The Recent Performance of the Commercial Banking Industry

Banks are the primary institutions through which the Federal Reserve conducts monetary policy. This is true both in respect to the central bank's efforts to influence reserves, the money stock, and money market conditions, and in respect to its efforts to underpin the stable functioning of the nation's financial system. But banks are businesses, and to perform their critical role in the financial system and the policy process, banks must be profitable. A number of developments in recent years—some related to the overall economy and some specific to the markets where banks operate—have had important effects on commercial bank profitability and the performance of the industry generally. This article brings together some of the main findings of a study undertaken at this Bank on the recent performance of the commercial banking industry and the factors that have influenced it. The aim of the study is to understand the past rather than to attempt to foretell the future or to prescribe for it. Nevertheless, an understanding of commercial banking's recent history is probably a necessary preliminary in any effort to assess its future prospects or to evaluate policy options on matters that affect it.

The recent slippage in bank profitability

Bank profitability overall has clearly declined in recent years (chart). For all insured banks, return on assets (ROA) declined in each year from 1980 to 1984 before recovering modestly in 1985. Even with the 1985 improvement, ROA remained close to its lowest level of the last 15 years. The recent performance of return on equity (ROE) for all insured banks followed a similar course, declining in each year from 1979 to 1984 with a modest recovery in 1985 to a still-low level. By 1985, ROE for all insured banks was about 11.4 percent, substantially below the 13.9 percent 1979 peak and, except for 1983 and 1984, the lowest since at least 1970.

Much of the study focused on a group of 17 multinational bank holding companies, firms that hold some 37.9 percent of all bank assets and that are at the center of some of the structural changes hitting the banking industry. The profit performance of these 17 institutions has, of course, varied substantially from one firm to another. But for this group of holding companies as a whole, ROE slipped badly from its 14.4 percent peak in 1979 and 1980 to a low of 5.4 percent in 1984, recovering only to 11 2 percent in 1985, the lowest level for any year since 1976. Even excluding the two holding companies that lost money in both 1984 and 1985, ROE in 1985 was still some two and one-half percentage points below the 1979-80 peak despite generally improved profits for most of these holding companies in 1985.

In contrast to the multinational holding companies and insured banks as a group, the group of the 33 largest regional holding companies examined in the study does

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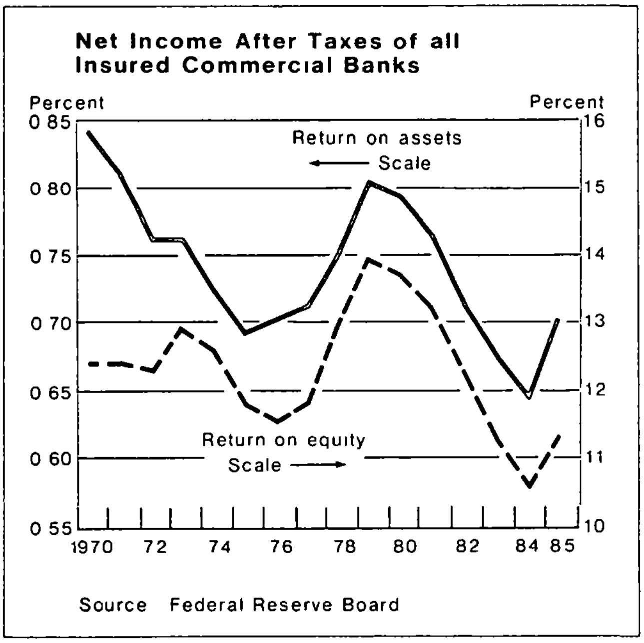

not show a recent downturn in profitability For this group, ROE held at a high plateau of about 14 6 percent in each of the years 1979 through 1982 Profits did drop somewhat relative to this level in 1983 and 1984, but by 1985, ROE for the regionals as a group was essentially back to peak levels

Overall, the 1980s have seen a slippage in profitability for most groups of banks—although from relatively high levels in terms of the postwar period as a whole. Obviously there is a great deal of diversity in the profit performance of individual banks and groups of banks And despite the overall decline, the profitability of banking as a whole has shown greater stability than that of other financial industries and of many nonfinancial industries

The market share performance of commercial banks

There has been some slippage in the overall role of banks in the credit markets over the last ten years or so Moreover, there has been a marked decline in their share of one particularly important credit market—the wholesale loan market, as discussed below But the banks have been able to hold their own or even increase their shares in most of the other markets they serve

According to flow of funds data, the commercial banks' share of credit market debt claims against all nonfinancial sectors of the economy peaked at just short of 30 percent in 1974 Since then, this share has declined virtually year-by-year to 25 2 percent in 1985 However, the significance of this decline for the competitive position of the banks is hard to assess since the overall decline represents a reduced share of holdings of state and local and Federal debt The banks' share of holdings of domestic nonfinancial private debt was about unchanged on balance between 1974 and 1985.

