regulation, supervision, and examination upon depositories. So far, contagion has been prevented, and small depositors have been protected. The current thrift crisis, however, suggests the need to reform the deposit insurance system, which can be achieved by two means: through government regulation, or through market incentives. Regardless of the means used, reform is accomplished by affecting the behavior of three parties: the insurer, the insured, and the depository institutions. No other targets for reform exist.

Reforms aimed at the federal insurer concentrate on improving the willingness and the ability of the administering agencies to meet the objectives of the federal deposit insurance system. Some proposals suggest that these agencies provide closer supervision, manage the risk of deposit insurance better, and pay more attention to the burdens placed on taxpayers. Regulators can be authorized to require certain actions when circumstances warrant intervention. They can also be persuaded to act by the force of public opinion or market events.

Reforms aimed at insured depositors generally seek more market discipline of depositories that offer insured accounts. Depositors can effect discipline by withdrawing their funds from riskier institutions and depositing them in safer ones. This discipline depends on the information available to depositors about the level of risk of their depositories and on the incentive and ability of depositors to move their money appropriately. Greater reliance on market discipline, however, may reduce the stability of the source of funds for depositories. An example of this danger is that freer international competition in financial services can expose the U.S. financial system to greater risk if U.S. depositors shift funds to foreign depositories. Such occurrences, even if temporary, could lead to liquidity problems and forced insolvencies. Other reforms aimed at insured depositors simply seek more payment for the insurance, regardless of incentives. These reforms create additional reserves in the insurance fund to deal with normal failures.

Reforms aimed at depository institutions seek more cautious use of the funds entrusted to them. Either regulatory or market incentives can affect the behavior of depositories. Mandatory or discretionary regulations can encourage more cautious behavior. Market incentives can penalize overly risky behavior, primarily by the withdrawals of depositors or the actions of other creditors. Other reforms aimed at depositories seek more payment for the privilege of offering insured deposits and a premium rate that more accurately reflects the risk of the depository.

PROPOSALS FOR REFORM

The proposals for reforming federal deposit insurance contain numerous strategies to achieve that result. For purposes of analysis, these strategies are grouped to review their distinctions. Most of these strategies are common elements in each of the 22 reform proposals that were submitted to the Treasury; other recommended strategies for reform are also included. Two general strategies that appear in most of the proposals are:

- o Strengthening capital requirements, and
- o Enhancing supervision.

Strengthened capital requirements of depositories are proposed as a way to create a safer, sounder, and less costly deposit insurance system. One fundamental way to strengthen these requirements is to require depositories to hold more capital. The Financial Institutions Reform, Recovery, and Enforcement Act has already increased the amount of capital required for thrifts, but further increases have been proposed. The problem with increasing capital is that no standard short of 100 percent can guarantee not having to turn to the taxpayer for help in the event of a catastrophe. Moreover, a trade-off exists between increasing capital requirements and maintaining the profitability and viability of depositories. Yet, the more that stockholders are placed at risk, the more incentive they will have to behave prudently, thus decreasing the moral hazard for depositories. Two other ways that capital requirements can be strengthened are by changing

how capital is measured for regulatory analysis and by improving the rules for disciplining and closing depositories.

Enhanced supervision of depositories is also needed for a safer, sounder, and less costly deposit insurance system. As with other reform strategies, enhanced supervision may come through the existing federal regulatory system or through the private market. In either case, those responsible for supervision must have access to adequate information about insured depositories on a timely basis. They must also have the willingness and ability to discipline troubled depositories and close them in a timely manner.

In addition to the two general reforms, other measures can be extracted from the numerous reform proposals--whether the intended reforms target the insurer, the insured, or the institution, and whether the means used are government regulations or market incentives. These reform measures would:

- o Lower the amount of insurance coverage;
- o Change coverage restriction from per account to per individual;
- o Improve reevaluation of risk using market-value accounting;
- o Disclose publicly the results of reevaluation;
- o Improve chartering and licensing of insured depositories;
- o Deny or suspend the privilege of offering insured deposits;
- o Increase the reserve fund of the insurer;
- o Improve reporting of the level of reserves;
- o Increase the available Treasury line of credit;
- o Charge risk-based premiums;

- o Set risk-based requirements for capital;
- o Reform the rules for closing depositories;
- o Impose a loss or "haircut" on uninsured creditors;
- o Pay the insurer before others after resolving a failed depository;
- o Tighten regulatory supervision and stiffen penalties;
- o Restrict investments of insured depositories (narrow banks);
- o Create industry self-insurance;
- o Share risk with depositors (coinsurance);
- o Share risk with other insurers (reinsurance); or
- o Require subordinated (uninsured) debt.

These measures are categorized according to the problems they address and the practices they represent, either directly or indirectly, in Table 4. Some of these ideas overlap; for example, some underwriting reforms that address moral hazard would also apply to other problems. No single practice that addresses insurance risk nor any one reform measure can solve all of the problems in the current structure of deposit insurance, although some strategies are more effective than others. Although the reform of deposit insurance is not simple, this analysis of separate measures for reform may help reduce the complexity.

OTHER REFORM CONSIDERATIONS

Reform of the current structure of federal deposit insurance appears necessary and urgent to avoid problems in the future like the current thrift crisis. Nevertheless, reform must be carefully considered. More-

**TABLE 4. PROPOSED MEASURES FOR REFORMING
FEDERAL DEPOSIT INSURANCE**

Problem	Underwriting Risk	Controlling Risk	Transferring Risk
Moral Hazard	Restrict coverage to individual.	Create narrow banks.	Create industry self-insurance.
	Lower amount of coverage.	Charge risk-based premiums, set risk-based capital.	Require subordinated debt.
	Reevaluate risk using market-value accounting.	Reform closure rule.	Use reinsurance or coinsurance.
	Disclose risk reevaluation.	Tighten supervision and penalties.	
	Improve chartering and licensing.	Haircut for uninsured creditors.	
	Deny or suspend charter or license.		
	Increase reserve fund.		
	Improve reporting of reserves.		
Delay in Closing Insolvent Institutions	Lower amount of coverage.	Create narrow banks.	Create industry self-insurance.
	Reevaluate risk using market-value accounting.	Charge risk-based premiums, set risk-based capital.	Require subordinated debt.
	Disclose risk reevaluation.	Reform closure rule.	Use reinsurance or coinsurance.
	Deny or suspend charter or license.	Haircut for uninsured creditors.	
	Increase reserve fund.		
	Improve reporting of reserves.		
	Increase Treasury line of credit.		
Measures of Market Value	Disclose risk reevaluation.	Create narrow banks. Reform closure rule.	Require subordinated debt.
	Reevaluate risk using market-value accounting.	Charge risk-based premiums, set risk-based capital.	Use reinsurance.
	Improve reporting of reserves.		Create industry self-insurance.

(Continued)

TABLE 4. Continued

Problem	Underwriting Risk	Controlling Risk	Transferring Risk
Assigning Adequate Capital Requirements	Reevaluate risk using market-value accounting.	Create narrow banks. Charge risk-based premiums, set risk-based capital. Reform closure rule.	Require subordinated debt.
Too-Big-To-Fail	Disclose risk reevaluation. Deny or suspend charter or license. Increase reserve fund. Increased Treasury line of credit.	Create narrow banks. Charge risk-based premiums, set risk-based capital. Reform closure rule. Haircut for uninsured creditors.	Use reinsurance or coinsurance. Create industry self-insurance. Require subordinated debt.
Method of Resolving Institutions	Increase reserve fund. Improve reporting of reserves. Increase Treasury line of credit.	Create narrow banks. Haircut for uninsured creditors. Pay insurer before others.	n.a.
Unintended Coverage	Restrict coverage to individual.	Charge risk-based premiums. Pay insurer before others. Haircut for uninsured creditors.	n.a.
Undeniability of Coverage	Deny or suspend charter or license.	Tighten supervision and penalties.	Create industry self-insurance. Use reinsurance.
Addressing Misbehavior	Disclose risk reevaluation. Improve chartering and licensing. Deny or suspend charter or license. Lower amount of coverage. Restrict coverage to individual.	Create narrow banks. Tighten penalties.	Use reinsurance or coinsurance. Create industry self-insurance.

SOURCE: Congressional Budget Office.

NOTES: The ordering of items in this table does not necessarily reflect any ranking.

n.a. = not applicable.

over, the transition from the current structure to a reformed structure is also crucial.¹ Some reform strategies, such as the narrow banking concept, may seem highly appealing, but the process of change may create both economic and social costs.

These concerns do not imply that certain proposals with transitional effects should be ruled out. Some transitional effects are discussed in the following chapters, but further analysis of the best way to carry out reform is needed. Some reforms, such as strengthening capital requirements, may be acceptable and easily implemented. Enhancing prudential supervision by a greater reliance on the private market, however, may require a longer period of transition. Some flexibility, therefore, must be incorporated into the reform process.

Deposit insurance reform has been discussed in isolation from other possible changes in the regulatory structure of depositories. Changes in the scope of activities and powers granted to depositories may also need to be considered. Such changes may further improve the efficiency of financial services and may be considered in conjunction with the reform of federal deposit insurance. The urgency of reforming its current structure, however, may preclude immediate consideration of other possible changes.

Other reforms of the regulatory structure of depositories under consideration include further reducing the barriers to competition among financial institutions and permitting nationwide branching of all financial institutions. Restructuring the agencies that regulate depositories may also be desirable. The dual nature of chartering financial institutions at federal and state levels and the overlapping structure of federal regulation for different types of financial institutions have both advantages and disadvantages. In addition, the pace of innovation in financial services and information technology, domestically as well as internationally, warrants continued and intensive discussion by federal policymakers.

1. National Council of Savings Institutions, "Federal Deposit Insurance Reform: A Report and Proposal of the National Council of Savings Institutions" (unpublished report, Washington, D.C., August 1990).

CHAPTER V

REFORM MEASURES FOR

UNDERWRITING RISK

Underwriting practices are used by the deposit insurer to define the limits of coverage and set premium charges. The use of standard underwriting practices as a strategy for reform may be limited, however, because federal deposit insurance is structured as an assurance system. This structure gives it greater flexibility in covering the insured risk because the insurance fund need not be self-sustaining. Nevertheless, minimizing the taxpayers' contribution to financing this insurance coverage--one of the objectives of reform--makes reliance on premium income an important feature. The degree to which the insurance fund is intended to be self-sustaining limits how various underwriting practices can help achieve reform.

Three other characteristics of federal deposit insurance that distinguish it from private insurance--the unconditional guarantee of deposits, the lack of independence between the insurer and the insured, and the extension of coverage beyond statutory ceilings--also limit the use of underwriting as a reform strategy. Nevertheless, some underwriting practices for assessing and covering risk may be applicable, such as placing conditions on the extent of coverage and better evaluating risk. In addition, other insurance practices, such as controlling risk by imposing losses on uninsured creditors, can be effective substitutes for underwriting.

LOWER THE AMOUNT OF INSURANCE COVERAGE

The United States has the second highest level of coverage in the world--currently up to \$100,000 per account.¹ The coverage offered by the federal deposit insurance system has prevented runs on individual

1. Italy, which has the highest level at 1990 exchange rates, uses a system of coinsurance (see Appendix B).

depositories as well as systemwide runs and has protected small and unsophisticated depositors. One question is whether the \$100,000 level of coverage is more than necessary to accomplish the same goals. Alternatively, would lowering coverage imperil the safety of the depository system?

Some analysts have suggested reducing the overall level of coverage.² Others have suggested limiting coverage by other means while maintaining the current level.³ Insurance coverage may be limited by changing it to a per-individual basis rather than a per-account basis, as discussed below, or by introducing coinsurance, a strategy of transferring risk discussed in Chapter VII.

A key advantage of lowering the level of coverage is that it reduces the moral hazard by exposing the deposit insurer to less risk and depositors to more, assuming that the amount of insured deposits held by each depository is also reduced. If coverage is maintained per account rather than per individual, multiple-institution accounts would still be possible. Lowering the level of coverage from \$100,000 would not affect small and unsophisticated depositors. The average account balance is well below the limit.

A disadvantage of lowering the level of coverage is that, by reducing depositors' insurance and giving them a greater stake in monitoring their depositories' behavior, it relies on market discipline, which would come through the threat of depositors withdrawing their funds. Such withdrawals would increase the likelihood of runs, which is what deposit insurance was designed to prevent. The withdrawal of funds would also restrict the availability of previously stable sources of funds for depositories. This restriction may affect financial services but may also encourage nondepository financial institutions to compete more freely.

Another disadvantage in lowering the level of coverage is that the availability of insured deposits as a risk-free asset is reduced. While it

2. See Appendix D for a synopsis of the proposal from Citicorp.

3. For example, see Appendix D for a synopsis of the proposal from the American Bankers Association.

is true that consumers have alternative risk-free assets available, such as savings bonds and other Treasury securities, the transaction costs associated with these substitutes are higher. As discussed in Chapter II, real coverage of insured deposits is being reduced by inflation. If explicit reductions in coverage are deemed necessary, however, caution should be exercised, perhaps by phasing in the reductions. In this way, markets may adjust in an orderly fashion.

CHANGE COVERAGE RESTRICTION PER ACCOUNT TO PER INDIVIDUAL

Current deposit insurance restricts coverage to an account; one proposed reform strategy would restrict coverage to an individual.⁴ This restriction would eliminate coverage on multiple-institution accounts, brokered deposits, and other group accounts. Restriction of coverage to the individual also lowers the overall deposit insurance coverage for depositories. As a result, this reform proposal creates incentives for those depositors, who have more in their accounts than the insured limit, to exert greater discipline on the depository to protect these funds. The depositors who exceed the coverage limit would be the most effective in exercising this discipline because they have the most to lose. In addition, limiting coverage of so-called super accounts--that is, brokered deposits, passthrough accounts, and so forth--would remove the potential problems of unstable funding, which increases a depository's incentive to take risks.

Restricting coverage to an individual has two major disadvantages. The process for limiting coverage to an individual is unclear. While information technology could probably meet the need for substantial data processing and surveillance, depositors can still circumvent this coverage limit. One obvious method is for an individual to deposit funds through third parties, such as relatives, who are not making full use of the limits of their insurance coverage. The definition of an eligible individual is also unclear. An obvious question is whether coverage will be extended only to people or also to partner-

4. See remarks of Congressman Henry B. Gonzalez, Chairman, House Committee on Banking, Finance and Urban Affairs, *Congressional Record*, September 5, 1990.

ships, trusts, corporations, and government bodies, such as states and local governments. Another is whether an individual's retirement account should be treated as a separate entity. Moreover, questions remain on whether to limit coverage to individuals for their lifetime or for some shorter period.

IMPROVE REEVALUATION OF RISK BY USING MARKET-VALUE ACCOUNTING

The continuing evaluation of risk at depositories, known as postselection, has problems related, in part, to the appropriate measurement of a depository's risk and solvency. As discussed in Chapter III, there is some debate over the usefulness of market-value accounting as opposed to the book-value accounting methods currently used by regulators. Even though this debate is unresolved, a substantial number of submissions to the Department of the Treasury includes this proposed approach to assessing risk (see Appendix D).

Market-value accounting recognizes losses sooner than book-value accounting, thus permitting regulators to take action sooner. It has the potential to provide a better measure of economic solvency, but current uncertainties over its implementation make its full use questionable. Using market-value accounting for easily valued assets, such as marketable securities, could improve the postselection or reevaluation process. Moreover, reappraising other assets, such as real estate, on a regular basis may provide better information for regulatory decisionmaking. In addition, reporting market values alongside other accounting information could have some benefit. For example, regulators could require that capital be reported by all accounting measures: generally accepted accounting principles (GAAP), regulatory accounting practice (RAP), tangible accounting practice (TAP), and market-value accounting. These steps may represent a compromise over any single accounting standard until better methods of measuring solvency are determined.

Increased use of sophisticated financial instruments, such as futures contracts, raises a problem for market-value accounting. The principles of evaluating such instruments are far from clear. Recent

litigation, such as that prompted when the Office of Thrift Supervision closed Franklin Savings Bank, has demonstrated that the legal measurement of solvency is still subject to dispute.

