

banks. Because such a reduction in the money supply can be offset by supplying additional reserves to the banking system, justifying deposit insurance to eliminate a bank-run-induced multiple contraction of the money supply is not warranted.

In order to justify deposit insurance, one must understand not only the costs associated with its administration, but also the benefits of having deposit insurance. The preceding discussion indicates that an analysis of contagious bank failures is necessary in order to understand these benefits.

Part II of this article, presented in the upcoming February 15 *Economic Commentary*, concludes with an examination of contagious bank runs and a discussion of how the banking system prior to the Federal Reserve System handled such problems.

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*The views stated herein are those of the author and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System.*

#### ■ Footnotes

1. In 1934, the first year the FDIC operated, depositors were insured up to a maximum of \$2,500 (which amounts to approximately \$22,000 today). This maximum increased slowly until 1982, when it increased from \$40,000 to its current level of \$100,000.

2. See "1987 Bank Failures Set Post-Depression Record," *The Washington Post*, January 6, 1988.

3. See George G. Kaufman, "The Truth About Bank Runs," Staff Memoranda SM-87-3, Federal Reserve Bank of Chicago, April 1987.

4. See Daria B. Caliguire and James B. Thomson, "FDIC Policies for Dealing with Failed and Troubled Institutions," *Economic Commentary*, Federal Reserve Bank of Cleveland, October 1, 1987.

5. See George J. Benston, Robert A. Eisenbeis, Paul M. Horvitz, Edward J. Kane,

and George G. Kaufman, *Perspectives on Safe and Sound Banking: Past, Present, and Future*, Cambridge, MA: The MIT Press, 1986, pp. 1-4.

6. See "Study Says Bad Management Had Key Role in Bank Failures," *The Washington Post*, January 21, 1988.

7. See George J. Benston and George G. Kaufman, "Risk and Solvency Regulation of Depository Institutions: Past Policies and Current Options," Staff Memoranda SM-88-1, Federal Reserve Bank of Chicago, 1988. This is not meant to imply that deposit insurance is the only reason for the decline in banks' capital-to-asset ratios.

8. See Edward J. Kane, *The Gathering Crisis in Federal Deposit Insurance*, Cambridge, MA: The MIT Press, 1985, p. 20.

9. See "Two Big Alaska Banks Unveil Rescue Plan," *The American Banker*, October 8, 1987.

10. In fact, in the thrift industry, financial health is usually not regained. See "Thrift Industry: Forbearance for Troubled Institutions, 1982-1986," U.S. General Accounting Office Briefing Report, May 1987.

11. See Benston, et al., op. cit., p. 64. Some investors did not receive their money until years later. If capital markets are efficient, however, depositors would have been able to borrow against a portion of their likely settlement.

12. This same argument has been used to contend that deposit insurance should cover deposits only up to a maximum of \$5,000 to \$10,000.

## ECONOMIC COMMENTARY

Federal Reserve Bank of Cleveland

# Bank Runs, Deposit Insurance, and Bank Regulation, Part I

by Charles T. Carlstrom

As long as there have been banks, there have been bank runs. Unlike the failure of mom-and-pop grocery stores (or Lockheed, for that matter), bank failures are frequently viewed as contagious—able to cause other bank runs and lead to failures of otherwise solvent banks.

A rumor or a hunch that a bank is in trouble can lead to its demise. Thus, the fear that a bank "might" be in trouble can be a self-fulfilling prophecy.

Haunted by the contagion of bank failures that occurred during the Great Depression, regulators are still wary of letting banks fail. Large banks in particular are a cause of concern, because the potential spillover effects are thought to be excessive.

Along with other bank regulators, the Federal Deposit Insurance Corporation (FDIC) has an implicit mandate to maintain confidence in, and provide stability to, the commercial banking system. A principal method of achieving this mandate is by insuring depositors for losses up to a current maximum of \$100,000.<sup>1</sup>

The justification for FDIC insurance is simply that insured depositors will no

longer have an incentive to pull their money out of a bank that is merely rumored to be insolvent. Unfortunately, federal deposit insurance provides little incentive for insured depositors to withdraw their funds from a bank that actually is insolvent.

For nearly 50 years after its inception in 1934, the FDIC was considered successful in fulfilling its mandate. The banking system grew rapidly with few bank failures, and none widespread enough to threaten the entire system. Since 1981, however, the number of bank failures has increased sharply. In 1987 there were 184 bank closings, and an additional 19 required FDIC assistance to stay afloat.<sup>2</sup> Bank failures are currently at their highest level since the Great Depression.

