

ECONOMIC COMMENTARY

Federal Reserve Bank of Cleveland

Underlying Causes of Commercial Bank Failures in the 1980s

by Lynn D. Seballos and James B. Thomson

Although the past decade produced the longest peacetime economic expansion since World War II, the 1980s also generated the greatest number of commercial bank failures since the Great Depression. More than 200 banks failed each year from 1987 through 1989, and the average annual failure rate for the decade was almost nine times the average annual level between 1934 and 1979.¹ To place these two conflicting trends in perspective, more than 24 times as many banks failed in this expansion as failed during the upswing of the 1960s, which until now was the longest sustained postwar expansion (see figure 1).²

At this point, there appears to be no relief in sight. More than 100 banks failed in the first half of this year, and with regulators classifying nearly 10 percent of all banks as problem institutions, failures are expected to average 150 to 200 per year for the next several years. Recent commercial real estate difficulties, especially in the Northeast and Southwest, will likely add to the number of problem and failed banks in the 1990s.³

Why are bank failures hitting record rates during good economic times? There are two probable causes. First, the U.S. banking system is a regional system. Economic slumps in specific areas of the country, which do not necessarily coincide with national downturns, may be

partly responsible for the upsurge. Second, the rise in the failure rate may be traced to the behavior of bank management in increasingly deregulated and competitive financial markets. This *Economic Commentary* investigates the role each of these factors may have played in the failures of banks between 1982 and 1989. We conclude that while regional economic problems contributed to the demise of many of the banks during this period, a bank's ability to survive is ultimately determined by managerial factors.

■ Regional Influences

The historical preference for geographically limited banking in this country has resulted in a fragmented regional banking structure at the national level, which ties bank performance more closely to the regional rather than the national economy. This occurs because branching restrictions at the national and sometimes the state level limit where banks can locate their offices. This, in turn, limits the geographic diversification of a bank's portfolio, as the majority of the bank's loans are made in areas where it has a physical presence; consequently, the quality of these loans is heavily dependent on the fortunes of the region. It is no accident that bank failures in the 1980s were concentrated in states that experienced downturns in important economic sectors, such as oil, agriculture, and real estate.

Banks failed at record rates during the past decade, and no relief appears to be in sight. This article examines the contributions of economic and managerial factors to the highest bank failure rate since the Great Depression.

During the early part of the decade, problems in agriculture seemed to be driving bank failures. As seen in figure 2, banks classified as agricultural (with more than 25 percent of their loans in this sector) accounted for a large percentage of the failures in the mid-1980s. The percentage of failed banks that were categorized as agricultural rose from 30 percent in 1984 to a peak of almost 55 percent in 1985. Between 1986 and 1989, however, that ratio fell from 41 percent to less than 8 percent, a drop-off that can be traced to two factors. First, the agricultural sector bottomed out and began to recover in the latter half of the decade, which resulted in a decline in the total number of agricultural banks failing after 1985. Second, total bank failures swelled dramatically in the last half of the 1980s as the downturn in the real estate market in the Southwest and the West added to the economic woes of regions already depressed by the deterioration of the energy-producing sector.

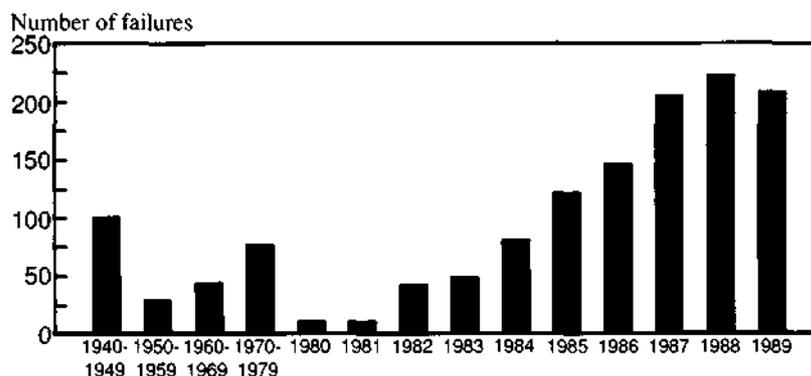
As table 1 shows, the states experiencing the most bank failures between 1982 and 1989 were Texas, with 368, and Oklahoma, with 109. Texas alone accounted for 35 percent of all failed commercial banks insured by the Federal Deposit Insurance Corporation (FDIC). The seriousness of the financial problems in the Southwest is illustrated by the demise of seven of the eight largest banks in Texas and two of the largest banks in Oklahoma.⁴

