Regional Outlook

Federal Deposit Insurance Corporation — Third Quarter 1999

FDIC Boston Region

Division of Insurance

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In Focus This Quarter

◆ ***Falling Prices in Commodities and Manufacturing Pose Continuing Risks to Credit Quality*—Falling prices are causing problems for a wide range of *commodity industries*—a collection of agricultural, mining, and manufacturing industries that produce standardized products and face global competition, mostly on the basis of price. Firms in these industries have experienced slow or negative profit growth even as they reduce payrolls to cut costs. There are signs that these trends are contributing to higher credit risk for insured institutions. The effects of these problems on local economies and community banks could grow if low prices persist.** *See page 3.*

By Richard A. Brown and Alan Deaton

◆ ***Shifting Funding Trends Pose Challenges for Community Banks*—Several long-term trends are making it more difficult for some institutions to economically fund asset growth with deposits in today's marketplace. As a result, traditional measures of liquidity and liability composition for commercial banks reflected record-low levels of deposit funding at year-end 1998. The need to augment lagging deposit growth to meet loan demand has led many community banks to seek more wholesale funding sources, particularly borrowings. If the trend toward greater reliance on nondeposit funding continues, liability management may become more important and more challenging for community banks that have historically relied upon deposits for funding and net interest revenues for profitability.** *See page 11.*

By Allen Puwalski and Brian Kenner

Regional Perspectives

◆ ***Regional Economic and Banking Conditions*—The Region's labor market showed slower growth through June 1999, but increased factory output helped mitigate the pace of manufacturing job losses…Residential building activity moderated following a surge in 1998, while demand for existing homes remained strong…The Region's commercial lending institutions have been hit hard by recent refinancing activity, as evidenced by a sharp decline in net interest margins.** *See page 18.*

◆ ***Insured Institutions Are Increasingly Relying on Alternative Funding Sources*—Reliance on noncore funding to support asset expansion has become more prevalent, especially in areas with aggressive competition…However, insured financial institutions may face additional pressure on margins as assets are booked at smaller marginal spreads because of competition and an increasing reliance on noncore funding results…Some institutions may seek higher yielding assets, which could result in somewhat higher levels of credit risk…The shifting funding structure of insured institutions may also contribute to greater volatility in funding and increase the institutions' sensitivity to changing market conditions.** *See page 20.*

By the Boston Region Staff

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Falling Prices in Commodities and Manufacturing Pose Continuing Risks to Credit Quality

- **Prices have fallen sharply across a wide range of commodities and manufactured goods.**
- **Signs of stress are apparent in some industry sectors.**
- **These trends are contributing to rising credit risk for insured institutions.**
- **Effects on local economies and community banks could grow if low prices persist.**

The performance of the U.S. economy during the mid- to late-1990s has been generally positive for banking. Economic activity grew in 1998 at an inflation-adjusted rate of 3.9 percent for the second consecutive year. Continued low inflation has helped to hold interest rates low and extend the expansion into its ninth consecutive year. However, one downside of low inflation has been that firms in certain commodity industries have encountered slow or negative growth in revenues because of the low prices they receive for their products.

Commodity industries are defined in this article as a collection of agricultural, mining, and manufacturing industries that produce standardized products and face global competition, mostly on the basis of price. Since the beginning of 1997, price weakness has extended across a wide range of commodity industries, from agricultural products to oil, chemicals, textiles, paper, semiconductors, steel, and even some segments of the auto industry. While many firms have retooled and restructured to cut costs, clear signs of financial stress have become apparent.

The potential importance of problems in commodity industries to the FDIC was illustrated by the banking problems related to oil and agriculture during the 1980s and early 1990s. As documented in a 1997 study by the ***FDIC Division of Research and Statistics,*** regional economic dislocations related to declining farmland values and declining oil prices contributed to large increases in credit losses and the eventual failure of hundreds of federally insured banks and thrifts. The analogy to the 1980s is far from perfect—for example, oil and agriculture have not experienced booms comparable to those that preceded their collapse in the 1980s—but exposures to commodity industries remain important for many insured institutions.

This article summarizes recent adverse trends in commodity and manufacturing sectors and discusses why industry-sector problems are important in banking. It takes a high-level approach, emphasizing the economic fundamentals that are driving prices across the economy while ignoring many of the industry-specific factors that are also driving the performance of individual sectors. The goal is to evaluate the effects of these trends on bank credit quality if they persist through 1999 and beyond.

Prices Have Been Declining across a Range of Commodities and Manufactured Goods

Low inflation has been a boon for consumer spending and business investment during the economic expansion of the 1990s. As of March 1999, the Consumer Price Index had risen at an annualized rate of less than 2.0 percent for 8 consecutive quarters and at an annualized rate of less than 4.0 percent for 33 consecutive quarters. The prices of many popular and essential consumer goods—from computers to gasoline—have generally fallen throughout the decade, even as the prices of most services continue to rise steadily. Businesses, too, have benefited from the ability to purchase goods cheaply, as well as from the generally low interest rates that have accompanied low inflation.

The declining average wholesale price of goods is reflected in Chart 1 (next page), which shows changes in the producer price index (PPI) and some of its key components since the beginning of 1997. The PPI focuses on goods, omitting changes in the price of services. The decline of nearly 5 percent in the PPI since the beginning of 1997 has been led by falling prices for mining products, petroleum, and steel. Moreover, economy-wide price declines for wholesale goods have been steady over time, with the PPI registering year-over-year declines for 26 consecutive months through May 1999.

Chart 1

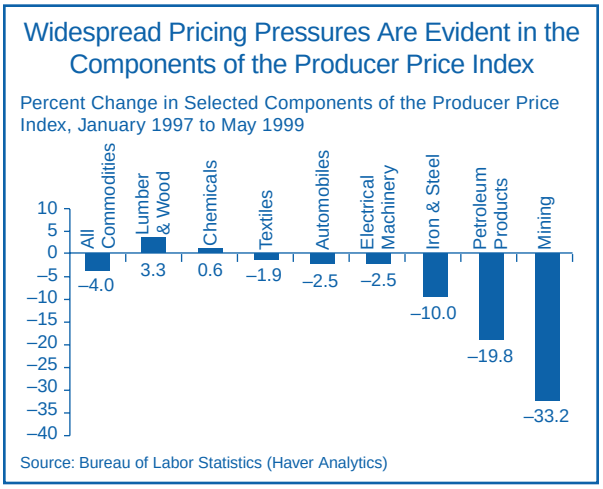
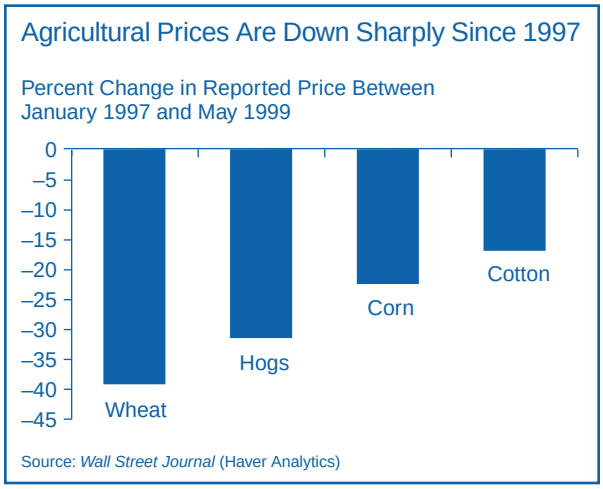


Chart 2



Although they are only indirectly included in the PPI numbers, the prices of several important agricultural commodities have also fallen substantially. Chart 2 shows that the price of wheat has fallen by more than 35 percent since January 1997, with the price of corn, hogs, and cotton also registering double-digit rates of decline. While the price of hogs has rebounded significantly since the end of 1998—more than doubling from its low of less than 15 cents per pound—prices for corn, wheat, and cotton continued to decline through May 1999.

Reasons for Broad-Based Commodity Price Weakness

Pricing trends in disparate industries such as electronics and agriculture, or oil and steel, are driven in part by industry-specific factors. For example, weather patterns heavily influence agricultural prices, while global politics tends to drive world oil price levels. In manufacturing, technological developments can significantly alter the demand for a product or its cost of production, thereby influencing its market price. For example, improvements in semiconductor manufacturing techniques—from shrinking the size of chips to using larger silicon wafers—have significantly increased production yields in that industry during the 1990s.[1]

However, the pervasiveness of recent price declines across a wide range of commodities and manufactured goods suggests that a number of common factors are driving prices lower:

- **Low inflationary expectations.** Since 1980, inflation rates have gradually declined worldwide as central banks shifted their focus toward price stability. *Disinflation* has profoundly altered the expectations of investors, consumers, and businesses, and in the process has altered the course of events in individual markets and in the economy as a whole. As a result, commodities have lost much of their appeal as a hedge against inflation. This has contributed to a decline of more than 50 percent in the price of gold since 1980. The expectations of many businesses have also changed, because with less pricing power they must continually cut costs to remain competitive.

- **Overcapacity because of large-scale investment.** Global investment in productive capacity accelerated during the early to mid-1990s in a number of commodity and manufacturing industries. Many U.S. firms have implemented new technologies and moved their operations closer to their markets or to areas where low-cost labor is available. For example, major U.S. and foreign automakers have invested billions of dollars in recent years in new production facilities in the emerging markets of Asia and Latin America as part of a "build-where-you-sell" strategy.[2] Because these additions to capacity largely have not been offset by the closure of existing plants, analysts say that global productive capacity in autos

[1] See "Semiconductor Industry Trends," *Standard and Poor's Industry Surveys,* May 27, 1999, p. 4.