Indeed, in most of the private credit markets where banks compete, their share of the business has, as suggested above, either held about steady or risen in recent years Thus the total share of home mortgages (including allocated mortgage-backed securities) held by commercial banks rose somewhat in the late 1970s and has held fairly steady in recent years in the 25 to 27 percent range The thrift institutions have been the major losers in this market

The banks' share of commercial mortgages has also risen over the last decade or so, from around 30 percent to around 36 percent in 1984 Over the same period, most of the other major participants in this market lost share to the banks

The banks' share of consumer installment credit rose over the 1970s but then suffered a significant decline during the early 1980s due to a loss of share of auto loans to captive finance companies The banks' share of auto loans has been importantly weakened over the last several years as the major domestic car manufacturers have at times used reduced-rate financing as a marketing tool On the other hand, the banks' share of revolving consumer credit has risen almost continuously since the mid-1970s as the use of bank credit cards has spread at the expense of cards issued by retailers.

On the other side of the balance sheet, there are various ways in which the market for deposits can be sliced One obvious way is with respect to the market for "transactions instruments" The commercial banks' share of deposits included in M1 (demand deposits, negotiable order of withdrawal accounts (NOWs), and Super NOWs) has of course declined somewhat in recent years as the thrifts have entered this market, from about 99 percent in 1978 to about 89 percent in 1985

A second approach to defining the deposit market might be in terms of the market for interest-bearing retail deposit accounts This market includes NOW accounts, all savings and small time deposits, and money market fund shares The banks' share of this total seems to have suffered very little from the rise in the money funds in the 1978-82 period Instead, the thrifts were apparently the main losers in the rise of the money funds With the introduction of money market deposit accounts (MMDAs) and Super NOW accounts around the end of 1982, the commercial banks' share of this market has subsequently risen a few percentage points, mainly at the expense of the money funds The share of the thrifts in this market has continued to drift down, but more gradually than in earlier years.

The banks' share in the markets for various financial services is somewhat harder to measure and to generalize about. Owing primarily to the purchase of a major discount broker by one of the multinational holding companies, the banks as a group now appear to have over half the revenue of discount brokerages that are New York Stock Exchange members On the other hand, there has been a sharp fall in the banks' share of pension fund assets under independent management. In the underwriting field, banks are permitted to underwrite municipal general obligation instruments, municipal revenue bonds for housing and higher education, and private placements. These types of underwriting account for about 42 percent of all domestic underwriting activity. Of these permitted activities, the banks' market share has fluctuated between roughly 12 and 20 percent in the 1979-84 period, with no discernible trend. Banks appear to have been advisors in only about 2 percent of the 100 largest merger and acquisition deals of recent years. Data on smaller deals are quite limited.

The decline of the wholesale loan market

One important market in which the banks' role undoubtedly has declined is the so-called "wholesale" market. Precise documentation of this decline is impossible. For one thing, the concept of the wholesale market is somewhat vague. As generally used, the term means any large loan, whether to a national or multinational corporation or to a foreign business or government. However, "large" is not a precise concept. And at times the wholesale market seems to refer primarily to "good" large loans, *i.e.,* to prime names In any case, there are no data designed specifically to measure this market, so its dimensions have to be approached by approximation.

The banks' share of *all* nonfinancial business credit has actually risen over the last decade or more, from a little over 30 percent in the early 1970s to 35.2 percent in 1985. However, this rise obscures the banks' weakness in the wholesale market, in part because it reflects bank strength in commercial mortgage lending and in part because of the steadily rising share of short-term business credit (in which the banks specialize) relative to total business credit over the past ten years. Since wholesale lending can be presumed to be concentrated at the larger banks, one way to construct a proxy for the decline in the banks' share of this market is to measure the sharp decline in the weekly reporting member banks' (WRMBs) share of all short-term nonfinancial business credit from over 43 percent in 1974 to about 27 percent last year. This is obviously a major decline in the banks' role. The slack seems to have been taken up mainly by the commercial paper market and by lending by branches and agencies of foreign banks.

Because of statistical deficiencies, it is very difficult to factor in precisely the role of the foreign banks in the U.S. wholesale lending market, but it is obviously quite large. We estimate that lending by all foreign offices of foreign banks to U.S. commercial and industrial (C&I) borrowers could represent as much as 39 percent of such loans at WRMBs. Such limited data as we have, however, do not really make clear whether there has been any growth in the role of the foreign banks in our wholesale loan market in the 1980s. (And, of course, the role of *our* banks in foreign markets has also risen over the years.)

The reasons offered by bankers and others for the decline in wholesale lending seem to go to the heart of the banks' presumed comparative advantage as financial intermediaries, at least with regard to this particular market Thus we are told that many prime corporate borrowers have as good or better credit ratings than all but a very few of the banks lending in this market. Moreover, it is argued that for large borrowers, the banks no longer have an informational advantage in assessing the credit-worthiness of potential borrowers in this market. Much of the relevant information is public and readily available to any potential purchaser of the borrower's debt. Further, it is argued that the growing importance of large pools of funds with sophisticated management enables managers of these funds to diversify credit risk as readily as can banks.

