

**FEDERAL RESERVE BANK
OF SAN FRANCISCO**

**OFFICE OF
THE PRESIDENT**

THE BANK CAPITAL DILEMMA

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I am pleased to be here to discuss bank capital and its regulation -- a very important issue in banking. In this area, as in other aspects of banking regulation, we find market forces at odds with regulatory constraints. Often, when such tensions mount, regulatory change occurs. We certainly saw this in the case of interest rate ceilings on deposits, which now have been almost completely eliminated. We also see many of the current barriers separating banking and nonbanking activities giving way.

In contrast, much of the change in the regulation of bank capital over the past several years has been toward strengthening capital standards. We see this in the increased minimum capital requirements for large banks and for thrifts, the proposals for "risk-based" capital requirements, and the wider recognition of the shortcomings associated with traditional book-value accounting measures of capital.

In my comments I would like to take up three issues:

1. The public policy role of bank capital;
2. The renewed emphasis on bank capital regulation; and
3. The dilemma presented by capital regulation.

PUBLIC POLICY ROLE OF BANK CAPITAL

Regulation of bank capital comes into play in part because we have embraced a public policy goal of stability in banking. To this end, the Congress established the Federal Reserve as lender of last resort in 1913 and subsequently the Federal Deposit Insurance Corporation (FDIC) in 1933. In the 1930s, the deposit guarantee also was extended to thrifts through the Federal Savings and Loan Insurance Corporation (FSLIC). This federal safety net has been credited with maintaining confidence in the banking system, even in the face of hundreds of bank failures over the past six years.

However, the presence of the federal guarantee in banking increases the importance of capital regulation because bank depositors have less incentive to monitor the level of bank capital --and if they are 100 percent insured, have no incentive to do so. This, in turn, enables banks (and thrifts) to operate with less capital than otherwise would be the case. In short, deposit insurance is seen as encouraging lower capital ratios. Indeed, we need only to look back to a period before the establishment of the Federal Reserve and the FDIC to find banks with much higher capital ratios than today.

Fundamentals of capital determination

If we had no deposit insurance or federal deposit guarantees of any kind, the amount of capital a bank chose to hold would be influenced by a number of the same factors considered by an unregulated firm. While finance theorists do not all agree, many argue that because of business uncertainties, bankruptcy costs, and taxes, a bank would seek out an optimal capital ratio that would be part of its profit maximizing business strategy. Either too much or too little equity relative to deposits and other liabilities would impair the value of a bank's stock.

Under this view, it is commonly accepted that one factor that tends to limit the use of debt by an unregulated firm is the risk premium

demanded by the market to compensate debt holders for the possibility a firm would not be able to repay full interest and principal. As you know, one of the main factors considered by the private rating agencies is the capital of a firm, or its inverse, capital leverage -- the lower the capital (or the higher the leverage), the lower the firm's rating and the higher its cost of borrowed funds.

The same would be true for bank deposit costs except that the federal safety net "short circuits" the link between capital leverage and the interest rate on insured deposits. This occurs also for "uninsured" deposits and other borrowed funds because deposit insurance often has been administered in a way that it covers all bank liabilities. As a consequence, banks (and of course, thrifts as well) need less capital in order to attract deposits and other funding at given interest rates.

Capital regulation

How does capital regulation fit in? One way of thinking about capital regulation is that it attempts to redress the downward bias in capital caused by the existence of deposit insurance. In other words, it seeks to "rewire" the incentive system by bolstering the financial stake of bank capital holders. It starts with the principle that any losses that might occur in banking must be borne by market participants.

Which market participants are candidates? One possible group would be depositors. However, I think it is safe to say that federal insurance of deposits of under \$100,000 will not be abandoned, although some observers have suggested lowering the \$100,000 limit. What about deposits of over \$100,000? There is some evidence that rates on CDs of over \$100,000 denomination are responsive to bank leverage, particularly if leverage gets precariously high. However, large-denomination bank CDs generally are short-term obligations, and holders of large CDs usually expect to have a chance to withdraw funds before a bank really gets into trouble and is closed. Therefore, holders of large deposits that are fairly liquid are not likely to view themselves as being completely at risk, even if the FDIC were to follow closure policies that protected only deposits of \$100,000 or less.