Furthermore, the southern region of the nation comprising Texas, Oklahoma, Louisiana, and Arkansas—an area heavily dependent on its energy-producing and agricultural sectors—was responsible for more than 50 percent of all commercial bank failures from 1982 through 1989. The North Central region, made up of the agriculturally important states of Minnesota, Iowa, Missouri, the Dakotas, Nebraska, and Kansas, accounted for 20 percent of all bank failures during this same period.⁵

To investigate further the relationship between regional economic activity and bank failures, we compare measures of statewide economic performance for banks that failed between 1982 and 1989 with those for banks that did not fail. Our measures of local economic health are year-to-year percent changes in personal income (CPINC) and Dun and Bradstreet's small-business failure rate (BFAILR) for the state in which the bank's main office is located, as shown in table 2.

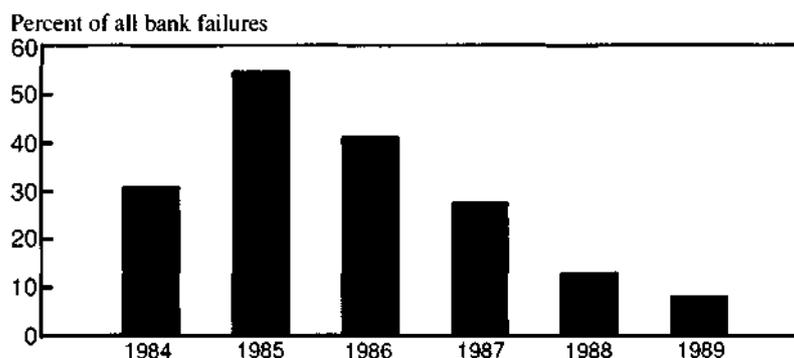
Banks that failed between 1982 and 1989 tend to be in states with smaller increases in personal income than the banks in our nonfailed sample. Likewise, failed banks tend to be located in states with higher small-business failure rates than those of the nonfailed banks. Both of these differences hold when we look at data six to 12 months and 42 to 48 months before a bank's failure date. In addition, we find a significant positive relationship between the number of bank failures and business failures in a state and a significant negative relationship between

FIGURE 1 U.S. BANK FAILURES



SOURCES: Federal Deposit Insurance Corporation, *Annual Reports*, and *American Banker*.

FIGURE 2 U.S. AGRICULTURAL BANK FAILURES



SOURCE: Authors' calculations.

growth in state-level personal income and the number of bank failures in the state.⁶ Therefore, the strength of the local economy as measured by growth in personal income and by business conditions has a direct influence on the health of the state's banking sector.

■ Managerial Determinants

While regional economic performance clearly affects the health of the financial sector, it does not fully explain why some banks fail. For example, the Midwest endured a severe economic downturn in the late 1970s and early 1980s without a large rise in bank failures. In addition, even in states like Texas, where bank failure rates are high, the majority of banks did not fail in the past decade. In other words, the ultimate determinant of whether or not a bank fails is the ability of its management to operate the institution efficiently and to evaluate and manage risk.

One of the most important managerial decision variables is the bank's capital.

Capital is the cushion against unexpected losses and is directly related to the bank's ability to survive downturns in the economy. Capital adequacy is typically measured as the ratio of a bank's book-equity capital plus the reserve for loan losses to total assets. Table 2 shows that 42 to 48 months before failure, the measure of capital adequacy (CAPTA) is higher on average for the failed banks than for the nonfailed sample. However, six to 12 months before failure, banks that failed had significantly less capital per dollar of assets than those banks in the nonfailed sample. The change in the relative capital adequacy of the failed and nonfailed samples as the failure date approaches is primarily due to a deterioration of the capital adequacy measure for the failed sample. One explanation for the counterintuitive results in the longer time-to-failure sample is that the capital of failed banks was eroded over time as their regional economic conditions deteriorated.

