

Some Recent Trends in Commercial Banking

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In this article I review some recent trends in the evolution of U.S. commercial banks. The banking industry has experienced a series of significant transformations in the last two or three decades. Among the most important of them is the change in the type of organizations that dominate the landscape. Since the eighties, banks have increased the scope and scale of their activities, and several banks have become very large institutions with a presence in multiple regions of the country. After this long period of transformations, now is a good time to stop and look back at the changes that have occurred.

Reviewing these trends over the last thirty years may also help to put in perspective the behavior of the banking system during the 2001 recession. We have not had many recessions since the major transformations in banking happened. In fact, the only other recession took place in 1991–1992 and found the banking system in the middle of the resolution of a widespread crisis. After two years of slow recovery, this is an appropriate time to assess how the new banking system behaved during the last recession. For such evaluation, it is useful to have a long-run (thirty year) perspective on the direction of change in the relevant variables. This perspective is the focus of the present article.

This study concentrates only on commercial banks, most of which are part of a larger company, a bank holding company. Sometimes, more than one commercial bank belongs to the same bank holding company. These banks are called sister banks. In general, sister banks tend to be managed as different branches of a single bank rather than as independent banks. In fact,

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until the mid-1980s, the creation of sister banks was partly a response to strict regulations on branching. In this sense, looking at sister banks as different banks can be somewhat misleading, even from the perspective of regulators, since sister banks are subject to cross-guarantee provisions by which one bank can be liable for its sister bank's losses. However, only 30 percent of U.S. banks belong to multi-bank holding companies. Furthermore, the parent organization is subject to limited liability protection rules with respect to the losses in the bank. These rules make the financial situation of the individual banks still important for regulatory purposes, to the extent that the losses associated with a bank's failure may still be transferred to the insurance fund, even when the bank holding company does not go bankrupt. For these reasons, and since the data on commercial banks is readily available, it seems appropriate to focus on the population of commercial banks to identify the relevant major trends in the industry.

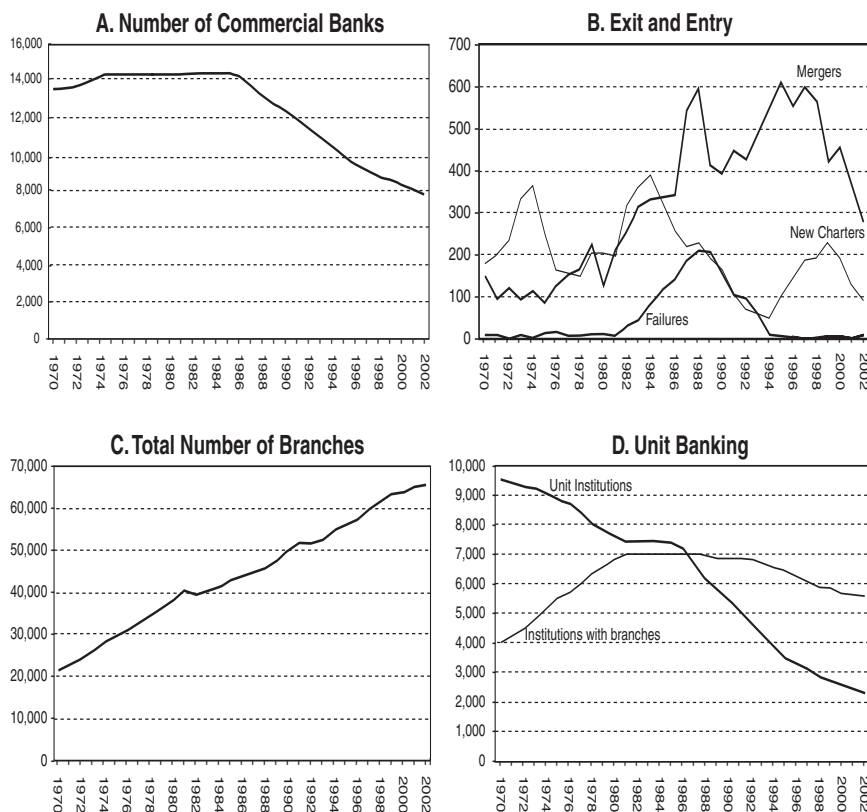
When possible, I will discuss the evolution of the industry from 1970 to the present. Boyd and Gertler (1993) reviewed the trends in U.S. commercial banking since the fifties. My analysis complements theirs, as I extend the data period to include the last ten years (see also Carlson and Perli 2002). In some cases, data availability allows me to go back only to 1984 when the procedures used by banks to report information to the regulators (The Call Reports) were thoroughly revised.

The article is organized as follows. In Section 1, I provide a quick overview of the changes in the structure of the industry. In Section 2, I study the major trends in the balance sheet of all commercial banks, taken as a group. When informative, I divide the banks into four different groups, according to their size measured by total assets. In Section 3, I perform a similar analysis of the evolution of the income statement of banks. Finally, I reserve Section 4 for some conclusions.

1. THE INDUSTRY STRUCTURE

For the period under study, one of the main changes in the structure of the banking industry has been a movement toward consolidation. An entire literature has developed around this subject (see Ennis [2001] for a summary discussion and further references). Here I present only some major trends that reflect this process.

In general, advances in communication have made the U.S. economy much more integrated at the national level. The tendency to run national operations (as opposed to regional) is quite evident in the retail sector, for example. The consequences of this trend to banking come directly and indirectly. The direct effect originates in the fact that a large portion of the activities of banks, such as the provision of checking accounts and other payment instruments, is retail in nature and hence subject to the same forces to become national. More

Figure 1 The Number of Commercial Banks

Source: Federal Deposit Insurance Corporation (Annual Data for FDIC-Insured Commercial Banks: Tables CB01, CB02, CB03).

indirectly, it is also the case that some of the major customers of banks are retailers, which, having acquired national presence, are now more likely to benefit from a relationship with a nationwide bank. The natural response has then been for banks to move toward consolidation.