This leaves long-term debt liabilities and equity, both of which are included in regulatory capital. Speaking broadly, we have two kinds of capital: primary capital and total capital. Shortly, I will mention some possible changes in the definition of regulatory capital. But for now, primary capital consists mainly of shareholder equity, reserves for loan losses, and certain permanent or convertible instruments. Total capital adds in other long-term debt and preferred stock that have maturity dates.

The rationale for allowing long-term debt to count as capital is straightforward. Providers of such debt, if truly at risk, can be expected to demand higher premiums of issuers that have relatively low stockholder equity or riskier assets. In addition, providers of long-term debt have an interest (protected by contractual covenants) in not allowing a bank to increase its leverage or asset risk. To be effective, however, the debt has to be long-term so that debt holders cannot "run" if there are problems.

With regard to equity, experience suggests that the tendency to "bet the bank" is more of a problem when institutions have little or no capital. They have everything to gain and nothing to lose. However, with a sufficiently high level of equity capital, excessive risk taking would not be in the interest of bank stockholders. With more to lose, any risky investment will be less attractive to bank stockholders and managers.

With more capital, all else the same, regulators have a better chance of preventing a bank (or a thrift) from accumulating losses in excess of true net worth, thereby ensuring that potential losses are borne primarily by capital holders. Indeed, by rectifying the problems of a bank or if necessary closing the institution promptly -- that is, before the market values of the items included in regulatory capital reached zero -- the insurance funds (and depositors) would be protected and the shareholders and managers would not stand to gain from excessive risk-taking.

Does capital matter?

What this says is that, for public policy purposes, capital matters. Yet, regulators often are criticized for being preoccupied with capital. The argument is that other factors such as earnings and the quality of management affect the financial well-being of a bank and that liquidity problems tend to be of more immediate concern to a firm in trouble than is capital inadequacy.

The response here is that earnings and management both translate into the strength of a bank's capital position when judged on a market-value basis. In fact, financial theory says that the market value of a firm's equity (that is, its true capital) is nothing more than the present value of its discounted net earnings out into the future. Thus, future earnings problems translate into current capital problems when capital is judged on a market-value basis.

Similarly, liquidity problems are closely related to (market-value) capital problems. In fact, a liquidity crisis is unlikely to arise in the absence of market concern over the true capital position (that is, the solvency or market value) of an institution. Misconceptions on this point are fostered by the fact that the relation between liquidity and solvency problems tends to be clouded by the deposit guarantee and closure policies, which often allow even insolvent institutions to operate and attract funds. Were it not for the deposit guarantee and the failure of the chartering agencies to close institutions on time, any institution suspected of being insolvent (i.e., having a negative market value of capital) would have an immediate liquidity crisis, probably in the form of a run on deposits.

RENEWED EMPHASIS ON CAPITAL

The close connection between deposit guarantees and capital regulation also is related to the second issue I want to discuss -- the renewed emphasis on bank capital regulation.

Until fairly recently, the FDIC operated with minimal losses. FDIC-insured banks that got into trouble generally were closed on time, thus limiting the liability of the FDIC as well as keeping risk-taking in check by confining losses mostly to bank capital holders. However, expenses of the FDIC rose sharply in the early 1980s, as the number and size of failed

banks jumped and the chartering agencies failed to close institutions on time. Whereas annual FDIC losses and expenses in the 1970s ranged between \$50 million and \$200 million, by 1981 they had jumped to over \$800 million and climbed further to about \$2 billion in 1984 and 1985 (Chart 1). Despite the rise in expenses, stated reserves of the fund still were growing fairly steadily through 1985, reaching almost \$18 billion. But we cannot be too complacent, given the uncertainty over possible future claims stemming from problem agriculture, energy, and LDC loans in portfolios of troubled banks -- as well as in some portfolios already taken over by the FDIC. Certainly, the experience of the thrifts' insuring agency, the FSLIC, gives fair warning that deposit insurance provided to institutions that have little or no capital can affect the institutions' behavior and lead to heavy losses for the insurance fund.

