CAPITAL RATIOS

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When I was asked to speak to this group on capital ratios I thought of all the attention that has been focused on this subject in recent years and was fearful that there would be little new for me to say. Then it occurred to me that this might be the proper time to put aside the mass of detailed data which has appeared, and instead to direct attention to the fundamental problem. With that in mind, my discussion today will be in the nature of a preliminary report on the capital ratio aspect of a historical study of banking which the Federal Deposit Insurance Corporation has been conducting. It is my hope that a summary of the history of bank capital over the last century and a half will help put the problem in its proper perspective.

Let me begin by noting that no one is interested in capital ratios for their own sake. After all, any capital ratio is simply a tool which assists in judging the adequacy of bank capital. Since we assume that the volume of bank capital may become inadequate, it goes without saying that a method for measuring its adequacy is important to bank supervisory authorities, individual banks, and the system as a whole. But we must not lose sight of the fact that the primary problem is the adequacy of bank capital, not the way it is measured.

The cause of inadequate bank capital. The bank capital problem to a large extent is unique. Banks can acquire additional earning assets without increasing their capital investment, but other business enterprises cannot do that. For example, if a manufacturer wishes to increase his output by increasing his plant capacity, he can do so by selling new stock, retaining earnings, or by borrowing which will increase his fixed charges. On the other hand, unless limited by its reserve position a bank can increase its earning assets by increasing its deposits, usually with little or no increase in interest charges. That is to say, the main limiting factor is a bank's reserve position, not its capital structure.

Moreover, bank management has a strong inducement to trade on as thin an equity as possible. The interests of a bank's shareholders at any given time appear to be best served by maximizing earnings per dollar of invested capital. If a bank sells new stock or retains earnings, it can increase its total income, since it will be able to expand its assets by an amount of the same general magnitude as the addition to its capital. But usually earnings per dollar of capital will be lower after the increase than before, since the new earnings have to be spread over the enlarged capital. This is the factor which produces the reluctance of bank owners to seek or accumulate new capital. Certainly it appears to be true that if the additional earning assets to be acquired are the same no matter which of the two methods is used, their acquisition by increasing deposits will add more to the rate of profit to bank owners than will their acquisition by increasing capital. The main offsetting

factor to the inducement to conduct the banking business upon a thin capital structure is the accompanying possibility of failure in case of adversity.

The importance of bank capital. There are two major reasons for assigning to bank capital a considerable degree of importance: first, it has the function of serving as a cushion for depositors in the event of a depreciation of bank assets; second, it represents the extent to which individuals are willing to risk their own funds in an industry which has many of the attributes of a public utility.

The first reason, of course, is well understood and I will not dwell further on it except to add a historical note which may be of interest. When banking began in the United States in 1781, bank capital was considered more of a revolving fund out of which loans would be made to stockholders than as ultimate security for the protection of bank creditors. This was because the first banks were typically formed by merchants "clubbing together a capital"--to use an expression of Robert Morris--for the purpose of making available to the merchant temporarily in need of funds the temporary surplus of other merchants. However, only a few years were to pass before fractional reserve banking became important and banks began to serve the credit needs of their respective communities rather than only those of the individuals who had subscribed the original capital.

The second reason for the importance of bank capital is perhaps less frequently discussed than the first, and I would like to develop it

a bit further. When I mentioned that the banking industry has many of the attributes of a public utility, I was referring to the fact that it is charged with performing a function essential to the welfare of the nation. That is, it provides the major portion of our money supply, or what is frequently termed our medium of exchange or our circulating medium. In other words, acquisition of earning assets by the banking system, in most instances, results in an increase in the nation's circulating medium. Likewise, a contraction of earning assets held by the banking system, in most instances, results in a decrease in circulating medium. At the close of 1951 deposits adjusted and currency--the most commonly accepted measure of the volume of circulating medium--was about $186 billion. It consisted of currency outside banks of $26 billion, plus total deposits adjusted of $160 billion, of which $3 billion was postal savings deposits. Of the deposits in banks, less than a third was offset by currency in banks, bank reserves, and other cash items. The major portion was represented by earning assets held by the banking system. When these earning assets were acquired, bank deposits--circulating medium--were created.

I emphasize this money-supplying function of the banking system because all of the restrictions, regulations, and supervision under which banks operate stem from it. The Constitution of the United States imposes upon the Congress the responsibility of controlling the nation's supply of money and regulating its value. I think we all agree that it is to the best interest of the nation that the creation of circulating medium

is largely the function of a privately owned and managed banking system. Yet it is this very aspect of banking which makes it necessary to have bank supervisors and causes them to be concerned with the adequacy of bank capital, for an unsafe banking system means also an unsafe circulating medium.