DISCLOSE PUBLICLY THE RESULTS OF REEVALUATION

If a depository knows that the deposit insurer is more accurately assessing its level of risk, it has more incentive to manage its risk prudently. Publicly reporting the deposit insurer's reevaluation of the risk of individual depositories, including their market appraisal, may expose problems earlier. Currently, regulators of depositories do not publicly disclose their supervisory opinion of the condition of individual depositories. This information can be difficult, if not impossible, for even the Congress to obtain. Public disclosure of those risk assessments may even force the regulator to discipline or close a failing depository. The public disclosure of postselection assessment may also aid policymakers in dealing with regulatory action or inaction, as well as with the too-big-to-fail problem. Currently, the regulator retains discretion in closing large, failing depositories; policymakers, therefore, are limited to after-the-fact oversight.

One disadvantage of publicly disclosing the results of the regulator's reevaluation of a depository is that the public may not be sophisticated enough to understand the report. Oversimplifying the reevaluation by assigning a numerical grade to represent the results of the regulator's report could lead to unnecessary runs. While rating agencies exist in the private sector to assign such grades, they are generally used by a limited number of sophisticated creditors of depositories. Although more and better information is preferred for making accurate evaluations, introducing public disclosure of the regulator's report must be cautiously considered. (The situation is analogous to public disclosure of the test scores of students. If parents and administrators use such information wisely, it is a boon for better schooling; used unwisely, it can be a problem.)

Public disclosure also may distort the reliability of the information.⁵ Some regulators have suggested that depository institutions will be less forthcoming with information if they know that it will be disclosed to the public. Regulators are sympathetic to the uncertainties of the postselection process and, thus, seem unwilling to make their postselection assessment public.

IMPROVE CHARTERING AND LICENSING OF INSURED DEPOSITORIES

A tougher underwriting practice for assessing risk could reduce some moral hazard by imposing stricter standards on depositories. For example, one could tighten the standards for obtaining a new charter. Since not many new depositories are emerging, however, this underwriting strategy does not offer much benefit. In addition, improved underwriting does not preclude a depository from embarking on high-risk strategies or imprudent behavior after it has received coverage. Moreover, the federal deposit insuring agencies do not have chartering authority. Their option would be to stiffen the standards for new licenses to offer insured deposits. Probably a key role for licensure standards is in the evaluation of the merged institutions that result from the resolution of failed depositories. A number of the mergers facilitated by the Federal Savings and Loan Insurance Corporation have not proved to be viable. The remedy for this probably lies in making it incumbent upon the regulators to be more prudent in approving the merger or granting the charter to the newly formed institution.

DENY OR SUSPEND THE PRIVILEGE OF OFFERING INSURED DEPOSITS

Under current policy, underwriting strategies other than postselection cannot be used once a depository has gained the privilege to offer insured deposits--that is, its license or its charter to do business. Under-

5. See transcript of the statement of Alan Greenspan before the House Committee on Banking, Finance and Urban Affairs, September 13, 1990.

writing only addresses the question of whether a depository qualifies to offer insured deposits. Given that the chartering of a depository bestows a public trust, chartering is fundamental to prudential supervision. But, revoking or suspending a license or charter of an operating depository is generally considered too drastic an action for regulators to take in enforcing standards. Revoking or suspending a depository's charter, in effect, closes the institution. A depository that is denied the license to offer insured deposits cannot seek alternative insurance; thus, denial of coverage is equivalent to closing a depository.

Using postselection, the deposit insurer can evaluate the compliance of a depository to regulations. Noncompliant depositories may be disciplined with methods short of closure. These methods include the power to order a depository to cease and desist a particular activity, to remove officers or directors, to suspend the ability to pay dividends, and so forth. Use of these enforcement actions are at the discretion of regulators.

Restricting coverage, however, could precede full denial. The insurer could use limited denial as a disciplinary tool on depositories that are not in compliance with regulations. For example, a system based on regulations or the judgment of regulators could reduce, rather than deny, insurance coverage to a depository that grows at excessive rates or engages in imprudent investments. This stipulation would place an implicit cost on depositories that decide to engage in questionable financial practices. The insurer may be more inclined to invoke intermediate disciplinary action than to revoke the privilege of offering insured deposits. Regulatory discretion would be curtailed if regulations defined coverage limitations based upon a depository's noncompliance or its level of risk or both.

The regulator may also discipline a depository by suspending, for a short period of time, its charter to operate rather than by denying its license to offer insured deposits. These actions, although similar, would have different effects. Denying a license would merely limit an institution, whereas suspending a charter would force the institution to stop all operations. Suspending the charter could also be limited to some specific function of the depository, such as their branch offices, which would be similar to a legal order to cease and desist a particular

unsafe practice. Full suspension of a charter, even for a day, or a limited suspension for a limited portion of a depository's operation may be viewed as too drastic.

An important difference between suspending the charter and suspending the license to offer insured deposits is that chartering is done at both the state and federal level, while licensing for insurance is done only at the federal level. If greater discipline is to be effected by federal regulators, it would presumably come through licensing.

INCREASE THE RESERVE FUND OF THE INSURER

If the deposit insurer has a sufficient level of reserves in the insurance fund, then it can resolve failed depositories expediently. If reserves are insufficient, as was the case for the FSLIC in the 1980s, the deposit insurer may delay closing insolvent depositories or be forced to use resolution methods that ultimately cost the taxpayer more than if the insurer had been constrained financially. The FSLIC was, at least implicitly, backed by the government budget and, thus, should not have had a shortage of money. To draw on this source of funds, however, required Congressional appropriation. Insurance fund administrators might have delayed requesting such action because it would have implied that they were incapable of dealing with the difficulties they faced. Increasing the reserve of the insurance fund provides the deposit insurer with greater flexibility. Maintenance of a reserve fund avoids the necessity of Congressional appropriation for each failure of a depository.

The disadvantage of increasing the reserves of the insurance fund becomes readily apparent if the depository industry is under stress. Premiums represent the primary source of income for the reserve fund. Increasing the general premium rate may tax some depositories to such a degree that additional failures result. If reserves of the fund are to be increased, this effect must be taken into account in order to determine the net effect of premium increases.

Some other countries do not maintain a reserve fund or only maintain one which is adequate to handle the smallest of depositories that

fail. This has the advantage of not incurring an explicit tax upon the earnings of insured depositories and possibly weakening their capital base. The disadvantage is that there may be delay in resolving a failed depository until assessments of other insured depositories are collected.

IMPROVE REPORTING OF THE LEVEL OF RESERVES

The insurance objectives can be better served if the deposit insurer is able to recognize and assess its contingent liabilities, which are an estimate of the potential losses to the insurance fund. How the deposit insurer then responds can affect its ability to carry out prudential supervision, such as taking steps to close insolvent depositories. One reason cited for the delay in closing insolvent thrifts was that the FSLIC did not have sufficient reserve funds to do so. If the FSLIC's insolvency had been recognized sooner--primarily through better acknowledgment of its contingent liabilities--its difficulties might have become obvious and addressed earlier. While the FSLIC did report some measure of its contingent liabilities, these estimates understated the value of potential losses to the insurance fund.

INCREASE THE AVAILABLE TREASURY LINE OF CREDIT

Another underwriting strategy for covering risk is to provide a Treasury line of credit or other adequate Treasury funding to the federal insurer.⁶ The deposit insurer already has a line of credit with the Treasury. Extending the line of credit to cover unanticipated contingencies--such as unexpected losses, systemwide financial calamity, or restructuring the industry--would give the insurer greater flexibility. Such flexibility would remove the potential financial constraints that can affect decisions on how to close unusually large numbers of institutions.

6. See statement of Robert D. Reischauer before the Senate Committee on Banking, Housing, and Urban Affairs, September 12, 1990.

The savings and loan example is relevant here, also. The FSLIC insurance fund was constrained in its ability to raise funds to cover losses. Although FSLIC was able to increase its premiums, it had difficulty accessing its external funding source--that is, Congressionally appropriated funds. Private insurance practices suggest that an arrangement for external funding should be made before it is needed. This arrangement is especially important for catastrophic loss.

In the absence of such arrangements, the FSLIC resorted to a number of intermediate techniques: such as the Management Consignment Program, in which institutions were administered by FSLIC officials; and the Southwest Plan, which combined insolvent institutions into recapitalized, consolidated entities. Both of these techniques allowed the thrift institutions to continue operation, although they were reorganized and more closely supervised. Neither technique reduced the contingent liability of the insurance fund. If FSLIC had sufficient resources, closing these institutions may have been more prudent.

One of the major arguments against providing the deposit insurance fund with an expanded line of credit to the Treasury is that doing so would reduce Congressional oversight and could lead to abuses by the insurer. Without adequate oversight, providing the line of credit could also lead regulators to shift the burden of financing losses from the depositors to the taxpayers. But oversight should be possible to maintain, through regularly scheduled reporting and hearings, even if the frequency of the need to request appropriations is reduced.

CHAPTER VI

REFORM MEASURES FOR

CONTROLLING RISK

The current structure of deposit insurance was designed to deal with the fundamental problem of moral hazard primarily by controlling risk. Because deposit insurance coverage is an unconditional guarantee, standard underwriting practices are difficult to apply. Instead, risk has been controlled through prudential regulation, supervision, and examination. During the 1980s, regulatory forbearance and reduced prudential supervision contributed to the failures of thrifts and increased the consequent costs to the insurer and, ultimately, the taxpayer. Deregulation of both thrifts and banks may have been warranted in the early 1980s, but, in combination with lax supervision, it contributed to the thrift crisis. Either deregulation or less stringent supervision may have been justified on the notion that reducing government interference in an industry's conduct of business increases, in general, economic efficiency. In retrospect, however, increased prudential supervision should have accompanied deregulation in the early 1980s.

In reforming federal deposit insurance, numerous measures have been proposed for controlling risk. These measures address, to one degree or another, each of the problems of deposit insurance except undeniability of coverage. They include charging risk-based premiums, setting risk-based requirements for capital, reforming the rules for closing depositories, imposing a mandatory loss on uninsured creditors, paying the insurer before others after resolving a failed depository, tightening regulatory supervision and stiffening penalties, and restricting investments of insured depositories.

CHARGE RISK-BASED PREMIUMS

Ratemaking as used by private insurance discriminates among different insured parties according to their level of risk, charging higher

premiums for coverage of higher risk. Many analysts, therefore, suggest that pricing premiums based on risk may reduce moral hazard by creating an incentive for owners and directors of depositories not to undertake higher risk.¹ By serving as indicators of trouble, risk-based premiums may also address the problem of delay in closing depositories and the problem of an institution's being too big to be allowed to fail. The regulator may be more inclined to take action once this indicator has sounded an alarm.

To a limited degree, higher premiums add to the reserves of the insurance fund for resolving insolvent depositories. Currently, banks insured by the Bank Insurance Fund pay a premium rate of 12.5 cents per \$100 of insured deposits. A bank holding \$1,000,000 in deposits, the base against which the premium is charged, would pay a premium of \$1,250. The premium rate remains constant regardless of the amount on deposit or the risk of the bank.

Risk-based premiums would still use the level of insured deposits as the base, but the premium rate would reflect risk through a schedule of weights for different mixes of assets. Suppose that risk was measured by classifying a depository's assets into two types--risky and nonrisky--and that the premium rate was 30 cents per \$100 of insured deposits for risky assets and 5 cents per \$100 of insured deposits for nonrisky assets. If the depository had 20 percent of its assets in the risky category and 80 percent in nonrisky, then the premium would be 30 cents times 0.2 of its assets, plus 5 cents times 0.8 of its assets, or 10 cents per \$100 of insured deposits. Thus, the premium rate would reflect the risk of the depository.

Risk-based premiums may also apply to categories of deposits that are not intended for coverage. For example, brokered deposits could cost more to insure than other forms of deposits, which would make them less attractive to depositories as a source of funds for fast growth or highly speculative investments.

1. For example, see Appendix D for a synopsis of the proposal from the American Bankers Association.

Some analysts are opposed to risk-based premiums because of two problems with implementing them.² First, the risk of a depository is difficult to measure; thus, premium assessments are subject to significant error. Second, risk-based premiums impose higher payments on already troubled depositories, which may then increase their probability of failure.

Correctly charging risk-based premiums should provide an incentive for avoiding high-risk activities and appropriately compensate the insurer for such risks. Yet, because of the uncertainty in determining the correct structure for risk-based premiums, depositories are not necessarily prevented from getting into trouble. Moreover, a tendency exists to charge premiums that differentiate only slightly between low-risk and high-risk depositories. Unless the premiums for high-risk depositories are sufficiently high to change behavior, they serve no useful purpose. Once a depository becomes troubled, its failure is likely.

SET RISK-BASED REQUIREMENTS FOR CAPITAL

Like the use of risk-based premiums, the use of risk-based capital requirements is a type of reform that may reduce moral hazard. Requiring higher capital levels for riskier asset categories forces the owners and directors of the depository to bear more of the risk. Risk-based capital requirements and risk-based premiums are similar in that each provides this disincentive to undertake high risk, but they differ in an important way. Risk-based capital requirements force the institution to protect itself and, in doing so, protect the insurance fund. Risk-based premiums, however, may protect the insurance fund by increasing its reserves and providing incentives to depositories for prudent management, while at the same time diluting the depository's capital if it cannot pass its increased costs on to its customers.³

2. For example, see Appendix D for a synopsis of the proposals from the Federal Reserve Bank of Boston and the Federal Reserve Bank of Minneapolis.

3. James R. Barth and Philip F. Bartholomew, "The Thrift Industry Crisis: Revealed Weaknesses in the Federal Deposit Insurance System" (paper presented at a conference on Reform of Deposit

(Continued)

Depository institutions are relatively indifferent to how risk-based premiums and risk-based capital requirements would affect their behavior. The effect on the deposit insurer, however, is different. Risk-based premiums provide higher revenues to cover the greater risk of the deposits. Risk-based capital requirements, however, would not affect the level of reserves directly. Rather, they would affect the capital of the depositories, which, in turn, implicitly protects the reserves in the fund. In addition, risk-based capital requirements may improve the evaluation of depositories.

International agreement in the Basle Accord on capital standards makes the use of risk-based capital requirements uniform and improves the international regulation of depositories.⁴ Having uniform requirements among countries addresses, at least partially, concerns raised by depositories, particularly banks, which are increasingly engaged in multinational operations. Having different regulatory requirements in different countries sets up an opportunity for adverse selection--that is, an institution has an incentive to select whichever country has the least restrictive regulations (see Appendix B).

Risk-based capital requirements do have disadvantages. Like market-value accounting, risk-based capital requirements are inexact. Although the requirements may be stated with detailed precision, uncertainties are associated with their effects. Moreover, changes in an evolving financial sector burden regulators with constantly having to reevaluate and alter the requirements. This constant process of reevaluation in itself creates uncertainties both for regulators and depositories.

3. Continued

Insurance and the Regulation of Depository Institutions in the 1990s: Setting the Agenda, sponsored by the Center for Economic Policy Research, Stanford University, held in Washington, D.C., May 1990).

4. For a discussion of the Basle Accord capital requirements, see George J. Benston, "U.S. Banking in an Increasingly Interested and Competitive World Economy," presentation at a conference on International Competitiveness in the Financial Services, sponsored by the American Enterprise Institute, held in Washington, D.C., May 31 to June 1, 1990.

REFORM THE RULES FOR CLOSING DEPOSITORIES

One proposed reform would close insured depositories as soon as they become insolvent. Establishing a more timely rule for closure disciplines insured depositories and curtails regulatory discretion in granting forbearance. Some analysts have suggested that an early closure rule would probably mandate disciplinary action for a depository that fails to achieve fixed-level capital requirements and would close a depository before it becomes insolvent on a book-value basis.⁵ This strategy may address the uncertainty about true economic solvency; it will certainly assist in preventing risk to the insurance fund. These rules would also impose a greater burden on the owners and directors of depositories to act prudently and to comply with legal limits on maintaining minimum capital requirements.

The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 implemented a system for regulators to take disciplinary action when a depository institution failed to be solvent on a tangible basis. Currently, noncompliant depositories must file a business plan that demonstrates an ability to improve their capital position and comply with capital requirements. Failure to file a plan acceptable to the regulator is cause for closure, but this system still gives regulators flexibility in determining how quickly to act.