Besides the immediate concern of insurance expenses, there is the longer-run concern caused by the decline in capital at large banks throughout the 1970s (Chart 2). My staff has calculated equity ratios for 20 of the very largest U.S. banks and bank holding companies. On a book-value basis, common equity capital at these large organizations averaged around 6 percent in the late 1960s. By 1980, this ratio had fallen to about 4 percent, although subsequently it has risen to over 4½ percent. It should be emphasized that these figures are based on common equity. When all of the components of regulatory capital are included, the large banks currently meet the minimum standards for primary and total capital.

The deterioration in the capital positions of the large banks is even more striking when we use common stock prices to measure equity capital on a market-value basis. By this measure, the largest banking organizations had common equity capital of about ten percent of assets in the late 1960s, falling to just above three percent by 1980 before rising again to about 4¼ percent as of September 1986.

It is interesting to note that for these large banking organizations, the market value of common equity exceeded the book value until the mid-1970s. (This generally was true also for publicly traded banks and bank holding companies other than just the largest ones.) Since the mid-1970s, however, market value generally has remained below book value. The implication here is that reliance on book-value capital may be more risky now than previously was the case, particularly for some institutions. For example, a comparison of the market-value common equity to book-value equity for a sample of 36 of the largest holding companies shows that almost one-half had ratios below one as of September 1986 (Chart 3).

Higher capital requirements

Primarily because of the decline in capital at large banks, several actions were taken by the bank regulatory agencies to raise capital standards, resulting in a minimum primary capital-to-asset ratio for all banks and bank holding companies of 5½ percent and total capital ratio of 6 percent. The rise in book-value capital at large banks over the past few years that I mentioned earlier generally is a result of these efforts.

Risk-based capital requirements

A more recent development is the serious consideration being given to a new risk-based capital framework. Only a week ago, the U.S. banking agencies submitted for public comment a second proposal for risk-based capital adequacy guidelines, which supercedes their earlier proposal of January 1986. One reason the new plan is notable is that it was developed jointly with the Bank of England. While the objective of this international effort is to establish comparable guidelines for U.S. and British banks that are active in international banking, the guidelines are intended to be applied to all banks.

Basic to this international coordination of capital adequacy policies is a common definition of primary capital. Under the proposed agreement, primary capital of U.S. banking organizations would include, as it does now, common stockholders' equity, general reserves for loan losses, and outside minority interest in equity of consolidated subsidiaries. (The proposal calls for public comment as to whether loan loss reserves should be deleted from primary capital altogether.)

In addition to the above "base components," primary capital would include the following elements up to a limit of 50 percent of the base components less intangible assets: perpetual preferred stock, long-term limited-life preferred stock with maturity of 25 years or more, and debt instruments that represent permanent funds and can absorb losses, including perpetual debt already approved by the Federal Reserve Board. (Debt instruments that currently are included in primary capital, but that do not meet these conditions, such as certain mandatory convertible securities, would be grandfathered.)

Like the earlier risk-based capital plan, the new proposal establishes major risk categories for classes of assets and off-balance sheet activities. With the focus on credit risk, the proposed agreement sets up five risk categories for the purpose of calculating weighted "risk assets," against which primary capital would be held. Each category of balance sheet items would be multiplied by its appropriate risk category weight (0, 10, 25, 50, or 100 percent) to determine the fraction of the face amount to be included in "risk assets." (The earlier proposal had only four risk classes: 0, 30, 60, and 100 percent.) For example, under the new proposal, cash and reserves would receive a zero weight, while 10 percent of the volume of short-term Treasury securities would be included in risk assets, 25 percent of long-term Treasury securities, 50 percent of general obligation municipal securities, and 100 percent of consumer and business loans.