At the beginning of the eighties, the number of commercial banks was more than 14,000, but by 2002, this number was less than 8,000 (see Panel A of Figure 1). It is striking to see the sharp change in 1985 to a significant downward trend in the number of commercial banks. Several factors are associated with this change. Panel B of Figure 1 shows that the number of mergers increased during the eighties and nineties. It should be noticed, however, that this time series is quite volatile. The number of new charters

also decreased during the eighties, but the creation of new banks went back up to historical levels during the second half of the nineties. Finally, the number of bank failures increased significantly during the second half of the eighties but again went back to normal levels (or even lower) after 1994.¹

The late eighties and early nineties were a period of crisis in the commercial banking industry, clearly reflected by the increase in the number of bank failures. However, the time series for the number of commercial banks does not seem to reflect this abnormal period: the number of banks is decreasing at an almost constant rate since 1985 (see Panel A of Figure 1). One possible interpretation for this lack of response in the number of banks during the crisis is that the trend in this variable is dictated by changes in long-run factors like technological progress (see Broaddus [1998] for a similar argument). In this sense, we can think that at each point in time there is a target number of banks in the economy which is determined by the technology of production, the factors influencing demand, and, of course, government regulations. Under this interpretation, the target number of banks has been subject to a relatively constant decreasing trend that started in the mid-eighties, and the crisis that occurred during the late eighties and early nineties was an abrupt change affecting only who were the participants in the industry (but not how many participants the industry should have). In other words, during the crisis some banks failed and some new banks were created, but this process had no significant effect on the underlying speed of consolidation.

In spite of the decreasing trend in the number of banks, it is interesting to note that the number of branches has actually been increasing (and at about the historic trend) during this consolidation period (see Panel C in Figure 1). One of the fears commonly associated with a move toward consolidation is that competition may be reduced as fewer and bigger banks dominate the market. However, the increase in the number of branches may be an indication that the level of competition in regional markets has not significantly decreased.²

Panel D in Figure 1 shows the declining trend in the number of unit banks. In the seventies, unit banks were being replaced by institutions with branches. After the mid-eighties, both the number of unit banks and the number of institutions with branches trended downward. At first, consolidation was mostly reducing the number of small unit banks, but by the early nineties the strong move to consolidation also reached the intermediate and large-size banks with branches (hence the decrease in their number). One important caveat with

¹ The number of banking organizations, that is, the number of banks adjusted to treat all banks within the same holding company as a single bank, decreased steadily from more than 12,000 in 1980 to less than 6,000 in 1998. See Rhoades (2000), which also provides an excellent review of the patterns on merger activity during the period.

² Berger and Mester (2003) calculate the average Herfindahl index of concentration in local deposit markets and conclude that the increase in market concentration from 1984 to 1997 has been very moderate.

respect to the decreasing trend in unit banking is that before the complete removal of branching regulations in the early nineties, unit banks were often part of the same bank holding company and hence were managed as, essentially, one bank. Furthermore, after 1989, the cross-guarantee provision in FIRREA³ implied that solvent banks affiliated with a failing bank were liable for the losses associated with the failure (Walter 1996). In this sense, the distinction between unit banking and banks with branches became less meaningful, and a group of sister banks (that is, banks owned by the same holding company) became not only managed as a single bank, but also legally liable for each other's losses. In summary, the move away from unit banking presented in Panel D of Figure 1, if not interpreted with caution, can induce us to overestimate the economic significance of the change involved.

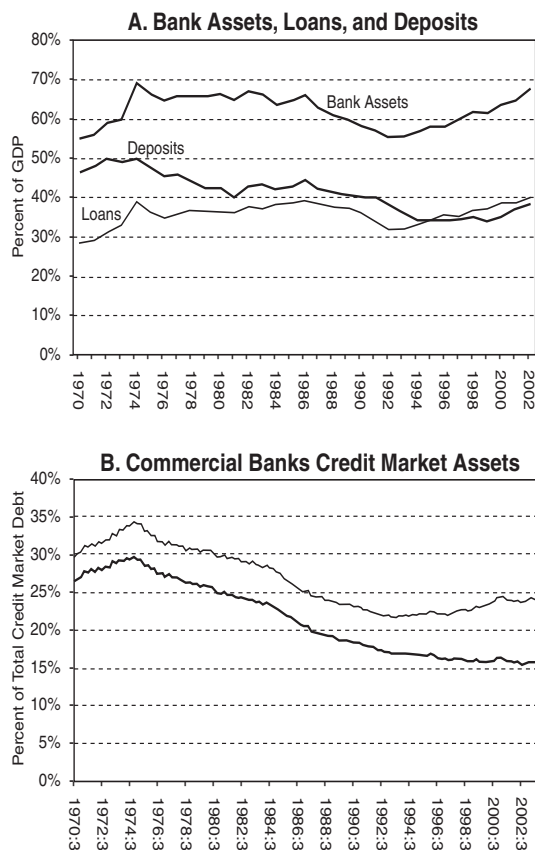
At the same time that the banking industry was under transformation, the development of money markets and mutual funds created new possibilities for firms to finance their investment and for investors to allocate their funds. It is then a natural question to ask whether the role of banks has been losing importance in the U.S. economy (see also Boyd and Gertler 1994). Panel A of Figure 2 shows that banks' total assets as a proportion of nominal gross domestic product have been relatively stable since the beginning of the seventies. If we interpret gross domestic product as a proxy for the size of the economy, then we may say that commercial banks have roughly kept pace with the secular growth in economic activity. Deposits, though, have become less predominant, but the downward trend is very moderate.⁴