One reform proposal, that of the Shadow Financial Regulatory Committee, is built around a careful plan for reformulating closure rules.⁶ The plan suggests a program of mandatory and early regulatory actions as soon as a troubled depository's capital deteriorates below levels established by statute. The proposal incorporates capital requirements that are slightly higher than current standards to trigger disciplinary action. Depositories would be classified into four groups based on their ratio of capital to assets. As the ratio deteriorated, a depository would be subject to increasing supervisory discipline. In addition, this proposal limits or suspends payments to

5. For example, see Appendix D for a synopsis of the proposals from the Independent Bankers Association and the Federal Reserve Bank of Richmond.

6. Shadow Financial Regulatory Committee, "An Outline of a Program for Deposit Insurance and Regulatory Reform," Statement No. 41, Chicago, Illinois, February 1989.

officers, directors, shareholders, and subordinated debt holders. When the depository reached the lowest ratio, it would be forced to reorganize, recapitalize, or both. The closure rule provides due process, which is a critical prerequisite.

Nevertheless, this proposal for mandatory or early regulatory actions has disadvantages. On the one hand, its effectiveness depends upon setting appropriate levels of capital and measuring them accurately; on the other hand, flexibility may be desirable in some circumstances. The proposal, however, recognizes this disadvantage and allows for intermediate disciplinary actions. This approach allows depositories to appeal the regulatory assessment of their solvency, while at the same time limiting potential loss to the deposit insurer. Capital requirements can be effectively increased beyond current levels to compensate for uncertainty in the difference between book-value and market-value measures of solvency, but noncompliance may not necessarily result in closure. Ultimately, the assessment of this type of reform turns on whether rules can be set out in advance that fit most problems of depository institutions and on whether the regulators will be allowed to administer these rules without interference.

IMPOSE A LOSS ON UNINSURED CREDITORS: THE "HAIRCUT"

Another proposed reform specifically addresses the compensation of uninsured creditors after a depository has been closed. This proposal would impose a mandatory loss, or "haircut," on uninsured general creditors; the loss would be arbitrarily set at some fraction of their claim on a failed depository.⁷ Regardless of the resolution method selected to close a depository, this mandatory loss assures that uninsured creditors would not be fully compensated. The intent is for such creditors to have an incentive to exert discipline on the depository before it becomes troubled or insolvent. Imposing a mandatory loss on uninsured creditors would also lessen the loss to the federal deposit insurer.

7. See Appendix D for a synopsis of the proposal from the American Bankers Association.

The use of open assistance to troubled depositories, provided by the Federal Deposit Insurance Corporation through direct lending or by the Federal Reserve through the discount window, would reduce market discipline and thus undermine the usefulness of the haircut. This assistance permits troubled depositories to remain open and permits uninsured creditors to withdraw funds before the depository can be closed and the haircut imposed. Stipulations could make implementing the haircut mandatory when open assistance is provided to a depository. Such a requirement would provide two benefits that address both the closure rule and the too-big-to-fail problem. First, the regulator would have less incentive to be lenient by offering open assistance rather than by closing a troubled depository because it would be self-defeating. Second, if the use of open assistance were considered by the market to be imminent, uninsured creditors would flee the depository, thus forcing early closure.

One serious problem exists in implementing the haircut. If uninsured creditors have taken the precaution to secure their credit with collateral from the depository, the haircut might not be legal. Preliminary data from the Resolution Trust Corporation and the Office of Thrift Supervision suggest that almost all of the uninsured claims of depositories currently in conservatorship are secured by collateral. Breaking these contractual obligations poses serious legal questions. Prohibiting uninsured creditors from securing their claims with collateral may be one solution, but this would increase the cost of these funds to depositories. This consequence may be desirable because repricing would better reflect the risk of this type of funding and eliminate the implicit subsidy of federal deposit insurance.

PAY THE INSURER BEFORE OTHERS AFTER RESOLVING A FAILED DEPOSITORY

Another reform measure would be to give preference to the deposit insurer's claims over other claims after an institution is resolved. As discussed in Chapter III, the Federal Deposit Insurance Corporation was originally granted this preferred status, had the status withdrawn in 1935, and has since proposed its reinstatement. Providing preferred status to a federal agency, even when it represents a class of individ-

uals--in this case, taxpayers--would set a legal precedent with potentially serious consequences.

The current structure of federal deposit insurance gives preference to secured creditors over the insurer. These creditors have secured their claims against the depository with assets of the depository for collateral. Changing the status of secured creditors is a tricky legal proposition because they had the foresight to secure their claims and were compensated on the assumption that they were secured. A rule that forces closure once a depository's ratio of capital to assets falls below a particular level could stipulate that secured holdings are either no longer secured or are less secured. Alternatively, the narrow banking proposal, discussed below, suggests a way in which the deposit insurer may be able to secure its claims. One way may be to require insured deposits to be pledged against certain assets.

TIGHTEN REGULATORY SUPERVISION AND STIFFEN PENALTIES

Some proposals for reform specifically recommend strengthening prudential supervision.⁸ These proposals also suggest increasing the resources for examination, increasing the quality and intensity of examination, and increasing the number of examinations to which a depository is subject. These proposals are well intentioned and certainly underscore the deficiencies in prudential regulation, supervision, and examination that contributed to the thrift crisis.

The proposals to tighten regulatory supervision, however, have their limitations and disadvantages. First, the United States already has the most intensive system of on-site examination of depository institutions in the world (see Appendix B). This status suggests that improvements may not yield results proportional to resources expended. Second, reliance upon this approach permits regulatory discretion. Third, if depositories are charged for the expanded regulation by the supervising agency, their costs will rise explicitly or, if depositories

8. For example, see Appendix D for a synopsis of the proposals from the American Bankers Association, Citicorp, and the Federal Reserve Bank of Boston.

must expend time and resources to comply with supervision and regulation, implicitly.

Another suggested reform is to increase the penalties for noncompliance. Increasing penalties creates a greater incentive for owners and directors to behave prudently and legally and to implement systems of control themselves. Increased penalties also provide a disincentive for outsiders to defraud depositories.

A major disadvantage of increasing penalties is that they apply after the fact. Thus, regulators will need to detect, indict, and convict for misbehavior retroactively. This disadvantage has become apparent in the process of resolving the current thrift crisis. Furthermore, penalties for noncompliance and misbehavior are difficult to enforce. Uncertainties about such penalties may unnecessarily create an incentive for owners and directors to exercise more caution than normal prudence would require. While errors of this type might be preferred in the current environment of the thrift crisis, the error of overreaction may result in long-term problems.

RESTRICT INVESTMENTS OF INSURED DEPOSITORIES: NARROW BANKING

This final approach for controlling risk would involve major structural reform. The proposal to establish narrow banking would grant the privilege of offering insured deposits only to depositories that back these deposits with assets of currency or risk-free investment securities. Narrow banking is not a new concept, but it has been implemented in only a limited way through the now defunct government-sponsored postal savings system.⁹ The original idea from which narrow banking is derived was referred to as "100 percent reserve banking."¹⁰

9. Statement of Irving Fisher before the House Committee on Banking and Currency, 1935; Milton Friedman and Anna J. Schwartz, *A Monetary History of the United States, 1867-1960* (Princeton: Princeton University Press, 1963); and Maureen O'Hara and David Easley, "The Postal Savings System in the Depression," *The Journal of Economic History*, vol. 39, no. 3 (September 1979).

10. Robert E. Litan, *What Should Banks Do?* (Washington D.C.: Brookings Institution, 1987); and George J. Benston and others, *Blueprint for Restructuring America's Financial Institutions: Report of a Task Force* (Washington, D.C.: Brookings Institution, 1989).

Advocates of 100 percent reserve banking held that this measure would force certain banking institutions, called deposit banks, to rely almost entirely on cash and, therefore, be unable to expand the money stock. Obviously, a risk-free arrangement would provide safety to depositors. Because of the low returns on assets, however, depositors would either be paid a low interest rate or would have to be charged a fee for depository services. Other financial institutions, called lending banks, would intermediate between depositors and borrowers, lending money financed by borrowings from capital markets or, if permitted, from insured deposit banks. Deposit banks would be permitted to lend to lending banks only if the loans were highly liquid and virtually risk-free.

The narrow banking concept could be applied to all depositories. Depositories that accept insured deposits would be required to pledge these deposits exclusively against holdings of low-risk securities, such as Treasury bonds and bills or certain securities that are readily valued on a market basis. Thus, moral hazard would be avoided.

A modification of this proposal would allow depositories to segregate their narrow banking operation from the rest of their services, thus insulating insured depositors from all but minimal interest rate risk. The interest rate risk would pass through directly to depositors; lower rates of return on securities would translate to lower rates of interest on deposits.

The full and modified narrow banking proposals completely avoid moral hazard and fully address all of the stated problems of deposit insurance. These measures, however, do not completely address other regulatory issues, such as the appropriate level of supervision and the requirements on capital that should be imposed on full-service depositories. Moreover, narrow banking may reduce the level of financial services by restricting a portion of the industry's funding to investment opportunities of low risk.

Another disadvantage of narrow banking comes through the effect that it would have on the competitive structure of financial institutions. A new class of depositories would be created, or a separable portion of existing depositories would be delineated. In order for the

narrow banks to be kept separate from other financial institutions, some legal barrier, known as a firewall, would have to be established. If the pure narrow bank proposal were adopted and a separate class of depositories was created, then firewalls would prohibit the commingling of activities between subsidiaries of a holding company that controlled both narrow banks and other financial institutions. If the modified narrow bank proposal were adopted, then the firewall would apply to the separation of narrow banking activities and other activities of the depository. Effective insertion of firewalls could be difficult to implement and enforce, especially in a constantly changing financial environment.

Another disadvantage of creating narrow banks is that competition between them and other financial institutions may make narrow banks not viable. If narrow banks are deemed to have some social benefit, then the government may decide to subsidize them, thus requiring further adjustments to the deposit insurance system. Alternatively, if no subsidy were granted, narrow banks could disappear because of competition. Testing the ability of narrow banks to survive would clarify whether there is any market for a type of depository that provides a risk-free deposit.

A final disadvantage of the narrow banking proposal is that it reduces the explicit guarantee of deposits. While this reduction limits the exposure of taxpayers to the risk of such an explicit guarantee, it also raises the question of whether implicit guarantees would be extended to financial institutions that were not narrow banks. As long as depositories can offer insured deposits and provide a substantial portion of financial services, less reason exists to extend the safety net to uninsured financial institutions, such as mutual funds. Limiting the type and number of financial institutions that offer insured deposits, however, may lead to an implicit extension of the safety net to those other institutions.

CHAPTER VII

REFORM MEASURES FOR TRANSFERRING RISK

Transferring risk is usually accomplished through some form of coinsurance or reinsurance: either the deposit insurer provides partial coverage through coinsurance by having the insured depositors be responsible for some portion of loss, or the deposit insurer reduces its coverage through reinsurance by selling a portion to another insurer. Either approach reduces the insurance risk of the deposit insurer, transferring the risk to others. Up to now, the federal deposit insurance funds of the United States have not opted for transferring risk. Some foreign systems of national deposit insurance, however, have adopted coinsurance or self-insurance or both as part of their structure (see Appendix B).

Risk can also be transferred by shifting it to uninsured creditors. This approach, analogous to reinsurance, would impose the residual costs of a bankruptcy on subordinated debt holders, who are next to last on the repayment list. Because these debt holders would be forced to bear a significant portion of the risk of a depository's failure, they would have a greater incentive than others to exert discipline on the depository to deter excessive risk-taking.

Reforms that transfer risk do not address the problems of assigning adequate requirements for capital or of selecting the method to resolve insolvent depositories. These proposals may address moral hazard, however, by placing a greater burden of risk on depositors, other creditors, or reinsurers. To be effective, these proposals must provide creditors and reinsurers with mechanisms, such as mandatory closure, to exert discipline on depositories.

CREATE INDUSTRY SELF-INSURANCE

A system of explicit self-insurance through a mutual guarantee within an industry is not a new concept. Self-insurance is used in the deposit

insurance systems of at least 10 countries and was used in many states. Most of the state mutual guarantee systems, however, are considered to have been failures because of either the inadequacy of state governments to back the systems or the way in which the systems were structured (see Appendix A).

Creating a self-insurance system would replace federal deposit insurance with a private industry arrangement.¹ Under such an arrangement, each depository would take an insurance policy with a syndicate composed of other depositories. Ultimately, all of the industry's capital would stand behind the guarantees. The self-insurance system could be funded through premiums charged either before or after losses are incurred. Moreover, a system of cross-guarantees could be set up so that individual depositories only guarantee some deposits at some other depositories. Intermediary agencies would match insured and insuring depositories and secure adequate information for industry-enforced prudential regulation, supervision, and examination.

The chief advantage of a self-insurance system is that it forces insured depositories to regulate, supervise, and examine themselves. Thus, depositories could employ standard insurance practices more fully than they could under government regulation. Individual depositories would have more incentive to contain moral hazard and minimize potential loss. Although self-insurance systems may handle normal insurance losses with relative ease, the prospect of catastrophic loss probably requires a government guarantee. Thus, self-insurance offers little fundamental difference from the current structure of federal deposit insurance. Operating a self-insurance system shifts the burden of prudential regulation, supervision, and examination onto the private sector, but the ultimate exposure of the guarantee remains with the government. The shift to industry-based regulation, however, looms as a major attraction if one takes the view that a truly disinterested, independent, government-operated supervisory and regulatory scheme is impossible to achieve.

1. Bert Ely, "Yes - Private Sector Deposit Protection is a Viable Alternative to Federal Deposit Insurance!" in Federal Reserve Bank of Chicago, *Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1985); and Statement of Bert Ely before the Senate Committee on Banking, Housing, and Urban Affairs, March 17, 1990.

Several problems arise with self-insurance. First, a self-insurance system ultimately relies upon the industry's net worth. Since the total market value of the thrift industry was reported to be negative for the early 1980s, self-insurance would probably have failed. Some analysts suggest that self-insurance would have prevented the market-value insolvency of the thrift industry by taking corrective actions beforehand. The thrift industry's initial wave of market-value insolvencies, however, was caused by the unanticipated and systemwide problem of high and volatile interest rates. That set of events was outside the control of the thrift industry. Self-insurance would probably have limited the effects of the thrift crisis, especially those related to moral hazard, which contributed to its high cost. Whether self-insurance could have acted in a timely and effective manner is debatable. In thinking about this reform, lessons may be drawn from the mixed record of success achieved by other self-regulated industries.

Second, self-insurance systems tend to have a limited number of participants. In the United States, the large number of independent depositories makes the cross-guarantee provision of self-insurance highly complex. Although the private sector may eventually provide the necessary mechanisms and insurance, the transition to such a system may take considerable time and may cost more than continuing with the current government-run system. Self-insurance may also pose antitrust problems. By requiring a lot of information about those insured, a self-insurance system creates a potential mechanism for collusion. Potential abuses of proprietary information could lead to anti-competitive practices.

SHARE RISK WITH DEPOSITORS: COINSURANCE

Coinsurance is best thought of as a way of transferring risk, but it also affects underwriting (see Chapter V) if it effectively lowers coverage by requiring a deductible. The key advantage of coinsurance is that it reduces the extent of the government's guarantee. It does not change the risk in the system, however. It only redistributes that risk by requiring depositors to bear more of it.

Coinsurance is a well-regarded feature of deposit insurance in several other countries. Five countries have systems of coinsurance that cover only some fraction of each deposit rather than 100 percent. For example, the United Kingdom insures 75 percent of deposits up to a maximum of 20,000 British pounds.² Thus, if a bank were resolved by the British regulator and an individual had an account with 10,000 British pounds, that individual would be insured for 7,500 pounds; the individual becomes a general creditor for the remaining claim of 2,500 pounds against the bankrupt institution.

Two of the most recently established national systems of deposit insurance, those of Ireland and Italy, adopted coinsurance. Argentina, Chile, and Italy provide 100 percent coverage to some level and then fractional coverage on greater amounts. Argentina does not set a ceiling on deposit amounts that qualify for partial coverage, but all other countries with coinsurance place limits on coverage.

Under coinsurance, a potential still exists for the federal insurer or the Federal Reserve to provide assistance to high-risk or troubled depositories. Coinsurance helps reduce this incentive by lowering the cost to the insurer of resolving a depository; however, it does not fully address the problems of timely closure and too-big-to-fail.