[2] Barbara McClellan, "Asia Woes Worsen," *Ward's Auto World,* November 1998, pp. 28–31.

could exceed demand by more than 20 million units annually by 2000.[3] A similar situation has developed in the semiconductor industry, where capital investment in chipmaking equipment tripled between 1993 and 1996, contributing to a glut of memory chips and plunging prices.[4]

- **Curtailed global demand in the wake of emerging market crises.** The economic crises that have developed in Asia, Russia, and parts of Latin America since 1997 have crimped global demand for commodities and manufactured goods. For example, demand for new cars in Korea fell by 50 percent in 1998.[5] Asia received approximately 30 percent of U.S. feed grain exports in 1996, but declining Asian demand since then has contributed to a sharp decline in global grain prices. The slowdown of economic activity in crisis countries and the resulting decline in their demand for imports is only one factor that has hurt the pricing power of U.S. producers. Another problem is the pricing advantage conferred on countries that have experienced currency devaluation. Firms operating in a country that has devalued its currency experience a reduction in the price of their exports in U.S. dollar terms. This process further depresses the pricing power of U.S. farmers and businesses that sell their goods in global markets.

Recently, there have been signs that some hard-hit Asian economies may soon begin to recover. However, the other factors cited above—low inflationary expectations and rapid investment in productive capacity—may well be longer-term trends. In any event, U.S. farmers and businesses that participate in commodity industries must be prepared for the possibility that pricing pressures will not dissipate in the near term.

Signs of Stress Are Showing for Affected Industry Sectors

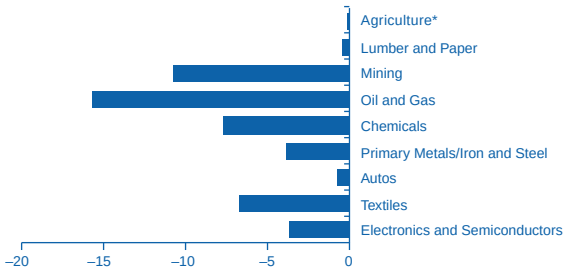
As commodity prices continue to stagnate, signs of stress are emerging among firms in the commodity industries. A long-term trend toward reduced levels of employment in manufacturing has accelerated in the midst of the current economic expansion. Chart 3 shows that employment levels declined in a wide range of commodity industries in the 24 months ending in May 1999. The total manufacturing sector lost more than 420,000 jobs during that period, while another 64,000 jobs were lost in the mining sector, which includes oil and gas extraction. The trend toward lower levels of employment in mining and manufacturing not only reflects pricing pressures but also attempts by firms in these sectors to maintain profitability by investing in labor-saving technologies.

The profit picture has begun to deteriorate as well for firms operating in commodity industries. Four-quarter trailing earnings through March 1999 for oil-sector firms in the Standard & Poor's 500 dropped by more than 44 percent from a year ago (see Chart 4), while the earnings of steel firms fell by almost 32 percent. The losses experienced by firms in some of these industrial sectors extended to the farm sector as well, where net

CHART 3

Employment Levels Have Declined across a Wide Range of Commodity and Manufacturing Sectors

Total Percent Change in Payroll Employment, May 1997 to May 1999

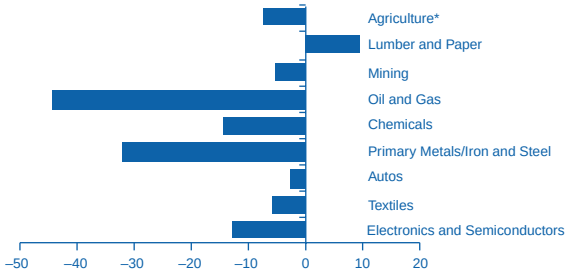


* Percent change between 1997 and 1998 based on county-level estimates of payroll employment in agriculture and agricultural services
Sources: Bureau of Labor Statistics (Haver Analytics); WEFA

CHART 4

Earnings Have Declined across a Wide Range of Commodity and Manufacturing Sectors

Year-over-Year Percent Change in Earnings from Continuing Operations for S&P 500 Companies, by Sector, for the Year Ending in March 1999



* 1998 percent change in net farm income
Sources: Standard and Poor's (Bloomberg); U.S. Department of Agriculture

[3] "1997 Automotive Outlook," *Automotive Industries.* This report is available at http://www.ai-online.com.
[4] "Semiconductor Industry Trends" (1999), p. 3.
[5] Barbara McClellan (1998).

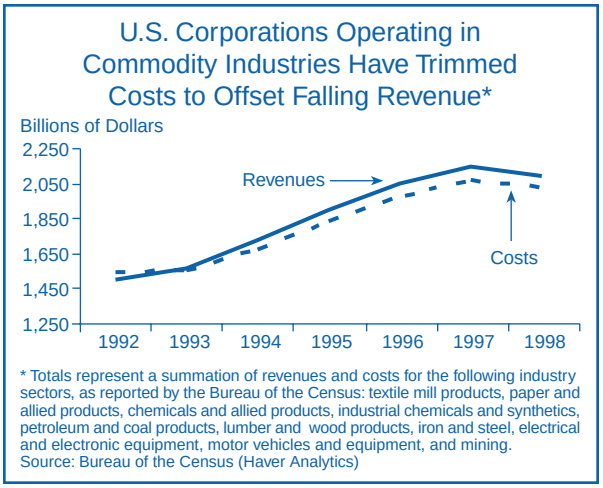
incomes fell by more than 7 percent in 1998, according to the ***U.S. Department of Agriculture.***

Affected Industries Have Found Ways to Cope with Pricing Pressures Thus Far

Despite the signs of stress in industries where prices are weak or declining, U.S. farmers and industrial firms have shown themselves to be fairly resilient thus far in their ability to cope with the situation. Agricultural producers have been making greater use of carryover debt to keep their operations running even if they were not able to fully retire their operating loans during the previous crop year. The ***FDIC Report on Underwriting Practices*** shows that 29 percent of FDIC-supervised agricultural lenders reported at least a moderate increase in carryover debt during the six-month period ending in March 1999, compared with only 10 percent in March 1998. Although the use of carryover debt is not an uncommon practice in agriculture, it indicates that low prices and declining subsidies have contributed to financial stress for farmers.

Many industrial firms have found ways to increase productivity and cut costs to offset declining revenues. Chart 5 follows trends in annual total revenue and costs for U.S. corporations operating in a selected group of commodity industries. It shows that growth in revenue and costs slowed noticeably in 1997. Both revenue and costs in these sectors declined in 1998, illustrating that firms in these sectors have needed to cut costs to preserve profit margins. Cost cutting in the manufacturing sector is further illustrated by a steady decline in the index of unit labor costs for manufacturing, which started from a value of 100 in 1992 and fell to less than 96 by the first quarter of 1999. Falling unit labor costs means that the productivity of manufacturing workers is rising faster than the cost of their services. This trend demonstrates that manufacturing firms have been successful at implementing new technologies and new capital equipment to cut production costs.

Chart 5



Cost savings and industry consolidation have been accomplished in part through mergers. According to ***Merger Stat,*** the dollar volume of merger and acquisition transactions involving U.S. firms exceeded $1.2 trillion in 1998, an increase of more than 80 percent from 1997 levels. Both the number and dollar volume of mergers announced in 1998 far exceeded the volumes recorded during the "merger mania" of the 1980s. Some of the largest mergers announced in 1998 involved firms looking for ways to increase market share and cut costs in markets characterized by overcapacity. Examples include the $39 billion Daimler-Chrysler transaction announced in May 1998 and the $80 billion Exxon-Mobil transaction announced in December 1998. Furthermore, merger activity recorded in early 1999 suggests that total merger volume for the year could exceed the record pace of a year ago.

Industries plagued by oversupply and weak prices require consolidation to reduce capacity and improve profit margins. Mergers and acquisitions represent a fairly orderly way for firms operating in a troubled industry to consolidate on their own terms. Bankruptcy filings are an alternative means for severely troubled firms to reduce capacity and achieve consolidation within an industry. Regardless of how industry consolidation is achieved, it often results in reductions in employment (such as those documented in Chart 3). However, from a lender's perspective, an orderly consolidation process through mergers and acquisitions is preferable to a disorderly shakeout of firms through bankruptcies.

Recent favorable capital market conditions have allowed firms in troubled industries to consolidate through mergers. Acquisitions are sometimes financed through corporate borrowings or, more commonly, by swapping equity shares that have been rising in value during the bull market of the 1990s.[6] Recent consolidation in commodity industries could be depicted as an

[6] According to Loan Pricing Corporation's *Gold Sheets,* syndicated and leveraged lending related to mergers and acquisitions reached a record high of $80 billion in the second quarter of 1998, which represents about 30 percent of the total syndicated and leveraged lending market for that period.

orderly process, associated with record-high merger and acquisition activity, near-record-low business bankruptcy filings, and low credit losses on commercial and industrial (C&I) loans. However, a sudden change in financial market conditions characterized by sharply higher interest rates, lower stock values, or both could inhibit the ability of businesses to restructure and retool on their own. This could lead to a much more disorderly shakeout of firms accompanied by a rise in business bankruptcies and losses to lenders.

Signs Point to Rising Credit Risk in the Commodity Industries

In dollar terms, the largest commercial bank exposures to the commodity industries are in the portfolios of large banks. Chart 6 provides an estimated breakdown of the aggregate exposure of insured institutions to commodity industries based on corporate balance sheet information collected by the Bureau of the Census.[7] The chart shows that the aggregate exposure of the bank and thrift industries to these sectors is approximately $206 billion, or 26 percent of the total industry C&I portfolio. The largest single industry exposure is to the chemical industry, which represents approximately 9.5 percent of bank C&I loans. In the syndicated loan market, where large U.S. banks dominate in terms of originations, about 25 percent of all loans made in 1998 were to firms operating in the manufacturing sector.