It is sometimes also argued that banks are at an *inherent* disadvantage in acting as intermediaries because, in addition to covering costs, they must also price loans to realize an "adequate" return on capital. This argument appears to be fallacious, however, since the required return on bank equity can be thought of as the needed reward for assuming credit and funding risk over and above any purely "actuarial" component. The "market" will also demand a reward for assuming such risk. Whether the market will be willing to fund a given credit at or below the level banks have to charge both to cover costs and to achieve their "required" rate of return on capital cannot be determined *a priori* but will depend upon the circumstances. The point seems to be that with respect to high-quality wholesale credits, at least, the market has in fact increasingly been able to outcompete the banks over the past decade or so

The decline of the wholesale loan market has obviously had profound implications for our largest wholesale lenders, but a question arises about how important it might be to the overall role of the banking system in our financial markets.[1] We can approximate

[1]As an indication of the relative heft of the large banks most heavily

Profitability and Price/Earnings Ratios in Financial Service Industries

Industry	Average after-tax return on equity, 1980-84	Average price/earnings ratio, 1977-84
Commercial banking	12 2	6 3
17 multinational bank holding companies	12.9	6 1
Finance companies	12 6	6 2
Mortgage companies	13 1	*
Securities	18 7	7 9
Investment banks	26 0	*
Other securities	15 8	*
Life insurance	13 4	*
Stockholder-owned	15 2	6 4
Mutual	10 5	*
Property and casualty insurance	7 4	*
Stockholder-owned	7 7	7 1
Mutual	7 4	*
Insurance brokerage		
Large firms	18 3	12 8
Small firms	9 2	*
Diversified financial firms	13 1	8 3
Nonfinancial firms (S&P 400)	13 7	9 6

For notes and sources, see *Recent Trends in Bank Profitability—A Staff Study*, Federal Reserve Bank of New York (September 1986), Chapter 14

*Not applicable

an answer by looking at the share of short-term nonfinancial business credit represented by C&I loans at WRMBs As of December 1985, actual C&I loans at these banks were $255.2 billion or 27 3 percent of all short-term business credit. If the WRMBs had maintained their 1974 share of 43 5 percent, C&I loans at these banks would have amounted to $406.6 billion in 1985. With such a higher level of C&I loans, and given the actual 1985 total of outstanding debt of the nonfinancial sectors ($7,114.7 billion), such a figure would mean that the banks had held 27.3 percent of this credit total, or 2 1 percentage points higher than the share they actually did hold in 1985.

Such a figure suggests what was implicit earlier in looking at the overall share of banks in credit markets generally. namely that the decline of the wholesale lending market has by no means been a body-blow to the banking system as a whole. Nevertheless, this decline should not be underestimated. It has been very important to the largest banks, banks that in some ways occupy a pivotal position in the banking system as a whole Moreover, the 2 percent figure could substantially understate the qualitative importance of the decline in wholesale lending for the role of the banking system as the backstop to our credit markets.

For one thing, many bankers argue that the increasing competitiveness of the wholesale loan market has more or less forced the wholesale banks to reduce the average quality of their C&I book. Some bankers were able to offer internal data that support this argument. In addition, examination indicates that the weighted average "betas" (a standard measure of stock price volatility) of the C&I loan portfolio of a sample of 47 of the largest banks are higher than those for the Standard and Poor's (S&P) 500 and indicates a deterioration in loan quality since the mid-1970s. Deterioration in the quality of C&I loans seems to have been a significant drag on the stock market performance of the shares of both multinational and regional holding companies. The deteriorating status of less developed country (LDC) loans also seems to have been an important factor, especially for the multinationals

Footnote 1, continued
involved in this market, the 17 multinationals had 37 9 percent of all bank assets as of last December and 50 2 percent of all C&I loans The C&I loans at these banks constituted 10 1 percent of total assets of all commercial banks

Profitability of banks relative to other financial firms

As might be expected, there has been considerable diversity in the profit performance in the various nonbank sectors of the financial industry that in at least some respects compete with banks. These include finance companies, mortgage companies, investment banks, securities brokers, the various components of the insurance industry, and large diversified financial firms In comparing the profit performance of these groups with that of commercial banks, only a few generalizations can be made, and even then, only with qualifications. First, with the exception of the non-auto finance companies, the profitability of all segments of the nonbank financial industry has tended to move through wider—often much wider—ranges during the past decade than has bank profitability. And the profit performance of many of these groups shows substantially greater short-term variability than does that of the banks as a group. Second, virtually all the nonbank components of the financial industry have shared the banks' experience of deteriorating profit performance since peaks occurring around 1979-80—or at least this was true through 1984, the latest year for which complete data were available. The major exceptions to this recent downward trend have been the consumer finance and mortgage companies.

The average profitability of the financial industry in the 1980-84 period has varied considerably from sector to sector (table). Over this period, average after-tax ROE was 12.2 percent for all insured banks and 12.8 percent for the multinational bank holding companies. Some other parts of the financial industry did considerably better than that, including large investment banks, other securities firms, and large insurance companies. Average ROE in the period for finance companies, mortgage companies, and diversified financial firms was about the same as for banks or only a little better. A few sectors, notably property and casualty insurers, did substantially worse than the banks On average, the reported after-tax ROE of nonfinancial firms in the S&P 400 was somewhat higher than that of the banks at 13 7 percent.