This *Economic Commentary*, presented in two parts, discusses whether federally provided deposit insurance is necessary to prevent widespread bank runs by exploring some of the myths and folklore associated with bank runs. Adam Smith argued that the invisible hand of self-interest leads men to effectually promote the interests of society. We attempt to analyze whether this invisible hand extends into the banking industry by examining both the causes and cures of bank runs.

Widespread bank failures are often thought to be a possible consequence of a banking system without federal deposit insurance. This article considers whether federal deposit insurance is necessary to prevent bank runs. Part I describes some of the costs of providing deposit insurance and then introduces its justification and benefits. Part II, presented in the upcoming February 15 *Economic Commentary*, concludes with an examination of contagious bank runs and a discussion of how the market handled banking panics prior to the Federal Reserve System and the Federal Deposit Insurance Corporation.

#### ■ The Nature of Bank Runs

A bank run can occur when some of a bank's depositors perceive the bank to be insolvent or expect insolvency to occur.

If banks are like other businesses, then a bank run would be quite acceptable as a source of market discipline. For example, if the public

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thought that a bank's manager had embezzled a substantial portion of the bank's capital, depositors would have an incentive to withdraw their money. If a substantial portion of a bank's deposits were withdrawn, the bank would then be forced to close.

The threat of being run on and closed down provides the incentive for stockholders to spend the necessary resources to monitor their employees. The potential for bank runs also creates the incentive necessary to stop banks from undertaking excessively risky investments: those in which there is a high probability of failure as well as success.<sup>3</sup>

#### ■ The Costs of Providing Deposit Insurance

Deposit insurance circumvents the market discipline of insured depositors. Because their funds are guaranteed, insured depositors (those with deposits less than or equal to \$100,000) have little incentive to place their money in a safe, well-managed bank. Similarly, if they discover that a bank is not financially viable, they have no incentive to withdraw their money from the bank. Therefore, unless regulators promptly close insolvent institutions, it is up to the shareholders and the uninsured depositors to impose discipline on troubled banks.

The role of uninsured depositors may be quite small under the present system, however. Since a depositor can have several accounts of \$100,000, the de facto maximum of deposit insurance is many times greater than the stated legal limit of \$100,000. And, because of the failure-resolution policies that have been applied to some large banks (for example, Continental Illinois, First City, and First Republic), the perception exists that some banks are too big to fail and that all depositors in these banks are, in effect, insured.<sup>4</sup> Both of these factors work to reduce the disciplinary action of depositors.

Deposit insurance provides banks with a no-risk source of funding. Without the threat of bank runs, stockholders and senior management in the existing regulatory environment have reduced incentive to monitor their employees to minimize insider dealing, bank fraud, and simple incompetence.

It may not be a surprise that fraud and embezzlement have been the primary causes of bank failures.<sup>5</sup> According to a recent study by the Office of the Comptroller of the Currency, since 1979 "poor management, either by the bank officers, the board of directors, or both, played a significant role in 89 percent of the failures."<sup>6</sup>

Deposit insurance also reduces the amount of capital a bank chooses to maintain. A higher capital-to-asset ratio enables a bank to borrow money more easily in case of financial difficulty. By guaranteeing insured depositors against losses, the risk of bank runs, as well as the amount of capital that is necessary to protect a bank from withdrawals, is lessened.

At the turn of the century, capital-to-asset ratios were 20 percent; by the 1930s, they had declined to about 15 percent. Today the capital-to-asset ratio is approximately 7 percent—substantially less than the capital ratios of other industries.<sup>7</sup> Concern about the decrease in bank profitability and the increase in bank failures during the 1970s led to increased concern about capital adequacy and, in 1983, to enactment of a law that provided bank regulators with the legal authority to enforce minimum capital standards.

Along with limited liability, deposit insurance creates an incentive for banks to hold more risky investment portfolios. Bank owners reap the rewards when a bank's investment succeeds, but because of limited liability, the FDIC—and perhaps the taxpayers as well—shares in the losses when an investment fails.

Deposit insurance further reduces the incentives for banks to avoid risky investments, because a bank does not have to compensate its depositors (by paying them a higher interest rate) when it undertakes substantial risks. This problem is aggravated by the recent failure-resolution policies applied to some large banks. Such policies have served to erode the market's discipline further and to subsidize these banks just because they are large.

#### ■ Bank Regulation and Deposit Insurance

Bank regulators are aware of these problems. Not only can regulators impose minimum capital requirements on banks, but they are empowered to close down banks that are not solvent and to assist banks that are becoming insolvent.