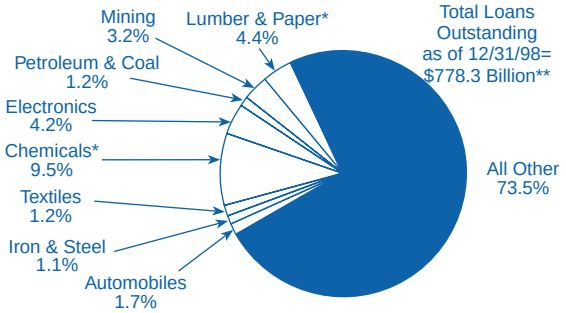
A rough indicator of recent trends in the credit risk associated with bank loans to commodity industries can be found in expected default frequencies (EDFs) calculated by KMV Corporation. The EDF is an estimate of the probability that a firm will default on its bond obligations within one year.[8] Chart 7 tracks the median EDF for firms operating in commodity industries compared with the median for all other firms rated by KMV. This chart shows that while the median EDF for commodity industries has consistently exceeded the median for all other firms in the recent past, this difference has widened appreciably since the middle of 1998. Over the past year, the median EDF for commodity industries has more than doubled, rising from 0.8 percent to 1.9 percent, while the median EDF for all other firms has doubled as well, from 0.6 percent to 1.2 percent. These data indicate that the level of credit risk associated with corporate borrowers has been increasing, led by an increased probability of default among firms operating in commodity industries.

[7] Because of the limitations of the data, bank exposures to corporations engaged in agriculture are not broken out in Chart 6.

[8] KMV's proprietary calculation for EDF is based on 1) the current market value of the firm, 2) the structure of the firm's current obligations, and 3) the vulnerability of the firm to large changes in market value.

Chart 6

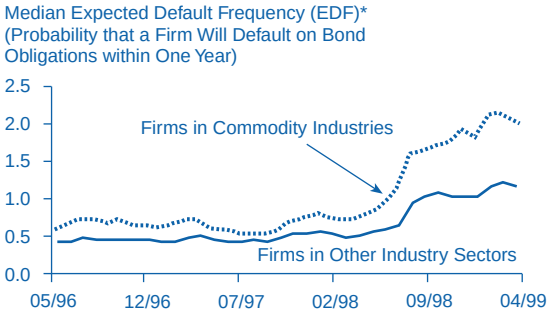
Commodity Industries Make Up Over One-Quarter of Bank C&I Loans to Corporate Borrowers



* "Lumber & Paper" includes lumber and wood products and paper and allied products as reported by the Bureau of the Census; "Chemicals" includes chemical and allied products and industrial chemicals and synthetics as reported by the Bureau of the Census.
** Total includes bank loans not elsewhere classified to the nonfarm nonfinancial corporate business sector as reported in the Flow of Funds. Component loan amounts represent short-term and long-term bank loans on corporate balance sheets, by sector, as reported by the Bureau of the Census.
Sources: Bureau of the Census (Haver Analytics); Federal Reserve Board

Chart 7

The Default Risk of Firms Operating in Commodity Industries Has Risen over the Past Year



KMV's proprietary calculation for EDF is based on 1) the current market value of the firm, 2) the structure of the firm's current obligations, and 3) the vulnerability of the firm to large changes in market value.
* Sectors included in the calculation of EDF for commodity industries include the following KMV aggregates: agriculture; automotive; chemicals; electrical equipment; electronic equipment; lumber and forestry; mining; oil refining; oil, gas, and coal exploration and production; paper; semiconductors; steel and metal products; and textiles.
Source: KMV Corporation

Effects on Local Economies and the Banks That Operate in Them

The economic effects of adversity in commodity industries tend to be most severe in local areas that depend heavily on these sectors for employment and income. In the 1980s, problems in the agricultural and oil sectors kicked off a "rolling recession" that spread through the Plains states and oil-producing regions of the south-central and western states. In agricultural regions, farmland values began to decline around 1981, contributing to the failure of hundreds of FDIC-insured banks between 1984 and 1990.[9] Similarly, declining oil prices in the mid-1980s contributed to the failure of federally insured banks and thrifts in Texas, Oklahoma, Louisiana, and other states, while the attempts of some institutions to diversify into risky real estate investments resulted in still more failures. The FDIC's analysis of these episodes emphasizes how industry-sector problems can affect local economies and bank credit quality.[10] Moreover, the study shows that there can be a significant lag between the onset of industry-sector problems and the emergence of performance problems in the banking industry. Although banks with direct credit exposures to a troubled industry are likely to be affected first, virtually all banks that operate in areas that are heavily dependent on a troubled sector will eventually have to contend with the indirect effects on the local economy.

To evaluate the extent of local economic effects that might have resulted from the recent adverse trends in the commodity industries, we have conducted analysis on 1,027 U.S. counties identified as particularly dependent on at least one commodity industry (see Table 1 for a list of the commodity industries studied).[11] The purpose of this analysis is not to identify every county that might be affected by these trends; instead, this analysis focuses on the U.S. counties *most concentrated* in the commodity industries and determines if these counties and banks that operate in them are showing any symptoms of widespread distress.

Table 2 compares 1998 average job growth and unemployment rates in these "most concentrated counties" against the average for all U.S. counties. This comparison shows that the concentrated counties tended to have moderately lower job growth and higher unemployment than the U.S. average. However, further analysis shows

[9] Federal Deposit Insurance Corporation, Division of Research and Statistics (1997). *History of the Eighties: Lessons for the Future, Vol. 1, An Examination of the Banking Crises of the 1980s and Early 1990s.* pp. 275–276, http://www.fdic.gov/databank/hist80/index.html.

[10] Federal Deposit Insurance Corporation (1997). See Chapters 8 and 9.

[11] Counties identified as being highly dependent on one or more commodity industries had an average population of 36,250 in 1998 versus 86,055 for all U.S. counties.

Table 1

U.S. Counties Most Concentrated in Commodity Industries by 1998 Payroll Employment

	Percent of 1998 County Employment in the Industry	Number of Counties with Employment Concentration in 1998	States with the Most Designated Counties
Agriculture	>30	295	TX, NE, SD, KS, MO
Lumber and Paper	>5	305	GA, AL, MS, AR
Oil and Gas	>5	83	TX, OK, LA
Chemicals	>5	46	TN, IL, NC, TX
Steel	>5	70	KY, OH, AR, IN
Autos	>5	118	MI, IN, OH, KY, TN
Textiles	>5	156	GA, NC, SC, VA, AL
Electronics and Semiconductors	>5	33	TX, NY, IN, IA
Any Commodity Industry	N/A	1,027	TX, GA, NC, TN, AL
All U.S. Counties	N/A	3,142	N/A

Source: WEFA, based on data from the Bureau of Labor Statistics

Table 2

Relative Economic Performance of Counties Most Concentrated in Commodity Industries		
	1998 Average Employment Growth (%)	1998 Average Unemployment Rate (%)
Agriculture	1.1	4.8
Lumber and Paper	1.3	6.9
Oil and Gas	1.4	5.6
Chemicals	1.3	6.0
Steel	1.7	5.6
Autos	1.8	4.4
Textiles	0.9	5.1
Electronics and Semiconductors	1.9	3.7
Any Commodity Industry	1.3	5.5
All U.S. Counties	1.6	5.1

Source: Bureau of Labor Statistics, Household Survey (Haver Analytics)

that the current situation is not unusual in that job markets in concentrated counties have tended to consistently underperform other U.S. counties over the past two decades. On the whole, the economic picture did not noticeably deteriorate in 1998 for the concentrated counties. Average unemployment declined in 1998 for every group of concentrated counties except oil counties, and average job growth increased in every group of counties except textile counties. These data indicate that while recent problems in the commodity industries might be having severe effects in specific areas, these problems had not translated into a broader weakening of economic performance through the end of 1998.

The financial performance of insured institutions operating in concentrated counties is evaluated in Table 3 (next page). The table provides average C&I loan performance and profitability ratios for 1,915 banks and thrifts identified as having at least 25 percent of their deposits in at least one of the concentrated counties as of June 1998.[12] The average C&I loan charge-off ratio for concentrated counties overall was higher than the U.S. average, driven largely by higher average charge-offs in both agricultural and oil and gas counties. Comparisons of past-due and noncurrent C&I loans also indicate that institutions operating in agricultural and oil and gas counties tend to have more problem credits than the U.S. average.[13] During the 12 months ending in December 1998, the average noncurrent loan ratio jumped from 4.8 percent to 6.1 percent for institutions operating in agricultural counties, while the average ratio rose from 2.7 percent to 3.8 percent for institutions operating in oil and gas counties.

These results indicate that while profitability in 1998 remained solid for the average bank operating in concentrated counties, credit losses appeared to be on the rise in agricultural and oil and gas counties. However, because this analysis relies on annual data that extend only through 1998, it is by design a backward-looking test for the local effects of problems in the commodity industries. There is every reason to expect these credit problems to intensify over time if commodity prices remain low.[14] These considerations suggest that bankers in commodity-dependent counties should continually

[12] This analysis identifies the location of deposits by county through the Summary of Deposits report for June 1998, the most recent report available. The analysis is limited to institutions reporting at least $1 million in C&I loans as of December 31, 1998. Institutions operating in one or more concentrated counties and meeting all the selection criteria averaged $195 million in total assets as of December 31, 1998, compared with an average of $733 million in assets for institutions operating in any U.S. county.

[13] Past-due loans are defined as loans that have been past due for 30 to 89 days. Noncurrent loans are defined as loans that have been past due for 90 or more days plus loans placed in nonaccrual status.

[14] For more information on how the agricultural outlook could affect FDIC-insured institutions, see the statement of FDIC Chairman Donna Tanoue to the Committee on Agriculture, U.S. House of Representatives, February 12, 1999, http://www.fdic.gov/publish/speeches/99spchs/spc13apr.html.

