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# FRBSF WEEKLY LETTER

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## Bank Charter Values and Risk

It has long been recognized that the fixed-rate deposit insurance provided by the Federal Deposit Insurance Corporation (FDIC) and the Federal Savings and Loan Insurance Corporation (FSLIC) creates an incentive for excessive risk taking. Banks and thrifts have the ability to borrow at or below the risk-free interest rate by issuing insured deposits regardless of the riskiness of their asset portfolios and their risks of bankruptcy. Absent regulation, one would expect these organizations to assume very risky asset portfolios, hold as little capital as possible, and have very high failure rates.

Recently, in fact, bank and thrift failure rates and deposit insurance payouts have reached record highs; the FSLIC has liabilities that exceed its assets by as much as \$100 billion; and some economists even question the solvency of the FDIC. These developments are exactly what one might expect of a deposit insurance system that subsidizes risk taking. But why are we facing such large problems only now? Why didn't they arise sooner? What is surprising is that the deposit insurance system worked as well as it did for much of its 50-year history. This *Letter* argues that declining charter values help to explain this anomaly.

### Increased risk

Some economists argue that the recent rise in bank and thrift failures simply reflects an increasingly risky economy. In the last few years, whole sectors and regions of the national and even the world economy have encountered serious downturns that have affected the values of bank and thrift assets. Similarly, interest rates have become more volatile, increasing the riskiness of banks' and, especially, thrifts' portfolios.

The rise in bank and thrift failures in recent years also may reflect the secular decline in capital-to-asset ratios over the past two decades. Lower capital ratios provide less cushion against any given loss, making failure more likely than otherwise. In fact, capital ratios have fallen well below their levels in the 1950s and 1960s when only a

handful of banks and thrifts failed each year, as opposed to several hundred per year recently.

### But why now?

There is little doubt that increased risk in the economy and declining capital ratios have had a lot to do with the increase in bank and especially thrift failures in recent years. But these developments do not explain why banks and thrifts *allowed* bankruptcy risk to increase. After all, depository institutions have considerable control over the riskiness of their asset portfolios and especially over their capital ratios.

One possible explanation for this behavior is that unexpected economic events reduced the market values of banks' and thrifts' assets and thereby reduced the market (if not book) values of their capital ratios. This explanation seems to fit particularly well the industry-wide problems encountered by the thrifts in the 1980s due to the rise in interest rates during that period. Since the incentive to increase asset risk and bankruptcy risk increases as capital ratios decline, banks and thrifts may well have chosen to hold much riskier asset portfolios than they would have with higher capital ratios. The reason is that as these institutions' capital fell, their owners had less (and in some cases nothing) to lose in the event their investments fared poorly, but stood to profit handsomely if their investments yielded good returns.

However, for banks and some thrifts, this argument tells only part of the story. There still is the question why capital ratios declined prior to the 1980s. There is also the question why some banks and thrifts continue to hold more capital than others and much more than is required by regulation. Moreover, it does not explain the finding of several researchers that deposit insurance actually appears to be *overpriced* for some institutions.

### Bank charters

One explanation of these apparent puzzles involves both differences across banks, and

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changes over time, in the value of banks' charters. Banks may be chartered (that is, licensed) to operate in a given location or locations by either the Comptroller of the Currency or the individual states. Since these chartering agencies have tended to limit the number of charters they grant, bank charters have tended to be quite valuable, particularly in locations where a given bank faces relatively little competition.

Valuable charters, in turn, can induce banks to operate prudently, despite the incentives for risk taking provided by deposit insurance. The reason is that in attempting to take advantage of the deposit insurance subsidy by taking on slightly greater bankruptcy risk, banks also risk losing the entire value of their charters in the event of bankruptcy. This is especially so since a bank is considered insolvent from a regulatory perspective when the value of its assets *not including the value of its charter* falls below the value of its obligations to depositors and other liability holders. As a result, for a bank with a near-zero probability of bankruptcy, the expected cost of losing the charter through an increase in asset risk or reduction in capital outweighs the benefits due to subsidized deposit insurance, and banks will choose voluntarily to limit their own risk taking.

Thus, as long as banks have near-zero probabilities of failure and bank charters are valuable, banks themselves will have a powerful incentive to keep asset risk and capital within acceptable bounds. This makes the bank regulator's job easier because valuable charters eliminate the incentives for small increases in default risk. Instead, a large, discrete increase in asset risk or reduction in capital would be required to tip the cost-benefit calculation in favor of risk taking. In essence, the expected benefits from increased risk taking would have to exceed the expected loss of the charter. Such large changes presumably would be easy to detect and thus prevent, and regulators would not need to be concerned with small changes in asset risk or capital.

