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Bank Capital:
Lessons from the Past and Thoughts for the Future

Remarks by

Wayne D. Angell
Member, Board of Governors of the Federal Reserve System

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It is a pleasure to join this distinguished group of policy makers, bankers, and academic experts on banking. I thank the members of the Wake Forest Law Review for having asked me to be here. I have chosen to use this opportunity to speak on the history of bank capital regulation because the historical perspective is useful for understanding why capital has become the premier issue in bank regulation today. The focus of bank supervision on capital was ensured by the recent passage of the Federal Deposit Insurance Corporation Improvement Act of 1991, which established a capital-based regime of prompt regulatory action. Under that system, federal bank regulators are directed to establish five pre-set levels of capital, and are provided a set of supervisory actions -- ranging from the elimination of dividends to the closing of the bank -- that they may or must take at each level of capital.

Although both bank directors and supervisors must look carefully at the quality of bank assets and management, and the ability of the bank to control costs, evaluate risks, and maintain proper liquidity, capital adequacy is a proper trigger for regulatory action. Capital is a cushion to absorb unanticipated losses and shrinkages in asset values that could otherwise cause a bank to fail. By exposing stockholders to a larger percentage of any potential loss, higher capital levels also serve to reduce the subsidy afforded to banks by the federal safety net. In the United States, capital regulation is particularly important because deposit insurance and other elements of the federal safety net provide banks with an incentive to increase their leverage beyond what the market -- in the absence of depositor protection -- would permit. Finally, higher capital levels can reduce the need for regulatory supervision, lowering costs to the banking industry and the government.

Capital regulation has come to be a complicated and important effort. Regulators must determine what constitutes capital for regulatory purposes, and how a bank's required capital level should vary with the types of assets the bank holds. And regulators must always bear in mind that the bank's officers and directors, and not the regulators, are the ones responsible for managing the bank's affairs. With so much hinging on how regulators go about this difficult task, I believe that this is a good time to look at past experience in capital regulation.

As I review U.S. banking history, what strikes me is the fundamental tension between achieving financial stability and avoiding distortions associated with the removal of market discipline. Focusing first on financial stability, we know that the 19th century was characterized by instability in the banking system that imposed significant macroeconomic costs on the United States. The creation of a central bank in the early 20th century was intended to provide liquidity support to protect the banking system from an individual bank failure, but was not sufficient to ward off the widespread financial collapse in the Great Depression. Deposit insurance, first applied in the mid-1930s to protect the small saver, gradually came to insulate depositors, both small and large, from the costs of bank failures.

However, it has become apparent in the last decade that the price of the financial stability achieved by a deposit insurance system and low capital ratios has been a reduction of market discipline on our banks. This, in turn, has imposed direct long-run costs on the taxpayer and resulted in a misallocation of resources.

The best way to ease this tension between financial stability and the removal of market discipline is, and always has been, to have

banks hold high levels of capital. History confirms this conclusion. High capital levels make banks more stable and encourage bank management to minimize risk. In addition, high capital standards reduce the subsidy provided by the federal safety net. High capital levels minimized losses to depositors throughout the deflation, recessions and panics of the National Banking Era. While capital protected depositors, the lack of a central bank created systemic problems when individual institutions faced difficulties. Low capital levels in recent years have resulted in enormous losses to the deposit insurance fund in the aftermath of macroeconomic shocks of much lesser severity. But the safety net minimized the impact on real economic activity.

Purpose of capital: early history

Let me now turn to the history. The first banks in this country extended credits to businesses, individuals, and governments in the form of bank notes, which then circulated as paper currency. The concern of the noteholder was whether the issuing bank was capable of redeeming the note in specie, gold or silver. There were two elements to the noteholder's concern. First, was the bank liquid so that it could redeem its notes in specie on demand? Second, was the bank solvent so that the liquidation value of its assets would be sufficient to redeem all of its outstanding notes at face value?

The risk of insolvency motivated the first capital requirements. Long before the creation of the regulatory agencies that now monitor the solvency of banks, states used two features of bank charters to protect noteholders. First, bank charters typically specified minimum capital levels that banks had to meet before commencing operation. These capital requirements exposed the owners of the bank to the first losses should their bank fail. Second,

state charters restricted note issuance to some percentage of the capital stock.

Unfortunately, there were ways to avoid holding adequate capital. While the intent of the bank charter was to require share purchase by specie, all too often a substantial portion of the shares were purchased with promissory notes from the shareholders. In addition, at times banks would hold worthless assets on their books rather than write them off and incur a decrease in capital.

The noteholders and depositors of antebellum state banks were extended further protection against loss by making stockholders liable over and above the amount of their original investment. For example, virtually all Rhode Island bank charters provided for the unlimited liability of stockholders. This exposure to losses gave owners strong incentives to avoid taking undue risks. Undoubtedly it also provided an incentive not to become a bank stockholder.