Table 3

Relative Financial Performance of Insured Institutions Operating in Counties Most Concentrated in Commodity Industries					
Includes only Insured Institutions with at Least $1 Million in C&I Loans	Number of Banks with at Least 25% of Deposits in a Designated County	Average C&I Loans Past Due 30 to 89 Days, as Percent of Loans, 12/31/98	Average Noncurrent C&I Loans, as Percent of Loans, 12/31/98	Average Net C&I Loan Charge-Offs, as Percent of Average Loans, 1998	Average Return on Assets, 1998
Agriculture	416	5.08	6.12	1.58	1.16
Lumber and Paper	465	3.38	1.89	0.78	1.21
Oil and Gas	163	3.44	3.78	1.18	1.29
Chemicals	81	2.47	2.97	0.79	1.18
Steel	186	2.53	2.06	0.59	1.08
Autos	341	2.64	2.05	0.66	1.12
Textiles	264	2.91	1.92	0.70	1.10
Electronics and Semiconductors	107	2.71	2.36	0.68	0.87
Any Commodity Industry	1,915	3.39	3.03	0.93	1.13
All U.S. Counties	8,485	2.91	2.50	0.76	1.05

Noncurrent loans include loans past due 90 or more days plus loans placed on nonaccrual status.
C&I = Commercial and industrial.
Sources: Summary of Deposits, Division of Research and Statistics, FDIC; Bank and Thrift Call Reports (Research Information System)

monitor their local economy for signs of stress related to problems in the commodity industries.

Conclusion

Businesses operating in a range of commodity and manufacturing industries continue to grapple with weak or declining prices. This problem is not solely the result of industry-specific factors; it is part of long-term economic trends that may continue for some time. Signs of stress among firms in these industries are apparent in the form of declining levels of employment and slow or negative profit growth. However, there are few signs to date of any disorderly industry shakeouts involving widespread business bankruptcies and losses to lenders. Thus far, most firms have managed to cope with the situation by cutting costs and consolidating operations through mergers. At the same time, more forward-looking indicators show that the level of credit risk associated with commodity industries may be on the rise. An analysis of the U.S. counties most heavily dependent on these industries showed few signs of a widespread deterioration in the performance of their economies or in the profitability of their local depository institutions through the end of 1998. However, there are signs of rising credit losses among local depository institutions in counties with the highest concentrations of agriculture and oil and gas extraction. A continuation of today's weak pricing picture in these industries has the potential to result in higher credit losses for insured institutions during the next few years.

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Shifting Funding Trends Pose Challenges for Community Banks

- **Several long-term trends are making it more difficult for some institutions to economically fund asset growth with deposits in today's marketplace.**

- **Lagging deposit growth in recent years has resulted in greater reliance on alternative funding sources to meet loan demand.**

- **Liability management may become more important and more challenging for community banks that have historically relied upon deposits for funding and net interest revenues for profitability.**

For the past few years, assets have been expanding faster than deposits at many commercial banks. The result is an increased reliance on equity and borrowings for funding. Since 1992, commercial bank assets have grown at an average annual rate of 6.3 percent compared with a 3.9 percent average annual growth rate for deposits. Traditional measures of liquidity and funding for commercial banks reflected record-low levels of deposit funding at year-end 1998. Large commercial banks have traditionally made greater use of nondeposit funding alternatives. However, many community banks,[1] which have typically relied more on deposit funding, may face liability management challenges as a result of shifting funding trends. This article surveys the factors influencing the ability of banks to fund loan growth with deposits, discusses community bank funding trends, and considers the implications of these trends for community banks.

Factors Influencing Deposit Funding Trends

The percentage of commercial bank assets, particularly loans, funded with deposits has declined steadily in the 1990s. As shown in Chart 1, the industry's ratios of deposits to assets and loans to deposits reflect a longer-term shift away from deposit funding. Although the level of these industry ratios is heavily influenced by larger banks, the trend toward lower deposit funding exists for both large banks and community banks and points to secular factors that are affecting banks' ability to raise deposits in step with asset growth.

[1] Defined here as banks with total assets of $1 billion or less.

Trends in Household Wealth Accumulation

One factor affecting the ability of banks to attract deposits is the recent trend in the way households are amassing wealth. While the total wealth of U.S. households has soared in recent years because of unrealized capital gains on housing and investments, annual net purchases of new financial assets[2] by households as a percentage of disposable income have actually trended downward since the mid-1980s (see Chart 2, next page). A falling personal savings rate and fewer purchases of financial assets may suggest that households are more comfortable consuming a higher percentage of current income as long as capital gains are adding to their accumulated wealth. However, because households have been setting aside less of their current income for savings, the pool of new funds available to purchase bank deposits has been growing more slowly.

Higher-Yielding Investment Alternatives

At the same time that households have been setting aside less of their current income for savings, the share of total new household savings flowing into bank deposits has declined in the 1990s as competition from higher-yielding alternatives has increased. During the 1980s, over 30 percent of the cumulative net increase in

[2] Financial assets are defined as deposits, money market and mutual fund shares, credit market instruments, corporate equities, life insurance reserves, pension fund reserves, and trust reserves.

CHART 1

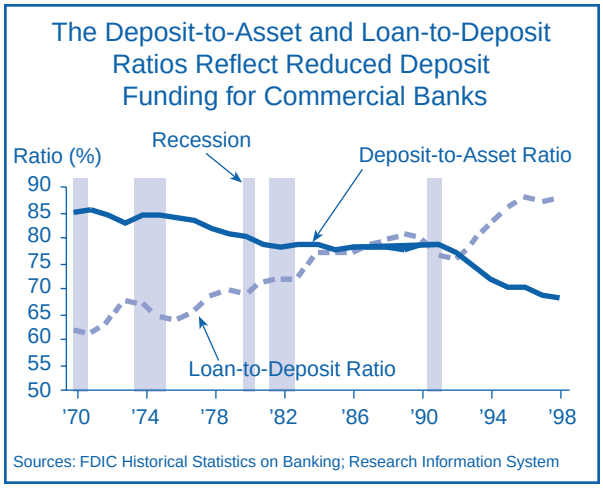
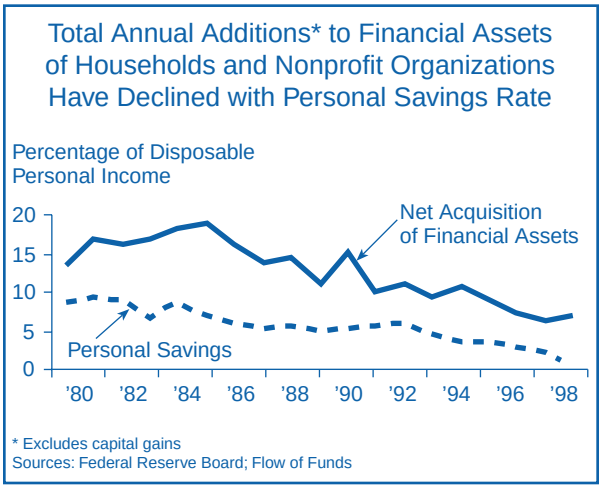


CHART 2



financial assets by households and nonprofit organizations flowed into deposits. In contrast, less than 15 percent of the cumulative net increase in financial assets has flowed into deposits during the 1990s, although an increasing proportion has been allocated to deposits in recent years.

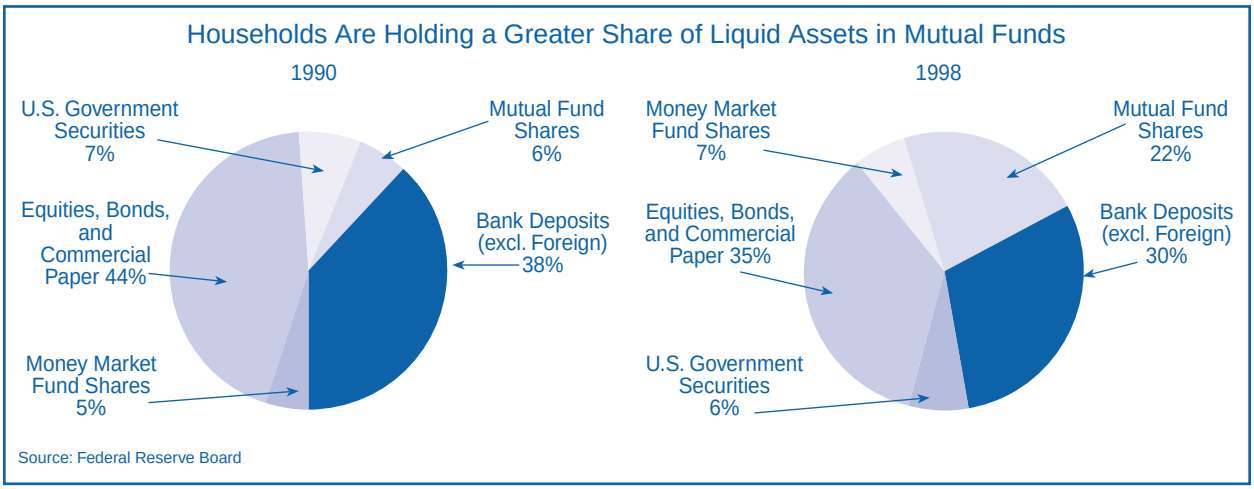
Not only do banks face intensifying competition from other banks and thrifts, as indicated by 66 percent of the respondents in ***Grant Thornton's 1999 Sixth Annual Survey of Community Bank Executives,***[3] but they also face increasing competition from mutual funds and other nonbank financial service providers, such as credit unions.

