
FRBSF WEEKLY LETTER

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The Health of Banks and Thrifts

The many recent reports in the financial press about bank and thrift failures raise doubts about the health of the industry. In 1985, approximately 120 banks failed — the largest number since the Great Depression, and several large thrifts also have failed recently. Moreover, some analysts report that the net worth of the thrift industry as well as the reserves of the Federal Savings and Loan Insurance Corporation (FSLIC) are dangerously low.

As this bad news has been appearing, the overall stock prices of large publicly traded banks and thrifts have been performing remarkably well. This *Letter* assesses what this good stock market performance implies for the health of these institutions and the stability of the financial system as a whole.

The role of capital

Capital plays a key role in insulating depositors (and other liability holders) from variations in the return on depositories' assets. The larger the portion of assets funded with capital, the larger the range of returns on assets that are consistent with meeting obligations on liabilities. When the return on assets is insufficient to make the promised payments on deposits and debt, cash flow is negative; and if the situation persists, insolvency follows.

With our current system of deposit insurance, the wealth of insured depositors may not be affected. However, the insurance funds can suffer losses. Thus, the level and variance in the return on assets and the proportion of assets funded with capital are important determinants of the extent of such losses. All other things equal, a depository industry with more capital relative to assets will experience fewer failures, will be more stable, and will be less likely to threaten the insurance funds.

Sources of current problems

The unstable economy of the 1970s and early 1980s, with fluctuating inflation and interest rates, appears to have caused many problems for banks and thrifts. Variable inflation and interest

rates most obviously have caused problems for thrifts. In the aggregate, thrifts suffered severe losses during 1981 and 1982 as interest rates rose to record levels. The rise in interest rates also greatly reduced the market value of thrifts' assets while changing little the value of their liabilities. Some even argue that the thrift industry's net worth virtually was destroyed in this episode.

Less obviously, unanticipated changes in the rate of inflation appear to have caused large changes in the relative prices of some assets. Real estate and farm land are examples of assets whose (real) values skyrocketed with inflation and fell with a return to more stable prices, creating problems for banks and thrifts with large exposures in these areas.

To assess how much the episodes of the late 1970s and early 1980s weakened publicly traded banks and thrifts, and whether these institutions' prospects have significantly improved since then, I next present evidence on how their capital has behaved.

Measuring capital

There are two approaches to measuring capital. One relies on book (accounting) values of tangible assets and liabilities, and the other uses stock price data. These approaches, however, sometimes lead to quite different conclusions about financial health.

Book-value net worth can be calculated easily for virtually all institutions, but when asset values change radically (because, for example, of changing interest rates or probabilities of default), historical book values of long-term assets bear little relation to their current market values. Thus, book-value measures of net worth can be very misleading.

For a depository whose stock is traded, the market value of that stock (price per share times the number of shares) represents the market value of the firm. This value includes not only financial

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capital, but "goodwill", the value of the charter (created by regulatory restrictions on entry) and the value of the implicit guarantee of deposit insurance. To the extent that deposit insurance is subsidized, its implicit value could be an important component of the aggregate capital of depository institutions.

The value of the deposit insurance guarantee increases as other components of capital decline or as the variability of return on assets increases. Thus, a rise in the market value of a depository's financial assets may not be fully reflected in its stock price. In addition, the value of the insurance guarantee varies directly with changes in the effective coverage of an institution's liabilities as well as the willingness of regulatory agencies to let institutions continue to operate with negative net worth. Thus, in interpreting a change in stock prices, it is important to distinguish between changes in financial net worth and changes in the insurance guarantee.

Evidence on market values

Although relatively few banks' and thrifts' stocks are publicly traded, stock prices are available for the holding companies of the largest institutions. The charts depict market and book values of capital-to-asset ratios for a group of 57 banks and 14 S&Ls. The assets of the 57 banks constitute approximately 55 percent of total bank assets. The 14 S&Ls' assets are about 10 percent of all FSLIC-insured institutions' assets.