Stock market treatment of banks and other financial firms

For more than a decade, the stock market has priced the earnings of large bank holding companies at multiples well below those for corporate earnings in general This is true both for the regional holding companies and the multinationals, but especially for the latter. As of late April 1986, the price/earnings (P/E) ratio of the S&P 500 was about 15.7, while that of a group of multinational banks was 10.2 (excluding banks with current losses) and 12.2 for a group of large regional bank holding companies.

Bankers and financial analysts offer a wide range of explanations for the market's relatively adverse treatment of bank stocks over the past decade, and there seems no reason to insist on a single explanation to cover so long a stretch of time. One possible sequence of factors, for example, could be a sense early in the period that banks were simply "stodgy" investments with poorer earnings growth prospects than industry in general. Subsequently, as noted below, there is reason to believe that as inflation heated up in the later 1970s, reported bank earnings became seriously overstated Thus P/E ratios for earnings properly computed to take account of the overstatement of earnings due to inflation may have been a lot higher than P/E ratios computed simply from earnings as reported. For a time in the early 1980s, a difficult interest rate environment, as discussed below, may well have hurt bank stock performance. Most recently, concern about the quality of bank assets, and the LDC loan problem in particular, has probably been an important depressant. Some believe that the shrinking wholesale lending market has also been a pervasive factor in the stock market's assessment of the earnings prospects, at least for money center banks, and therefore in the low P/E ratios it has accorded most of these banks relative to other firms.

In assessing these possible explanations for the persistently poor stock market evaluation of bank earnings, it may also be worth keeping in mind that with some notable exceptions, the market has also valued the earnings of most other segments of the financial industry at lower multiples than have been accorded to nonfinancial firms on average (table) Over the 1977-84 period, P/E ratios for nonfinancial firms, as represented by the S&P 400, averaged 9.6 as compared with 6.3 for a sample of 90 commercial banks To be sure, the banks' average P/E ratio was near the low end of the range even for financial firms. But except for insurance brokers, no nonbank financial group had P/E ratios that averaged as high as the average for the nonfinancial firms.

We do not have P/E data for the large investment banks over comparably long periods of time since many of them have gone public only recently. Based on data for April 1986, the stocks of publicly-owned large investment banking firms show multiples well above those for the multinational banks, though still not especially impressive relative to stocks in general. Thus as of April, the average P/E ratio for five publicly-held large investment banks averaged 14.9, compared with the 10.2 average for the multinational bank holding companies cited earlier and 15 7 for the S&P 500. A number of bankers contacted in the course of the study were quick to point out the contrast between high multiples for investment banks and the much lower ones characteristic of major money center banks. However, some of the very high investment bank multiples they cited in 1985 (as high as 25) appear in retrospect to have been temporary spikes. Indeed these multiples have apparently declined further since the April data cited above.

Overall, the low P/E ratios accorded most large banks relative to nonfinancial firms and even to many financial firms, of course, mean that equity capital is relatively expensive for these banks. The practical implication is that it is relatively difficult for banks to find new projects (or expansions of old projects) with yields high enough to justify the injection of new capital, and this is, of course, a deterrent to the longer run expansion of the industry

Macro versus structural causes of the deterioration in bank profits

In examining the various possible causes of the recent deterioration in bank profitability, it is useful to make a distinction between causes related to the general economic environment ("macro" causes) and causes specific to changing competitive conditions facing the commercial banking industry ("structural" causes) Such a distinction might at least provide a starting point for trying to determine whether pressures on bank profitability are largely temporary or long-run in character. Thus macro developments, such as movements in the general level of interest rates, the rate of inflation, and real economic growth, tend to be associated with the business cycle and, therefore, tend to reverse themselves in time. Structural developments such as changes in an industry's technology, relative costs, demand, the extent of competition, and the nature of regulation, clearly tend to be of longer-than-cyclical duration and may be fairly long-lasting. To be sure, the correspondence between macro and temporary on the one hand, and structural and long-lasting on the other, is far from perfect. Macro developments obviously can exhibit trends as well as cycles and can thus be long-lasting. Similarly, structural changes are not necessarily irreversible.

In any case, it seemed desirable to attempt a formal statistical analysis of the business cycle and trend components of movements in bank profitability. Not unexpectedly, regression equations using business cycle variables (such as actual GNP relative to trend) do in fact "explain" a statistically significant fraction of the variance of bank profits. Nevertheless, there has been a clear tendency for actual profits to fall short of "predicted" profits in recent years. Taken as a group, equations including both trend and cycle variables offer some limited evidence that there has been a downtrend in bank profits in recent years after allowing for the influence of cyclical variables.