Mutual Funds. Increasingly, consumers are pursuing higher yields by investing in mutual funds. Beyond yields, however, many mutual fund companies also are competing effectively with banks on the basis of convenience by offering money market accounts that allow check writing, automated teller machine cards, and check cards. Chart 3 shows the changes in the composition of household liquid assets during the 1990s. In 1990, bank deposits constituted 38 percent of households' liquid assets versus 11 percent for mutual funds and money market funds; at year-end 1998, the shares were nearly even. While some of the change in composition can be explained by rising mutual fund share prices, other measures indicate a shifting preference for mutual funds as a savings vehicle. For example, data from the ***Investment Company Institute*** show that net inflows into mutual funds have exceeded net increases in insured institution deposit accounts in all but three quarters during this economic expansion. Moreover, the first quarter of 1999 marked the seventeenth consecutive quarter that mutual fund inflows outstripped increases in deposits for all FDIC-insured institutions.

Credit Unions. In addition to mutual funds, credit unions also are formidable competitors for consumer savings. Membership in credit unions has increased more than 20 percent over the past decade, while deposits and share accounts have risen by over 90 per-

[3] Grant Thornton's 1999 Sixth Annual Survey of Community Bank Executives, "Community Banks: A Competitive Force," http://www.grantthornton.com/resources/finance/banksurvey99/survey99w.html.

CHART 3



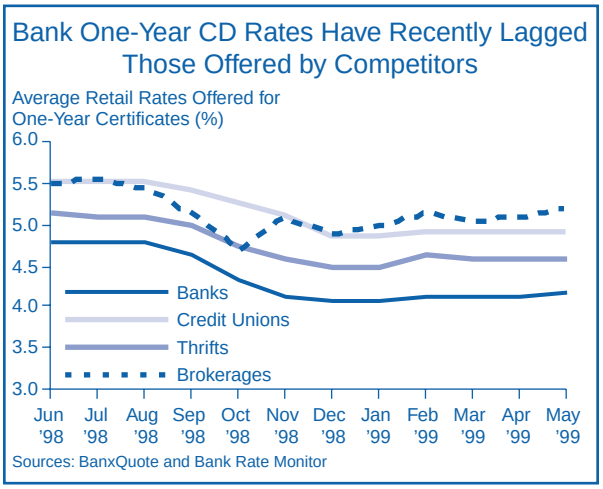
cent.[4] Credit unions also offer federal insurance on share accounts as well as competitive rates on comparable deposit-type vehicles relative to other types of financial institutions. For example, according to information from the ***National Credit Union Association,*** on average, credit unions have offered rates on one-year share certificates in excess of one-year bank certificates of deposit in nine of the past ten years. As shown in Chart 4, average rates paid by credit unions on one-year share certificates over the 12 months ending May 1999 were consistently higher than rates offered by banks or thrifts and approached retail rates offered by brokerages.

Demographic Shifts

Some analysts maintain that rural community banks face additional funding challenges as a result of demographic shifts. According to the ***Federal Reserve Bank of Kansas City,*** rural bankers perceive that sluggish deposit growth is at least partially attributable to the migration of deposits to cities as urban-dwelling heirs of rural depositors relocate funds. While evidence for this deposit migration remains anecdotal, economists at the Federal Reserve Bank of Kansas City indicate that the demographic shift is still in process, and its full effect may not be felt for some time. Further challenging deposit growth for banks, additional evidence suggests that urban dwellers tend to place less of their savings in banks than their rural counterparts do.[5] This trend poses additional consequences for bank deposits as rural populations migrate to suburban areas.

[4] Center for Credit Union Research, "Credit Union FAQ," http://wiscinfo.doit.wisc.edu/bschool/cu/cufaq.html.

CHART 4



Community Bank Funding Trends

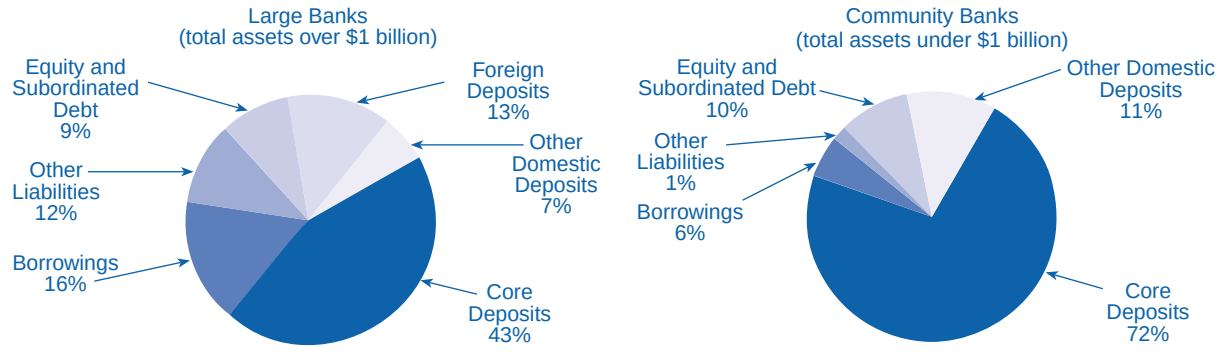
Community banks traditionally rely more heavily upon core deposit funding than larger banks do. For example, Chart 5 (next page) shows that 72 percent of aggregate community bank assets were funded with core deposits at year-end 1998. In contrast, 43 percent of aggregate large bank assets at year-end 1998 were funded with core deposits. This difference in liability structures reflects large banks' broader use of wholesale funding alternatives and greater access to capital markets instruments.

While large banks have responded to factors influencing deposit growth by making greater use of alternative funding sources, funding options for community banks tend to be more limited. Because of high fixed costs, community banks may find it more difficult than larger institutions to make cost-effective use of capital market instruments such as securitizations or public debt and equity offerings (see ***"Industry Consolidation Presents Unique Risks and Challenges for Community Banks," Regional Outlook,*** Fourth Quarter 1998, for a discussion of additional non-deposit funding sources for community banks).

The need to augment lagging deposit growth to meet loan demand has led many community banks to acquire more noncore funds. These funds include time deposits greater than $100,000, borrowings, foreign deposits, brokered deposits, and demand notes. At year-end 1998, nearly 75 percent of community banks held noncore liabilities representing 10 percent or more of total liabilities. As recently as 1993, only 42 percent of community banks exceeded that threshold. Moreover, over the same five-year period, the ratio of core deposits (defined here as total deposits less time deposits greater than $100,000 and brokered deposits) to total deposits for all community banks declined each quarter.

[5] William R. Keeton, Federal Reserve Bank of Kansas City. "Are Rural Banks Facing Increased Funding Pressures? Evidence from Tenth District States." *Economic Review,* Second Quarter 1998, p. 56. Also see "Regional Banking," *Regional Outlook, Kansas City Edition,* Second Quarter 1998, p. 24.

CHART 5



* Core deposits include total domestic deposits less time deposits greater than $100,000 and brokered deposits issued in denominations of less than $100,000.
Source: Bank Call Reports (Research Information System)

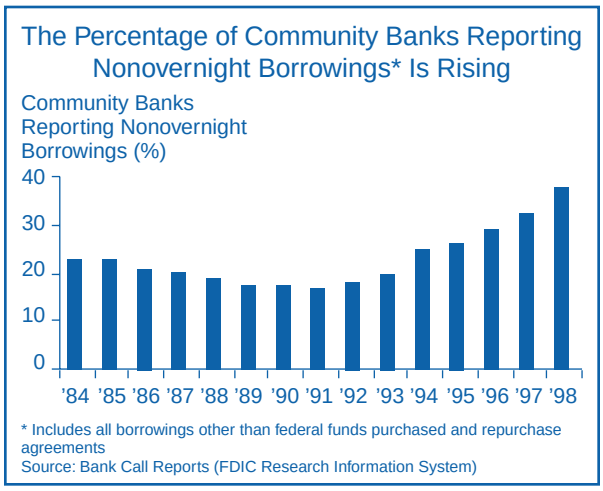
As community banks' use of noncore funds has increased, they are relying more on federal funds purchased, repurchase agreements, other borrowings, demand notes, and mortgages (collectively referred to as borrowings). After adjusting for mergers, borrowings funded 12 percent of new community bank asset growth from 1992 through 1998—three times more than the percentage of new asset growth funded by borrowings from 1985 to 1990. Possibly reflecting a shift toward greater acceptance of wholesale funding by community bankers, growth in borrowings has been largely driven by increased use of nonovernight borrowings,[6] which have become the dominant form of borrowings at community banks. As shown in Chart 6, the proportion of community banks reporting nonovernight borrowings has doubled in the 1990s. This trend coincides with growing community bank membership in the Federal Home Loan Bank (FHLB) system and increasing use of FHLB borrowings.

Federal Home Loan Bank Membership

Over the past five years, community banks have substantially increased their membership and participation in the FHLB system. According to data from the ***Federal Housing Finance Board,*** for the five-year period ending in 1998, the percentage of FDIC-insured community banks that were members of the FHLB more than doubled to 50 percent. Over the same period, FHLB advances outstanding for community banks grew by more than 50 percent to $47 billion. At year-end 1998, FHLB advances represented approximately 80 percent of all nonovernight borrowings for community banks.

Analysts have cited a number of reasons why community banks are joining the FHLB system. Community banks are using FHLB advances to meet contingent liquidity needs, manage interest rate risk, fund new asset growth, and leverage capital to maintain or boost returns on equity. Recent surveys indicate that FHLB advances will continue to have a role in community bank liability management. Almost one-half of respondents to ***Grant Thornton's 1999 Annual Survey of Community Bank Executives*** considered FHLB borrowings an important funding source over the next three years, and 43 percent plan to increase the use of FHLB advances in 1999. Similarly, the ***American Bankers Association's 1999 Community Bank Competitiveness***

CHART 6



* Includes all borrowings other than federal funds purchased and repurchase agreements
Source: Bank Call Reports (FDIC Research Information System)

[6] Nonovernight borrowings are defined here as all borrowings other than federal funds purchased and repurchase agreements.