On the other hand, of the total liabilities outstanding in the economy, commercial banks hold a smaller proportion now than they did in the early seventies (see the bold line in Panel B of Figure 2). It is interesting to notice, however, that the decreasing trend has been tapering off and that, as a consequence, the proportion of total debt owed to banks is stabilizing at about 15 percent.⁵ A similar long-run trend appears when we consider financial assets held by banks as a proportion of the total liabilities owed by the domestic nonfinancial sector (the thin line in Panel B of Figure 2). This ratio is harder to interpret since some of the financial assets held by banks are liabilities of entities that belong to the financial sector (and hence, they are included in the numerator but not in the denominator). But some interesting facts arise from its evaluation. First, we can see that in the last ten years bank assets have been growing faster than the total debt owed by the nonfinancial sector. Second, the amount of debt owed by the financial sector has been growing faster than the

³ FIRREA is the acronym for the Financial Institutions Reform, Recovery, and Enforcement Act of 1989.

⁴ The main reason why bank assets have been able to grow at about the same speed of GDP while deposits have not, is that banks have increased their reliance on other borrowed funds to finance their activities (see Figure 3).

⁵ Note that by combining the evidence in Panel A and B we can conclude that the total amount of debt outstanding has been increasing faster than nominal GDP. In fact, the ratio of total debt to GDP was 1.75 in 1984, and it is now higher than 3.0.

Figure 2 Banking and the Economy

Note: The bold line in Panel B is the ratio of the total credit market assets held by U.S.-chartered commercial banks to the total credit market debt held by all sectors in the economy. The thin line (top) is the ratio of the total credit market assets held by U.S.-chartered commercial banks to the total credit market debt held by the domestic nonfinancial sector. **Sources:** In Panel A, nominal GDP is from the Bureau of Economic Analysis; bank deposits are from the FDIC-Insured Commercial Banks Table CB15, and bank loans and assets are from the FDIC-Insured Commercial Banks Table CB09. In Panel B, all data are from Table L.1 of the Federal Reserve Board Release Z.1, Flow of Funds Accounts.

amount of debt owed by the nonfinancial sector.⁶ In fact, this is true even if

⁶This explains why in the last ten years the thick line in Panel B of Figure 2 has been fairly flat while the thin line has been increasing.

we exclude from the financial sector debt the part that is owed by government-sponsored enterprises (GSE) and other federally related mortgage pools. In other words, financial sector debt has been growing faster, not just at GSEs (a well-known fact), but across the board.

2. THE BALANCE SHEET

During the thirty years under consideration, together with the consolidation trend in banking, the U.S. financial system has experienced several other important changes that, directly or indirectly, influenced the evolution of commercial banks' balance sheets. One prominent example of these developments is the increased participation of mutual funds in financial markets. While the amount of assets held by mutual funds represented less than 1 percent of total financial assets in the economy at the beginning of the 1970s, they now represent more than 11 percent. Since mutual funds are a direct alternative to bank deposits as a channel for savings, their expansion has surely changed the competitive conditions faced by banks in the deposit market. The plan for this section is to review some of the major trends in the evolution of commercial bank balance sheets in order to put in perspective the impact on banking activities of the changes in financial markets occurring in the last thirty years.

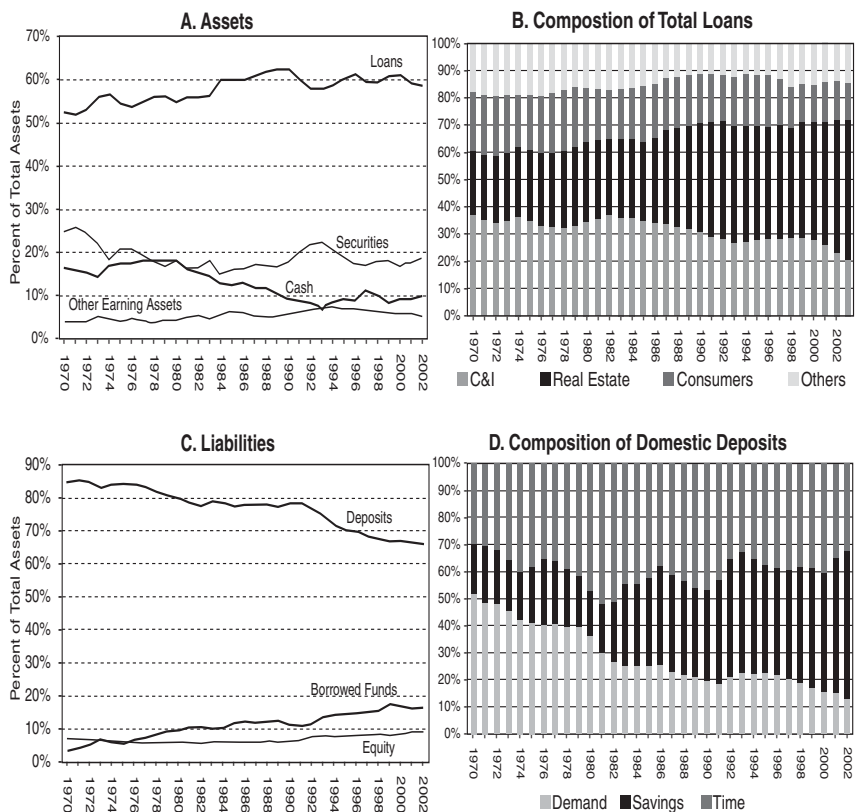
Commercial Banks Balance Sheet

Asset Side	Liability Side
Cash	Deposits
Loans and Leases	Borrowed Funds
Securities	Others
Others	Equity Capital

Panel A of Figure 3 shows the long-run trends on the asset side of the U.S. commercial banks' aggregate balance sheet. The proportion of assets represented by loans and leases has stabilized at 60 percent since the early 1980s.⁷ Holdings of securities fluctuate around 20 percent, and cash holdings have been trending downwards consistently, partly as a consequence of the implementation of better techniques for cash management.