Of course, statistical evidence of a recent downtrend in profits over and above cyclical influences does not tell us which bank product lines may be responsible for depressing profits and, more generally, does not distinguish between a possible longer-than-cyclical persistence of macro and structural problems. Perhaps most important, this evidence does not predict how long any downtrend in profitability might persist

Some identifiable macro influences on recent bank profits performance

Whatever the relative roles of macro and structural impacts on the recent decline in bank profits, some effects of each kind can be clearly identified. Chronologically, the first macro problem to hit the banks over the past decade was the sharply higher inflation rates of the late 1970s peaking in 1980-81. By reducing the real value of net worth, inflation means that book earnings overstate earnings for financial institutions, because, unlike industrial firms, they are large net holders of fixed-dollar-value assets. In theory, inflation need not also *hurt* inflation-adjusted bank earnings if nominal interest rates correctly anticipate inflation so that real after tax interest rates are unaffected by inflation. But it seems reasonably clear that the markets did not fully anticipate the extent of the acceleration in inflation that occurred. Thus there is a strong probability that the inflation of the late 1970s not only resulted in profits being overstated but also that the inflation actually reduced true profits. We made no attempt to measure the extent to which bank profits were actually *hurt* by inflation, but we did estimate the extent to which they were *overstated* as a result of inflation As Henry Wallich found in an earlier study of this problem,[2] the overstatement appears to be sizable, and it alters the appearance of the statistical record in some important ways.

First, inflation substantially overstated the average level of bank profits for most of the high inflation years of the 1970s and early 1980s. Adjusted ROE averaged only about 7 percent rather than the roughly 13 percent average shown by the raw data

Second, ROE at all insured banks appears to have been near its *lowest* level of the decade in 1979 and 1980 on an adjusted basis, not at its highest, as the reported data suggest. Adjusted ROE rose fairly sharply in 1981 and 1982. ROE in 1984 (the last year for which we have data on an adjusted basis) was close to the *highest* levels of the last decade, not at the lowest as the reported data suggest.

Third, adjustment of profits for the effects of inflation substantially alters the appearance of bank profitability relative to that of nonfinancial corporations. On a reported basis, bank ROEs were roughly equal to average ROEs for nonfinancials until the 1980-84 period when reported ROEs of nonfinancials dropped very sharply. Adjusting ROE measures of both groups for inflation, however, puts banks' ROEs *below* those of the nonfinancials (and often far below) in all but one of the last 12 years.

Finally, adjusting earnings for the effects of inflation for both multinational banks and the S&P 500, P/E ratios for the banks were actually *above* the average for the 500 in the 1977-79 period, were close to the 500 in 1981, and were once again above the 500 in 1984

It seems entirely reasonable that a "rational," "efficient" stock market should "look through" the veil of inflation to price earnings on an inflation-adjusted basis. The numbers are at least consistent with the view that this is what happened. But it is somewhat curious that none of the bankers or bank stock analysts contacted in the course of the study included the distorting effects of inflation among the possible causes of consistently low reported bank P/E ratios. In any event, inflation should now be a much less important influence on bank P/E ratios than it may have been a few years ago, perhaps replaced, as suggested earlier, by the issue of credit quality.

A second macro factor adversely affecting bank profits in the late 1970s through about late 1981 was the interest rate environment The general uptrend in rates over this period had, at least in the short-term, an

[2]Wallich, Henry C , "Inflation is Destroying Bank Earnings and Capital Adequacy," *Bankers Magazine* (Autumn 1977), pages 12-16

adverse effect on profits because of a general tendency, that apparently increased over the period, for banks to have more short-term liabilities than short-term assets (defining "short-term" in a repricing sense) The existence of this short-term "repricing gap" made the flattening and frequent inversion of the yield curve in this period a further drag on profits. Finally, the market cost of bank funds relative to market lending rates (as measured by the spread between certificates of deposit (CDs) and commercial paper rates) also became sharply more adverse over this period

It should be noted that the repricing effect of a once-and-for-all increase (for example) in interest rates on interest earnings can be measured precisely only with a complete knowledge of the maturity distribution of assets and liabilities. It is necessary to make do with a crude index based on the excess of liabilities repriced within a year or less over similarly short-term assets. This appears to capture the direction of effects but can provide only an index, not actual magnitudes. As a conceptual matter, it should also be noted that the earnings impact of a once-and-for-all rise in rates varies with the time horizon. It seems to be clearly adverse in the short run, but at some point it must turn positive. In the long run, the effect must be positive given the existence of some fixed-rate liabilities and equity in the banks' balance sheets. The effect on the present discounted value of the bank of a change in rates thus depends both on the time profile of earnings effects and on the discounting factor. In practice, the stock market seems to mark bank stock prices up or down inversely with interest rate movements.

While the various aspects of the interest rate environment were, as noted, adverse to profits through about late 1981, they have subsequently reversed and seem to have been positive on balance since then. The impact of the interest rate environment seems to be clearly a cyclical affair. There is no obvious reason to believe that there has been a permanently adverse change in this environment for the banks

One influence on profitability that could be related in part to macro and in part to structural developments is the increase in provisions for loan loss reserves In a purely arithmetic sense, the increase in such provisions relative to assets has more than accounted for the deterioration of ROA at all banks and at all major component banking groups. But the interpretation of this statistical fact presents some problems.