Survey[7] reported that FHLB advances are the preferred nontraditional funding product. In addition, legislative changes enacted in third-quarter 1998 have eased membership requirements for banks with assets less than $500 million, significantly increasing access to FHLB advances for smaller banks in rural areas.

Implications of Funding Trends for Community Banks

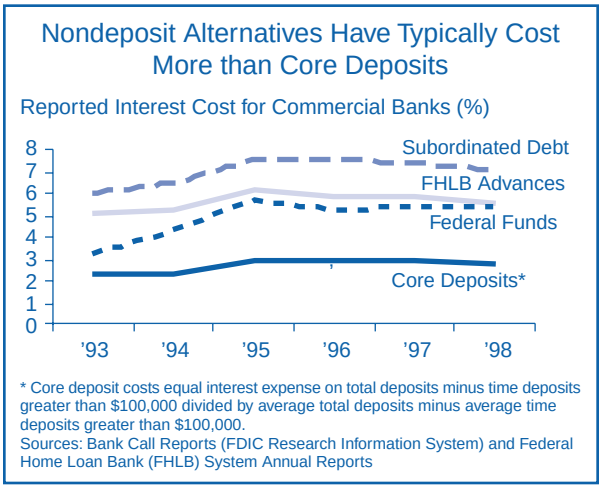
According to community banker opinion surveys, the trend toward greater reliance on noncore or alternative funding sources appears likely to continue. ***Grant Thornton's 1999 Annual Survey of Community Bank Executives*** found that 75 percent of community bankers expect funding with core deposits to be more difficult in three years than it is today. Moreover, more than 20 percent of community bankers responding to the ***American Bankers Association's 1999 Community Bank Competitiveness Survey*** do not expect to derive the bulk of their funding from deposits five years from now. Liability management is an important aspect of a bank's operations and a key driver of interest expense. Responses to funding challenges will likely influence strategic business decisions that shape the risk profiles of insured institutions, particularly community banks that historically have relied more heavily upon core deposits to fund asset growth and net interest income for profitability.

A fundamental challenge that confronts bank management is the strategic response to the increased costs associated with wholesale funding sources. As shown in Chart 7, the reported interest costs of nondeposit funding alternatives, such as federal funds purchased and repurchase agreements, subordinated notes, and FHLB advances, have traditionally exceeded the interest cost of core deposits for commercial banks. Therefore, as institutions that have typically relied upon core deposits increase the use of nondeposit sources, funding costs will likely rise relative to asset yields. As a result, net interest margins (NIMs) may be pressured.

To some extent bank managers may be able to offset the higher interest costs of wholesale funding strategy by improving efficiency through greater management of overhead expenses and increases in noninterest income. However, community banks face challenges to their ability to increase noninterest income (see ***"Industry Consolidation Presents Unique Risks and Challenges for Community Banks," Regional Outlook,*** Fourth Quarter 1998), and there are limits to cost cutting. If banks are unable to fully offset higher funding costs with increases in noninterest income or reductions in noninterest expenses, overall profitability could suffer. Community bankers in the upper Midwest expressed this concern in a 1998 survey conducted by ***The Federal Reserve Bank of Minneapolis,*** which found that 57 percent of respondents expect the shift away from deposit funding to decrease bank profitability.[8] As bank managers search for additional ways to offset the relative rise in funding costs, they may be tempted to increase asset yields by pursuing additional portfolio risk, in the form of credit or market risk, to generate higher asset yields.

Funding challenges also could alter the liquidity and interest rate risk positions of community banks. The relative complexity and volatility of some nondeposit sources require greater expertise and attention to asset-liability policies and practices to avoid unexpected liquidity strains or exposures to changing interest rate environments. Strategies that result in the pledging of liquid assets, overreliance on purchased funds, or concentrations in price-sensitive long-term assets could adversely affect a bank's relative liquidity or interest rate risk position. Moreover, interest rate risk management can be further challenged by the complexity of nondeposit funding sources. For instance, some FHLB advances may contain embedded options that required greater expertise and attention to policies and practices that, if not managed properly, could lead to undesirable outcomes if interest rates change adversely.

Chart 7



[7] *ABA Banking Journal,* February 1999, p. 30.

[8] *Fedgazette,* July 1998, p. 2.

Differences between Community Banks with High and Low Levels of Core Deposit Funding

To evaluate how a shift from a core deposit funding strategy might change the profile of a community bank, performance and condition measures for community banks that rely most heavily on core deposits were contrasted with those that are least reliant on core deposit funding. Table 1 compares 1998 funding, earnings, and asset performance measures for these community bank

Table 1

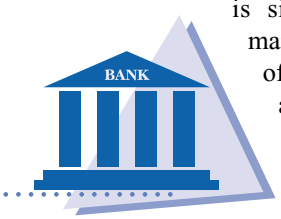
Comparison of Banks with High and Low Levels of Core Deposit Funding

	All Community Banks[1]		Community Bank Agricultural Lenders[2]		Community Bank Commercial lenders[3]	
	High Core Deposit Funding[4]	Low Core Deposit Funding[4]	High Core Deposit Funding	Low Core Deposit Funding	High Core Deposit Funding	Low Core Deposit Funding
Selected Aggregate Measures						
Number of Banks in Group	405	405	106	51	126	185
Median Total Assets ($000s)	46,244	118,358	23,274	58,223	69,479	130,923
Members of FHLB (%)	32.10	49.38	17.92	47.06	38.89	50.81
Have Outstanding FHLB Advances (%)	7.65	40.25	6.60	45.10	7.14	38.38
Selected Median Liquidity and Funding Measures (%)						
1998 Growth in Total Assets	9.02	11.16	5.96	6.42	12.75	18.50
1998 Growth in Total Deposits	9.74	8.79	6.40	5.31	13.56	11.93
1998 Growth in Borrowings	(50.00)	28.62	(64.49)	31.85	(51.87)	42.87
1998 Growth in Total Equity Capital	5.93	7.53	3.46	5.39	9.94	8.85
Total Deposits-to-Total Assets Ratio	91.04	75.68	90.35	80.22	91.23	77.94
Core Deposits-to-Total Assets Ratio	87.29	53.87	87.10	55.81	87.21	54.03
Borrowings to Total Assets Ratio	0	9.58	0	4.15	0	8.55
Total Equity Capital to Total Assets Ratio	8.25	10.24	9.00	10.09	7.74	10.16
Selected Median Performance Ratios (%)						
Return on Equity	12.65	10.19	11.10	10.93	14.49	9.52
Return on Assets	1.07	1.04	1.01	1.19	1.10	0.92
Net Interest Margin	4.76	4.03	4.51	3.98	5.25	4.22
Gross Earning Asset Yield[5]	8.17	8.02	8.24	7.89	8.45	8.26
Cost of Funding Earning Assets[6]	3.33	4.07	3.74	4.05	3.21	4.05
Noninterest Income to Average Assets	0.76	0.61	0.59	0.44	1.01	0.64
Noninterest Expense to Average Assets	3.49	2.90	3.23	2.40	3.99	3.12
Efficiency Ratio[7]	69.01	63.68	68.59	57.48	68.99	67.00
Selected Median Credit Quality Measures (%)						
Nonperforming Assets to Total Assets Ratio	0.39	0.44	0.40	0.51	0.46	0.61
Noncurrent Loans to Total Loans Ratio	0.53	0.72	0.53	1.02	0.52	0.77
Net Loan Charge-Off Ratio	0.11	0.12	0.04	0.15	0.14	0.11
1998 Growth in Nonperforming Assets	(9.10)	7.50	10.57	11.79	(17.32)	23.97
1998 Growth in Net Loan Losses	6.09	10.24	(3.90)	23.73	9.59	30.64

[1] Community banks are banks with $1 billion or less in total assets.
[2] Agricultural lenders are banks with 25 percent or more of assets in agricultural real estate loans or agricultural production loans.
[3] Commercial lenders are banks with 25 percent or more of assets in commercial and commercial real estate loans.
[4] High core deposit funding group is composed of community banks with core deposits-to-assets ratios in the top 5 percent of all community banks, excluding those with equity-to-assets ratios in excess of 25 percent. The low core deposit funding group is composed of community banks with core deposits-to-assets ratios in the bottom 5 percent of all community banks.
[5] Gross earning asset yield equals interest income divided by average earning assets.
[6] Cost of funding earning assets equals interest expense divided by average earning assets.
[7] Efficiency ratio equals noninterest expense divided by the sum of net interest and noninterest income.
FHLB = Federal Home Loan Bank
Sources: Bank Call Reports (Research Information System); Federal Housing Finance Board

groups. High core deposit funders are defined as those community banks with core deposit-to-asset ratios in the top 5 percent of all community banks at year-end 1998. Low core deposit funders are those community banks with a core deposit-to-asset ratio in the bottom 5 percent.[9] A similar comparison is included for agricultural banks and commercial lending specialists, which combined make up roughly 60 percent of each of the total community bank funding groups.

This comparison reveals several differences. First, a tradeoff between heavy reliance on core funding and asset growth is evident. Median measures for the groups indicate that the typical bank that relies less on core deposit funding is larger and growing faster than the typical bank in the high core funding group. Second, less core deposit funding appears to be associated with a lower NIM, primarily the result of higher funding costs. However, overall profitability is similar between the groups mainly because of a lower ratio of overhead expenses to average assets for the low core funders. These characteristics are also evident across the agricultural and commercial specialists groups.



Asset quality indicators suggest that the low core funding groups may exhibit greater credit risk. Although higher asset yields resulting from increased portfolio risk are not evident, median measures for each low core funding group reflect higher levels of noncurrent loans and higher growth in nonperforming assets and net loan losses relative to its high core funding group counterpart. For example, the median growth in nonperforming assets for commercial lending specialists with less reliance upon core deposits was nearly 24 percent in 1998 versus a 17 percent decline for the high core funding group.