SHARE RISK WITH OTHER INSURERS: REINSURANCE

The federal deposit insurer can also transfer risk by using reinsurance for some portion of deposits.³ In reinsurance, a noncreditor who has an insurance interest in depositories assumes that portion of the risk. Reinsurance could be introduced into the federal deposit insurance system by requiring the deposit insurer to reinsure a portion of its coverage of some or all depositories. The premium for reinsurance could be passed on to the insured depository.

Reinsurance has several advantages. First, the reinsurer will attempt to contain moral hazard and limit its exposure to loss. Thus,

2. Rate of exchange as of July 6, 1990, is \$1.79.

3. See Appendix D for a synopsis of the proposal from the Association of Financial Guaranty Insurers.

the reinsurer will use standard practices, such as charging risk-based premiums, to discipline the depository. The premium charged for the reinsurance provides the federal deposit insurer with an additional measure of the viability of an insured depository, thus addressing the problem of measuring economic solvency.

Second, reinsurance may address the too-big-to-fail problem. The reinsurer could force a depository to close by canceling the reinsurance coverage. If regulations require that a portion of deposit insurance coverage at an institution must be reinsured, then cancellation of reinsurance forces the depository to be in noncompliance and subject to closure. The federal deposit insurer and the Federal Reserve might counter this possibility by providing open assistance to a troubled depository, thus limiting the incentive to close it and reducing premiums on the reinsurance. Nevertheless, the reinsurer increases the pressure on federal regulators to close or discipline troubled depositories.

Third, reinsurance could also be used to address the problem of misbehavior. The reinsurer would probably insist that the depository control misbehavior. Liability insurance against the actions of directors and owners may be one control. Although the price of liability insurance may be higher than policymakers desire, it could be an effective discipline. Partial coverage of the actions of directors and managers would be a less costly, yet still effective, strategy.

Reinsurance has some disadvantages. It would probably increase the total cost of deposit insurance. This cost, in turn, would increase the burden on depositories and depositors. Since deposit insurance is now priced below its real value, providers and users of the financial services of depositories would pay a higher premium for deposit insurance.

Another disadvantage of reinsurance is that it may create a new moral hazard by leaving the deposit insurer less exposed to financial risk. The hazard is that the federal insurer will passively allow greater risk to develop because a portion of losses would be covered by the private sector rather than by the federal budget.

Adopting reinsurance does not by itself provide a mechanism that forces closure, when warranted. The government might need a mechanism that would accept cancellation of coverage as equivalent to early closure in order to protect the federal budget.

A fundamental problem with reinsurance is finding private insurers who would be willing to offer such coverage. A pilot program could test this aspect of reinsurance, as could requiring reinsurance on only some depositories. For example, the federal deposit insurer may be required to reinsure its coverage of a certain size of depositories. Given the uncertainties about the willingness of private insurers to invest in reinsurance and the price they would charge, reinsurance is a questionable type of reform. Despite these uncertainties, the potential benefits of such a system warrant further study.

REQUIRE SUBORDINATED (UNINSURED) DEBT

Another way to transfer risk would be to require all depositories to issue a class of uninsured debt. This debt would be subordinate to all other creditors, including both insured and uninsured creditors.⁴ Subordinated debt holders would not have any protection from the government guarantee of deposits. Though subordinated debt holdings would be small relative to other liabilities, the holders of this debt would have the greatest incentive to impose market discipline on depositories and would need mechanisms to effect this discipline, whether explicit or implicit.

Explicit mechanisms would enable subordinated debt holders to change the depository's behavior in the event that it undertakes excessive risk or its solvency becomes troubled. Subordinated debt holders are typically a more sophisticated class of creditors. Their use of publicly available information on depositories would assure quick action in the event of potential or realized changes in risk. They may also have access to additional information on a depository for a fee.

4. See Appendix D for a synopsis of the proposal from the Federal Reserve Bank of Chicago.

Implicit mechanisms would enable subordinated debt holders to force the closure or resolution of a depository. If a depository undertakes excessive risk or becomes troubled, the interest costs of subordinated debt would increase (or the market value of outstanding debt would fall). These changes would give regulators a market signal on the general risk of the depository. Alternatively, the depository may be required to buy back subordinated debt upon conditional demand. If the depository is unable to maintain its required level of subordinated debt, it would be subject to regulatory closure.

The disadvantage of requirements on subordinated debt is that the market for such debt would have to be substantially expanded. This expansion may cause short-run difficulties for implementing this strategy. Another disadvantage is that the subordinated debt requirement does not fully address the too-big-to-fail problem because federal regulators may provide assistance to troubled depositories in order to continue their operation. Such assistance would reduce the incentive for subordinated creditors to exert discipline or force the closure of troubled depositories.

APPENDIXES

APPENDIX A

STATE SYSTEMS OF DEPOSIT INSURANCE

This appendix reviews the experience of state deposit insurance systems operating before and after the Federal Deposit Insurance Corporation (FDIC) began in 1934. Although state systems played a secondary role after federal deposit insurance was introduced in the United States, their successes and failures provide useful insights. The value of more recent experience is diminished by the collapse or discontinuation of all but a few of the state systems established after 1934. Nevertheless, their problems illustrate the current concern over the credibility of a government guarantee of deposits.

STATE SYSTEMS BEFORE FDIC

The first known, formal system of deposit insurance was established in 1829 in the state of New York.¹ Fourteen states subsequently set up systems, all of which were terminated before 1934 (see Table A-1). These early systems may be viewed in two groups: those that operated before the national banking system was established in 1864, and those that operated afterward but were terminated before the FDIC was created.

Of the six state systems of deposit insurance that operated before 1864, three (New York, Vermont, and Michigan) are viewed as failures, and three (Indiana, Ohio, and Iowa) are viewed as "qualified successes."² Analysts of these systems measure success or failure by

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1. Carter Golembe, "The Deposit Insurance Legislation of 1933: An Examination of its Antecedents and its Purposes," *Political Science Quarterly*, vol. 75, no. 1 (June 1960), pp. 181-200; and Ian McCarthy, "Deposit Insurance: Theory and Practice," *Staff Paper*, vol. 27, no. 3 (Washington, D.C.: International Monetary Fund, September 1975), pp. 579-582.
 2. Charles W. Calomiris, "Deposit Insurance: Lessons from the Record," *Economic Perspectives*, Federal Reserve Bank of Chicago (May/June 1989).

TABLE A-1. STATE DEPOSIT INSURANCE SYSTEMS BEFORE 1934

State	Operation	Financing	Membership	Enforcement Powers
New York	1829-1866	Safety fund with annual assessments.	Mandatory for state-chartered banks; in 1838, voluntary for free banks.	Apply to courts to suspend operations of insolvent banks or banks that violate laws.
Vermont	1831-1858	Safety fund with annual assessments.	Voluntary.	Close insolvent banks or banks that violate laws.
Indiana	1834-1865	Mutual guarantee.	Mandatory for state-chartered banks; in 1851, voluntary for free banks.	Close banks that violate laws or regulations; regulate capital ratio and payment of dividends.
Michigan	1836-1842	Safety fund with annual assessments.	Originally mandatory; later voluntary for all banks.	Close insolvent banks or banks that violate laws.
Ohio	1845-1866	Mutual guarantee and safety fund.	Mandatory for independent banks; in 1851, voluntary for free banks.	Close banks that violate laws or regulations; regulate notes outstanding, total liabilities, dividends, and reserve requirements.
Iowa	1858-1866	Mutual guarantee and safety fund.	Mandatory for state-chartered banks.	Close banks that violate regulations; regulate notes outstanding, total liabilities, and dividends.
Oklahoma	1907-1923	Safety fund with special assessments.	Mandatory for state-chartered banks.	Seize and liquidate or revoke charter for cause.
Texas	1909-1925	Safety fund with annual assessments.	Mandatory for state-chartered banks.	Seize and liquidate; remove bank officials; adopt rules and regulations as needed.
Kansas	1909-1929	Safety fund with annual assessments.	Voluntary.	Close and seize; appoint receiver.
South Dakota	1909-1929	Safety fund with annual assessments.	Originally voluntary; in 1916, mandatory for state-chartered banks.	Seize and liquidate.
Nebraska	1909-1930	Safety fund with annual assessments.	Mandatory for state-chartered banks.	Close and seize; apply for receiver.
Mississippi	1914-1930	Safety fund with annual assessments.	Mandatory for state-chartered banks.	Seize and liquidate.
North Dakota	1917-1929	Safety fund with annual assessments.	Mandatory for state-chartered banks.	Seize; apply for receiver.
Washington	1917-1929	Safety fund with annual assessments.	Voluntary.	Seize; apply for receiver or cancel insurance for banks that violate laws.

SOURCE: Congressional Budget Office adapted from Charles W. Calomiris, "Deposit Insurance: Lessons from the Record," *Economic Perspectives*, Federal Reserve Bank of Chicago (May/June 1989).

whether the insurance system fully protected the payments system--through the guarantee of checking account deposits or bank notes or both--and whether it did so without encouraging excessive risk-taking.

The successful state systems shared common features: a credible guarantee of the payments system, provisions for sufficient reserves in a liquidity crisis, limitations on competition, and effective supervision of individual banks.³ Lacking a central bank, such as the Federal Reserve System, coverage of the payments system and provisions for capital reserves were achieved by incorporating a mutual guarantee of member institutions. Individual members agreed to lend to each other, under government supervision, in the event of a financial panic. Limitations were placed on competition by making membership in the system compulsory, which avoided the problem of adverse selection--that is, the tendency for riskier institutions to seek insurance, while less risky ones do not. By making insurance compulsory and forcing institutions to guarantee each other, all institutions shared the risk. Members of these systems were either provided adequate information about other members or were themselves permitted to examine and required to be examined by others.

After the establishment of the national banking system in 1864, deposits became increasingly more important than currency as the means of payment in the economy. Although deposit insurance was not introduced as a part of the national banking system, eight states introduced deposit insurance systems as a result of financial panics. These systems differed from pre-Civil War systems in their use of prudential supervision. Regulators of state deposit insurance systems that operated before the chartering of national banks were surprised to find that members of later systems had little interest in monitoring the prudent behavior of other members.⁴ Analysts attribute this change to differences in incentive structures of the later systems. The six early systems provided a mutual guarantee of a small number of banks, whereas the later systems levied a fixed fee and had a large number of banks. Members of later systems were limited in their liability for the misbehavior of other members, and thus had less incentive to monitor

3. Calomiris, "Deposit Insurance," pp. 17-19.

4. Thomas Robb, *The Guaranty of Bank Deposits*, as cited in Calomiris, "Deposit Insurance."

the risk-taking of others. By 1930, eight state systems had terminated their operations.

STATE SYSTEMS AFTER FDIC

In 1932, Massachusetts established state deposit insurance funds for savings institutions and credit unions. A number of states also operated deposit insurance systems even after federal deposit insurance was established.⁵ Most state deposit insurance systems that were established after the FDIC and the Federal Savings and Loan Insurance Corporation (FSLIC) were created served thrifts and credit unions. Table A-2 provides details on state-based organizations in existence in 1984 that offered deposit insurance to thrift institutions, some of which obtained insurance that supplemented coverage from federal deposit insurers.

Problems developed with many of these systems in the late 1970s and early 1980s, which foreshadowed the difficulties experienced with the FSLIC. Of the 12 systems operated for state-chartered thrift institutions, Mississippi's became insolvent in 1976, Nebraska's in 1983, and four others since 1984. Two systems have fully divested of thrift clients, and two are winding down operations. Pennsylvania and Massachusetts still operate deposit insurance systems for thrifts and credit unions. Pennsylvania also operates the Pennsylvania Insurance Corporation for banks, and Kansas operates the Kansas Investment Certificate Corporation for industrial loan companies.⁶

The state systems that operated after the establishment of the FDIC and the FSLIC suffered from a lack of explicit funding and inadequate prudential supervision.⁷ State governments were slow to

5. For example, see Edward J. Kane, "How Incentive-Incompatible Deposit-Insurance Funds Fail," Working Paper No. 2836 (National Bureau of Economic Research, Inc., 1989).

6. Leonard Lapidus, "Other State Deposit Insurance Systems," Memorandum, Massachusetts Mutual Savings Central Fund, Inc. (August 1, 1989).

7. See Kane, "How Incentive-Incompatible Deposit-Insurance Funds Fail."

TABLE A-2. STATE-CHARTERED FUNDS THAT OFFERED DEPOSIT INSURANCE TO THRIFT INSTITUTIONS

State (Year established)	Fund	Status of Fund	Comments
Colorado (1973)	Industrial Banks Savings Guaranty Corporation	Technically insolvent.	Crisis in September 1987; estimated in 1989 to be \$35 million in deficit.
Maryland (1962)	Maryland Savings-Share Insurance Corporation	Technically insolvent.	Crisis in May 1985; estimated in 1989 to be \$350 million in deficit.
Ohio (1956)	Ohio Deposit Guaranty Fund	Technically insolvent.	Crisis in March 1985; estimated in 1989 to be \$15 million in deficit.
Utah (1975)	Utah Industrial Loan Guaranty Corporation	Technically insolvent.	Crisis in July 1986; estimated in 1989 to be \$34 million in deficit.
Georgia (1979)	Georgia Credit Union Insurance Corporation	Fully divested of thrift clients.	All 11 savings and loan members obtained federal insurance.
North Carolina (1967)	Financial Institutions Assurance Corporation	Fully divested of thrift clients.	Single remaining client obtained federal insurance in December 1988.
California (1971)	California Thrift Guaranty Corporation	Winding down operations.	State law, enacted July 1985, required members to obtain federal insurance by June 30, 1989.
Iowa (1981)	Iowa Thrift Guaranty Corporation	Winding down operations.	1986 law phased out insurance as existing certificates of deposits mature.
Pennsylvania (1979)	Pennsylvania Savings Association Insurance Corporation	Limited operations.	In 1987, placed \$20 million cap on size of firm insured; 7 percent net worth requirement. In 1989, a plan was adopted to raise net worth requirement in steps to 10 percent by 1995.
Massachusetts (1932)	Massachusetts Cooperative Central Fund	Limited operations.	Limits members' coverage to balances in excess of coverage ceiling on federal deposit insurance.
(1932)	Massachusetts Mutual Savings Central Fund	Limited operations.	Limits members' coverage to balances in excess of coverage ceiling on federal deposit insurance.

SOURCE: Congressional Budget Office adapted from Edward J. Kane, "How Incentive-Incompatible Deposit-Insurance Funds Fail," Working Paper No. 2836 (National Bureau of Economic Research, Inc., 1989).

NOTE: Data on the insurance funds for thrifts in Mississippi and Nebraska were not available. Mississippi's system became insolvent in 1976; Nebraska's in 1983.

respond to developing financial crises.⁸ In some states, the nature of the guarantee of deposits was ambiguous; states either debated the merits of their insurance funds or did not stand behind them. The uncertainty over the guarantee contributed to the runs that occasioned the failures of these systems.

LESSONS LEARNED

The record of state deposit insurance systems provides some valuable lessons. State systems that operated and were terminated before the establishment of the FDIC and the FSLIC in the 1930s did have a few qualified successes. The successful systems were characterized by adequate prudential supervision provided by the state government, the insured members, or both. These systems also required membership of all relevant depositories that operated in the state; they did not permit less risky institutions to drop out of the deposit insurance system. Thus, depositories of all levels of risk were insured. Many of the states spread the losses of the insurance fund to surviving depositories; consequently, healthy institutions had an incentive to promote the prudent behavior of all insured depositories.

The unsuccessful systems that operated before federal deposit insurance were flawed, in part, because depositories that participated in the insurance system had only limited liability for the losses of failed institutions. Thus, accepting the exposure to the limited liability was less expensive than implementing costly examination and supervision of other participants in the system. The limitation of liability resulted in inadequate prudential regulation, supervision, and examination.

State systems that operated after federal deposit insurance was established have a mixed record of success. All state systems but those in Massachusetts (for thrifts and cooperative societies), Pennsylvania (for banks and thrifts), and Kansas (for industrial loan banks) have ceased or are winding down operations. The funds that operate in

8. Some analysts suggest that corruption and undue political influence contributed to problems with Maryland's and Ohio's systems. See Edward J. Kane, "Who Should Learn What from the Failure and Delayed Bailout of the OGDF?" in Federal Reserve Bank of Chicago, *Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1987).