In an ideal world where banks were able correctly to predict the overall rate of loan losses—though not which individual loans would go sour—loan loss provisions would be set to maintain loan loss reserves at a level equal to expected future losses. If a deliberate decision were made to increase the average riskiness of the loan portfolio, loan loss provisions would be raised accordingly. Since the pricing of loans should, if market conditions permit, include an allowance to cover "normal" loss experience, a rise in loan loss provisions relative to assets need not by itself indicate any decline in profitability. If the asset portfolio were to be shifted toward loans with a higher expected loss rate, the earnings figures should show higher net interest earnings after the portfolio shift, partially or fully offset by a corresponding rise in the loan loss provision. ROA (and ROE) need not be significantly changed on balance.

But in practice, actual default experience need not correspond at all closely to expectations Many kinds of lending do not readily accommodate themselves to an "actuarial" analysis of risk. Moreover, average past experience will fail as a guide to future default rates in the face of adverse developments in the general economic situation facing borrowers—just as mortality tables will understate mortality rates during an epidemic. The data indicate that fluctuations in loan loss provisions are in fact highly correlated with current charge offs This suggests that these fluctuations are probably at least as much influenced by the failure of actual default experience to conform to expectations as they are by changes in the expected default rate resulting from deliberate changes in portfolio composition.

On balance, it seems reasonable to conclude that much of the recent rise in loss provisions represents a deterioration in the quality of credits that was not anticipated in setting the levels of loan loss provisions in earlier years. To this extent, current rising loan loss provisions reflect unexpectedly adverse loan loss experience rather than a deliberate change in portfolio strategy toward loans both involving higher expected losses and offsetting higher interest earnings. Since it seems reasonable to expect that cyclical downturns would be a major cause of unpleasant surprises in loan loss experience, the overall cyclical influence on bank profits, identifiable in the regression results cited above, would manifest itself in the form of a corresponding cyclical influence on charge offs and thus on loan loss provisions. Such a pattern is in fact supported by the evidence.

At the same time, there are other ways, not neatly tied to cyclical movements in GNP, that general economic conditions could produce unexpectedly adverse loan loss experience with correspondingly adverse effects on profitability. Even though economic expansion has now been underway in the United States and the rest of the industrial world for about three and one-half years, substantial economic slack has remained. Moreover, there has been a persistent shift away from the inflation in commodity and asset prices of the late 1970s and early 1980s to an atmosphere of stable or declining prices. Further, over much of the period, both nominal and real interest rates have been at high levels relative to historical norms, and high levels of the dollar have been a problem for some domestic borrowers Thus despite the resumption of overall economic expansion, the shift in the economic climate after the earlier inflation has left many groups of borrowers under continuing pressure. These, of course, include the LDCs, agriculture, natural resources (notably energy), and some sectors of heavy industry. So while loan losses in these areas may have persisted in the face of an improving overall economy, they would nevertheless appear to reflect macro-economic conditions, at least in substantial part

There is, however, a possible structural side to the story of rising loan loss provisions and their relation to profitability. The decline in the demand for bank credit by highly rated borrowers may well, as already suggested, have left many banks, especially the largest, with a deterioration in the quality of their loan book beginning as long as a decade ago If so, this essentially structural development would show up as rising loan loss rates and as correspondingly higher loan loss provisions. So the rising level of provisions could reflect a structural development, at least in part.

As noted above, if higher expected risks were fully priced in setting rates for these more risky customers, rising loan loss provisions would not necessarily reflect a corresponding drain on profitability. However, such a drain *would* occur if, in a highly competitive market, banks failed to charge adequately for the increased level of prospective defaults.

Unfortunately, efforts to distinguish between macro and structural causes of rising loan loss provisions and their effects on profits are complicated by an inherent "collinearity" between the two. The reason is that higher loss rates arising from an increasingly risky portfolio are likely to be exacerbated by deteriorating overall macroeconomic conditions. Ideally, one would like to be able to determine whether actual loss experience has been worse than might be expected given the general macroeconomic climate and, if so, why. However, there is no neat way to do this. The evidence cited above does indicate that charge offs and loan loss provisions have been greater than expected, based solely on cyclical factors. However, the fact that this is true for all size classes of banks, and not just the wholesale banks, leaves open the question of why it has occurred.

Structural factors

Perhaps the most direct evidence of a structural change in the competitive conditions affecting bank profitability would come from indications that the profitability of the traditional deposit-taking and loan-funding role of banks had declined at the expense of newer, essentially fee-based activities To document such a shift, however, would require revenue and cost data by type of activity. For individual banks, determining the profitability of individual activities at a high level of detail is a difficult problem, despite access to internally generated data At the level of publicly available data, there exists no direct information on the profitability of different banking activities, even over very broad classes of activities. As a result, it has been necessary to make estimates which to some extent rest on arbitrary assumptions.