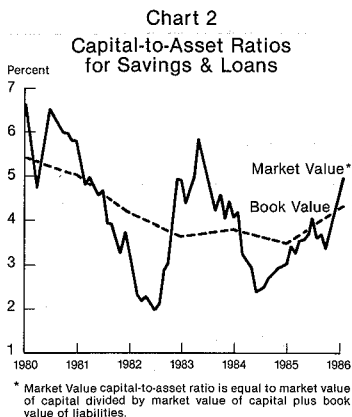
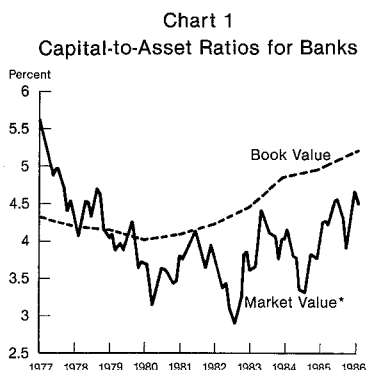
In Chart 1, a market-based measure of aggregate capital to assets is plotted along with a book-value measure for the group of 57 banks. (The market-based measure is equal to the market value of capital divided by the market value of capital plus the book value of liabilities, which equals the market value of assets assuming the market and book values of liabilities are equal). The chart shows that this group of banks' market-value capital-to-asset ratios declined from a high in 1976 of almost 6 percent to a trough of about 3 percent in mid-1982 even though book values varied little. This decline in market value is consistent with widespread concerns that the financial system was becoming increasingly fragile. Since the trough in mid-1982, market-value capital-to-asset ratios have improved considerably, reaching approximately 4.5 percent.

If the rise in the market value of capital since 1982 is due to an increase in the market's valuation of banks' assets (and not an increase in the value of the insurance guarantee) and if the return on banks' assets has not become riskier, this increase in capital means that this group of banks is now much better able to weather future financial storms than it was three years ago.

Although some might argue that the rescue of Continental Illinois Bank in mid-1984 represented an effective increase in insurance coverage (which would also lead to an increase in observed market values), Frederick Furlong (this *Letter*, August 31, 1984) has presented evidence that the episode did not alter market perceptions of the degree of insurance coverage. Even if there were an implicit increase in insurance coverage in 1984, it would have been fully reflected in market values then and would not explain subsequent changes in market values. In addition, in an analysis of the variation of banks' stock prices compared to the market as a whole, Jack Beebe (this *Letter*, July 17, 1985) found no evidence that the underlying risk on banks' assets has increased. Thus, it appears that publicly traded banks are much healthier than they were three years ago.

Whether the current 4.5 percent level of (market-value) capital is "adequate" is an open question, however, especially since it is still below the 5.75 percent level of late 1977. The improved capital position of these banks since 1982 certainly does not mean that banks' problems are over. Increases in the industry's aggregate capital improves its likelihood of surviving future shocks, but it does not mean that individual failures will not continue.

Failures depend on the capital level of individual institutions. Although the percentage of banks with less than 2 percent (market value) capital in my sample has declined from over 10 percent in mid-1982 to about 5 percent currently, it is still 1.5 percentage points higher than it was in late 1977. Moreover, some smaller, non-publicly traded banks, such as agricultural banks, have much different portfolios and likely have not experienced the same sort of increases in market value capital as large publicly traded banks. Nevertheless, these 57 publicly traded banks



hold over 50 percent of all bank assets, and their improved health as a group bodes well for the health of the banking industry as a whole.

Chart 2 depicts a similar plot for 14 S&Ls for December 1979 through January 1986. Even more so than the banks, these S&Ls' capital was severely depleted by mid-1982, with aggregate market-value capital-to-asset ratios falling from 7 percent in late 1979 to 2 percent in mid-1982.

Unlike banks, statistical evidence (not presented) shows that S&Ls' market capital values move very strongly in an inverse relationship to long-term interest rates. (This might be expected since S&Ls' primary asset consists of long-term mortgages.) Thus, the increase in S&Ls' capital since early 1984 has been due in large part to declining interest rates. Currently, these S&Ls' market-based capital-to-asset ratios have risen to about 5 percent. While this suggests a much improved position since mid-1982, capital-to-asset ratios are still far below their levels of late 1979.