Another way of interpreting the effect of valuable charters on bank risk taking is that regulators have much greater leeway for error in determining the adequacy of capital relative to asset risk at the time of examination. The greater the value of the charter, the lower can be capital (not including the value of the charter) to attain a given

degree of risk exposure. The charter, in effect, represents an extra capital cushion that the bank cannot pay out to its owners.

## Declining charter values

As long as bank charters remain valuable, then, the incentive of deposit insurance for excessive risk taking is less problematic. But increasing competition over time may have reduced the values of many banks' charters, making bankers more willing to take on increased risk. In the 1950s and even early 1960s, bank charters undoubtedly were quite valuable since banks were partially protected from competition by a variety of regulatory barriers. For example, chartering was very restrictive until the mid 1960s, when then Comptroller of the Currency James Saxton took steps to liberalize it.

Moreover, banks were protected by various state laws that limited or prohibited branching, and multibank holding company expansion and interstate bank expansion also were widely prohibited. However, these laws have been greatly liberalized in recent years, possibly eroding banks' charter values. Likewise, deposit-rate deregulation and deregulation of thrifts' powers may have diminished charter values by increasing competition, especially for institutions in protected local markets that had been relying on non-price service competition to attract funds.

Finally, many argue that changes in technology have increased the competition banks face from nonbank financial firms such as investment banks, brokerage firms, and insurance companies. For example, money market mutual funds, cash management accounts, and increased use of commercial paper all have made competitive inroads in banks' traditional product markets.

Thus, it may be that during the 1950s and 1960s, most bank charters were sufficiently valuable and regulation was sufficiently stringent that banks had little incentive to make marginal increases in bankruptcy risk and no opportunities to make large discrete increases. This would explain why deposit insurance historically appears to have been overpriced and why even now it may be overpriced for many banking organizations with valuable charters (specifically, those institutions that continue to operate in markets that are to some extent protected from

competition). The desire to obtain and protect a valuable charter could make banks willing to pay a premium for deposit insurance since such insurance is a prerequisite for a charter. The desire to protect a valuable charter from loss due to bankruptcy also explains why even now, banks with valuable charters would continue to hold more capital than other banks and more capital than regulators require.

### **Empirical support**

Tests of some of the implications of this theory are available in a *Working Paper* recently released by this Bank. The paper tests whether banking organizations with higher charter values tend to hold more capital relative to assets and have lower default risk than do banks with relatively low charter values using data from a sample of 85 large bank holding companies (BHCs) over the period from 1971 to 1986.

In the paper, the value of a banking organization's charter is measured by the ratio of the market to the book values of its assets, after statistically controlling for a number of other financial and economic factors that also influence market-to-book ratios. This is done to ensure that the variation in market-to-book ratios is due to variation in charter value and not variation in variables that also could be related to banking risk such as asset quality. The idea is that the value of a BHC's charter will be capitalized into its market value, but will not be reflected in its recorded book value. This measure appears to be a reasonable proxy for charter values since market-to-book asset ratios are negatively and statistically significantly related to the relaxation of regulatory entry barriers, including liberalizing branching and multi-bank holding company expansion laws. The trend in this measure suggests that charter values have declined dramatically since the early 1970s. Moreover, there is considerable variation in charter values across banking organizations. This suggests that differences in legislation and other factors influencing the competitiveness of local banking markets still exist.

### **Market value capital ratios**

As the theory predicts, there is a statistically significant positive relationship between BHCs'

solvency risk, as measured by market value capital-to-asset ratios, and charter values. That is, BHCs with more valuable charters are better capitalized. Moreover, charter values and capital-to-asset ratios are highly correlated over time, and a banking organization's charter value is an important determinant of its market value capitalization.

### **Cost of uninsured CDs**

There is considerable empirical evidence that interest rates on uninsured deposits, such as large (over \$100,000) Certificates of Deposit (CDs), contain a default risk premium. Banks that are more likely to fail have to pay higher CD rates. Presumably, banks with higher charter values and therefore, greater incentive to limit risk taking, should pay lower CD rates in general. In fact, this study found that banks with higher charter values do pay significantly lower rates on CDs than do other banks.

### **Implications**

The evidence on both capital-to-asset ratios and the interest rates paid on CDs supports the notion that valuable charters have limited risk taking, despite the contrary incentives provided by the deposit insurance system. Thus, at least some of the increase in bank failures and payouts from the FDIC may be due to a general decline in the value of bank charters associated with increased competition within the banking and financial services industry.

In the past, the perverse incentives created by the fixed-rate deposit insurance system were countervailed by the potential loss of a valuable charter that induced banks to limit their own risk taking. This does not mean that it is desirable or even possible to return to a system of anticompetitive restrictions in order to reduce banking risk. But it does mean that we must now reform our deposit insurance system and reduce the rewards it provides for excessive risk taking.

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