The treatment of the off-balance sheet items is more involved, as it requires a two-stage procedure. The face value of each category of off-balance sheet activity first would be adjusted by a "conversion factor" according to its perceived risk-equivalence to a comparable balance sheet asset. For example, the conversion factor for direct credit substitutes, such as standby letters of credit backing financial commitments, would be 100 percent because their credit risk is fully equivalent to that of a loan on the balance sheet. The conversion factor for loan commitments, on the other hand, would be 10, 25 or 50 percent, depending on the length of the agreement. After applying the conversion factors, the adjusted off-balance

sheet items would then be placed into their appropriate balance sheet risk classes before determining the risk-adjusted asset base against which capital is to be held.

After all of these adjustments to balance sheet and off-balance sheet items are determined, the capital ratio for a bank or bank holding company would be calculated by dividing the newly defined primary capital by the adjusted risk assets. The current proposal does not specify a minimum standard for primary capital. However, the agencies have indicated that the minimum acceptable ratio will be determined later, and likely will be higher than the current 5½ percent. Also, the Federal Reserve has indicated that even if risk-based guidelines are adopted, it will retain the current minimum ratios for primary and total capital, at least until it acquires some experience with the new capital adequacy standards.

Applying different capital standards for different activities is not a particularly radical concept in the regulatory framework. In fact, risk-based capital standards have been employed by the Federal Reserve in the past. Even now the capital of a bank is supposed to reflect the risk of the institution. Nevertheless, risk-adjusted capital is a complex concept, and some criticisms can be made of the proposals. For example, they are based on book-value rather than market-value measures. Moreover, they do not take interest-rate risk into account, and they do not treat the risk of an asset in the context of a bank's overall portfolio, thereby possibly overlooking potential risk reduction stemming from portfolio diversification.

Perhaps the most common concern expressed regarding differential capital requirements for individual activities is the possible effect on the allocation of credit and resources devoted to various financial activities. The real issue from the perspective of the banking industry, however, is how banks as providers of financial services would be affected. After all, economically justifiable services will be provided by the market, whether or not banks themselves are able to do so.

BANK CAPITAL DILEMMA

This takes us to the heart of the capital dilemma: By raising the stake of equity holders and long-term debt holders in banking, does capital regulation (whether in the form of minimum capital standards or risk-based standards) limit the ability of banks to compete with financial firms not subject to such strict capital standards.

One test of whether capital standards are too stringent is the extent to which entry into banking remains attractive relative to other forms of financial intermediation. Currently, the use of this test is complicated by adjustments going on in banking related to deposit deregulation and by the effects other regulations such as the restrictions on activities permissible to banks. Still, I doubt that capital requirements in banking up to this point have had an appreciable impact on banks' ability to compete with domestic nondepository financial institutions.

This judgment gains support if we examine the amount of capital held by many institutions that compete with banks. At one extreme, mutual funds operate with 100 percent equity financing, although this is not a very fair comparison given the limited functions of mutual funds. A more useful

comparison is with finance companies that hold consumer and industrial loans similar to those in bank portfolios. For finance companies, capital-to-asset ratios generally are higher than for banks. For the larger finance companies, the ratios of common equity to assets on a book-value basis generally are around 10 percent to 15 percent or more, and are even higher when measured on a market-value basis.

Investment companies, on the other hand, tend to be more levered than banks. However, even in this group, some firms have shown ratios of market-value common equity to assets approaching 8 percent. Such ratios compare favorably with those for the larger commercial banking organizations.