Summary and Conclusions

Commercial banks have been experiencing a long-term trend toward lower deposit funding of loans and assets. Increasing competition among banks and from thrifts, nonbanks, and higher-yielding investment alternatives has made it more difficult and expensive for some banks to attract deposits in step with asset growth. While some nondeposit funding alternatives may provide a stable source of funds for insured institutions (especially those located in areas characterized by aggressive competition and slow deposit growth), better matching of asset cash flows, and greater flexibility in asset-liability management, they also may pose certain risks. To some extent community banks may be able to manage noninterest expense and noninterest income to offset the relative increase in interest expense incurred to acquire nondeposit funding sources. However, if overall profitability suffers, banks may be tempted to pursue additional portfolio risk to generate higher offsetting asset yields. As a result, liability management may become more challenging for community banks that have historically relied upon deposits for funding and net interest revenues for profitability. In addition, the complexity of some nondeposit funding sources requires greater expertise and attention to policies and practices to avoid unexpected liquidity strains or exposures to changing interest rate environments.

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Brian Kenner, Financial Analyst

[9] These groups exclude community banks with equity-to-asset ratios greater than 25 percent.

Regional Perspectives

- **The Region's labor market showed slower growth through June 1999, while residential building activity moderated following a surge in 1998.**

- **The Region's commercial lending institutions have been hit hard by recent refinancing activity, as evidenced by a sharp decline in net interest margins.**

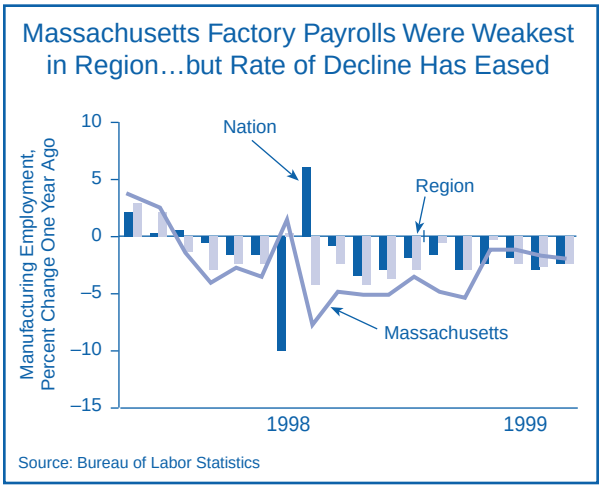
- **Increased reliance on alternative funding sources to facilitate asset expansion has become necessary in today's competitive environment but has long-term implications in the areas of earnings, liquidity, and asset/liability management.**

Regional Economic and Banking Conditions

Region's Economy Slowed Modestly in Early 1999

The Region's seasonally adjusted unemployment rate inched lower during early 1999, bottoming out at 3 percent during March and April, then moving higher to 3.2 percent in June. In each New England state, with the exception of **Connecticut,** the unemployment rate rose between April and June, with **Maine** and **Rhode Island** witnessing the largest rises. Maine's rate, at 4.4 percent for June, was again above the national average. In contrast, **New Hampshire** continued to have the Region's tightest labor market, with an unemployment rate of 2.6 percent. The pace of growth in the number of new jobs slowed during the first six months of 1999, with the year-over-year advance in the Region's level of nonfarm payrolls averaging 1.7 percent after rising 2.3 percent for the full year 1998. Strength in other sectors offset continued declines in manufacturing employment. Weakness in technology manufacturing, forest products, textiles, and apparel continued to depress the Region's factory payrolls, but the pace of decline in first half 1999 slowed somewhat compared with the latter half of 1998. Chart 1 shows this moderation. Strengthening domestic demand, some stabilization in paper prices, and an acceleration in orders and output for manufactured goods (including certain technology products) were likely behind the moderation in manufacturing job losses across the Region.

CHART 1



The Region's housing market continued to advance in the first part of 1999; existing home sales remained strong, although growth in building permit issuance moderated (see ***Regional Perspectives,*** Second Quarter 1999, for a discussion of housing prices and building trends across the Region). Recently revised data on existing home sales from the ***National Association of Realtors*** indicate that New England experienced a nearly 13 percent increase in sales last year and has been matching the national pace of growth during the past several years. During the first quarter, sales in the Region rose by almost 9 percent from a year ago, compared with about 8 percent for the nation. The Region's strongest percentage gain in home sales last year and in early 1999 was in Rhode Island (20 percent in 1998 and 22 percent in 1999), while New Hampshire, Connecticut, and Maine posted 13 to 14 percent advances. Sales volume in **Massachusetts** rose 10 percent last year, continuing at about that pace during the first quarter of 1999. Only **Vermont,** which posted an increase in home sales last year following three years of decline, saw sales soften in the first quarter. Thus, despite somewhat higher interest rates in 1999, the demand for homes in New England generally remained strong.

The number of residential building permits issued in the New England states during 1998 was less than one-half the peak levels seen during the prior decade, except in Maine (at 64 percent of peak). However, last year's growth rate in annual building permits was impressive. Across New England, residential building permit issuance jumped by nearly 17 percent (see Table 1), the strongest advance since 1992. Most of the new building remains concentrated in single-family dwellings, with multifamily units accounting for only 15 percent of total permit issuance; regionwide, 1998 issuance of multifamily permits was 20 percent of its 1986 peak level. On a state-by-state basis, 1998 provided some startling growth comparisons. Gains in Maine and Vermont reflected their strongest percentage advances since 1984. Connecticut had its best performance since 1985. Only Rhode Island had a modest decline in permit issuance in 1998, but it reversed in the first five months of 1999.

Table 1

Residential Permit Issuance Surged in 1998, but 1999 May See Slower Growth
(percent change from year ago)

	Jan–May 1999	1998	1991–1997*
Nation	7.1	11.9	7.2
Region	1.9	16.8	4.4
Massachusetts	0.6	12.0	5.2
Connecticut	–6.5	27.4	3.7
Maine	19.0	33.4	4.0
New Hampshire	14.5	6.8	7.6
Rhode Island	7.5	–1.1	2.0
Vermont	9.7	20.0	–1.6

* Compound annual rate
Source: U.S. Bureau of the Census

For the Region as a whole, last year's growth in permit issuance moderated in the first five months of 1999. Through May 1999, only about 2 percent more permits were issued than during the same period in 1998. Massachusetts (40 percent of permits issued in New England) and Connecticut (25 percent of permits) were driving the slowdown. Until data for the entire 1999 building season are available, a complete determination of overall residential construction activity cannot be made. However, building activity did not slow in all of the Region's states. In addition to Rhode Island, permit issuance accelerated in New Hampshire. Also, although Maine's growth rate slowed from the prior year's pace, it still remained high.

Region's Banks Continue to Perform Well but Are Experiencing Margin Erosion

The Boston Region's insured institutions performed well through the first quarter of 1999 but show continued signs of declining margins. The aggregate return on assets (ROA) (excluding credit card institutions) of 1.22 percent was a slight decline from 1.24 percent reported in March 1998 (merger adjusted) but still above the national average of 1.19 percent. The net interest margin (NIM) of 3.86 represents a further decline in the Region but exceeds the national average of 3.72 percent. The past-due ratio continues to improve and was 1.63 percent as of March 1999, well below the national average (see Table 2).

Institutions with more than $1 billion in assets, excluding the credit card institutions, reported an aggregate ROA of 1.27 percent, which is on par with the year-earlier level. The Region's three largest institutions (assets greater than $25 billion) continue to raise the Region's aggregate profitability. Excluding these three banks and the credit card institutions, the remaining institutions with more than $1 billion in assets posted an aggregate ROA of 1.10 percent, which is a decline of 11 basis points from a year earlier.

Table 2

Boston Region Institutions Continue to Fare Better than National Averages

	Boston Region Institutions*				National Averages*			
Financial Indicators (%)	Mar 99	Mar 98	Mar 97	Mar 96	Mar 99	Mar 98	Mar 97	Mar 96
Return on Assets	1.22	1.24	1.19	1.20	1.19	1.17	1.17	1.06
Net Interest Margin	3.86	3.90	4.09	3.96	3.72	3.77	3.90	3.90
Past-Due Ratio	1.63	1.82	2.45	2.70	2.01	2.12	2.34	2.48

* Excludes credit card institutions
Source: Bank & Thrift Call Reports

Institutions with less than $1 billion in assets posted a collective ROA of 1.06 percent, down from a high of 1.16 percent in June 1998. Continued margin compression, arising from a low interest rate environment and strong competition for both loans and deposits, is the primary reason for the downward earnings trend. The NIM for these smaller institutions has declined 21 basis points over the past four quarters.

Spotlight on Commercial Lending Institutions

The Region has 118 commercial lending institutions.[1] These institutions comprise about 36 percent of the Region's total banking assets and have registered significant declines in net interest margins. The median NIM of 4.42 percent has declined 25 basis points since March 1998, with net interest income continuing to be pressured by declining asset yields and the inability to decrease interest expense significantly. Commercial lending institutions appear to have been particularly affected by heavy refinancing in commercial real estate and commercial loan portfolios, which has lowered portfolio yields. The median ROA for these institutions for the quarter ended March 1999 was 1.05 percent, 5 basis points below year-earlier levels. The ratio of net operating income to average assets actually declined 10 basis points, suggesting a greater reliance on securities gains to bolster earnings. Asset quality indicators remain favorable, with delinquencies at historically low levels. However, with net interest margins pressuring income levels, there has been a significant shift in loan mix away from lower-risk residential mortgages and into commercial credits, with growth in commercial loans particularly robust (22 percent annual rate over the past two years). The strong loan growth experienced by the commercial lending institutions (13 percent overall), coupled with the shift in loan mix toward historically higher-risk credits, underscores the need to maintain underwriting standards to ensure that credit quality is not compromised.