Panel B of Figure 3 presents the composition of total gross loans (excluding interbank loans) at all commercial banks. We see that real estate loans have been gaining ground while the proportion of commercial and industrial (C&I) loans have been declining for almost twenty years. Since loans are a relatively stable proportion of total assets (see Panel A), the same trends also hold when we look at each type of loan as a proportion of total assets.

⁷ During the three decades prior to 1980, the proportion of loans and leases increased from 40 percent to 60 percent while the proportion represented by securities decreased (see Boyd and Gertler 1993).

Figure 3 Trends in Commercial Banks Balance Sheet

Note: Borrowed funds represent federal funds purchased, securities sold under repurchase agreements, demand notes issued to the U.S. Treasury, Federal Home Loan Bank advances, mortgage indebtedness, liabilities under capitalized leases, and all other liabilities for borrowed money. Subordinated notes and all other liabilities constitute a very small (yet growing) portion of the liabilities and hence are not included in the figure. **Source:** The data in Panels A, C, and D are from the Federal Deposit Insurance Corporation (Annual Data, Table CB09, CB14). The data in Panel B are from the Federal Reserve Statistical Release (H8, End of Year Data).

It is worth mentioning here that, over the last twenty years, one of the most pronounced changes in the composition of bank loans across the industry is the increasing share of real estate loans in the investment portfolio of small banks (not in the figures). From a level of 22 percent of total assets in 1988, real estate loans at small commercial banks steadily increased their share to a level of more than 37 percent at the beginning of 2003.

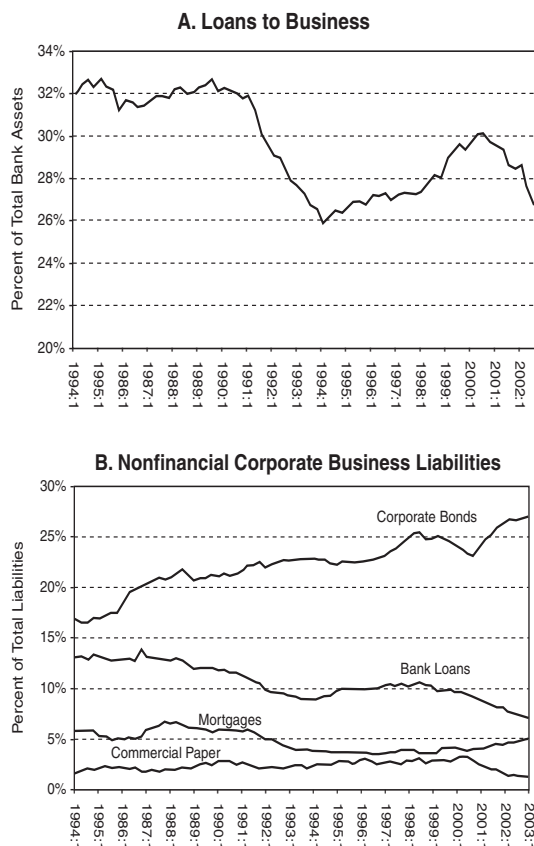
Another interesting change in the composition of loans is the strong decrease in the C&I loans' share of total loans during the last three years (see Panel B of Figure 3). This decline is mostly explained by the corresponding decline occurring at large banks (those banks with more than \$300 million in assets) where the proportion of C&I loans over total assets went from 19 percent in mid-2000 to around 12 percent in July 2003.

Figure 2 in the previous section suggested that banking has not declined in importance relative to the aggregate economy, or at least not very much. One related question would be to ask whether banking has lost ground as a source of funding for business undertakings. The decreasing contribution of C&I loans to the loan portfolio of banks could be a symptom of such a trend. For a more direct assessment of this question, I constructed Figure 4. Panel A provides the evolution of bank loans to businesses (including not only C&I loans, but also real estate-backed loans to businesses and others) as a proportion of total bank assets. We see that there has been a significant drop in this proportion in the last ten to fifteen years. In principle, this decrease could be the consequence of a slowdown in business activities (relative to other activities in the economy). However, Panel B shows that, during the same period, bank loans have also been losing ground as a source of funds for the nonfinancial corporate business sector. In summary, bank loans to business are becoming less important both for banks and for businesses.

Another important observation coming from Panel A of Figure 4 is that in the last couple of years there has been a steep decrease of the proportion of funds that banks loan to businesses. Even though real estate-backed loans to business (as a proportion of total bank assets) have actually been increasing during the last five years, this increase has not been large enough to offset the pronounced decrease in the contribution of C&I loans in the last two or three years (shown in Panel B of Figure 3). Panel B of Figure 4 shows that, since 1999, bank loans have also been losing share in the total liabilities of nonfinancial corporate businesses.

It is interesting to compare these recent developments with those taking place at the beginning of the 1990s. The decline in bank loans to businesses was very stark during the first three years of the last decade. This decline could be part of the motivation for the "credit-crunch concerns" that were expressed at that time (see Green and Oh 1991). Considering that both 1991 and 2001 were recession years, it seems clear that loans to businesses have shown a strong procyclicality in the last twenty years. This pattern is consistent with the idea of a lending cycle. Yet, it should be clarified that more evidence would be necessary to argue that such a lending cycle is a matter of concern.⁸

⁸ Weinberg (1995) clearly explains why, even in an efficient credit market, the intensity of loan activity in banks would fluctuate with aggregate conditions. In this sense, to the extent that

Figure 4 Liabilities of Nonfinancial Corporate Business

Note: Loans to business are the result of aggregating all real estate-backed business loans, all commercial and industrial loans, and all agricultural production loans. **Source:** Panel A was constructed using FDIC quarterly data, and Panel B was constructed using data from the Federal Reserve Board Release Z.1, Flow of Funds Accounts.