Massachusetts appear to be viable, but their insurance coverage is limited to amounts over and above those covered by federal deposit insurance.

The recent failures of a number of state systems illustrate the importance of making the guarantee of deposits straightforward and explicit rather than vague and implicit. Some of the systems had guarantees that were not explicitly backed by the treasuries of their state governments. Some states were slow in deciding whether they would explicitly stand behind their deposit insurance funds; as a result, runs ensued. The record of these state systems illustrates the requirement that the guarantee must be explicit if it is to be effective in preventing runs. It also illustrates the problems that may be encountered if the deposit insurance fund is structured as self-sustaining, without provisions for explicit funding from the government.

APPENDIX B

FOREIGN SYSTEMS OF DEPOSIT INSURANCE

The regulation of depository institutions in the United States should not be considered apart from the offering of financial services internationally. While the United States did not establish the first national system of deposit insurance, the Federal Deposit Insurance Corporation (FDIC) is the oldest system currently operating. At least 30 countries, in addition to the United States, currently operate at least 33 national systems of deposit insurance.¹ The foreign systems are relatively new; most were established in the 1980s. Foreign national systems of deposit insurance vary widely both in the specifics of their operations and in the general balance of insurance practices they use. In comparison with these systems, the United States offers one of the highest levels of fixed coverage, charges the highest premium rate, maintains the highest ratio of reserves to insured deposits, implements the most intensive government supervision, and has a relatively high number of depository institutions that are licensed to offer insured deposits.

The variety in the structures of these foreign systems shows that alternative forms of a government-operated deposit insurance system can be implemented. The effectiveness of these structures in dealing with the objectives of deposit insurance is difficult to judge, however, because most of the systems have only recently been established. None of the foreign deposit insurance systems has faced catastrophic difficulties, such as the Federal Savings and Loan Insurance Corporation (FSLIC) experienced with the thrift crisis, except perhaps for the Canadian system. Although Canada's crisis was not as large as the U.S. thrift crisis, the failure of numerous government-insured deposi-

1. Several studies describe foreign national systems of deposit insurance. For example, see Philip F. Bartholomew and Vicki A. Vanderhoff, "Foreign Deposit Insurance Systems: A Comparison," *Consumer Finance Law: Quarterly Report* (forthcoming); and R. Pecchioli, *Prudential Supervision in Banking* (Paris: Organization for Economic Co-operation and Development, 1987).

tories in the late 1970s through the mid-1980s forced Canada's deposit insurance fund into insolvency.

Some countries have patterned their systems after the U.S. system, but many have used slightly different balances of standard insurance practices. Many countries do not charge premiums and do not maintain an insurance reserve fund; rather, they make monetary assessments of insured members when the fund incurs a loss. Some countries operate systems that are industry arrangements rather than official government systems; some systems are jointly administered by the government and private industry. These latter systems place the burden of deposit insurance explicitly on the private sector; yet, even in these systems, there appears to be an implicit reliance upon the government in the event that the system cannot cope with failed institutions. A number of countries offer coverage through coinsurance, thus relying upon a strategy of transferring risk.

A movement to bring consistency to the regulation of financial institutions worldwide is being undertaken. The Basle Accord on International Capital Standards, which the United States has signed, is one important step toward this consistency. Last year, the United States and Canada effected a free-trade agreement, the first for the United States that explicitly deals with the trade of financial services. In discussions of the 1992 European economic union, participating nations are seeking multilateral agreement on regulating depository institutions and harmonizing all systems of providing deposit insurance and guarantees.

Canada, France, Germany, Italy, Japan, and the United Kingdom, as well as the United States--the "Group of Seven" (or G-7) countries--currently have a national system of deposit insurance. Furthermore, all of the countries that signed the Basle Accord on uniform capital requirements (which include the G-7 countries, plus Belgium, the Netherlands, Luxembourg, Sweden, and Switzerland) have a formal system of national deposit insurance.

Czechoslovakia established the first national system of credit and deposit insurance in 1924.² It apparently ceased operations in 1938. After the FDIC was set up in the United States in 1934, no other country instituted a national deposit insurance system until 1952.³ In that year, Cuba established a system in direct response to the FDIC. This system was expected to stem the flight of Cuban deposits to insured depositories in the United States. What happened to this fund after the revolution in 1958 is unclear. In 1960, Turkey created the Bank Liquidation Fund, but it was replaced in 1983 by the currently operating Turkish Deposit Insurance Fund. Norway's system, which began in 1961, is apparently the second oldest of the currently operating national deposit insurance systems. India also enacted a system in 1961 but did not operate it until January 1962.

Using available information, the dates for establishment of 31 currently operating foreign deposit insurance systems in 28 countries are shown in Table B-1. Germany, like the United States, has separate funds for banks, thrifts, and credit unions. The United Kingdom has separate funds for banks and building societies, which are the equivalent of thrifts in the United States. Of these systems, 17 were created in the 1980s. Ireland established the most recent national system of deposit insurance, beginning operations in November 1989. The recent recommendation of the European economic union for member nations to harmonize their systems of deposit insurance appears to have prompted a number of member nations to establish deposit insurance systems. Denmark, Italy, Ireland, and Luxembourg may have set up their systems for this reason, at least in part.

THE STRUCTURE OF A DEPOSIT INSURANCE SYSTEM

The administrative structure and membership of 31 national deposit insurance systems in 28 countries is provided in Table B-1. Member-

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2. See Ian McCarthy, "Deposit Insurance: Theory and Practice," *Staff Papers*, vol. 27, no. 3 (Washington, D.C.: International Monetary Fund, September 1980), pp. 579-581.
 3. See Samuel H. Talley and Ignacio Mas, "Deposit Insurance in Developing Countries" (unpublished manuscript, World Bank, December 1989), Appendix A, p. 11.

TABLE B-1. FOREIGN COUNTRIES WITH NATIONAL SYSTEMS OF DEPOSIT INSURANCE

Country	Agency	Established	Membership	Administration
Argentina	Deposit Insurance Scheme (Central Bank)	1979	Voluntary	Officially sponsored and administered
Austria	Deposit Guarantee Fund	1979	Compulsory	Industry arrangement
Belgium	Rediscount and Guarantee Institute	1985	Voluntary	Joint administration
Brazil	N.A.	1989	a	Joint administration
Canada	Canada Deposit Insurance Corporation	1967	Compulsory	Officially sponsored and administered
Chile	Superintendent of Banks and Financial Institutions	1986	Voluntary	Officially sponsored and administered
Colombia	Financial Institutions Guarantee Fund	1985	Compulsory	Joint administration
Denmark	Deposit Guarantee Fund	1987	Compulsory	Industry arrangement
Finland	Deposit Guarantee Funds	1969	Compulsory	Industry arrangement
France	Deposit Guarantee Fund	1980	Voluntary	Industry arrangement
Germany ^b	Deposit Security Fund	1966	Voluntary	Industry arrangement
	Savings Bank Security Fund	1969	Compulsory	Industry arrangement
	Credit Cooperatives Security Scheme	1976	Compulsory	Industry arrangement
India	Deposit Insurance and Credit Guarantee Corporation	1961	Compulsory	Industry arrangement
Ireland	Deposit Protection Account (Central Bank)	1989	Compulsory	Officially sponsored and administered
Italy	Interbank Deposit Protection Fund	1987	Voluntary	Industry arrangement
Japan	Deposit Insurance Corporation	1971	Compulsory	Industry arrangement
Kenya	Deposit Protection Fund Board	1985	Compulsory	Officially sponsored and administered
Luxembourg	Association Guarantee Deposits--Luxembourg	1989	Compulsory	Industry arrangement

(Continued)

TABLE B-1. Continued

Country	Agency	Established	Membership	Administration
Netherlands	Collective Guarantee Scheme	1979	Compulsory	Joint administration
Nigeria	Nigerian Deposit Insurance Corporation	1988	Compulsory	Officially sponsored and administered
Norway	Deposit Guarantee Fund	1961	Compulsory	Joint administration
Paraguay	National System of Savings and Loans for Housing	1971	Voluntary	Officially sponsored and administered
Philippines	Philippine Deposit Insurance Corporation	1963	Compulsory	Joint administration
Spain	Deposit Guarantee Fund	1977	Voluntary	Officially sponsored and administered
Sweden	Deposit Insurance Fund	N.A.	N.A.	Industry arrangement
Switzerland	Deposit Guarantee Scheme	1984	Voluntary	Officially sponsored and administered
Trinidad and Tobago	Deposit Insurance Corporation	1986	Compulsory	Industry arrangement
Turkey	Turkish Deposit Insurance Fund	1983	Compulsory	Joint administration
United Kingdom	Deposit Protection Fund	1982	Compulsory	Officially sponsored and administered
	Building Societies Investor Protection Board	1987	Compulsory	Officially-sponsored and administered
Venezuela	Bank Deposit Guarantee and Protection Fund	1985	Compulsory	Officially sponsored and administered
Yugoslavia	N.A.	N.A.	N.A.	N.A.

SOURCE: Congressional Budget Office adapted from Philip F. Bartholomew and Vicki A. Vanderhoff, "Foreign Deposit Insurance Systems: A Comparison," *Consumer Finance Law: Quarterly Report* (forthcoming).

NOTE: N.A. = not available.

a. Compulsory for universal banks, voluntary for other financial institutions.

b. Federal Republic of Germany.

ship in nine systems is on a strictly voluntary basis. Differences in the structure of foreign depository institutions make it difficult to summarize the membership characteristics of the other 22 systems. Some countries have compulsory membership for selected institutions; those institutions not compelled to join may do so voluntarily.

National deposit insurance systems are administered in one of three general ways. Of the 32 systems for which information is available, 12 of the deposit insurance systems are officially sponsored and administered by the federal government. Industry arrangements are used in 13 systems, and 7 are jointly administered through public and private arrangements. The agency structure of the formal insurance systems varies.⁴ Some of the agencies are fairly autonomous; some are explicitly subordinate to the central bank, the bank regulatory agency, or the Department or Ministry of the Treasury.

Unlike the FDIC, the official insurance systems of other countries generally are responsible for some prudential regulation but not for prudential supervision and examination. For example, the Canada Deposit Insurance Corporation (CDIC) relies upon the Office of the Superintendent of Financial Institutions for supervision and examination. The CDIC becomes highly involved with a member institution only when that institution requires an insurance action.

An industry arrangement may be less likely to maintain confidence in the financial system than a government arrangement. Market participants in countries with these systems, however, may feel that the government will not permit the insurance system to fail. If this were the case, then the guarantee provided by these systems is an implicit government guarantee of last resort.⁵

4. See Philip F. Bartholomew, "How Some Nations Regulate Depository Institutions," *Office of Thrift Supervision Journal*, vol. 19, no. 10 (October 1989).

5. For a discussion of industry-based deposit guarantee schemes, see Thomas Woodward, "Deposit Guarantee in Other Countries," Congressional Research Service, CRS Report for Congress No. 89-6376 (November 27, 1989), p. 13.

INSURANCE COVERAGE

Information on the amount of coverage and the financing of foreign national systems of deposit insurance is provided in Table B-2. At least 24 of the systems have some fixed ceilings on coverage. The coverage in these systems may be limited by statute to the resources of the fund. Two of the three German systems (one for savings institutions and one for cooperative societies) and the Norwegian and Yugoslavian systems provide unlimited coverage, while the Argentine system provides coinsurance without a fixed ceiling. Another German system for banks limits coverage to the liable capital of institutions.

The explicit limit of coverage afforded by six of the G-7 countries that have a fixed level are compared in Figure B-1. Using current U.S. dollar equivalency, Italy provides the highest ceiling of deposit insurance coverage, but its system has coinsurance. The United States has the second highest level of coverage. The United Kingdom, which uses coinsurance, provides the lowest coverage.

As in the United States, some systems may, in practice, provide unlimited coverage. This coverage is effected when a failed institution is not strictly liquidated--that is, insured depositors are not directly paid off. If a failed institution's assets are purchased and its liabilities (including uninsured liabilities) are assumed by an acquiring institution in a merger arranged by the government, then some or all of the uninsured deposits are implicitly covered. Market participants do not know beforehand that the insurer will use this method of resolution when faced with an insolvent institution. The insurer may also not be consistent in its resolution method. Consequently, depositors cannot be certain of coverage against loss.

Five countries have some form of coinsurance. The two newest systems, Italy and Ireland, each base coverage on a coinsurance scheme. Argentina provides coinsurance without a coverage ceiling. Chile, Italy, Ireland, and both systems in the United Kingdom have a ceiling for deposits covered by coinsurance, although Chile has no limit on insured checking accounts. Colombia may also have coinsurance; it

TABLE B-2. INSURANCE COVERAGE AND PRICING SCHEMES
FOR FOREIGN DEPOSIT INSURANCE SYSTEMS

Country	Domestic Currency	Insurance Coverage Limit		Premium/ Pricing Scheme
		Domestic Currency or Percentage Rule	U.S. Dollar Equivalent	
Argentina	Austral	100 percent up to 100,000,000 90 percent above 100,000,000	n.a.	0.03 percent of total deposits
Austria	Schilling	200,000	17,185	Unfunded arrangement
Belgium	Franc	500,000	14,706	0.02 percent of specified liabilities
Brazil	Cruzeiro	N.A.	N.A.	N.A.
Canada	Dollar	60,000	51,582	0.1 percent of insured deposits
Chile	Peso	100 percent of demand deposits 90 percent of other deposits up to 120 UF ^a	n.a.	Unfunded arrangement
Colombia	Peso	75 percent of 200,000 (that is, 150,000)	309	0.5 percent of required reserves on deposits
Denmark	Krone	250,000	39,708	Maximum 0.2 percent of total deposits; starting in 1989, total annual contributions of all members is 700 million kroner until fund reaches 3 billion kroner.
Finland	Markka	500,000	128,966	Between 0.01 percent and 0.05 percent of total assets
France	Franc	400,000	72,033	Collected as needed, assessments based on deposits
Germany ^b Banks	Mark	30 percent of the bank's liable capital per depositor	n.a.	0.03 percent of total deposits
Savings insti- tutions		100 percent of deposits and credits	n.a.	0.03 percent of claims on customers
Cooperative societies		100 percent of deposits and credits	n.a.	Complex premiums and mutual guarantees
India	Rupee	30,000	1,722	0.04 percent of total deposits
Ireland	Punt	80 percent of first 5,000 70 percent of next 5,000 50 percent of next 5,000	16,206	0.2 percent of deposits
Italy	Lira	100 percent of first 200 million 75 percent of next 800 million	659,385	Unfunded arrangement

(Continued)

TABLE B-2. Continued

Country	Domestic Currency	Insurance Coverage Limit		Premium/ Pricing Scheme
		Domestic Currency or Percentage Rule	U.S. Dollar Equivalent	
Japan	Yen	10,000,000	66,212	0.012 percent of covered deposit balance
Luxembourg	Franc	500,000	14,706	Unfunded arrangement
Kenya	Schilling	100,000	5,519	0.1 percent of deposits
Netherlands	Guilder	40,000	21,486	Unfunded arrangement
Nigeria	Naira	50,000	11,765	0.937 percent of deposits
Norway	Krone	Unlimited	n.a.	0.015 percent of total assets
Paraguay	Guarani	5,000,000	4,803	.25 percent of deposits
Philippines	Peso	15,000	662	0.0667 percent of total deposits
Spain	Peseta	1,500,000	14,789	0.2 percent of deposits
Sweden	Krona	N.A.	N.A.	Funded at such a level that annual contributions considered unnecessary in recent years
Switzerland	Franc	30,000	21,406	Unfunded arrangement
Trinidad and Tobago	Dollar	50,000	12,225	N.A.
Turkey	Lira	3,000,000	1,142	0.3 percent of insured deposits
United Kingdom	Pound			
Banks		75 percent up to 20,000	35,730	Progressive levy with the effective rate not to exceed 0.3 percent of domestic sterling deposits
Building societies		90 percent up to 20,000	42,876	Unfunded arrangement
Venezuela	Bolivar	250,000	5,296	0.25 percent of deposits
Yugoslavia	Dinar	Unlimited	n.a.	N.A.