Bank capital should be of concern not only to the supervisory authorities but to all those who believe that banks have fulfilled, and are fulfilling, their essential monetary function in such a fashion as to justify a continuation of our dual banking system. But it must be remembered that the question has arisen, and continues to arise, whether a private banking system should be entrusted with influence over the circulating medium. Certainly those of us who are interested in preserving and strengthening the American banking system are placed on the defensive when critics point to the fact that the equity of bank owners is becoming thinner and thinner as their responsibility to the nation becomes greater and greater.

Bank capital ratio for 150 years. Demonstrating that the volume of bank capital is of importance does not, of course, get to the heart of the problem, which is the adequacy of bank capital today. As I have already noted, I am going to place particular emphasis upon the situation as it has developed over the past century and a half. It is necessary to use the ratio of total capital accounts to total assets for this purpose, because that is the only ratio which can be computed for such a long period of time with any degree of accuracy. It has the further advantage of being

less subject to sudden and severe change over short periods of time than has such ratios as total capital accounts to risk assets.

This chart illustrates changes in the capital ratio from 1803 to the present, with the thinner lines representing actual values and the heavy black line the trend values, computed by using a nine year moving average. In order to go as far back as 1803 it was necessary to use Massachusetts bank data prior to 1834 as a sample for the rest of the country. It was also necessary to make certain adjustments for the Civil War period. During the earlier years it cannot be claimed that each of the ratios is precisely measured, but their general order of magnitude is believed to be correct.

So far as the actual values are concerned, you will note that the capital ratio exhibits a peculiarity which occasionally creates some confusion and draws some criticism. That is, it tends to vary with the business cycle, declining in years of prosperity and increasing during depression years. This is perfectly normal since the volume of bank capital changes slowly while bank assets may undergo substantial change over such periods. In other words, when bank assets increase rapidly during periods of prosperity, the capital ratio generally declines. When bank assets decline in depression years, the capital ratio usually rises.

This is one point at which some observers have been led to question the reliability of the capital ratio. Because it declines during periods of prosperity when banks appear to be the strongest and increases during depressions when they appear to be the weakest, these observers

hold that the measure is faulty. But such a conclusion indicates the user is unfamiliar with the components of the ratio and the significance of its change over brief periods of time. Short-run changes cannot provide much ammunition for those interested in arguing for or against an increase in bank capital. A certain degree of short-run variation is normal and not a cause for concern.

What is of concern is the fact that almost from the time banking began in this country most short-run peaks in the capital ratio have fallen below the preceding peaks, and most short-run troughs below the preceding troughs. In addition, declines of the capital ratio occuring as consequences of war-time deposit expansion have never been fully compensated for in any post-war period. The heavy black curve on this chart shows the result. The capital ratio has moved downward from levels approximating 60 percent during the first decade of the 19th century to substantially less than 10 percent in the present decade.

Let us consider this long-term trend a little more closely. In the first place, it is not a consequence of a decline in the volume of bank capital. On the contrary, bank capital has increased persistently over the entire period. Capital accounts of all commercial banks, which were less than $1 billion as late as 1886 and were about $9 billion in 1930, today exceed $12 billion. This increase has been fairly regular when the entire 150-year period is considered.

Three major factors seem to have contributed to the growth in the volume of bank capital during this period: the increasing number of banks, particularly during the 19th century, the increasing size of banks,

and the efforts of leading bankers and bank supervisory agencies to encourage stronger capital positions of the banks. Of course, both the sale of new stock and the retention of earnings were stimulated during periods of prosperity but the result has not been such as to noticeably change the slow rate of increase in the volume of bank capital.

Little has to be said regarding the first two major factors and I might note regarding the third that the interest of supervisory authorities in strengthening the capital position of banks is not of recent origin. One has only to read the very early reports of State bank examiners and examine the laws relating to bank capital which were common before the Civil War to realize that the volume of bank capital and its relation to bank assets, or deposits, has long been a subject of vital interest to bank supervisory authorities.

Obviously, the long-term decline of the capital ratio results from the fact that the volume of bank assets has increased at a much more rapid rate than the volume of bank capital. Many factors might be cited in explaining this phenomenon and it will only be possible here to touch briefly on a few of them. In general, the very substantial rise in the volume of bank assets over the 150-year period reflects the economic growth of the nation. As the country developed, as its population grew, and as output expanded there was need for a larger and larger volume of circulating medium. Thus there was continuous pressure on the banks to acquire additional assets by taking care of the credit needs of their various communities.