Going back to Figure 3, on the liability side of commercial banks balance sheets, we see in Panel C that deposits have been losing ground to borrowed funds as a source of funding for banks. The increased importance of mutual funds and of money market instruments are an important part of the explanation for this trend. To the extent that investment in mutual funds has become a close substitute for deposits, banks are less able to rely on the latter to finance their

business investment has been especially weak during the 2001–2002 period, it should not come as a surprise that bank loans to business have also shown relative weakness during this period.

lending activities. Also, banks are using more money market instruments to manage their short-run liquidity needs, and such liabilities are included in the “borrowed funds” category. Finally, in the last ten years, there has been an increase in the amount of loans that commercial banks take from the Federal Home Loan Banks system. These loans are also part of the borrowed funds aggregate.

Panel D shows that the proportion of deposits represented by time deposits has been relatively stable over the years, but the proportion of demand deposits has been decreasing steadily, from being more than 50 percent of total deposits in 1970 to less than 15 percent in 2003.⁹ Panel D also shows that in the last ten years, savings accounts have been crowding out both time and demand deposits.¹⁰

During the nineties, the share of total bank assets funded by core deposits (total deposits less time deposits that are larger than \$100,000) has been decreasing even faster than the share of total deposits (see Genay 2000).¹¹ Banks have increased their reliance on more interest-sensitive liabilities for funding their loan activities. In fact, the loan-to-deposit ratio is now above one (from about 0.6 at the beginning of the seventies), implying that banks are loaning out a higher amount of funds than they have in deposits.¹² While borrowed funds are more sensitive to interest rate changes, they also require lower reserve levels to satisfy unexpected swings in the demand for liquidity. The lower need for reserves increases the propensity of banks to loan available funds and hence increases the loan-to-deposit ratio.

One of the most important components of the liability side of banks’ balance sheets is, of course, equity capital. Table 1 shows some interesting patterns in the holdings of equity capital by U.S. commercial banks.

First, smaller banks tend to hold higher capital ratios (defined as equity capital over total assets). This evidence is consistent with the view that smaller banks tend to be less diversified and need to hold relatively more equity capital

⁹ Since the 1980s a type of transaction account called Negotiable Order of Withdrawal (NOW) has become more widely used. NOW accounts are not included in the demand deposit category used in Panel D of Figure 4. It is interesting to note, however, that their increase in importance has not been enough to compensate for the ground lost by demand deposits (another type of transaction account). By dividing deposits into transaction and nontransaction accounts we can observe that in the seventies, transaction accounts were around 50 percent of the total, but, since then, they have been steadily losing participation to become less than 20 percent in 2002.

¹⁰ This increase in the importance of savings accounts versus demand deposits accounts is partly associated with the increase in the use of “sweeping” since 1994. Sweep accounts allow banks to periodically reclassify balances from retail transactions deposits into savings accounts so as to reduce their reserve requirements (see Krainer 2001 for details).

¹¹ This decreasing trend in core deposits has been reversed in the last couple of years, a pattern consistent with the fact that this has been a period of low interest rates and especially weak performance of the stock market (see Carlson and Perli 2002).

¹² The loan-to-deposit ratio is calculated as the ratio of total gross loans and leases and total domestic deposits in all FDIC insured commercial banks.

Table 1 Equity Capital (Percent of Total Assets)

Size	<\$100 Million	\$100 Million– \$ 1 Billion	\$ 1 Billion– \$10 Billion	>\$10 Billion
1985	8.50	7.20	5.84	4.91
1990	8.98	7.67	6.33	5.26
1995	10.42	9.39	8.57	7.19
2000	11.06	9.59	8.98	8.07
2003*	11.27	9.94	10.61	8.52

Note: (*) The data for 2003 are only for the first half of the year. **Source:** FDIC Quarterly Banking Profile.

to control the impact of agency costs in their access to external financing (see, for example, Ennis 2001).

Second, we can see that capital ratios have been increasing through time for all bank sizes. During the eighties and nineties important changes in bank regulation have increased the role of capital as a way of limiting the risk exposure of banks. The Basel Accord in 1988 is, without a doubt, a clear move toward increasing bank holdings of capital.¹³ In fact, the biggest jump in capital ratios at commercial banks occurred during the first four years of the nineties when both the capital-to-asset ratio (in Table 1) and the risk-adjusted capital ratio increased around 2 to 3 percent, on average. The risk-adjusted capital ratio is calculated using a risk-adjusted asset base on which each component of the bank's assets is weighted according to a regulatory-risk classification. It should be said, however, that the risk classification is relatively coarse and hence the adjustment may fail to accurately reflect the evolution of risk in banks' portfolios. Still, to the extent that the adjustment does take into account, at least partially, the changes in risk, it is interesting to note that, since 1992, the risk-adjusted capital ratio has been relatively constant at around 12.5 percent. This evidence, combined with the information in Table 1, suggests that asset portfolios of banks have become riskier during the last ten years.¹⁴

The risk-adjusted capital ratio started to be calculated officially only after 1990, and hence it is not possible to take a long-run perspective on its evolution. The simpler capital-to-assets ratio presented in Table 1 allows us to obtain a longer-run perspective on the evolution of capital (since 1985). Even though

¹³ The "prompt corrective action" clause introduced in the FDICIA uses Basel capital requirements to determine when the regulators should intervene in the case of an undercapitalized bank. As a consequence, the importance of capital ratios as a supervisory tool has increased since 1991.