TABLE 1 NUMBER OF BANK FAILURES BY STATE, 1982-1989

| | | | | | |
|----------------------|----|----------------|----|----------------|-----|
| Alabama | 8 | Kentucky | 6 | North Dakota | 5 |
| Alaska | 7 | Louisiana | 59 | Ohio | 3 |
| Arizona | 7 | Maine | 0 | Oklahoma | 109 |
| Arkansas | 8 | Maryland | 0 | Oregon | 15 |
| California | 40 | Massachusetts | 4 | Pennsylvania | 2 |
| Colorado | 46 | Michigan | 3 | Rhode Island | 0 |
| Connecticut | 1 | Minnesota | 36 | South Carolina | 0 |
| Delaware | 1 | Mississippi | 2 | South Dakota | 7 |
| District of Columbia | 0 | Missouri | 32 | Tennessee | 34 |
| Florida | 19 | Montana | 9 | Texas | 368 |
| Georgia | 0 | Nebraska | 33 | Utah | 11 |
| Hawaii | 0 | Nevada | 1 | Vermont | 0 |
| Idaho | 1 | New Hampshire | 0 | Virginia | 2 |
| Illinois | 24 | New Jersey | 3 | Washington | 3 |
| Indiana | 8 | New Mexico | 6 | West Virginia | 3 |
| Iowa | 39 | New York | 16 | Wisconsin | 2 |
| Kansas | 59 | North Carolina | 0 | Wyoming | 20 |

SOURCES: *American Banker*, various issues, and the Federal Deposit Insurance Corporation.

TABLE 2 RISK MEASURES AND STATEWIDE ECONOMIC PERFORMANCE IN FAILED AND NONFAILED BANKS, 1982-1989

| Variable | Means, six- to 12-month sample | | Means, 42- to 48-month sample | |
|----------|--------------------------------|-----------------------|-------------------------------|----------------------|
| | Failed | Nonfailed | Failed | Nonfailed |
| CAPTA | 0.0609 | 0.0946 ^a | 0.1011 | 0.0932 ^a |
| NPLTA | 0.0713 | 0.0137 ^a | 0.0180 | 0.0127 ^a |
| LOANTA | 0.6325 | 0.4999 ^a | 0.6014 | 0.5184 ^a |
| NCLNG | 0.0284 | 0.0044 ^a | 0.0149 | 0.0026 |
| OVRHDTA | 0.0043 | 0.0023 ^a | 0.0034 | 0.0022 ^a |
| INSIDELN | 0.0143 | 0.0051 ^a | 0.0155 | 0.0050 ^a |
| LIQ | 0.1736 | 0.1542 | 0.2669 | 0.2040 ^a |
| CPINC | 0.0440 | 0.0631 ^a | 0.0662 | 0.0792 ^a |
| BFAILR | 162.1608 | 105.3184 ^a | 92.8652 | 72.0474 ^a |

CAPTA = Capital adequacy: ratio of book equity plus the reserve for loan losses to total assets.

NPLTA = Ratio of nonperforming loans to total assets.

LOANTA = Ratio of loans to total assets.

NCLNG = Ratio of net charge-offs to total loans.

OVRHDTA = Overhead as a percent of total assets.

INSIDELN = Loans to insiders as a percent of total assets.

LIQ = Liquidity: ratio of nondeposit liabilities to liquid assets.

CPINC = Percent change in state-level personal income.

BFAILR = Dun and Bradstreet's state-level personal small business failure rate per 10,000 firms.

a. A t-test indicates that the differences in the means are significant at the 1 percent level.

NOTE: A chi-square test indicates that collectively the variables are significantly different at the 1 percent level between the failed and nonfailed samples in each time period.

SOURCE: Authors' calculations.

Also critical in determining bank-failure outcomes is the ability of management to evaluate and control credit or default risk in the bank's asset portfolio. In both sample periods shown in table 2, failed banks had a significantly higher ratio of loans to assets (LOANTA), a significantly higher ratio of nonperforming or bad loans to total assets (NPLTA), and a higher level of losses per dollar of loans

(NCLNG). In other words, banks that failed tended to hold riskier portfolios with higher default rates and losses than institutions in the nonfailed sample. Note that although adverse regional economic conditions may lead to a higher level of nonperforming loans and net losses on the loan portfolio, they cannot explain the higher

percentage of loans held by the banks that failed.

A second type of risk that bank managers must evaluate and monitor is liquidity risk, which arises because the bank issues short-term liquid liabilities to fund longer-term loans that are less liquid. The less liquid a bank, the greater the chance it will not be able to meet unforeseen deposit outflows. We measure liquidity risk (LIQ) as the ratio of nondeposit liabilities to cash and investment securities. This variable is inversely related to the liquidity of the bank. As expected, banks that failed held less-liquid portfolios than the nonfailed banks in both time periods (although the difference is not significant in the six- to 12-month period before failure). Therefore, banks that expose themselves to more liquidity risk are more likely to fail than ones that are relatively less exposed.