SOURCE: Congressional Budget Office adapted from Philip F. Bartholomew and Vicki A. Vanderhoff, "Foreign Deposit Insurance Systems: A Comparison," *Consumer Finance Law: Quarterly Report* (forthcoming).

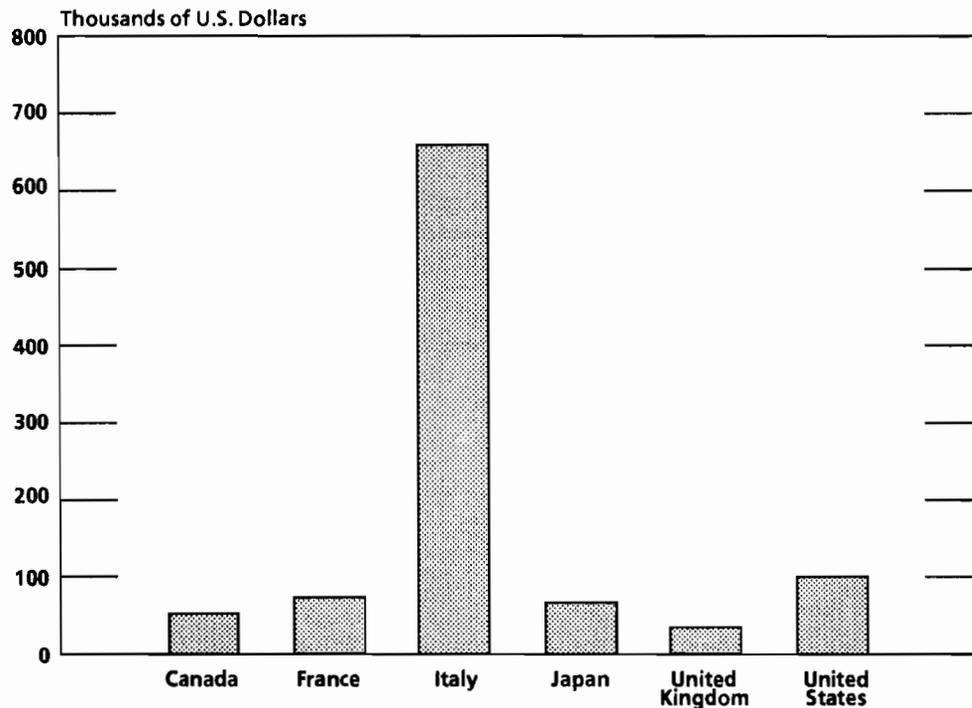
NOTES: U.S. dollar equivalent based on exchange rate as of July 6, 1990.

N.A. = not available; n.a. = not applicable.

a. UF = Unidad de Fomento, an index linked to the peso whose value changes daily.

b. Federal Republic of Germany.

Figure B-1.
Deposit Insurance in Selected Countries with
Explicit Limits on Coverage



SOURCE: Congressional Budget Office adapted from Philip F. Bartholomew and Vicki A. Vanderhoff, "Foreign Deposit Insurance Systems: A Comparison," *Consumer Finance Law: Quarterly Report* (forthcoming).

NOTES: Countries selected from the Group of Seven, which includes Germany, but Germany does not set a fixed limit on coverage.

Based on exchange rates as of July 6, 1990.

ambiguously reports its coverage limit as 75 percent of a certain amount.⁶

Most countries have some method for increasing coverage to account for inflation. Argentina and the Netherlands explicitly index their coverage limits to inflation. Other systems periodically adjust their limits.

6. See Talley and Mas, "Deposit Insurance in Developing Countries," Appendix A, p. 9.

Germany's Deposit Security Fund has an interesting feature in its coverage. The insurance fund is limited to 30 percent of the liable capital of the bank (based upon the last quarterly report) for each depositor. Thus, coverage diminishes as the capital in a failing institution deteriorates. An institution is closed when it becomes insolvent, but depositors are assured of some coverage based on previous liable capital. If capital deteriorates, however, depositors may cause an early closure by withdrawing their funds and depositing them in a healthier institution with greater insurance coverage. Alternatively, depositors could force the institution to undertake strategies to improve its capital position.

FUNDING ARRANGEMENTS

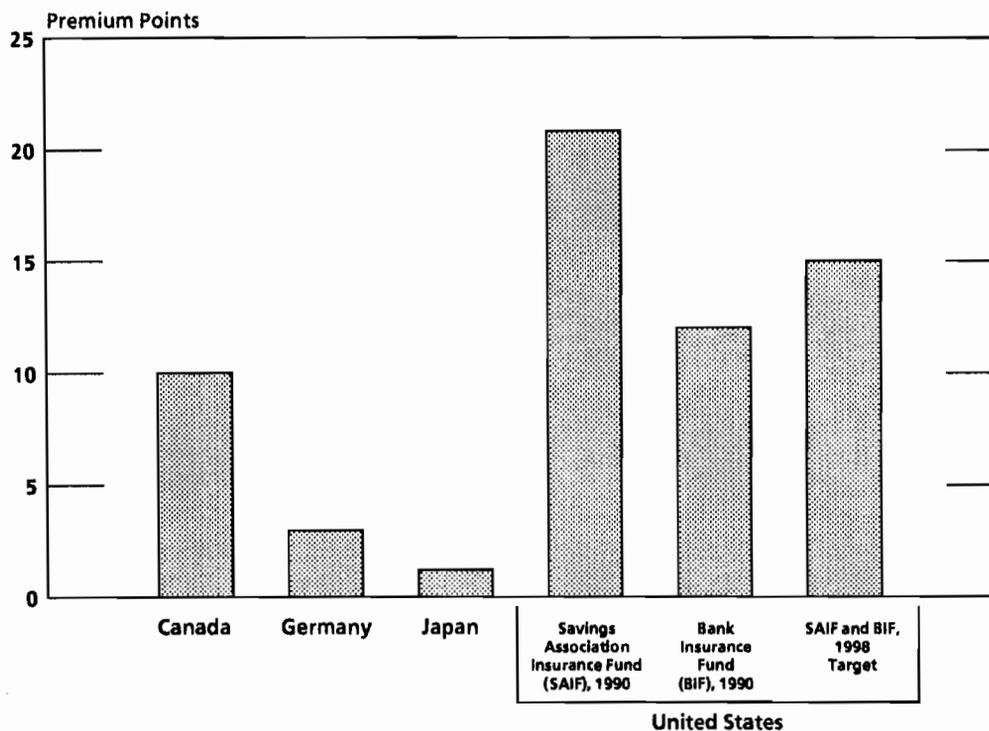
Funding for national deposit insurance systems can take place either before or after losses are incurred. Eight countries--Austria, Chile, France, Italy, Luxembourg, the Netherlands, Switzerland, and the United Kingdom (its system for building societies)--allow claims upon an insurance system before any premiums are assessed to the fund (see Table B-2). While these systems appear to have unfunded arrangements, some make specific provisions for how and to what limit charges are made to depositories to cover for losses to the fund. France, for example, has a deposit insurance system that assesses premiums as needed, based upon the deposits of members. The French system also limits any annual maximum assessment for small banks to 1 percent of deposits.

The second form of funding makes periodic assessments of premiums to the fund in anticipation of claims. The premium rates and the bases for these rates vary considerably. No system currently uses risk-based insurance premiums; however, certain types of bases may implicitly afford some minor notion of risk-based pricing. Some countries, such as Finland, have a range for the premium set by law, but it is uniformly assessed. The United Kingdom has a progressive levy, but it too is uniformly assessed. The United Kingdom also has a minimum contribution. A number of countries have changed their premium rates in recent years. Figure B-2 compares the premium rates for the four G-7 countries that use the second form of funding for their

deposit insurance systems. The United States currently charges the highest premium rate.

The bases on which most premiums are set include total deposits, total insured deposits, total assets, specified liabilities, and required

Figure B-2.
Rates for Deposit Insurance Funds That Charge
Premiums, Selected Countries



SOURCE: Congressional Budget Office using data from Philip F. Bartholomew and Vicki A. Vanderhoff, "Foreign Deposit Insurance Systems: A Comparison," *Consumer Finance Law: Quarterly Report* (forthcoming).

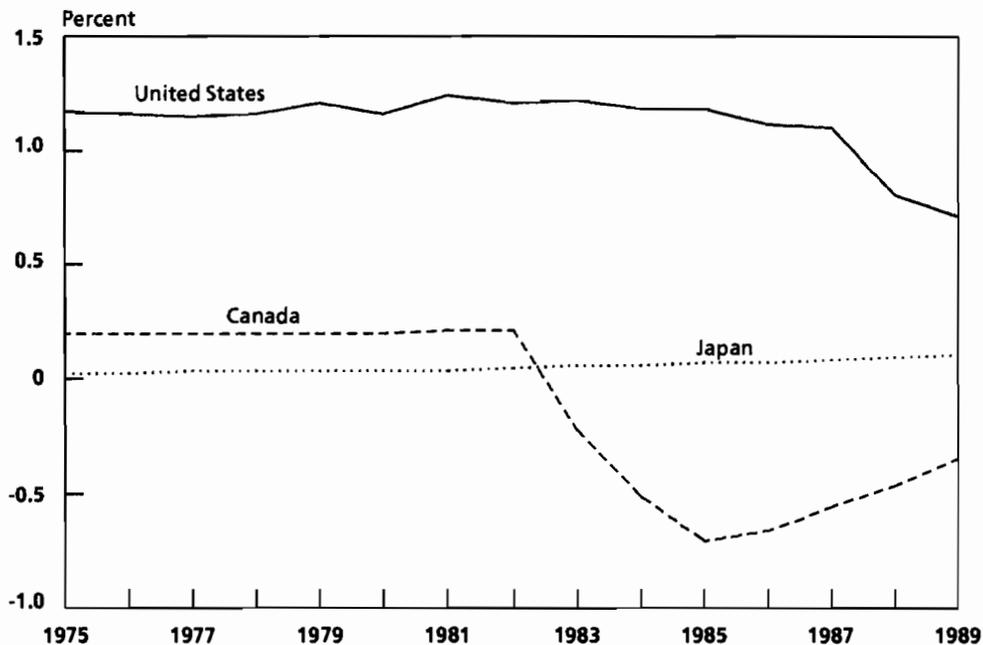
NOTES: Countries selected from the Group of Seven, which also includes France, Italy, and the United Kingdom. These countries are not included here because France and Italy have unfunded arrangements, and the United Kingdom requires an initial contribution with subsequent levies, if necessary.

One premium point equals 1/10,000 of a unit of currency deposited.

reserves on deposits. A number of systems provide annual premium rebates based upon the decisions of the fund administrator or upon legal standards. Some systems have not required assessments recently because the level of their insurance funds was considered sufficient.

Financial resources other than those paid by premiums are also available to some foreign deposit insurance funds. Some systems have regular financing provided by central banks or government treasuries or both. Most systems have borrowing and transfer arrangements with their national governments.

Figure B-3.
Insurance Fund Reserves as a Percentage of Insured Deposits,
Selected Countries, 1975-1989



SOURCES: Congressional Budget Office using data from the Federal Deposit Insurance Corporation, the Canada Deposit Insurance Corporation, and the Japan Deposit Insurance Corporation.

Many of the systems maintain reserves that provide against loss to the insurance fund. Other countries either use assessments of premiums after claims are made or rely upon government assistance for the fund. The United States has maintained the highest ratio of reserves to insured deposits--about 1 percent--but recent losses have reduced the ratio. Canada had maintained a smaller ratio; failures in the 1980s among chartered banks and other depository institutions (known in Canada as near banks) have placed that fund in deficit. Japan has maintained a small reserve ratio, but it has increased the ratio since the early 1980s. The Japanese reserve is reputedly able to handle only very small bank failures.⁷ Figure B-3 gives information on the reserve ratio for the United States, Canada, and Japan.

COMPARISON OF SELECTED CHARACTERISTICS OF COVERAGE

A comparison of selected characteristics of coverage for the 31 countries, including the United States, that offer national systems of deposit insurance is summarized in Table B-3. Information was not available for all countries. Unlike the United States, few countries explicitly cover interbank deposits. Canada, Kenya, Nigeria, Norway, and Trinidad and Tobago do make such a provision.

Of the 23 countries for which information is available, all cover deposits held by nonresidents, as does the United States. This provision is important for the international competitiveness of depository institutions as financial markets become more closely linked. Competition was a factor in the decision to establish the Cuban system in 1952 and may also be a factor in discussions on the regulation of depository institutions by the European Community.

Foreign currency deposits, which are covered in the United States, are explicitly covered in at least 12 countries (Ireland's coverage is

7. See Philip F. Bartholomew, "How Some Nations Regulate Depository Institutions"; and Thomas Cargill and Shoichi Royama, *The Transition of Finance in Japan and the United States: A Comparative Perspective* (Stanford: Hoover Institution Press, 1988).

TABLE B-3. SELECTED CHARACTERISTICS OF DEPOSIT PROTECTION

Country	Interbank	Non-resident	Foreign Currency	Domestic Branches of Foreign Banks	Foreign Branches of Domestic Banks
Argentina	No	Yes	No	N.A.	N.A.
Austria	No	Yes	Yes	No	No
Belgium	No	Yes	No	No	No
Brazil	No	N.A.	N.A.	N.A.	N.A.
Canada	Yes	Yes	No	N.A.	No
Chile	No	Yes	No	Yes	No
Colombia	Yes	Yes	N.A.	N.A.	N.A.
Denmark	N.A.	N.A.	N.A.	N.A.	N.A.
Finland	N.A.	N.A.	N.A.	N.A.	N.A.
France	No	Yes	No	Yes	No
Germany ^b	No	Yes	Yes	Yes	Yes
India	No	Yes	No	No	No
Ireland	N.A.	N.A.	Provisionally	N.A.	N.A.
Italy	No	Yes	Yes	Permissible ^a	Yes
Japan	No	Yes	No	No	Yes
Kenya	Yes	Yes	N.A.	N.A.	N.A.
Luxembourg	N.A.	N.A.	N.A.	N.A.	N.A.
Netherlands	No	Yes	Yes	Yes	No
Nigeria	Yes	Yes	Yes	Yes	No
Norway	Yes	Yes	Yes	Yes	Yes
Paraguay	No	Yes	No	No	N.A.
Philippines	No	N.A.	Yes	N.A.	N.A.
Spain	No	Yes	No	N.A.	No
Sweden	N.A.	N.A.	N.A.	N.A.	N.A.
Switzerland	No	Yes	Yes	No	N.A.
Trinidad and Tobago	Yes	Yes	Yes	Yes	N
Turkey	No	Yes	Yes	No	No
United Kingdom ^c	No	Yes	No	Yes	No
United States ^d	Yes	Yes	Yes	Yes	No
Venezuela	N.A.	N.A.	N.A.	N.A.	N.A.
Yugoslavia	Yes	Yes	Yes	N.A.	N.A.

SOURCE: Congressional Budget Office adapted from James R. Barth and Philip F. Bartholomew, "The Thrift-Industry Crisis: Revealed Weaknesses in the Federal Deposit Insurance System" (paper presented at a conference on Reform of Deposit Insurance and the Regulation of Depository Institutions in the 1990s: Setting the Agenda, sponsored by the Center for Economic Policy Research, Stanford University, held in Washington, D.C., May 18-19, 1990).

NOTE: N.A. = not available.

- a. None has yet elected coverage.
- b. Federal Republic of Germany, as applies to insurance fund for banks.
- c. As applies to insurance fund for banks.
- d. Federal Deposit Insurance Corporation.

provisional); 10 countries explicitly do not cover foreign currency deposits. This exclusion may change as depository institutions introduce new financial services and internationalize their deposit services.

At least nine countries provide insurance coverage to deposits in domestic branches of foreign banks, and at least seven countries do not provide such coverage. Five countries cover deposits in foreign branches of domestic banks, while 12 countries explicitly do not. The coverage of deposits in foreign branches, however, may be implicit because of the too-big-to-fail policy. By this policy, coverage is extended to domestic branches of foreign banks but not to foreign branches of domestic banks. The reason proffered is that banks with overseas operations are so large that their failure would pose serious problems to the domestic financial system. Thus, these banks are not permitted to fail, and deposits in overseas operations are implicitly insured.