¹⁴ The measure of risk-adjusted assets contains a component representing off-balance-sheet exposure of banks, which has been gaining importance during the last decade.

this simpler ratio fails to account for changes in assets' risk, it can still be informative (as a complement to the risk-adjusted ratio) to the extent that banks exercise regulatory-capital arbitrage to artificially reduce the measure of adjusted assets. In support of this view, for example, Estrella, Park, and Peristiani (2000) argue in favor of using simple capital ratios as informative signals for predicting bank failures.

3. THE INCOME STATEMENT

I now turn to reviewing the long-run trends in the components of the income statement of banks. Obviously, the changes in the structure of the industry (see Section 1) and in the composition of the balance sheet (see Section 2) can change the sources of income at banks. Another recent development in banking that had significant implications for the evolution of the income statement is the increase in importance of off-balance-sheet activities. Some of the most common off-balance-sheet activities are the provision of lines of credit, the securitization and sale of loans, and the trading of derivative instruments. Outstanding lines of credit, for example, are an important source of fee income for banks. Some of these activities have become common practice only relatively recently, and the data that would allow for the kind of long-run perspective that I wish to provide in this article are not readily available. For this reason, I will not explicitly cover this aspect of the evolution of banking in the recent past, but it should be kept in mind when interpreting the trends in the income statement that I will discuss next.¹⁵

There are five main components of the income statement of commercial banks: interest income and expense, non-interest income and expense, and loan loss provisions. Interest income is the result of all interest and dividends earned by banks on interest-bearing assets (such as loans and leases). Interest expense is the result of all interest paid to depositors and other creditors of the bank. Net interest income, then, is the difference between interest income and interest expense. Non-interest income includes fee income, gains on securities transactions, and all other income not originated in interest payments. Non-interest expense includes personnel compensation, legal expenses, office occupancy and equipment expense, and other expenses. Finally, provision for loan losses is the amount charged as operating expenses to provide an adequate reserve to cover anticipated losses in the loan portfolio. These charges become part of the allowance for loan losses, a negative component on the asset side of the banks balance sheet, which is then used to charge off loans after they become nonperforming.

¹⁵ For a thorough discussion of commercial banks' off-balance-sheet activities, see Boyd and Gertler (1993, 1994).

Income Statement

- Net Income
- Net Interest Income
- Interest Income
- Interest Expense (-)
- Provisions for Loan Losses (-)
- Non-interest Income
- Non-interest Expense (-)

Note: The negative sign in parenthesis (-) indicates that the component is subtracted when computing net income.

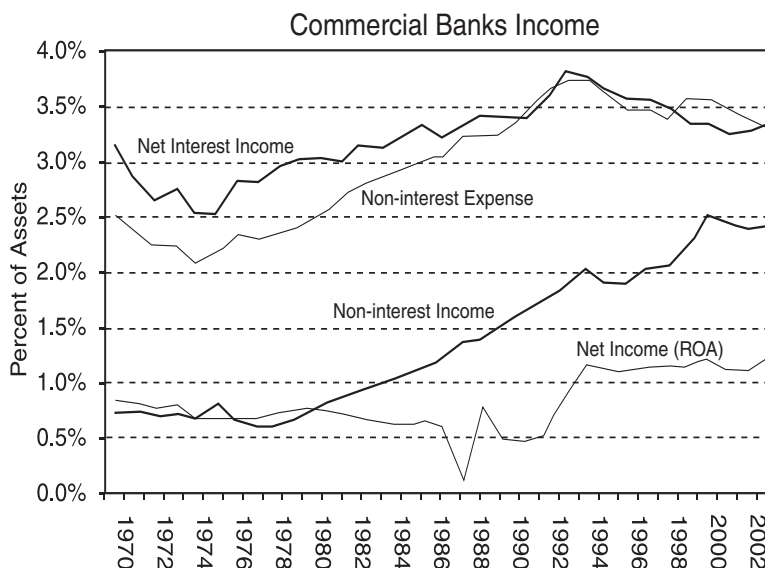
In the last ten years, the annual return on assets (ROA) at commercial banks in the United States has been historically high: the average since 1993 has been 1.15 percent, while from 1950 to 1985 the average was 0.72 percent.¹⁶ There are several possible factors that could explain this sustained change in level. One possibility is that there has been an increase in the efficiency with which banks manage their assets. (This change constitutes a movement from the interior of the set of feasible risk-return combinations toward the frontier of that set.)¹⁷ A second possibility is that banks are engaging in riskier (on- and off-balance-sheet) activities that are associated with a higher rate of return. (This change is a movement along the risk-return frontier of the feasible set.)

The evidence seems to indicate that the explanation for this increase in return must be a combination of the two possible causes. On the one hand, banks may be moving toward increasing efficiency. In Figure 5 we can see that since the beginning of the nineties, coinciding with the increase in ROA, the ratio of non-interest expenses to total assets has been decreasing steadily. The decrease of total operational expenses relative to assets could be indicative of an improvement in the efficiency level with which banks handle their assets. Another way of thinking about aggregate movements toward the risk-return frontier is to think that an increasing number of institutions are getting closer to implementing the current best managerial practices for banks. Berger and Mester (2003) provide some evidence that seems to indicate that the average inability of banks to adopt best practices has decreased during the 1990s (see their Table 3). On this same line of inquiry, Berger and Humphrey (1992) undertake a detailed analysis of the 1980s, a period of rising inefficiency due to dispersion inside the best-practice frontier.