Traditionally, bank regulators did not have the power to close a bank when its market value reached zero. Instead, they could close a bank only after its book value became negative.<sup>8</sup> Even then, however, a bank was not necessarily closed down, as the recent FDIC-assisted merger of Alaska Mutual and United Bankcorporation of Alaska indicates.<sup>9</sup> With the Competitive Equality Banking Act of 1987, chartering authorities can now close a bank when book insolvency appears imminent.

This forbearance occurs even though the FDIC may spend more money later to bail out such banks. While it is true that an insolvent bank may later become financially viable, the Alaskan situation illustrates that financial health may not be regained.<sup>10</sup>

The incentive to take on more risk is especially prevalent for a bank that is close to being shut down. The threat that regulators might close a bank can lead a bank's manager to make investments that have a small chance of a large payoff and a larger chance of

expected loss. In the outside chance that the gamble pays off, the manager saves the bank and hence his job; if the gamble fails, the bank goes out with a bang instead of a whimper. Although this scenario is not firmly established in banking, the precedent has been set in the thrift industry.

The longer the FDIC waits to close a bank, the greater the incentive for the bank to undertake risky investments. If an insolvent bank is not closed promptly, then the losses to shareholders are postponed. Because a dollar in the future is worth less than a dollar today, postponing shareholders' losses provides an extra indirect subsidy.

Besides closing banks when they first become insolvent, another way to lessen the negative aspects of deposit insurance is for regulators to charge banks an insurance premium based on the riskiness of their portfolios. Risk-taking would be punished by requiring the bank to pay higher premiums. However, Congress has long been opposed to any plan that would allow the FDIC to charge different premiums to different banks.

Absent these measures, the best ways to strengthen market discipline are to sharply reduce the legal limit of deposit insurance, to limit insurance to one account per person, to assist only insured depositors, and to send a signal to the market that no banks are too large to let fail.

■ The Case for Deposit Insurance Supporters of the current deposit insurance and regulatory system generally respond to these criticisms on two fronts. First, while the FDIC is interested in economic efficiency, it is also interested in equity considerations, that is, in protecting the interests of the small or less-informed depositor. Second, while inefficiencies and moral hazards are the costs of providing deposit insurance, the benefits of deposit insurance are even

greater than the costs, because a bank is unlike other forms of business.

Unfortunately, using deposit insurance to protect the less-informed diminishes the incentives for them to become informed. If the objective is to protect the small depositors, one might question the need to insure depositors up to a current maximum of \$100,000, to extend coverage to more than one account, or to protect uninsured depositors.

Society should ask itself not only whether it wants to protect certain depositors who lose money in bank runs, but also how much protection to provide in the most cost-effective way. For example, the federal government could allow an income tax credit so that depositors could deduct their losses, up to a legislated maximum.

Justifying deposit insurance because depositors lost money due to bank failures prior to the FDIC is also tenuous, because these losses were generally small. From 1930 to 1933, depositors of failed banks lost only 0.81 percent on average. During noncrisis years, losses to depositors averaged only 0.07 percent.<sup>11</sup>

Losses have typically been small because rational depositors run on a bank when they first perceive it to be insolvent. Given that depositors in failed institutions generally receive more than 99 cents on the dollar even during bad times, one might well question whether deposit insurance is necessary to protect the vast majority of depositors.

The most important argument in support of deposit insurance is that banks are not like other businesses. They are potentially special because 1) bank failures can cause undue economic hardship in a community, 2) the economy depends on the safety and security of the banking system, which could potentially be upset

if some larger banks were to fail, and 3) bank failures can be contagious and can cause otherwise solvent banks to fail.

The first argument, that banks are special because bank failures could impose a hardship in a particular geographical area, is not unique to banking. The closing of a mill in a one-mill town would be at least as devastating as the closing of the town's only bank.

In the absence of laws against branch banking, a bank failure would typically result in the transfer of ownership from a poorly managed banking firm to a banking company that is potentially better managed. It is the presence of regulations against branch banking and the restrictive policies of bank chartering agencies that can cause economic hardships when a bank closes in a small town.

Another potential reason for protecting banks is the argument that a well-functioning market economy depends on the security of the banking system. Because banks facilitate savings and investment, a large number of bank failures can have real effects.

The potential for a series of bank runs to threaten the banking system is limited, however, because the failure of a few banks would tend to strengthen the remaining banks. This is because large depositors who have a high opportunity cost of holding their assets in cash would redeposit their money in sound banks.<sup>12</sup> The exception to this rule is when a bank failure causes a run on otherwise sound banks.

A series of bank runs may also hamper economic activity because widespread bank failures can cause a significant drop in the money supply. The money supply contracted during the Great Depression because individuals decided to hold their money in currency instead of depositing it in