The approach taken was to distinguish bank activities that involve deposit-taking and the funding of interest-earning assets—*i.e.*, "intermediary" activities narrowly defined—from all other, largely fee-based activities. Given this distinction between the two classes of activities, the problem is somehow to allocate revenues and costs between them. On the revenue side, net interest income can be ascribed to the intermediary category, but non-interest income arises from both intermediary and other activities in ways that have changed over time as bank pricing practices have changed. Consequently, it was necessary to make some alternative assumptions about the allocation of non-interest revenues between intermediary and other activities that seem to encompass the range of possibilities. On the expense side, the only information available by activity comes from the Federal Reserve's Functional Cost Analysis data, and for various reasons, these, too, present some problems in allocating costs between intermediary and other activities.

While the analysis necessarily leaves the answers to many questions uncertain, some facts do stand out First, under any reasonable set of assumptions, revenues from intermediary activities at large multinational banks have been rising much more slowly than revenues from other sources. Thus while revenues from intermediary activities appear to have risen on the order of 17 to 24 percent per dollar of total assets between 1980 and 1985, revenue from other sources per dollar of assets more than doubled over the same period. While revenues from these other activities constituted only about 30 percent or less of intermediary revenues at these banks in 1980, this fraction had risen to roughly 50 percent in 1985

Not surprisingly, the non-interest expenses (salaries, furniture, equipment, and occupancy and other operating expenses) of these "other" activities have also risen substantially more rapidly than intermediary-related, non-interest expenses. Growth of non-interest expenses was about 35 percent for intermediary activities and around

75 to 95 percent for other activities over the 1980 to 1985 period.

Since revenue and cost allocations have to be combined to allocate profits between intermediary and other activities, the uncertainties in revenue and cost allocations are compounded in making profitability estimates Hence the range of uncertainty is correspondingly enlarged. Under a combined set of assumptions most favorable to the estimated profitability of intermediary activities, profitability per dollar of assets showed no trend between 1980 and 1983 and then dropped by more than half in 1984 and 1985. Under this same set of revenue and cost allocation assumptions, the profitability of other activities (again scaled by total assets) rose irregularly between 1980 and 1983 and then rose sharply further in 1984 and 1985 to a level that was larger than the profitability of intermediary activities Using a set of revenue and cost allocation assumptions *unfavorable* to intermediation, intermediary activities actually *lost* money in 1984 and 1985 while the profitability of "other" activities rose steadily between 1980 and 1985.

Thus the results do depend significantly on the revenue and cost allocation assumptions. And given the unusually sharp deterioration in intermediation profits and the sharp rise in other profits in the final two years of the period (1984 and 1985), it is difficult to draw hard conclusions about trends in the relative profitability of these two broad types of activities at the multinational banks over the longer run

Both the relative level and the trend of profits in the intermediary activities were importantly influenced in the 1980-85 period by the sharp rise in loan loss provisions, an item quite properly treated as a cost of intermediary activities Excluding the loan loss provisions, there is no clear sign of a downtrend in the profitability of intermediary activity over this period. In fact, favorable assumptions suggest an erratic but discernible upward trend while unfavorable assumptions suggest that intermediary profits before loan loss provisions have been generally unchanged. So for the profitability of intermediation, as for the profitability of banking overall, much depends on the extent to which recent increases in loan loss provisions prove to reflect a permanent rise in the level of such provisions beyond levels priced into loan spreads and the extent to which they prove to reflect a merely temporary effect of unexpected adverse economic conditions.

One point should be made in the face of the agnosticism forced on us by a strict adherence to what can be demonstrated from available data The intermediary activities covered by the estimates involve the full range of deposit-taking and funding operations undertaken by these banks, *not* just the wholesale lending operations where profitability is widely believed to have declined. So the data in no sense conflict with this widely held perception about the wholesale market.

Indeed the picture painted by the revenue data, at least, is entirely compatible with the generally received view about the wholesale lending market. But there is no evidence to suggest that the profitability of *other* kinds of bank lending activities (funding consumer credit, home and business mortgages, the middle and small business loan market) are declining and, indeed, none of the industry experts contacted in the course of the study suggested that they are. What may well be true, however, is that the natural market for these kinds of lending products (absent geographic expansion) falls greatly short of the deposit-gathering capabilities of large money center institutions that formerly used such capabilities to fund wholesale lending

One important structural development examined in the study was the effect of deposit interest rate deregulation on bank net interest margins—motivated in part by the superficially surprising fact that such margins have generally tended to rise over the years in which deposit rate deregulation has taken place. In looking at this problem, it is necessary to disentangle the *adverse* effect on interest margins of deregulation's impact on relative rates, given the general level of interest rates, from the *favorable* effects on net interest margin of a rise in the general level of rates. As was suggested earlier, the long-run favorable impact of a rise in rates stems from the fact that as long as banks have some fixed rate liabilities (*e.g.,* demand deposits) and equity, the long-run repricing effects of interest rate rises must be to increase net interest earnings. For example, shifts out of rate-regulated instruments such as demand deposits into market rate instruments such as super NOWs hurt interest rate margins. If at the same time, however, interest rates generally are rising, the remaining zero-rate demand deposits become more valuable.