On the other hand, banks may be taking more risks. As we saw in the previous section, the risk-adjusted assets base used for regulatory purposes has

¹⁶ Annual return on assets is defined as the ratio of annual net income and total average assets. Since the banking industry experienced a generalized crisis from 1986 to 1992, those years were left out for the sake of long-run trend comparison.

¹⁷ Inefficiency in banking may originate not only in banks having higher resource cost than necessary, but also in the fact that some banks may be holding a portfolio of assets that, conditional upon risk, is dominated in rate of return by other feasible portfolios.

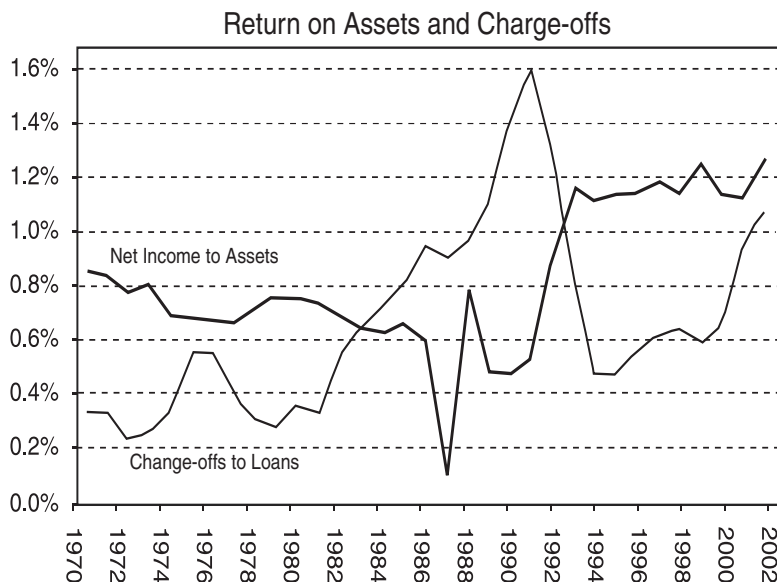
Figure 5 Income Statement

Source: Annual data from the FDIC-Insured Commercial Banks Table CB04.

been growing at a higher rate than unadjusted bank assets during the nineties. This fact implies that under the (imperfect) regulatory risk classification of assets, banks are indeed taking on more risk. Another piece of evidence that supports this view is given in Figure 6, which shows both the evolution of return on assets and charge-offs at commercial banks since 1970. We can see in the figure that, together with the increase in return on assets since 1993, the level of charge-offs as a proportion of loans remained relatively high compared with its historic level of around 0.3 percent. If we think that the charge-offs to loans ratio is positively correlated with the risk of the loan portfolio, then we can conclude that since 1993 both risk and return have increased in the banking industry.¹⁸

A third possible explanation for the increase in the return on banks' activities is based on the notion that the 1990s was a period of repeated innovations in banking (such as credit scoring, widespread ATM networks, and many others). Early adopters of new technologies tend to earn supernormal profits for

¹⁸ Berger and Mester (2003) use the average standard deviation of annual return on assets as a proxy for bank risk. They show that this indicator has actually been decreasing during the nineties, but, due to lack of data, they do not present estimates for the seventies and early eighties.

Figure 6 The Risk-Return Frontier

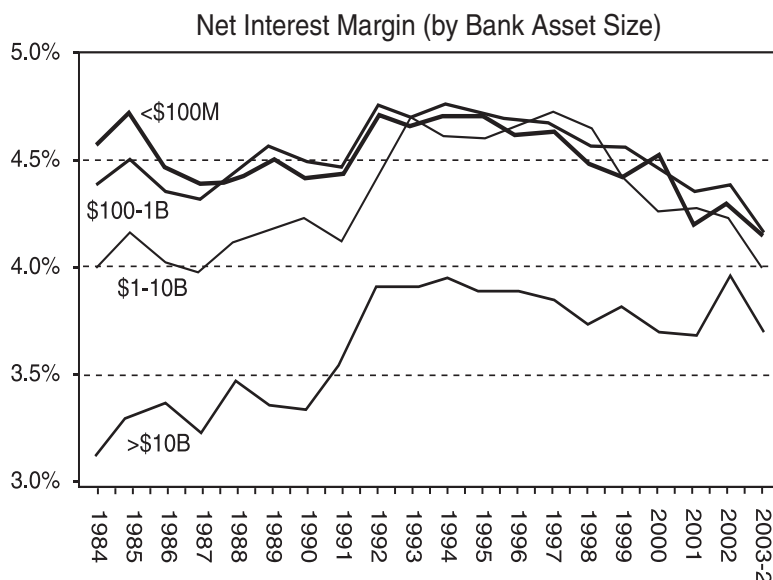
Source: Annual data from the FDIC-Insured Commercial Banks Table CB04 and Table CB08.

some time until the technology becomes widely used by competitors. Repeated innovations can then explain a long period of high returns like the one the banking industry experienced during the 1990s. Berger and Mester (2003) suggest this possibility but do not provide direct evidence supporting the hypothesis.