These elements of state bank capital requirements were incorporated into the National Banking Acts of 1863 and 1864. Specifically, nationally chartered banks had to meet minimum capital standards prior to opening, and note issuance was restricted to an amount of no more than 100 percent of the paid-in capital. In the case of a bank failure, stockholders could be sued for a sum up to the value of their stock to cover any losses incurred by the depositors.

The initial capital levels required for a national bank charter were high and were based on the population size of the city. In addition, banks often supplemented these minimum capital levels with retained earnings and the sale of additional stock. These high levels of capital cushioned the impact of unanticipated losses. In addition, since interbank borrowing was extensive, owners of the

lending bank required the borrowing institution to be in a strong capital position before making the loan.

Consequently, capital levels were very high at national banks throughout the national banking period. The average capital-asset ratio for national banks in 1870 was about 40 percent and slowly declined to just under 20 percent by the beginning of World War I. The soundness of the national banking system was essential for protecting depositors prior to the creation of the Federal Reserve. National banks accounted for over one-third of the deposits in banks and virtually all of the bank notes issued. They were the primary repository for interbank deposits, and provided liquidity to the banking system in general.

The strength of the national banks helped to minimize losses to depositors during the National Banking Era. Following the Civil War and until the mid-1890s, the United States underwent a prolonged deflation which reduced the price level by more than one-half. This deflation was accompanied by numerous lengthy and severe recessions, and the financial system weathered four major banking panics.

One would think that the typical depositor would have suffered huge financial losses under such circumstances. However, banks were so well capitalized at the time that most were able to endure the economic shocks. In fact, in that era of bank runs, no more than 5 percent of the national banks ever failed during any five-year period. In contrast, about 7 percent of the FDIC-insured banks have failed in the five years starting with 1987. This is not to say that some depositors did not experience large losses due to the absence of deposit insurance during the National Banking Era. But the banking system as a whole weathered this deflation period much better

than would be expected, in large measure because of the high levels of bank capital.

The creation of the Federal Reserve, with its role as lender of last resort, was intended to reduce the frequency of bank runs by providing liquidity to individual banks. During the first four years of Federal Reserve history, the years of the first World War, heavy gold inflows from Europe expanded the money supply and the consumer price index increased by over 50 percent. The inflation of the war years was followed by a post-war decline in many prices. The deflationary forces continued through the 1920s. Nevertheless, during this progressive era there was the expectation of greater economic stability which may have reduced pressure on banks to hold capital.

Between 1914 and 1928, the capital-asset ratios declined for all depositories and reached an average of 13 percent prior to the onset of the Great Depression. While still very high by current standards, the weaker balance sheets provided less of a buffer to protect depositors against losses during the severe weakness of a deflating economy during the early 1930s.

The large losses to depositors resulting from the bank failures of the Great Depression ultimately led to the introduction of federal deposit insurance. Deposit insurance marked a fundamental change in the function of capital. Capital had previously served to protect the depositor, but this protection of the small depositor was now to be guaranteed by FDIC insurance. Over the years, the initial limited deposit insurance has been increased to $100,000, and in the last 25-30 years most bank failures have been resolved by mergers rather than by liquidations. Thus, deposit insurance has evolved from small depositor protection to almost universal protection of all bank depositors. As a result, the threat of bank runs no longer provides

such a strong incentive for maintaining high capital ratios or the holding of liquid assets.

Operating with the protections and subsidy provided by the federal safety net, bank management since the mid-1930s has had an incentive to operate with greater leverage in order to increase profits. This meant lower capital levels. The burden of maintaining capital at a level that the market would demand absent the federal safety net fell largely to the regulators.

The Modern Era

The conservative practices of post-depression bank CEOs and the highly liquid balance sheets of that time initially obscured the need for monitoring bank capital. During World War II the U.S. banking system absorbed huge offerings of government securities as the Federal Reserve served as agent for monetizing war deficits. The sharp war-induced growth in bank assets naturally reduced bank capital ratios. But with banks' holdings of Federal government securities equal to almost four times their outstanding loans, the decline in capital ratios seemed to be just a statistical artifact. Indeed, if a risk-based capital standard had been applied with a zero weight for U.S. government securities, risk-based capital ratios probably would not have declined.

After the war, even as assets began to shift from securities to loans, both banks and regulators became persuaded that lower capital was acceptable because of the expectation of a new macroeconomic stability resulting from the application of Keynesian tools, the presence of a central bank that understood the need for countercyclical monetary policy, and deposit insurance that greatly diminished the risk of depositor runs.

Regulators also began to feel that capital analysis should focus on riskier assets, such as loans; less capital was needed to support low-risk government securities. For a time, the Federal Reserve employed a risk-weighted measure akin to what we now have, putting assets into various risk categories. However, the Federal Reserve and the other agencies generally limited risk adjustment to requiring greater capital for assets that the examiners felt were a potential source of loss.