RECENT FAILURES OF DEPOSITORY INSTITUTIONS IN CANADA

According to the *World Bank Development Report of 1989*, more than 25 governments have assisted their distressed financial institutions during the last decade. Almost all industrialized countries have experienced difficulties with depository institutions to varying degrees in the past 25 years, though not to the extent of the current U.S. thrift crisis.⁸ Some relief was provided to their troubled depositories through the deposit insurance system, central bank assistance, industry assistance, or direct and indirect general government assistance.

Canada is one country that experienced difficulties in the late 1970s through the early 1980s. The Canada Deposit Insurance Corporation (CDIC) resolved 21 depository institutions during the 1980s at an estimated cost of 4.7 billion Canadian dollars. These losses caused the insolvency of the CDIC in 1983; the fund reported a deficit of 851 million Canadian dollars at the end of 1989.

8. For a discussion of depository institution failures and regulatory response in several industrialized countries, see Gerald E. Corrigan, statement before the Senate Committee on Banking, Housing, and Urban Affairs, May 3, 1990.

Most of the depository institutions that failed in Canada were near banks, which include trust and loan companies and mortgage loan companies. Near banks, which are similar to thrifts in the United States, are chartered by either the federal or provincial governments. They failed for three principal reasons: economic conditions similar to those that precipitated the U.S. thrift crisis, mismanagement, and misbehavior on the part of the owners, directors, and managers.⁹

Chartered banks, though few in number, hold about 53 percent of deposits at Canadian depository institutions. From 1923 until 1985, no chartered banks failed in Canada, though there were occasions when some troubled banks merged with healthy institutions at the suggestion of the government. Chartered banks, which are similar to commercial banks in the United States, are federally chartered through an act of Parliament; there are no provincially chartered banking institutions. Far fewer chartered banks operate in Canada than in the United States. By the end of 1989, there were 10 domestically chartered banks (though 1 is owned by the Hong Kong and Shanghai Bank), with the 6 largest controlling 99 percent of assets in the domestic-owned chartered banks. In 1980, Canada permitted foreign banks to operate subsidiaries, known as Schedule B chartered banks. At the end of 1989, there were 57 Schedule B banks that held about 15 percent of total assets in domestic- and foreign-owned chartered banks.

In the late 1970s and early 1980s, several small regional banks were chartered, mostly in the western provinces. The fall in world oil prices in the early 1980s led to a decline in real estate values in the province of Alberta. This factor, along with generally poor economic conditions, contributed to the failures of two regional banks in 1985. Mismanagement and misbehavior were also factors. Other regional chartered banks experienced difficulties; by 1989, most had merged with healthy institutions or been acquired by subsidiaries of foreign banks. The CDIC, along with the Bank of Canada, provincial governments, and the largest chartered banks, provided assistance to trou-

9. Philip F. Bartholomew, "Recent Developments for Canadian 'Near Banks'," *Housing Finance International*, vol. 4, no. 1 (August 1989), p. 31.

bled regional banks in the form of loans, some of which will not be repaid.

The failures of chartered and near banks, though small in number and cost to resolve relative to those in the United States, were viewed as a crisis in Canada. Insured depositors were protected, and, as in the United States, many uninsured depositors and general creditors were protected by the method chosen to resolve failed institutions. Despite its insolvency in 1983, the CDIC continues to operate and is responsible for disposing of assets from failed institutions.

The cause and extent of the difficulties experienced in Canada were, in part, a result of regulatory failure. As in the United States, troubled banks were permitted to remain open. But this leniency was not the critical part of the regulatory failure; rather, the system of prudential supervision and examination was primarily responsible. The CDIC and the Bank of Canada were not responsible for prudential regulation, supervision, or examination of chartered banks. They relied instead on a system of prudential supervision and examination in which outside accounting firms audited the banks and reported to the federal supervisor, the Office of the Inspector General of Banks (OIGB). Until the 1980s, the OIGB, which employed a staff of fewer than 10 persons, implicitly relied upon the self-regulation of the large chartered banks. The OIGB conducted no on-site examinations but analyzed financial statements and conducted on-site interviews with senior bank executives. Furthermore, there were few chartered banks, and all those that were domestic-owned were required to be widely held; no individual could control more than 10 percent of the shares of ownership. A fairly close working relationship existed between federal regulators and the chartered banks. This system of supervision broke down in the early 1980s with the troubles of the regional chartered banks. The auditing system failed, there were faulty appraisals, and the OIGB had limited resources and few disciplinary tools.

The system of prudential regulation, supervision, and examination was reformed in the late 1980s. The federal regulator of near banks, which had more personnel and used limited on-site examinations, was merged with the OIGB into the Office of Superintendent of Financial Institutions (OSFI). Both the OSFI and CDIC were provided

stronger disciplinary tools. Though federal prudential supervision and examination of depositories in Canada is still less dependent upon on-site examination, the reform measures strengthened this aspect.

A study of deposit insurance reform was commissioned by the Canadian federal government after the CDIC first became insolvent in 1983. A report with recommendations was issued in 1985 before federal action was taken against failed chartered banks, which occurred later that year.¹⁰ Called the Wyman report, it noted that the primary objective of deposit insurance is "to insure small unsophisticated depositors." The report recommended that the CDIC "not get involved in considerations affecting the stability of the system." It also made several recommendations related to granting and suspending the right to offer insured deposits. The report proposed certain powers for the CDIC that would improve its ability to discipline insured depositories.

Most of the changes in the regulatory structure of Canada's depository institutions affect the manner in which depositories are supervised and examined.¹¹ Canada's federally regulated depository institutions are governed by statutes that are reenacted periodically. Although the legislation is expected to address regulatory concerns about investment powers and ownership of depositories, deposit insurance is not expected to change further.

FUTURE INTERNATIONAL CONSIDERATIONS

The integration of international markets for financial services increases the importance for regulators of depository institutions working together in regulating both their domestic and international operations. The Basle Accord on uniform risk-based capital requirements is one movement toward internationalizing regulations on depository institutions. The European Community is currently de-

10. Working Committee on the Canada Deposit Insurance Corporation, *Final Report of the Working Committee on the Canada Deposit Insurance Corporation (CDIC)* (Ottawa: Minister of Supply and Services, April 24, 1985).

11. For a discussion of the investigation of the chartered bank failures and proposed reform measures, see Willard Z. Estey, *Report of the Inquiry into the Collapse of the CCB and Northland Bank* (Ottawa: Minister of Supply and Services, 1986).

bating the international structure of its regulations on depositories and other financial institutions.

Many countries have recently restructured or are considering imposing regulations on their depository institutions. Guarding against the possibility of adverse selection by risky institutions in the international context is important. The absence of such provisions contributed to the failure of many U.S. state-based deposit insurance systems. If countries designate a regulatory structure for depository institutions that does not consider international factors, then institutions will seek charters in countries with the most liberal regulations. This likelihood suggests that current efforts to reform the U.S. deposit insurance system or the regulatory structure of depository institutions must consider the costs and benefits of harmonizing international regulations on depository institutions.

APPENDIX C

HISTORY OF FAILURES OF U.S.

DEPOSITORY INSTITUTIONS

This appendix contains information on the history of U.S. depository failures, covering the years from 1934 to 1989. Information is provided on insured commercial banks, thrift institutions, and credit unions. The data, arrayed by year, show the total number of institutions, those that failed, their losses, and other pertinent information. These data portray a relatively healthy picture of the three types of depositories up until the decade of the 1980s, when increased failures created heavier losses for the bank and thrift insurance funds.

TABLE C-1. FAILURES OF BANKS INSURED BY THE FEDERAL DEPOSIT INSURANCE CORPORATION, 1934-1989

Year	Number of Insured Failures	Number of Insured Banks	Percentage of Failed Banks	Assets of Failed Banks (Thousands of dollars)
1934	9	14,144	0.06	2,661
1935	26	14,126	0.18	17,242
1936	69	13,973	0.49	31,941
1937	77	13,797	0.56	40,370
1938	74	13,661	0.54	69,513
1939	60	13,538	0.44	181,514
1940	43	13,442	0.32	161,898
1941	15	13,430	0.11	34,804
1942	20	13,347	0.15	22,254
1943	5	13,274	0.04	14,058
1944	2	13,268	0.02	2,098
1945	1	13,302	0.01	6,392
1946	1	13,359	0.01	351
1947	5	13,403	0.04	6,798
1948	3	13,419	0.02	10,360
1949	5	13,436	0.04	4,886
1950	4	13,446	0.03	4,005
1951	2	13,455	0.01	3,050
1952	3	13,439	0.02	2,388
1953	4	13,432	0.03	18,811
1954	2	13,323	0.02	1,138
1955	5	13,237	0.04	11,985
1956	2	13,218	0.02	12,914
1957	2	13,165	0.02	1,253
1958	4	13,124	0.03	8,905
1959	3	13,114	0.02	2,858
1960	1	13,126	0.01	7,506
1961	5	13,115	0.04	9,820
1962	1	13,124	0.01	0
1963	2	13,291	0.02	26,179

(Continued)

TABLE C-1. Continued

Year	Number of Insured Failures	Number of Insured Banks	Percentage of Failed Banks	Assets of Failed Banks (Thousands of dollars)
1964	7	13,493	0.05	25,849
1965	5	13,547	0.04	58,750
1966	7	13,541	0.05	120,647
1967	4	13,517	0.03	11,993
1968	3	13,488	0.02	25,154
1969	9	13,473	0.07	43,572
1970	7	13,511	0.05	62,147
1971	6	13,612	0.04	196,520
1972	1	13,733	0.01	22,054
1973	6	13,976	0.04	1,309,675
1974	4	14,230	0.03	3,822,596
1975	13	14,385	0.09	419,950
1976	16	14,411	0.11	1,039,293
1977	6	14,418	0.04	232,612
1978	7	14,391	0.05	994,035
1979	10	14,364	0.07	132,988
1980	10	14,435	0.07	236,164
1981	10	14,415	0.07	4,859,060
1982	42	14,451	0.29	11,632,415
1983	48	14,469	0.33	7,026,923
1984	79	14,496	0.54	3,276,411
1985	120	14,417	0.83	8,741,268
1986	138	14,209	0.97	6,991,600
1987	184	13,705	1.34	6,850,700
1988	200	13,629	1.47	35,697,789
1989	206	12,712	1.62	29,168,596

SOURCES: Congressional Budget Office adapted from James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Report No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989) and updated with data from the Federal Deposit Insurance Corporation.

NOTE: Excludes data for banks granted financial assistance under Section 13(c)(1) of the Federal Deposit Insurance Corporation Act and for those receiving open assistance.

TABLE C-2. FAILURES OF THRIFTS INSURED BY THE FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION, 1934-1988

Year	Number of Insured Failures	Number of Insured Institutions	Percentage of Failed Institutions	Assets of Failed Institutions (Thousands of dollars)
1934	0	541	0.00	0
1935	1	1,117	0.09	13
1936	0	1,575	0.00	0
1937	0	1,884	0.00	0
1938	4	2,098	0.19	914
1939	8	2,199	0.36	22,143
1940	7	2,277	0.31	8,785
1941	13	2,343	0.55	28,926
1942	3	2,398	0.13	6,434
1943	1	2,447	0.04	635
1944	1	2,466	0.04	268
1945	0	2,475	0.00	0
1946	0	2,496	0.00	0
1947	1	2,536	0.04	1,842
1948	0	2,616	0.00	0
1949	1	2,756	0.04	4,684
1950	0	2,860	0.00	0
1951	0	3,020	0.00	0
1952	0	3,172	0.00	0
1953	0	3,304	0.00	0
1954	3	3,433	0.09	1,959
1955	0	3,544	0.00	0
1956	1	3,666	0.03	22,470
1957	0	3,772	0.00	0
1958	0	3,881	0.00	0
1959	0	3,979	0.00	0
1960	2	4,098	0.05	110,361
1961	1	4,221	0.02	10,610
1962	1	4,332	0.02	2,790
1963	4	4,419	0.09	79,564
1964	4	4,463	0.09	93,936
1965	5	4,508	0.11	180,792

(Continued)

TABLE C-2. Continued

Year	Number of Insured Failures	Number of Insured Institutions	Percentage of Failed Institutions	Assets of Failed Institutions (Thousands of dollars)
1966	10	4,510	0.22	813,790
1967	6	4,487	0.13	56,540
1968	7	4,470	0.16	305,314
1969	3	4,438	0.07	16,942
1970	10	4,365	0.23	1,213,029
1971	7	4,271	0.16	187,063
1972	3	4,191	0.07	26,305
1973	5	4,163	0.12	47,763
1974	2	4,141	0.05	156,890
1975	2	4,078	0.05	119,389
1976	6	4,044	0.15	148,097
1977	3	4,065	0.07	187,052
1978	2	4,053	0.05	23,096
1979	3	4,039	0.07	579,921
1980	11	3,993	0.28	1,457,646
1981	28	3,751	0.75	13,908,159
1982	63	3,287	1.92	17,662,142
1983	36	3,146	1.14	4,631,055
1984	22	3,136	0.70	5,080,209
1985	30	3,246	0.92	5,601,000
1986	46	3,220	1.43	12,455,058
1987	47	3,147	1.49	10,660,360
1988	205	2,949	6.95	100,660,000

SOURCES: Congressional Budget Office adapted from James R. Barth and Philip F. Bartholomew, "The Thrift-Industry Crisis: Revealed Weaknesses in the Federal Deposit Insurance System" (paper presented at a conference on Reform of Deposit Insurance and the Regulation of Depository Institutions in the 1990s: Setting the Agenda, sponsored by the Center for Economic Policy Research, Stanford University, held in Washington, D.C., May 18-19, 1990); and James R. Barth, John J. Feid, Gabriel Riedel, and H. Hampton Tunis, "Alternative Federal Deposit Insurance Regimes," Research Report No. 152 (Office of Policy and Economic Research, Federal Home Loan Bank Board, January 1989).

NOTE: After 1980, only mergers and liquidations insured by the Federal Savings and Loan Insurance Corporation are included; before that, supervisory cases are included as well. In 1988, an additional 18 thrifts were "stabilized" but not officially resolved.

TABLE C-3. FAILURES OF CREDIT UNIONS INSURED BY THE NATIONAL CREDIT UNION SHARE INSURANCE FUND, 1970-1989

Year	Number of Failed Institutions	Number of Insured Institutions	Percentage of Failed Institutions
1970	N.A.	12,977	N.A.
1971	N.A.	13,510	N.A.
1972	4	14,023	0.03
1973	50	14,344	0.35
1974	100	15,146	0.66
1975	153	15,777	0.97
1976	128	16,276	0.79
1977	142	16,632	0.85
1978	168	17,121	0.98
1979	169	17,507	0.97
1980	239	17,350	1.38
1981	349	16,963	2.06
1982	327	16,435	1.99
1983	253	15,877	1.59
1984	130	15,193	0.86
1985	94	15,045	0.62
1986	94	14,693	0.64
1987	88	14,335	0.61
1988	85	13,878	0.61
1989	114	13,371	0.85

SOURCE: National Credit Union Administration.

NOTES: Number of failed institutions includes only voluntary liquidations for years 1972 through 1980; includes assisted mergers for 1981 through 1989. Data on assets of failed institutions not available.

N.A. = not available.

APPENDIX D

SYNOPSIS OF SELECTED PROPOSALS TO REFORM DEPOSIT INSURANCE

This appendix identifies the most significant features of 22 proposals that have been submitted for consideration to the Department of the Treasury for its study of deposit insurance reform. These proposals were submitted by both organizations and individuals. Taken together, the measures suggested in these 22 proposals represent the wide range of possibilities offered for reform. In most cases, these proposals also represent the range of concerns that interest groups express with regard to deposit insurance reform.

American Bankers Association

- o Maintain \$100,000 coverage.
- o Eliminate too-big-to-fail policy.
- o Provide only partial protection--a haircut--to uninsured deposits and unsecured creditors (85 percent to 95 percent in a final-settlement-payment scheme).
- o Increase examiner resources and training.
- o Implement risk-based premiums.
- o Establish fixed closure rule; place institutions into receivership when equity capital falls to zero.
- o Require no mandatory relationship between auditor and regulator.
- o Use identical accounting procedures in charging credit union premiums and commercial bank premiums to the respective insurance funds.