S&Ls and foreign banks

Commercial banks also must compete with foreign banks and thrifts, which benefit from explicit or implicit government deposit guarantees. Capital standards for these competitors, however, often are less stringent than those for U.S. commercial banks. The agreement between the Bank of England and the U.S. banking authorities on risk-based capital is an important first step toward international coordination of capital standards.

As far as the thrifts are concerned, some progress also has been made to raise capital standards. Most recently, the Federal Home Loan Bank Board has initiated new, higher capital requirements -- now 6 percent of deposits, up from an earlier requirement of 3 percent, although the Bank Board does not enforce the subtraction of "goodwill" from capital. The new requirement will be phased in over a 6 to 12 year period, although thrifts will have to meet the full requirement on any net increase in deposits.

CONCLUSION

Capital regulation comes into play because of a public policy concern over stability in banking and the federal deposit guarantee. That guarantee tends to mute the market forces that otherwise could be expected to balance the need for equity against the cost of financing, through the use of deposits and other liabilities in banking. If we are to maintain the advantages of free enterprise in banking while still insuring deposits, we must have the proper incentives. To accomplish this, the stake of stockholders and debt holders has to be large enough so that they view themselves as bearing the potential losses in banking, rather than possibly passing some of the losses to the government insurance agency.

This does not mean that capital standards can be pushed higher and higher. Capital requirements that are too strict would affect the ability of banks to compete with institutions not subject to the same regulations. As I said earlier, however, it does not appear that we have reached that point -- nor do we ever want to.

Like it or not, in an environment of deposit guarantees, financial deregulation and innovation, capital regulation in banking is likely to grow in prominence. As banks adjust to this environment, we will continue to see changes in the administration of capital standards. Risk-based capital requirements are but one step. In time, we also will see more attention paid to the true- or market-value of bank (and thrift) capital

and less to book-value capital, for it is the market-value of capital that is relevant to the decisions made by bankers and hence to the risk borne by the insurance funds.