Capital ratios declined more sharply after the Korean War, and supervisors appear to have acquiesced in much of this decline. The Comptroller began to de-emphasize quantitative capital standards. The Federal Reserve and FDIC adjusted their capital formulas to account for differences in bank size, allowing large banks -- with their access to money markets -- to hold less capital. In making these adjustments, supervisors must have agreed with the argument that greater leverage, by increasing the return on bank equity, would make it easier to attract capital into the industry. However, any additional capital was offset by the even faster growth of assets.

During the 1950s and 1960s, a risk-based capital standard would have registered a significant decline in capital protection as government securities were replaced by commercial and industrial loans. However, banks were profitable, payout ratios were conservative, and capital appeared to be no problem for the new era. The need to prevent losses to the deposit insurance fund and the taxpayers, so important today, did not seem to be an important consideration. Deposit insurance premiums seemed very large given the small and infrequent losses charged against the fund; the bank insurance fund ran a surplus every year from 1935 to 1988. In his 1964 Report, the Comptroller asked rhetorically what the public

interest was in preventing bank failures; preventing loss to the deposit insurance fund was not even mentioned in the answer he supplied.

Bank capital ratios continued to fall as inflation increased bank assets and liabilities while banks failed to increase capital accordingly. By the 1970s, the continuing postwar decline in capital ratios was perceived by some as actually posing a danger to the banking system. The Federal Reserve responded to this view by seeking to prevent further erosion of bank capital. In numerous statements, letters and speeches, Federal Reserve policy makers, starting with Chairman Burns, urged a "go slow" policy on banks with declining capital ratios. At individual banks, examiners were requesting additions to capital, improvements in liquidity, and strengthening of lending policies. However, efforts to increase capital were generally confined to moral suasion and Federal Reserve denial of bank holding company applications to expand.

In spite of efforts to increase capital and limit risks, commercial banks entered a new era of risk-taking between 1969 and 1979. Excessive monetary expansion provided both a basis for deposit and asset growth and an incentive to borrow. The tax laws encouraged borrowing by favoring debt over equity and allowing the deductibility of passive debt interest. Rising inflation contributed to an inflationary euphoria which served to redirect lending based on projected cash flow and borrower reliability to lending based on collateral. Naturally, asset values would always go up.

Rising inflation expectations necessitated a new monetary policy in 1979, one with a pattern of higher interest rates. This policy conflicted with Regulation Q, which set ceilings on interest rates on deposits until it was phased out between 1980 and 1986.

While deregulation of interest rate ceilings -- a form of price controls -- is almost universally desirable, it was most unfortunate that this decontrol came at precisely the wrong time in commercial banking history. The immediate result of this first step in deregulation was a critical, and often fatal, mismatch between the book value and the market value of most thrifts and many of those banks engaged in real estate lending. Rising interest rates pushed the market value of fixed rate loans well below their book value. On a market value basis, the assets of thrift institutions were worth less than their liabilities. Their net worth was negative.

As high interest rates persisted, the asset value problem became an earnings problem as thrifts had to pay higher interest rates on deposits than they were able to earn on their portfolios of low-yielding, fixed-rate mortgages. Many thrifts were dead; but the dead and the near dead were permitted -- by virtue of deposit insurance -- to inflict further havoc on the system. The Garn-St Germain Act of 1982 was the second deregulatory step. It enabled thrifts to make commercial loans in an already inflated commercial loan market. Many of the banks with interest rate mismatches also succumbed to the temptation to expand their loan portfolios. This additional lending was heavily concentrated in real estate, the last inflation bet.

As deregulation progressed, it became increasingly apparent that capital ratios had fallen too low to absorb losses. By 1982, the ratio of total capital to total assets for all insured banks had fallen to 6 percent, less than half its 1929 level. The ratio for the largest banks was less than 4 1/2 percent, and some of the major banks approached 3 percent.

With bank and thrift failures rising and capital ratios continuing to decline, the Fed, FDIC, and OCC in 1981 began to

reestablish uniform minimum capital standards, although abandoning earlier efforts at a general risk-adjusted measure. The Federal Reserve and OCC considered two measures of capital adequacy: the ratio of primary capital to total assets, and the ratio of total capital to total assets. Primary capital was defined as equity capital plus loan loss reserves, as these were seen as the two sources of funds available to absorb losses. Total capital was defined as primary capital plus limited-life preferred stock and qualifying subordinated notes and debentures. The FDIC looked at one ratio: the ratio of equity capital to total assets, adjusted for asset quality by weighting classified assets.