Why, it might be asked, did not this factor similarly influence the volume of bank capital so that the two could increase at approximately the same rates? The answer returns us to a point I made earlier: the volume of bank assets is related primarily not to bank capital but to bank reserves. Accordingly, it was the volume of reserves which grew as a consequence of this pressure and not bank capital--except in an indirect fashion. Occasionally the increase in reserves was fortuitous, as when gold discoveries provided increased quantities of that metal. At other times, the reserve position of banks was improved by design as when reserve requirements were lowered or when the volume of currency was increased. Naturally, there were periods during which reserves did not grow rapidly or even declined, so that bank assets ceased expanding; but the long-term effect has been an increased volume of both reserves and assets.

You will also note, respecting the long-term movement of the capital ratio, that the rate of decline has not been steady. Instead, the curve resembles a staircase; periods of decline have been followed by periods during which it remained relatively stable or increased slightly. Of course the normal short-run variation continued to occur during each of these periods, but it is the long-term movement which we are considering now. For an explanation of this phenomenon, it is again necessary to look to change in the volume of bank assets rather than of bank capital.

Two factors seem to have been of major importance. First, bank assets have tended to expand at particularly rapid rates during periods

of war and other times when the supply of reserves becoming available to the banking system was augmented to an unusually large degree. You will note, for example, that the capital ratio declined considerably during the following periods: 1844 to 1852, which includes the years of the California gold discoveries; 1893 to 1901, which includes years when the nation's gold supply was increased as a consequence of the Alaskan and Canadian discoveries; 1912 to 1921, reflecting the establishment of the Federal Reserve System and the influence of World War I; and, finally, 1933 to 1946, which includes the recovery years following the Great Depression as well as World War II. In addition, there was a decline during the Civil War, but because of a break in the data it is not possible to determine precisely the terminal years of this period.

Of the two periods which I have not covered the first, from 1829 to about 1836, appears to have been a consequence of the great expansion of bank activity as the West was opened up and as many of the States began, for the first time, far-reaching internal improvement programs. The other period, from 1878 to 1884, includes the relatively prosperous years immediately following the long depression of the 70's.

The second factor accounting for the step-like downward movement of the capital ratio relates to the stable periods. Following periods during which there were unusually large increases in bank assets, with corresponding declines in the capital ratio, it has been almost impossible to restore the level existing prior to the decline. To do so would have entailed either a large increase in the volume of capital or a contraction of bank assets or some combination of both. The first was difficult because

it meant that capital would have had to be increased at a faster rate following a period of prosperity than during the prosperous period itself. Contraction of the volume of assets was more likely, and at times was sufficiently severe as to result in an increase in capital ratios. However, the relationship between the volume of bank assets and the nation's circulating medium meant that contraction with all of its deflationary consequences was intolerable.

Where do we stand today? It seems possible that the capital ratio of 100 years ago or even 50 years ago was higher than necessary, even given the more primitive financial framework in which the banks operated. Since 1934, the Federal Deposit Insurance Corporation has fostered the confidence of depositors in the safety of their bank accounts and we should never again see many sound banks swept away because of panic. It seems reasonable to believe that bank management can safely operate on a thinner margin than it could before deposit insurance. On the other hand, it is clear that we have now taken up all the slack which can be spared and perhaps a bit more.

Even more disquieting is the realization that the major factors which have influenced the long-term trend of the capital ratio for the past 150 years are little changed today. Banks continue to grow in size even if not in number and supervisory authorities continue to urge the retention of earnings and the sale of new stock, but the volume of bank capital increases at a very slow rate. On the other hand, as the nation continues to grow and as the output of the economy expands, there is need for an ever larger volume of bank assets.

The basic problem, then, is essentially this: the volume of capital relative to bank assets has shown a tendency to decline for a century and a half. Barring effective action in the near future, there is no indication that the trend will not continue. Should it be allowed to continue for another decade or two, today's capital ratio will appear to have been extraordinarily high and the new ratio will be measured in tenths of one percent. Of course, by changing the composition of the ratio, different percentages can be obtained for given years and the short-run variation can be shown differently but, in the long run, this will solve little. Unless we are willing to dismiss bank capital as unimportant, effective action will eventually be required to insure that the growth in the volume of bank capital keeps pace with the growth in the volume of bank assets.

It is to be hoped that bankers themselves will search for and find an effective way to prevent further declines in the capital ratio. The supervisory authorities should have to give their attention only to the exceptional cases.