An increase in thrifts' overall capital, however, does not imply that all thrifts have positive finan-

cial capital. Indeed, as several analysts have argued, some "insolvent" thrifts are still operating. However, the percentage of thrifts in my sample with less than 2 percent capital (based on market value) has declined from almost 80 percent in mid-1982 (and 65 percent in late 1984) to approximately 7 percent now.

There still remains the question of what level of thrift capital is adequate. Statistical evidence (not presented) indicates that thrifts' (market) capital values have been highly variable over the past few years compared to stock prices in general and the capital of banks. This suggests that risk associated with the return on thrifts' assets exceeds banks' by a wide margin. Thus, unless the variability of interest rates has declined (which some analysts claim), the current 5 percent capital-to-asset ratio for these thrifts offers less protection for liability holders and the insurance fund than would the same ratio for banks.

Conclusions

The stability of the depository industry as a whole depends on its overall level of capital relative to assets for any given level of risk. An industry with very little capital is unlikely to survive even a mild financial shock. By mid-1982, the market value of capital of publicly traded thrifts and, to a lesser extent, banks had dropped to levels that raised questions about the strength of the financial system.

Since mid-1982, market-based capital-to-asset ratios of this group of banks and thrifts have increased, both absolutely and relative to book-value measures. Moreover, the percentage of publicly traded institutions with very low capital-to-asset ratios based on market valuations has declined substantially. However, because market value capital-to-asset ratios have not yet returned to the levels of the late 1970s, one might legitimately question whether current capital levels are in any sense "adequate".

The evidence in this *Letter* suggests that, unlike the impression one might gain from a casual reading of the financial press, the news on banks and thrifts is not all bad. The system as a whole seems much less fragile than it was three years ago.

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Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
(Dollar amounts in millions)

| Selected Assets and Liabilities Large Commercial Banks | Amount | Change | Change from 1/30/85 | |
|-----------------------------------------------------------|-------------------------|-------------------------|---------------------|----------------------|
| | Outstanding 1/29/86 | from 1/22/86 | Dollar | Percent ⁷ |
| Loans, Leases and Investments ^{1 2} | 200,632 | — 8 | 13,060 | 6.9 |
| Loans and Leases ^{1 6} | 181,314 | 43 | 11,804 | 6.9 |
| Commercial and Industrial | 52,071 | — 70 | 5 | 0.0 |
| Real estate | 65,985 | 78 | 3,777 | 6.0 |
| Loans to Individuals | 38,757 | 234 | 6,226 | 19.1 |
| Leases | 5,698 | 6 | 421 | 7.9 |
| U.S. Treasury and Agency Securities | 10,805 | — 33 | — 274 | — 2.4 |
| Other Securities ² | 8,513 | — 18 | 1,528 | 21.8 |
| Total Deposits | 197,202 | —4,077 | 4,691 | 2.4 |
| Demand Deposits | 45,424 | —3,410 | 1,336 | 3.0 |
| Demand Deposits Adjusted ³ | 31,571 | 571 | 3,140 | 11.0 |
| Other Transaction Balances ⁴ | 14,459 | — 345 | 2,009 | 16.1 |
| Total Non-Transaction Balances ⁶ | 137,319 | — 323 | 1,347 | .9 |
| Money Market Deposit Accounts—Total | 45,619 | — 256 | 2,231 | 5.1 |
| Time Deposits in Amounts of \$100,000 or more | 38,047 | 10 | — 1,503 | — 3.8 |
| Other Liabilities for Borrowed Money ⁵ | 25,816 | — 897 | 5,167 | 25.0 |
| Two Week Averages of Daily Figures | Period ended 1/27/86 | Period ended 1/13/86 | | |
| Reserve Position, All Reporting Banks | | | | |
| Excess Reserves (+)/Deficiency (—) | 15 | 107 | | |
| Borrowings | 64 | 3 | | |
| Net free reserves (+)/Net borrowed(—) | — 48 | 104 | | |

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

⁵ Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

⁶ Includes items not shown separately

⁷ Annualized percent change