- o Define deposit brokerage.

American Council of Life Insurance

- o Curtail passthrough insurance for bank investment contracts.
- o Abandon the broad definition of deposits that would categorize virtually all bank debt as insured deposits.

Association of Bank Holding Companies

- o Maintain \$100,000 coverage.
- o Use deductible for amount of deposits not covered by insurance (over \$100,000).
- o Need no early closure rule, given the deductible rule.
- o Require no coverage and no premium assessment on foreign deposits of U.S. banks.

Association of Financial Guaranty Insurers

- o Offer private reinsurance for some portion of the deposits.
- o Cover less than 100 percent of all bank deposits, with private direct insurance covering the remainder.

Association of Reserve City Bankers

- o Allow no increase in coverage.
- o Eliminate too-big-to-fail policy.

- o Require no premium assessment on deposits in foreign branches of U.S. banks.
- o Increase permissible activities of banks so that product and service base may be diversified.
- o Allow no merger of the Bank Insurance Fund and the Savings Association Insurance Fund.

Bank Capital Markets Association

- o Intervene early on the basis of threshold capital requirements.
- o Repeal Glass-Steagall Act so that banks may offer a wide range of financial services.

Bankers' Association for Foreign Trade

- o Exclude deposits in foreign branches of U.S. banks from the insurance base for premium assessment.

Cato Institute

- o Offer no additional protection for depositors of favored banks.
- o Implement market-value accounting.
- o Impose risk-based premiums.
- o Establish fixed closure rule.
- o Expand scope of banking activities to diversify risk.
- o Increase capital requirements.

- o Impose risk-based capital system.

Charles W. Calomiris

- o Introduce narrow banking.
- o Implement risk-based capital and risk-based premium structures.
- o Implement market-value accounting.
- o Increase capital requirement.
- o Treat subordinated debt as capital.

Citicorp

- o Improve effective examination and supervision.
- o Improve timely intervention.
- o Roll back coverage below, or freeze at, \$100,000 level.
- o Use resolution policies that do not protect liabilities other than small domestic deposits.
- o Eliminate too-big-to-fail policy.
- o Use subordinated debt to meet capital requirements.
- o Develop private deposit insurance or coinsurance schemes.
- o Enforce no limitations on brokered deposits.
- o Provide no risk-related premiums.

- o Require no assessment on or insurance for deposits in foreign branches of U.S. banks.

Credit Union National Association, Inc.

- o Require 1 percent of deposits of federally insured banks in the Bank Insurance Fund, with provisions for replenishing the fund.
- o Prohibit bank managers from holding stock options in their banks and having "golden parachute" agreements.
- o Allow no expansion of banking powers until reform of insurance system.
- o Require that banks hold a minimum amount of subordinated debt.
- o Offer no risk-based premiums and no risk-based capital requirements.
- o Reject market-value accounting.
- o Place no limits on scope of insurance if too-big-to-fail policy holds.

Ely & Company, Inc.

- o Offer 100 percent guarantees with federal insurance as the backstop.
- o Recommend private insurance scheme with industry and government regulation.
- o Rely on the capital of the banking system as a whole.

- o Mandate participation for all institutions with assets in excess of \$1 billion (coverage for all liabilities).
- o Have risk-based premiums assessed by syndicate that monitors activities of member banks.
- o Require early closure or takeover.
- o Use market-value accounting.

Federal National Mortgage Association (Fannie Mae)

- o Exclude collateralized borrowings from deposit insurance base.
- o Reject market-value accounting.

Federal Reserve Bank of Boston

- o Allow no decrease in insurance coverage.
- o Enforce no prohibition on brokered deposits.
- o Maintain too-big-to-fail policy.
- o Make more resources available for supervisory review of loans.
- o Reject market-value accounting.
- o Offer no coinsurance.
- o Require no minimum subordinated debt.
- o Increase forward-looking supervision, including overriding of bank management in exceptional cases.

- o Require no risk-based premiums.
- o Provide capital standards based on risk profiles.
- o Achieve target coverage ratio by increasing premiums.
- o Review supervisory performance and use rewards.
- o Resolve failing banks early.
- o Offer no private deposit insurance.
- o Reject narrow banking.
- o Include foreign deposits and collateralized borrowings in the insurance base.

Federal Reserve Bank of Cleveland

- o Limit coverage with coinsurance deductible.
- o Adhere to strict capital standards with elimination of too-big-to-fail policy.
- o Implement market-value accounting.
- o Release examination ratings and reports to public and make mandatory the disclosure of regulatory enforcement actions.
- o Require prompt and orderly closure of insolvent institutions with no use of public funds to cushion the loss of public confidence.

Federal Reserve Bank of Minneapolis

- o Oppose 100 percent reserve banking.

- o Require no early closure rule.
- o Require no risk-adjusted premiums or risk-adjusted capital.
- o Increase capital requirements.
- o Establish coinsurance system.
- o Eliminate too-big-to-fail policy.

Federal Reserve Bank of Richmond

- o Introduce risk-based capital requirements.
- o Implement market-value accounting.
- o Introduce risk-based premiums.
- o Provide no full coverage for uninsured depositors and other debt holders (use of modified payout policy).
- o Include secured borrowings and foreign deposits in insurance base.
- o Intervene early and require closure based on capital.

General Accounting Office

- o Encourage closer relationship between the auditors and regulators of depository institutions.
- o Enhance quality of management, auditing, and financial reporting.

Independent Bankers Association of America

- o Offer full deposit insurance coverage for all depository institutions, irrespective of size.
- o Maintain Bank Insurance Fund at 1.25 percent of all its contingent liabilities, including domestic deposits, foreign deposits, collateralized borrowings, deposit notes, and other nondeposit liabilities.
- o Require minimum leverage ratio (capital base) above 4 percent.
- o Include no policy that shifts risk of loss to depositor.
- o Offer no private insurance.
- o Reject mark-to-market accounting (except for securities).
- o Provide no firewall barriers.
- o Give equal regulatory treatment to banks and credit unions.
- o Reject mandatory, full, independent audits and direct exchange of information between auditors and regulators.
- o Give field examiners better training.
- o Implement risk-based premiums.
- o Require closure rule based on a threshold level of equity capital.
- o Limit brokered deposits, especially when depository institutions are undercapitalized.
- o Restructure financial services industry cautiously.

Massachusetts Mutual Life Insurance Company

- o Offer no passthrough coverage for bank investment contracts.
- o Define deposits so that a wide array of bank debt instruments would not be included.

Shadow Financial Regulatory Committee

- o Reorganize in a timely manner: four explicit, predetermined ranges of capital-to-asset ratios with specific regulatory policies applicable to each tranche.
- o Use market values as opposed to book values.
- o Provide annual reports by supervisors to the Congress.
- o Treat uninsured creditors equally, irrespective of size and losses.
- o Create supervisory audit trail.
- o Require no change in current coverage of \$100,000.
- o Consider no issues regarding holding company structure and permissible activities.

Lawrence J. White

- o Establish risk-based minimum standards of net worth.
- o Implement market-value accounting.
- o Implement risk-based premiums.
- o Intervene early and require closure.

- o Introduce coinsurance.
- o Include collateralized borrowings in insurance base.

GLOSSARY

Many of the following definitions of terms are adapted from Harold S. Sloan and Arnold J. Zurcher, *Dictionary of Economics* (New York: Barnes and Noble Books, 1970).

Adverse selection. The tendency for those with a higher risk or a greater-than-average probability of loss to seek insurance coverage.

Asset. Something owned, either tangible or intangible, of positive value.

Assurance. A pledge or guarantee meant to convey confidence, as opposed to insurance, which is a contractual obligation to guarantee a specified property against loss under specific conditions.

Bank Board. See Federal Home Loan Bank Board.

Bank Insurance Fund (BIF). The successor to the insurance fund formerly administered by the Federal Deposit Insurance Corporation.

Book value. The value of an asset as recorded on the accounting books of an enterprise.

Branch banking. Geographic expansion of a bank by maintaining complete banking facilities and services in branch offices away from its main or head office.

Brokered deposits. The combination of funds from a number of individuals by a broker who deposits the funds as a single account with an insured institution on their behalf. Brokers may also place deposits with several insured institutions on behalf of an individual in order to break up a large amount of funds into several deposits that could then be fully covered by deposit insurance.

Canada Deposit Insurance Corporation (CDIC). The fund that insures deposits at Canadian depository institutions.

Capital. One of the major factors of production--the others being land and labor--which can be used to produce additional property or wealth. Capital may be held in the form of money or ownership claims, such as stocks and bonds. In business practice, the term may refer merely to the net worth of an enterprise or to all of the more permanent investments made by the owners.

Capital requirements. A minimum level of capital that a bank must have on reserve, usually expressed in terms of some ratio of capital to assets and recently revised to reflect the risk of the depository.

Catastrophic loss. A loss that bankrupts.

Certificates of deposit. A bank receipt for a cash deposit not subject to withdrawal for a stipulated length of time. The certificate may draw interest and may be negotiable (see **Time deposit**).

Closure rule. A rule for regulators to follow in determining when to close a troubled or insolvent financial institution.

Coinsurance. A form of insurance that shares the exposure to risk with the insured, usually in the form of a deductible.

Conservatorship. A legal form of organization used to administer the affairs of a financial institution once it is determined to be operating in an unsound manner.

Contagion. The spread of bank runs from one institution to another systemwide.

Credit union share draft account. A checking account deposit in the form of an ownership share of a credit union, which is a nonprofit depository based on a cooperative form of organization.

Deductible. An amount for which the insured is liable to pay, usually a fraction of the total coverage, but the insurance protection is reduced by that amount.

Depository institution. A financial institution, such as a bank, thrift, or credit union, that can receive deposits of money or other property.

Discount window. The mechanism used by Federal Reserve Banks to lend money to banks that are members of the Federal Reserve System or to depositories that hold reserves with Federal Reserve Banks. The discount rate is the rate of interest offered on loans made through the discount window. These loans are secured by assets of the borrowing bank.

Disintermediation. A sudden and pronounced shift of funds away from depositories, which are considered to be intermediaries between savers and borrowers, into higher-yield securities being invested directly by lenders to borrowers.

Equity. The net investment in a business enterprise (see **Capital**).

Federal Deposit Insurance Corporation (FDIC). The federal agency that administers the Bank Insurance Fund and the Savings Association Insurance Fund. Before the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the FDIC only insured deposits at commercial banks and some federally and state-chartered savings banks. Since FIRREA, the FDIC insures thrifts that were previously insured by the Federal Savings and Loan Insurance Corporation.

Federal Home Loan Bank Board. The rulemaking body of the Federal Home Loan Bank System, which included 12 regional Federal Home Loan Banks. The Bank Board administered the Federal Savings and Loan Insurance Corporation and was abolished by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989.

Federal Reserve System. Virtually the entire U.S. banking system responsible for the monetary and credit policies of the United States. Includes 12 Federal Reserve Banks, one located in each of 12 districts, governed by the Federal Reserve Board. As "lender of last resort," the Federal Reserve System permits member banks to borrow at discount. Notes issued by the Federal Reserve System are the only paper currency in circulation in the United States.

Federal Savings and Loan Insurance Corporation (FSLIC). The federal fund that insured deposits at thrift institutions. Abolished by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 and to be succeeded by the Savings Association Insurance Fund.

FIRREA. The abbreviation for the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the title of the thrift bailout bill (Public Law 101-73).

Full-service banking. The practice of banks offering a full array of financial services, including deposits, checking, credit or debit cards, commercial and mortgage lending, and so forth.

Gamble for resurrection. A term adopted by economists and others to describe the incentive of insolvent thrifts to resurrect themselves by investing in risky ventures.

Generally accepted accounting principles (GAAP). The standard rules of accounting used to measure and to record assets, liabilities, income, and costs on the financial books of an enterprise. Compare with RAP and TAP measures.

Goodwill. An intangible asset carried on the balance sheet of a firm, representing its value as an ongoing concern. Elements of goodwill include the favorable name and reputation of the firm and its existing relationships with both suppliers and customers.

Liability. A debt or obligation stated in terms of money. Liabilities are the side of a balance sheet that accounts for the obligations of an enterprise, including the net worth of the owners.

Liquidity. The relative ease with which an asset can be converted into money. Currency is the most liquid asset; buildings and real estate are less liquid.

Market value. The appraisal of the value of something on a market basis--that is, in a transaction between buyer and seller, thus reflecting current prices.

Moral hazard. A description of the incentive created by insurance that induces those insured to undertake greater risk than if they were uninsured because the negative consequences are passed through to the insurer.

Mutual institutions. A form of enterprise in which the depositors are owners. All credit unions are mutually held, as are many savings and loans and savings banks.

National banking system. The system of commercial banks created by the National Bank Act of 1864, which established the chartering of national banks under the supervision of the Comptroller of the Currency.

Negotiable order of withdrawal (NOW account). Checking account deposits that are offered at banks and thrifts and are permitted by law to pay interest to the depositor.

Nondepository institutions. Financial institutions that do not take deposits, such as mutual funds and securities firms.

Office of the Comptroller of the Currency (OCC). The agency of the Department of the Treasury that supervises and examines the operations of all national banks.

Office of Thrift Supervision (OTS). The agency of the Department of the Treasury created by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 to supervise thrifts.

Open-market operations. The buying and selling of government securities on the open market by the Federal Reserve System as its primary tool for affecting interest rates and changes in the money stock of the economy.

Postselection. An underwriting practice by which the insurer periodically reevaluates its assessment of the insured risk.

Premium. The amount paid for insurance protection. Premiums may be based on risk, with higher fees charged for higher risks, or nonrisk-related, with a uniform fee charged regardless of risk.

Present value. The value now of future income or future costs. The present value of money in the future is calculated by discounting it at a rate of interest equivalent to the rate at which it could be invested.

Principal-agent problem. A conflict of interests or incentives between one individual, the principal, and another who is employed to act as an agent on behalf of the first, resulting in different outcomes than what would take place if the principal acted alone.

Prudential supervision. Supervision by regulators to assure that the owners, directors, and managers of depository institutions act prudently.

Ratemaking. The process of determining appropriate insurance premiums.

Receivership. A legal form of organization used to administer the affairs of a financial institution that has been closed. The receiver takes possession of (but not title to) the assets of the institution, liquidates them, and uses the proceeds to pay creditors.

Reduced capital requirements. Lowering the capital-to-asset ratio required of depositories by regulators.

Regulatory accounting practice (RAP). An accounting measure used by regulators for valuing assets and liabilities. This acronym was created to distinguish the accounting practices of the Bank Board from the generally accepted accounting principles (GAAP).

Repo-market. Financial markets in which securities are sold with an agreement to repurchase on a fixed future date.

Resolution Trust Corporation (RTC). The temporary government agency established by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 to resolve failed thrift institutions. The chairman of the Federal Deposit Insurance Corporation is also the chairman of the RTC, which is governed by the FDIC's Oversight Board.

Risk-based capital requirements. Regulations that base requirements for capital on categories of assets classified according to risk.

Risk-based premiums. Premiums charged for insurance according to the level of risk.

Savings Association Insurance Fund (SAIF). The successor to the fund administered by the Federal Savings and Loan Insurance Corporation. SAIF is administered by the Federal Deposit Insurance Corporation.

Self-insurance. A system whereby enterprises agree to insure each other against loss, either by maintaining a reserve fund to which members contribute or by apportioning losses among surviving members after a loss occurs.

Subordinated debt. An obligation issued by an enterprise that is backed by its general credit but not secured by any specific property. This form of debt is subordinate to other types of debt, meaning it is low on the repayment list of the enterprise but above the claims of stockholders.

Tangible assets. Property that has substance, as distinct from intangible assets. Commonly used to refer to any property that can be accurately appraised.

TAP. An accounting practice that counts only assets that are tangible and liquid, like cash or physical property.

Time deposits. Deposits with a fixed date of maturity, such as certificates of deposit.

Underwriting. A standard insurance practice that assesses and covers a risk in exchange for a premium paid by the insured.

Uninsured creditors. Those to whom uninsured liabilities are owed.

Uninsured liability. An obligation to pay that is not insured, which at an insured depository institution would currently be those deposits over the insured limit of \$100,000.

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