[1] Commercial lending institutions are defined as institutions with the sum of commercial and industrial, multifamily, and commercial real estate loans exceeding 25 percent of total assets. Complete definitions for all institution categories are listed in the Boston ***Regional Outlook,*** Second Quarter 1999.

Insured Institutions Are Increasingly Relying on Alternative Funding Sources

Funding Structure Changes

Increased competition for consumer financial assets and shifts in consumer preferences toward higher-yielding investment products such as stocks and mutual funds have contributed to the slow growth of traditional core deposits at insured institutions. As a result, insured institutions have increased their reliance on noncore funding sources to support asset growth.

During the 1990s, the funding structure of insured institutions has steadily shifted away from core deposits.[2] In the pre-recession period of the late 1980s, the core deposit-to-asset ratio among the Region's institutions with less than $1 billion in assets (on a merger-adjusted basis) began to increase as deposit growth exceeded loan growth. This trend continued until 1993. Since 1993, these institutions have experienced loan growth well in excess of core deposit growth. They are turning more to noncore funding, which has increased, on average, 20 percent per year for the past five years.

While competition from nonbanks continues to pull deposits from insured institutions, there have been significant shifts within the mix of the remaining core deposit base. After several years of high interest rates relative to the rate paid on savings and NOW accounts, interest rates on time deposits declined sharply in 1992,[3] and at times, rates paid on these nonmaturity accounts exceeded those being offered on new time deposits. As a result, deposits shifted from time deposits into savings, NOW, and money market deposit accounts (nonmaturity deposits). Nonmaturity deposits in the Region's insured institutions increased steadily until interest rates rose approximately 300 basis points in early 1994. The growth in nonmaturity deposits was largely the result of migration from time deposits as the rate differential between nonmaturity and time deposits

[2] While the distinction between core and noncore funding has become blurred, core deposits are still generally considered more stable than noncore funding for this analysis. Core deposits are defined as the sum of Call Report items for demand deposits, NOW accounts, money market deposit accounts, other savings, and time deposits under $100,000.

[3] Source: Bank Rate Monitor

narrowed and a flat yield curve provided minimal incentive for depositors to invest in longer-term instruments.

Subsequently, when rates on these nonmaturity deposits were lowered, customers appeared to prefer liquidity, keeping their funds in the nonmaturity deposit accounts. Although time deposit rates have increased slightly from the lows of the early 1990s, these deposits have not seen major growth. While nonmaturity deposits are usually viewed as stable funds, if the spread between market interest rates and the rates paid on these accounts increases significantly, a portion will likely migrate back to the higher-yielding time deposits or seek higher returns elsewhere. This phenomenon occurred in the mid-1980s and poses a risk to bank earnings should interest rates rise appreciably. Chart 2 depicts this migration for Boston Region institutions (excluding thrifts) with assets of less than $1 billion in the late 1980s as the spread between market rates and the passbook savings rate reached 300 basis points, and again in the mid-1990s when it increased to almost 400 basis points.

While the prospects for sharply higher interest rates remain remote, insured institutions are increasingly relying on the ability to manage the cost of nonmaturity deposits as an asset/liability management tool. For most of the Region's insured institutions, nonmaturity deposits now comprise over 40 percent of total interest-bearing liabilities. Asset durations are extending, and control of interest costs on nonmaturity deposits is becoming increasingly important for managing the level of net interest income. A significantly higher interest rate environment may impair the effectiveness of this tool and, as a result, reduce earnings.

As a result of strong loan growth and slow core deposit growth, the Region's average loan-to-deposit (LTD) ratio of 84 percent continues to climb from lows reached during the early 1990s (see Chart 3). Fifty-five percent of the Region's institutions reported a LTD ratio above 75 percent at the end of the first quarter of 1999. Institutions with less than $1 billion in assets have an average LTD ratio of 78 percent, and institutions with more than $1 billion in assets have an average LTD ratio of 88 percent.

High LTD ratios have historically suggested a tightening of liquidity; however, changes in public markets and the securities and loan portfolios of insured institutions may have reduced the effectiveness of the LTD ratio as a liquidity indicator. The increase in nonloan products, such as mortgage-backed securities and other consumer receivable asset-backed instruments, has helped increase asset cash flow. The amortization of these instruments may not be predictable but may be a sizable liquidity source. Also, it has become easier to securitize assets in public markets. As evidenced by the asset and loan growth in the Region, the changes in funding have not slowed loan originations or adversely affected liquidity. Despite increased use of noncore funding by the Region's banks (see Chart 3), examiners are not citing any generalized liquidity concerns.

While typically less reliant on noncore funding than commercial banks, the Region's savings institutions have increased their use of noncore funding. As of March 1999, savings institutions had a total noncore-funding-to-assets ratio of 22 percent, with borrowings accounting for the largest share. Core deposits funded 67 percent of total assets, down from 83 percent in

Chart 2

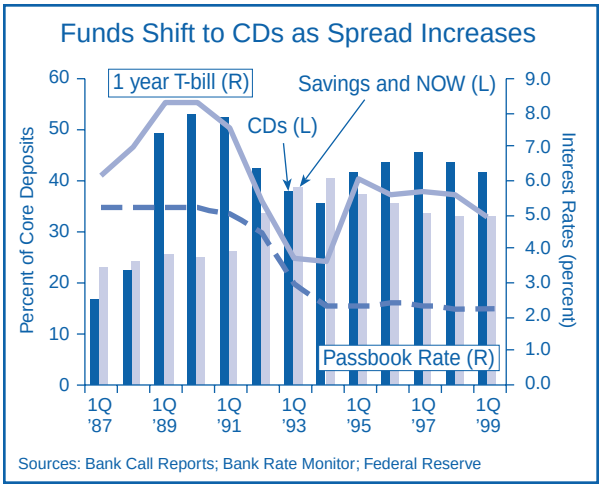
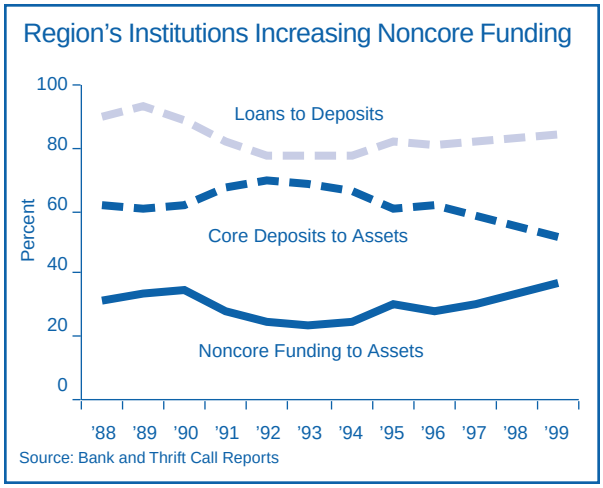


Chart 3

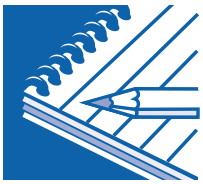


1993. Although savings institutions have historically been heavy residential mortgage lenders, they have recently focused on expanding consumer and commercial loan portfolios, and borrowings have supported growth in these sectors of the loan portfolio.

FHLB Advances Appealing to More Banks

The Federal Home Loan Bank (FHLB) system continues to market its products to banks as a competitively priced source of funding, and more institutions are using FHLB advances. According to the 1998 ***FHLB of Boston Annual Report,*** advances to members increased 17 percent in 1996, 20 percent in 1997, and 21 percent in 1998.

A recent survey of community bankers conducted by ***Grant Thornton*** indicated that FHLB funding is increasing in popularity; 43 percent of small banks nationwide plan to use more FHLB advances in 1999. FHLB use is expected to rise as the list of eligible collateral for advances expands and more institutions become eligible for membership.



As stated in the 1998 ***FHLB of Boston Annual Report,*** a shift toward longer-term advances is occurring. At year-end 1998, 76 percent of total advances outstanding had original maturities greater than one year, compared with 58 percent at year-end 1997. The use of long-term FHLB advances is one strategy that insured institutions are using to offset the trend toward extension of asset maturities that has occurred over the past few years. This extension is the direct result of heavy refinancing activity in both the residential and commercial sectors of the loan portfolio in response to the recent low, flat yield curve environment. In the past 12 months, the 373 institutions that filed bank Call Reports (excludes Thrift Financial Report filers) reported that the share of residential real estate loans that either matured or repriced in over five years increased from 39 percent to 50 percent. *Over the same time frame, the percentage of certificates of deposit maturing in excess of one year declined from 25 percent to 20 percent.* Clearly, insured institutions need to look to other sources for long-term funding to mitigate the widening gap between asset and liability durations, and the FHLB has become a major provider of longer-term funding. In the Boston Region, 378 of the 429 insured institutions are members of the FHLB of Boston. As of year-end 1998, 69 percent of the members had outstanding advances.

While the FHLB can provide a stable and competitively priced funding alternative for the Region's insured institutions, overreliance on the FHLB, or any single funding source, may limit an institution's liquidity flexibility during periods of stress. Existing supervisory guidance recommends that effective liquidity management include identifying and testing several reliable sources of funding and ensuring that an institution does not become overly reliant on any single funding source.

Conclusion

More institutions, especially those in areas with aggressive competition, are relying on noncore funding to support asset expansion. The shifting funding structure may contribute to greater volatility in funding and increase sensitivity to changing market conditions, which may complicate asset/liability management and liquidity management in the Region's insured institutions. Insured financial institutions may face additional pressure on margins as competition and an increasing reliance on noncore funding result in assets being booked at smaller marginal spreads. As a result, some institutions may seek higher-yielding assets, which could result in higher levels of credit risk. In such an environment, great care should be taken to maintain adequate control over underwriting standards.

Boston Region Staff

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