What the computations reveal is that rate deregulation by itself hurt net interest margins significantly between 1977 and 1984, by about 0.37 percent of assets at multinationals, by about 0.56 percent at regionals, and by about 0.18 percent at other insured banks. A look at the year-by-year impact suggests that most of it was completed by the end of 1982 and that there has been little if any net deterioration in margins as a result of deregulation since then—at least for the 45 large bank holding companies we examined in detail. Apparently the adverse potential effects of MMDAs and Super NOWs was largely offset by an associated reduction of reliance on large CDs at these banks.

According to our estimates, the effect of the overall rise in the level of interest rates from 1977 to 1984 was to *raise* net interest margins at 42 large holding companies by 0.87 percent of assets and by 0 97 percent of assets at other insured banks. In other words, the rise-in-rates effect much more than offset the deregulation effect between 1977 and 1984, accounting for much, but not all of the overall improvement in bank net interest margins over this period. By implication, a return of general rate levels to the 1977 levels would reveal the unfavorable effects of deregulation otherwise hidden by the general rise in rates through 1984.

If one concentrates solely on the effects of deregulation on net interest margin and ignores the non-interest income and expense implications of deregulation, the computed effects on profits seem to be large Thus, for example, before-tax ROE of the multinationals averaged 15.8 percent in 1984. According to our computations, net interest margin was reduced by deregulation by 0.37 basis points, as noted above. Had it not been so reduced, these before-tax profits would have been a much larger 22.8 percent of equity in 1984. The problem with trying to translate these large effects of deregulation on net interest margin into profit terms, however, is that such computations ignore offsetting concomitant changes in income and expenses brought about by the onset of interest rate deregulation and rate competition. Thus explicit interest rate competition has meant reduced nonrate competition (and thus reduced non-interest expenses for branches, human tellers, etc.) and increased non-interest revenues in the form of explicit service charges. Hence the net effect on profitability of rate deregulation must be materially less than its effects on net interest margins alone would suggest.

Implications of the study

The most obvious question raised by a study of bank profitability is whether the longer-term position of the industry is deteriorating. The question is sometimes put somewhat differently Is the profitability of traditional banking drying up so that the role and function of banks as we know them must undergo substantial change?

Answers to such questions can be based on an assessment of what has happened or projections of what will happen. The present study obviously bears mainly on what has happened. The answers it gives are not unambiguous On one side, there appears to be evidence that major upheavals in the macro-economic climate have had, and are continuing to have, a significant adverse effect on bank profitability There can be little doubt that a period of stable, low-inflation economic expansion, during which the credit problems generated by past economic upheavals can be worked through, would do much to strengthen bank profitability

On the other hand, some of the pressures on the banks clearly would *not* go away, even under the most favorable of macro-economic scenarios. Probably the most critical issues raised by the structural developments we have examined center on the decline of the wholesale loan market. The figures indicate that the decline in wholesale lending has already led to a modest but significant slippage in the banking system as a whole in the national credit markets. And the development has raised acute strategic issues for many of our largest banking institutions that have been most heavily involved in this market Their success in forging successful new strategies in the face of the decline in this traditional market has so far been mixed.

But perhaps more important than its impact to date, the most interesting question raised by the decline in wholesale lending is whether it may prove to be a paradigm for the future transformation of other traditional banking markets. The development that needs closest attention in this connection is the spread, or potential spread, of the process known as "securitization" Securitization, mainly in the form of a huge expansion of the commercial paper market, made possible the decline of the wholesale bank loan market Securitization has become a major factor in the mortgage market (though the banks themselves are important holders of mortgage-backed instruments), and securitization of numerous other types of loans, especially consumer loans, appears to be in an active, if early stage of development

The question raised by the securitization process is whether a range of developments—including a widening ability of investors to assess credits and diversify risks and innovations in technology that facilitate the packaging of securitized loans—are about to produce a broad-based erosion in the profitability of intermediating credit through the banks. Some analysts have already come to the conclusion that such an erosion is indeed in prospect. Some go further to argue that, as a consequence, the banking system will eventually evolve to produce "banks" that are more like money funds, offering transactions instruments on one side of the balance sheet and holding essentially riskless money market instruments on the asset side, with traditional banking credits securitized out to the market or held by nonbank institutions.

But the fact that an outcome is conceptually possible does not mean it will materialize. Banks retain tremendous advantages as specialists in assessing and diversifying credit risks and in funding them through an array of highly attractive deposit instruments. The examination of past developments we have conducted does not tell us to what extent these advantages may erode in the future It does suggest, however, that out-side the wholesale lending market, there has been no substantial slippage to date.

What is clear is that the profitability of the banking system, and hence its continued ability to play its present role in the credit markets and in monetary and financial policy, cannot be taken for granted. The profitability of the banking system is likely to be a continuing factor in the consideration of a wide range of policy issues relating to banks and to financial institutions and markets more generally

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This article is excerpted from a 15-chapter book entitled *Recent Trends in Commercial Bank Profitability—A Staff Study* recently completed by the Federal Reserve Bank of New York For details, see the inside back cover