The 1981 capital standards quickly became outdated. First, banks increased their off-balance sheet activities, and although these activities -- such as issuance of standby letters of credit -- increased risk, the capital standards did not require increased capital. Second, the 1981 standards permitted loan-loss reserves to count without limit toward primary capital -- something that both regulators and bankers recognized as unrealistic given the deterioration of Latin American loans in bank portfolios and other bank asset problems, problems in part resulting from petro-dollars created in the 1970s through monetary policy's accommodation of oil price increases.

Despite these problems, U.S. regulators were unfortunately reluctant to modify capital standards because of the increased internationalization of banking. In such an environment, regulators feared that more rigorous capital standards for U.S. banks might place them at a competitive disadvantage in world markets. Actually, more rigorous capital standards might have had the opposite effect in the longer run; they might have increased U.S. banks' competitive position

later in the decade by limiting the hits on bank equity capital from losses in Latin American, energy, agricultural, and real estate lending.

When foreign bank regulators also became concerned about declining capital at their banks, the major industrialized countries adopted uniform standards for capital adequacy in 1988. The Basle Accord established total capital to risk-weighted assets as the international capital measure, and set 8 percent as the minimum acceptable level of capital.

Consistent with the Basle Accord, the Board adopted a risk-weighted framework for assessing capital adequacy. The guidelines emphasized the importance of equity capital and established a minimum requirement for so-called Tier 1 capital, composed of common equity and certain preferred stock. Total capital includes preferred stock, certain subordinated debt and limited amounts of loan loss reserves.

Incentives to shift risks off the balance sheet were addressed by explicitly including off-balance-sheet credit exposures in the computation of risk-weighted assets. The guidelines also removed disincentives to holding liquid, low-risk assets by requiring less capital support for assets such as cash and government securities. The regulators' intent was to require levels of capital commensurate with the risk profile of the banks, moving further in the direction of the capital levels the market might impose if there were no federal safety net.

The Basle Accord and capital guidelines were major advances in the measurement of bank capital. Unfortunately, they did not come about earlier so that the banking system could have been in a stronger position going into the current disinflation adjustment period. It is

always better to have a lot of capital before a recession, rather than having to try to raise capital during the downswing.

The recent banking legislation added to the importance of capital by establishing five capitalization classes with additional regulatory action required as an institution falls into lower and lower classifications. Banks that are undercapitalized, assigned to category 3, will be prohibited from paying dividends and, as in the past, will have to file capital restoration plans guaranteed by their holding company. The regulators, at their discretion, will be able to impose a wide array of restrictions on their activities. Banks falling in the fourth category, significantly undercapitalized, will be ordered, among other things, to issue new debt or equity or be acquired by another organization.

Finally, if a bank's capital level should subsequently fall to the critically undercapitalized level, preset by Congress at a 2 percent ratio of tangible equity to total assets, then regulators are directed, again with some exceptions, to place the bank into receivership or conservatorship.

Although the system of prompt regulatory action represents a significant advance in capital regulation, it is not a panacea. In applying these new standards, I would suggest several points. First, we must be careful not to overregulate. We should not overreact to what has happened in recent years. The sequence of inflation, deregulation, and then disinflation was unique. We should not respond to these unique events by increasing the burden of regulation to the point at which banks become public utilities. We must preserve the banks' franchise values.

Second, we must emphasize a long-run strategy for capital policy. As events of the past several years have demonstrated, we

should not let capital ratios deteriorate during the good years. The good years should allow for the building up of capital so that a cushion will be available for the bad years. The impact of the disinflation of asset values in the past few years is certainly worse -- at least in terms of institutional failures -- than anyone would have expected a decade ago. The federal bank safety net, and the public's confidence in the willingness of the government to provide funds to back up insured deposits, probably served to keep conditions from being even worse than they were. Larger capital cushions, built up over the good years, would certainly have been beneficial to bank and thrift stockholders and managers, as well as to the taxpayers.

Third, I am not suggesting that we return to the 20 percent or 30 percent capital to asset ratios of the 19th century. For the long run, I would favor risk-adjusted capital ratios of 10 or 12 percent at the bank. However, we must not try to achieve the appropriate long-run capital levels immediately; if we try for too much too quickly, we run the risk of damaging economic recovery. But we must, through higher capital standards, provide bank managers and stockholders with the incentive to exercise due diligence in placing their capital at risk in the pursuit of high returns. Bank managers must also be aware, especially with the new provisions for prompt regulatory action, that they will receive increased regulatory attention and review of their loan loss provisioning if their capital level deteriorates.

Fourth, holding company creditors should have a major role in monitoring banking organizations. As long as the bank is well capitalized, the market can determine the appropriate degree of leverage at the holding company level through changes in the cost of holding company debt.

Finally, it is important that the Federal Reserve continue to have a role in the process of bank supervision. I think that my remarks have made clear the vital relationships and interactions between monetary policy and bank supervision.