In general, the evolution of the return on assets has been relatively uniform across bank sizes. In particular, ROA decreased for all bank sizes during the second half of the eighties and the beginning of the nineties and then recovered to levels of above 1 percent after 1993. The exception to this uniformity of behavior across sizes is the large variation in ROA during 1987–88 (see Figure 5). These variations at the industry level mostly reflect the changes in ROA at banks with more than \$10 billion in assets (the largest category).¹⁹

With respect to the evolution of charge-offs across bank sizes, the story is somewhat different. While small banks (those with less than \$100 million in

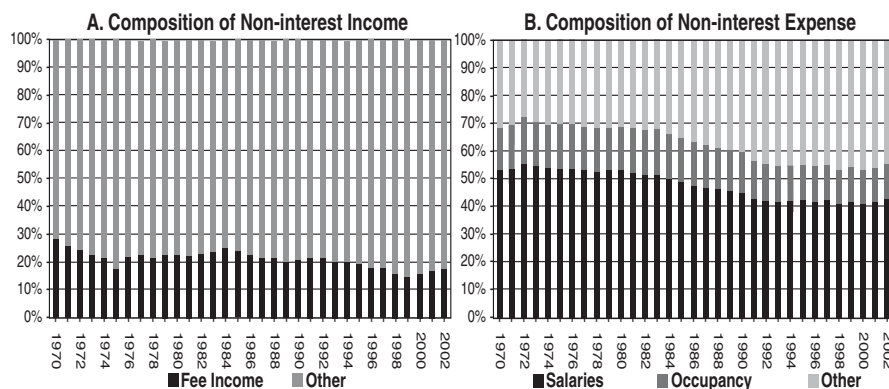
¹⁹ In 1987, provision for loan losses at large banks spiked up significantly (creating the opposite effect on ROA). This increase in provisions is mostly explained by the need to write off large international loans to less developed countries that became nonperforming after the international debt crisis of the eighties.

Figure 7 Interest Income at Commercial Banks

Note: The net interest margin is the ratio of net interest income and interest earning assets. The data are for four different sizes of banks: banks with more that \$10 billion in assets, banks with \$1 billion to \$10 billion in assets, banks with \$100 million to \$1 billion in assets, and banks with less than \$100 million in assets. **Source:** FDIC Quarterly Banking Profile. The data for 2003 are only for the first half of the year.

assets) had relatively high levels of charge-offs during the mid-eighties, the spike in the late eighties and early nineties (see Figure 6) is fully explained by the increase in charge-offs at medium-to-large banks (those with more than \$1 billion in assets). Similarly, the increase in charge-offs during 2001 is mostly concentrated in these medium-to-large size banks. Overall, charge-offs tend to be fairly procyclical, but, again, the behavior across different sizes of banks is not very uniform. In particular, during the 2001 recession, the level of the charge-off ratio at banks with less than \$1 billion in assets does not show any significant increase.

The net interest margin is one of the most common indicators of profitability in traditional banking activities (that is, holding deposits and lending). This indicator results from expressing net interest income as a percentage of (average) interest-earning assets. Figure 7 shows that medium-to-large banks experience a significant increase in the net interest margin at the beginning of the nineties. On average, net interest margins have been higher at all banks

Figure 8 Non-interest Income and Expense

Note: Fee income represents the amount of all service charges on deposit accounts in domestic offices such as maintenance fees, activity charges, administrative charges, overdraft charges, and check certification charges. Other non-interest income includes: income from fiduciary activities; gains, losses, and fees relating to foreign currency or foreign exchange transactions; gains, losses, and fees from assets held in trading accounts; net gains from the sale or disposition of loans, premises (including branches and offices) and fixed assets, and other real estate owned; all service charges, fees, and commissions (other than those relating to deposits in domestic offices); fees charged on bank-issued credit cards; net gains on futures and forward contracts; and other miscellaneous income.
Source: Annual data from the FDIC-Insured Commercial Banks Table CB07.

during the nineties. These higher margins are consistent with an increase in default and interest-rate risk at banks.²⁰ Angbazo (1997) provides further evidence on this link between interest margins and risks at banks. He also shows that off-balance-sheet activities tend to increase risk and interest rate margins at banks.

Figure 8 shows the trends in the composition of non-interest income and expenses. While non-interest income has increased substantially during the last twenty years (see Figure 5), its composition has not changed much (see Panel A of Figure 8). In particular, income from fees on deposit accounts has been stable at around 20 percent of total non-interest income for a long time. In summary, it is true that in the last twenty years fee income has been increasing relative to total gross income at banks, but other non-interest

²⁰ Interest rate risk is the exposure of a bank's financial condition to adverse movements in interest rates (see Basle Committee 1997).

income has also become increasingly important.²¹ Boyd and Gertler (1994) suggest that the evolution of the relative contribution of other non-interest income to total income is a good proxy for the increase in importance of off-balance-sheet activities at banks. In this respect, after growing steadily for the last twenty years, other non-interest income has gone from representing less than 10 percent of bank income in the seventies to representing more than 25 percent of such income today.

With respect to non-interest expense, there is a clear trend toward a lower contribution of salaries and employee benefits to total non-interest expenses. This decrease is almost exactly matched by the increase in the proportion of other expenses, while the contribution of occupancy expenses remains constant. In the last couple of decades there has been a tendency for banks to out-source employment-intensive activities to other affiliates of the bank holding company or to service bureaus (Berger and Mester 2003). The cost of these outsourced activities becomes part of the “other” component of non-interest expense at the same time that it reduces the “salaries” portion of total expense.

4. CONCLUSION

The banking trends reviewed in this article suggest some conclusions. First, even though commercial banking activities have been changing significantly, banks as a group are still a very important player in the financial markets of the U.S. economy. Second, banks do seem to be moving away from their traditional activities of handling deposits and providing loans to business, but this trend is fairly gradual. Third, while banking activities have become more profitable in general, the evidence suggests that they have also become riskier.

Finally, as I suggested in the introduction, taking a long-run perspective can help to identify some patterns of the response of modern banking to economic slowdowns. Although a careful study of this issue was beyond the scope of this article (see Schuermann 2004), from the comparison of the data from 1990–91 and 2001, some regularities can be identified. For example, bank loans to businesses seem to be very procyclical, and both charge-offs and net interest margins seem to be relatively countercyclical.

²¹ For a detailed study of the evolution of banks’ retail fees during the nineties, see Hannan (2001).

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