A third factor in the ability of a bank to survive is its efficiency. More-efficient banks are better able to withstand adverse economic conditions and to survive in increasingly competitive financial markets. They also should be able to operate with fewer fixed assets: the more efficient the bank, the lower overhead as a percentage of assets (OVRHDTA) should be. As expected, banks in the failed sample had significantly higher overhead expense per dollar of assets in both sample periods.

Finally, fraud and insider abuse are a major cause of bank failures.⁷ For instance, Graham and Horner find that in 35 percent of the failures of nationally chartered banks from 1980 to 1987, insider abuse or criminal fraud was present to some degree.⁸ The reasoning is as follows: even if an inside loan is not fraudulent by nature, it cannot be made with the same objective standards as other loans because the loan officer's evaluation of the borrower's creditworthiness is clouded by the "inside" relationship. Table 2 shows that, on average, failed banks made three times as many loans to insiders (INSIDELN) as did those in the nonfailed sample.

■ Conclusion

Why have bank failures hit post-Depression highs in the 1980s? Two reasons are probable. First, compared with earlier economic expansions, local economic performance was uneven during the decade, as regions heavily dependent on energy and agriculture experienced severe problems. Banks in these regions were particularly hard hit because the geographic diversification of their portfolios was artificially limited by branching restrictions at the national and sometimes even the state level. Second, as banking markets have become less regulated and more competitive, lending margins have shrunk and the task of managing banks' risk exposure has become more complex and difficult. Two decades ago, bank managers were faced primarily with managing credit risk. In the 1980s, however, they also had to contend with new sources of risk arising from deregulated deposit markets and from a more volatile interest-rate environment.

Indeed, the banking industry faces a new era of greater uncertainty under deregulation. As increased competition continues to weed out marginal banks, it is likely that the number of bank failures will remain historically high during the 1990s.

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■ Footnotes

1. We define a failed bank as any bank that is closed, is merged with assistance, or requires federal assistance to remain open. For a discussion of options for handling these situations, 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.
2. Even though the bank failure rate in the 1980s is high by historical standards, it is still low relative to the failure rate for general businesses. For example, the 145 bank failures in 1986 represent an annual failure rate of 1 percent, much lower than the 8.7 percent annual failure rate for general businesses in 1986.
3. The increase in bank failures in the 1980s was accompanied by an increase in the cost of resolving those failures. For banks failing in 1985 and 1986, failure-resolution cost estimates averaged 33 percent of failed bank assets, and the loss to the Federal Deposit Insurance Corporation (FDIC) has been estimated at as much as 64 percent of banks' assets. See John F. Bovenzi and Arthur J. Murton, "Resolution Costs of Bank Failures," *FDIC Banking Review*, vol. 1 (Fall 1988), pp. 1-13.
4. The large banks in this region that were either closed and sold with FDIC assistance or that required a capital infusion from the FDIC to remain open include BancTexas, First City Bancorporation of Dallas, First Republic Bank Corporation of Dallas, MCorp, Texas American Bankshares, National Bank of Texas, First Oklahoma, and National Bank of Oklahoma. In addition, both Texas Commerce Bankshares and Allied Bankshares had to seek merger partners to stave off insolvency in the 1980s.

5. See Dun and Bradstreet's *Business Failure Record* for a listing of its nine regions.

6. The Spearman rank-order correlation coefficient between the number of failures in a state and BFAILR is 0.18431 and 0.35537 for the 42- to 48-month and the six- to 12-month samples, respectively. The correlation between the number of bank failures and CPINC is -0.11473 and -0.25991 for the 42- to 48-month and the six- to 12-month samples, respectively. All of the correlations have the expected sign and are significantly different from zero at the 1 percent level.

7. An insider is anyone with a fiduciary responsibility to the bank and includes the friends and relatives of bank officers and directors.

8. See Fred C. Graham and James E. Horner, "Bank Failure: An Evaluation of the Factors Contributing to the Failure of National Banks," in *The Financial Services Industry in the Year 2000: Risk and Efficiency*, Proceedings from a Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago (May 1988), pp. 405-435.

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