Chart 1

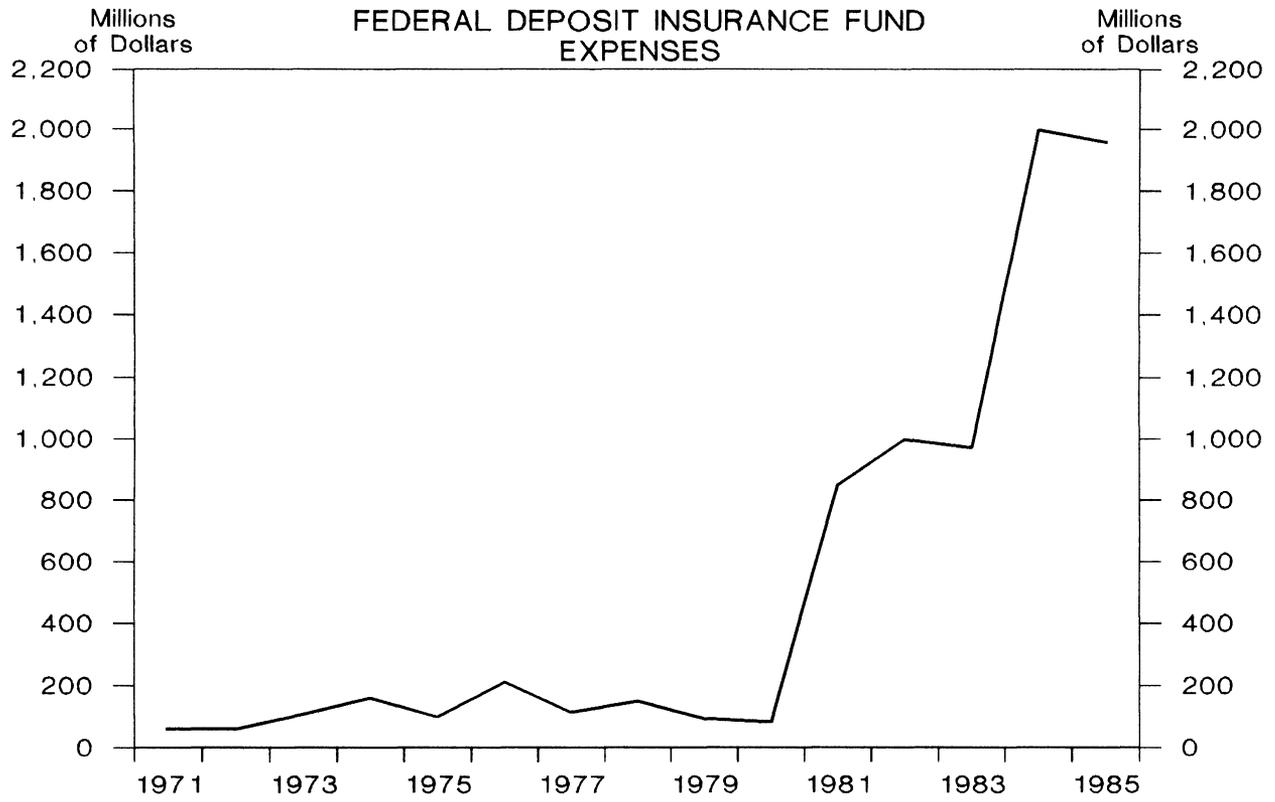
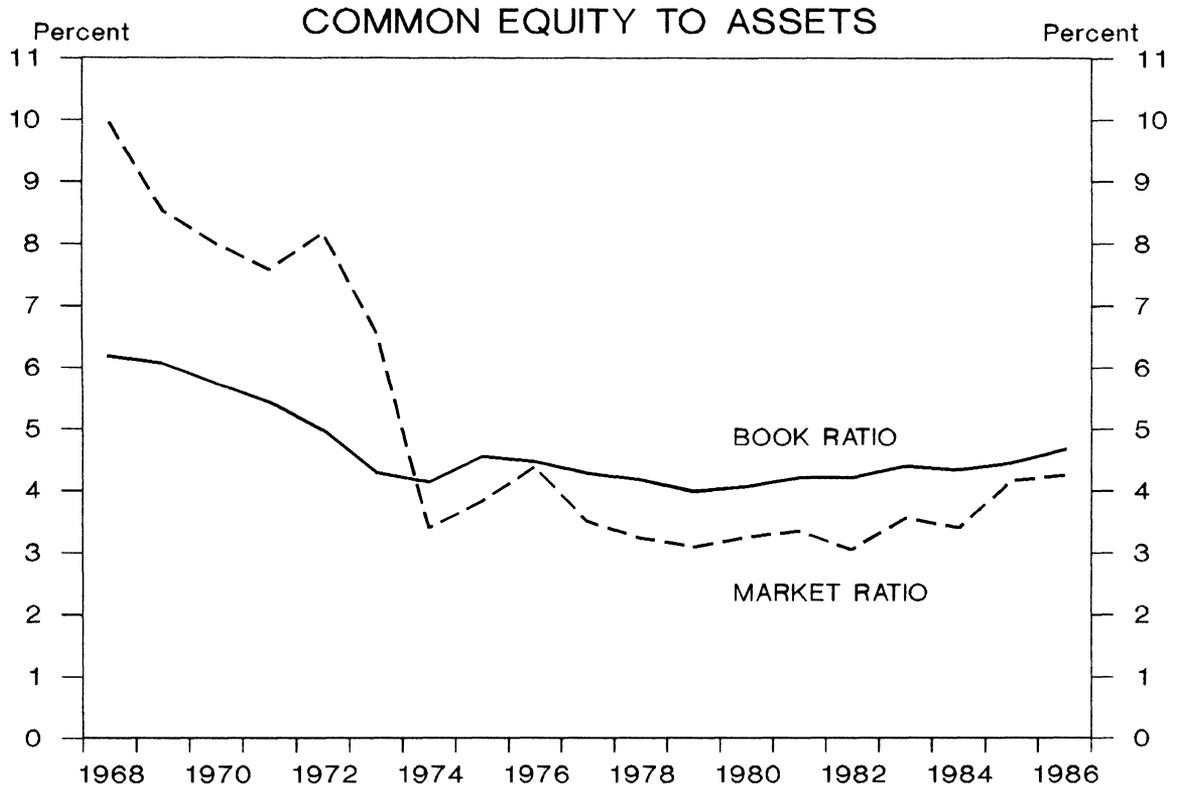


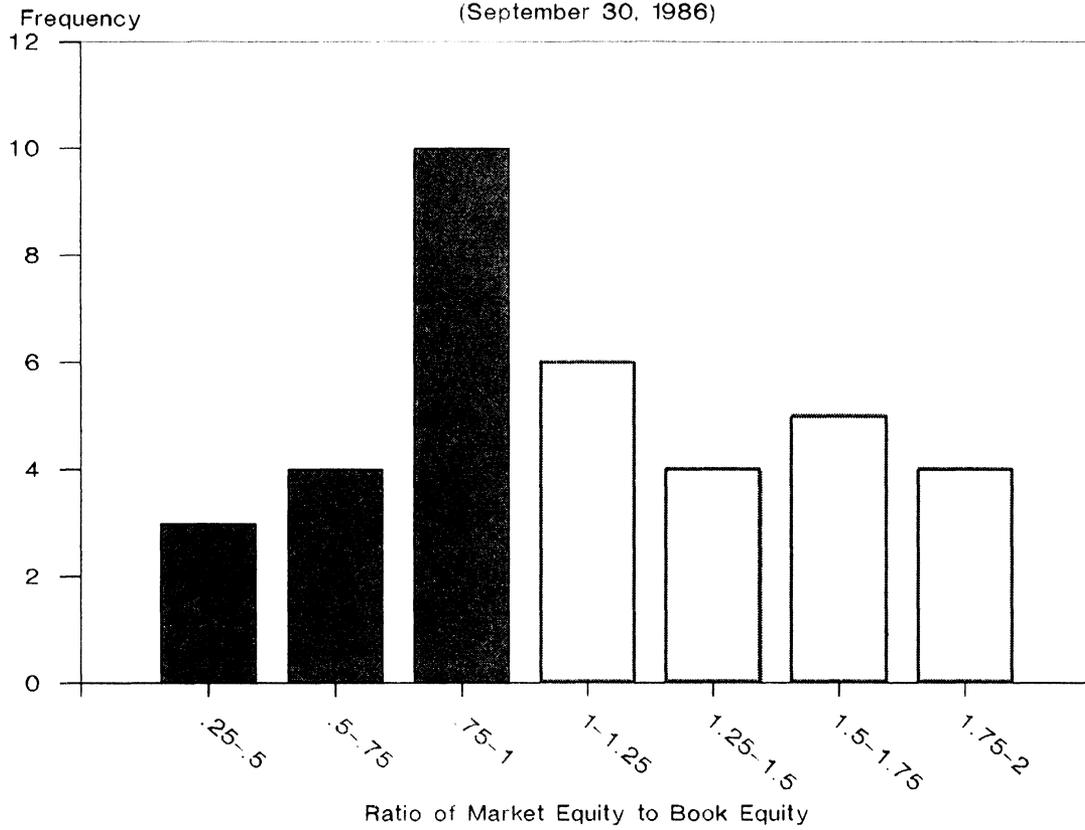
Chart 2



Data are unweighted averages for the ratios of common equity to assets for the twenty largest U.S. banking organizations based on assets as of September 1986. Data are year end figures except for 1986 which is a third quarter figure.

Chart 3

DISTRIBUTION OF MARKET EQUITY TO BOOK EQUITY RATIOS
(September 30, 1986)



Data Are Common Equity For A Sample Of 36 Of The Largest U.S. Banking Organizations

