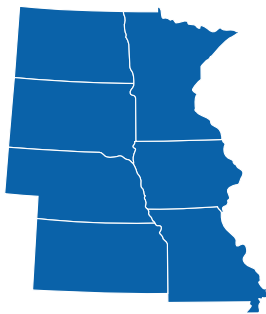

◆ Regional Outlook ◆

FEDERAL DEPOSIT INSURANCE CORPORATION

FIRST QUARTER 2001

FDIC KANSAS CITY REGION



Regional Perspectives

◆ *LTA Ratios Do Not Always Correlate with NIMs*—A surprisingly large number of community banks in the Kansas City Region show an unexpected relationship between loan-to-asset ratio and net interest margin. Portfolio composition, asset and loan growth, leverage, and funding appear largely responsible for the divergence between loan-to-asset ratio and net interest margin. *See page 4.*

◆ *In the 1980s, Higher LTA Ratios Tended to Boost Net Interest Margins but Were Associated with Increased Risk of Failure*—A review of community banks prior to the 1980s agricultural crisis shows that loan-to-asset ratio and net interest margin frequently were indicators of increased potential for failure. *See page 9.*

By the Kansas City Region Staff

In Focus This Quarter

◆ *Credit Problems for U.S. Businesses Continue to Rise*—Commercial loan quality indicators of insured banks have steadily worsened since 1998. Factors contributing to this deterioration include rising financial leverage in the corporate sector as well as weaknesses within certain domestic industries. Many market observers also have attributed the increase in problem commercial loans to a heightened appetite for risk and relaxed underwriting standards from 1996 to 1999. The apparent softening in economic conditions in recent months reduces prospects that business loan quality will improve any time soon. In the meantime, lenders, analysts, and supervisors continue to pay close attention to U.S. business lending conditions. *See page 12.*

◆ *Outlook for Three Industries Facing Uncertainty*—Industries as diverse as telecommunications, health care, and textiles have been experiencing problems, despite the economic expansion that began nine years ago. Although the sources of their difficulties are quite different, these industries share some common concerns and challenges. Fierce competition characterizes their operating environment. Armed with a better grasp of the origins of stress in these industries, we will have a better basis for understanding the lending risks associated with a changing policy and economic environment in the years to come. *See page 20.*

By the Division of Insurance Staff

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Letter from the Executive Editor

To the Reader:

The goal of the ***Regional Outlook*** is to provide useful risk-related information to bankers, banking agency staff, and other interested readers. To do this more effectively, the second quarter 2001 edition will have a new look. We will publish a single national edition that will provide an overview of economic and banking risks and discussions of these risks as they relate to insured institutions in each FDIC Region. We will tell the national story and, at the same time, alert the reader to specific trends and developments at the regional level.

After considering our experience with this new format, we may adopt it permanently for the second and fourth quarters of each year. The first and third quarter editions will continue to feature in-depth coverage of the economy and banking industry in each Region. Trying new formats will help us find the right balance between regional coverage of specific topics and analysis of economic and banking issues that cut across regional lines.

After you have read the next edition of the ***Regional Outlook***, we would like to hear from you. Does this new approach provide a more effective vehicle for reporting on banking and economic trends? What other suggestions do you have for improving our presentation of risk-related information? Call us with your comments at (877) 275-3342 or (800) 925-4618 (TDD) or e-mail them to lnjezchleb@fdic.gov.

Sincerely,



George E. French
Executive Editor

Regional Perspectives

- A surprisingly large number of community banks in the Kansas City Region show an unexpected relationship between loan-to-asset ratio and net interest margin. Portfolio composition, asset and loan growth, leverage, and funding appear largely responsible for the divergence between loan-to-asset ratio and net interest margin.
- A review of community banks prior to the 1980s agricultural crisis shows that loan-to-asset ratio and net interest margin frequently were indicators of increased potential for failure.

Region's Economic and Banking Conditions

Community Banks' Responses to Margin Pressures Have Affected Risk Profiles

This article is the second in a two-part series that examines the ongoing decline of community banks' net interest margins (NIMs) in the Kansas City Region. In *Regional Outlook*, fourth quarter 2000, we showed how declining NIMs are widespread among community banks, with 73 percent reporting a decline in NIMs between 1992 and 1999.² We discussed the strong competitive forces responsible for the NIM compression and how community banks offset the downward pressure on NIMs by dramatically increasing loan-to-asset (LTA) ratios, from 49.9 percent in 1992 to 62.4 percent in 1999, the highest level ever reported.

Although declining NIMs and rising LTA ratios define the aggregate, there is considerable variance among individual community banks. We previously discussed how, in general, rising LTA ratios contribute to higher NIMs, and falling LTA ratios contribute to falling NIMs. This article goes beyond this generalization to show that a small subset of community banks reports contrary results. Specifically, some banks report low loan volumes but strong NIMs, and some banks report high loan volumes but relatively low NIMs. This article explains how differences in loan growth rates, portfolio composition, capital levels, and funding sources have

influenced the LTA-NIM relationship and assesses how these differences contribute to significantly different risk profiles for particular groups of banks. Finally, we review the condition of community banks prior to the 1980s agricultural crisis and note the usefulness of the LTA-NIM relationship as an indicator of potential failure.

LTA Ratios Do Not Always Correlate with NIMs

In last quarter's article, we discussed the strong positive link between a bank's LTA ratio and NIM performance. The LTA ratio and NIM generally move together, either positively or negatively. Banks that hold low loan volumes report lower margins and banks that hold high loan volumes report higher margins. We showed that, in the aggregate, community banks in the Kansas City Region that reported incrementally higher LTA ratios also posted incrementally increased NIMs and less NIM compression over time.³ However, when we look beyond aggregates, we find that some banks do not follow this trend. In fact, they reported exactly the opposite results in 1999: relatively low LTA ratios and high NIMs, or high LTA ratios and low NIMs.

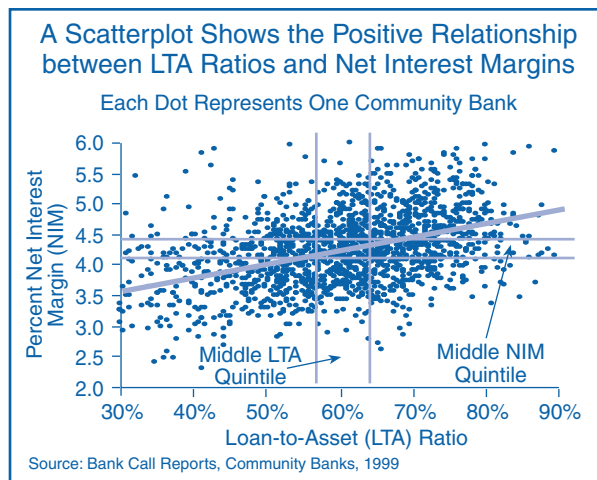
Chart 1, a scatterplot, shows the generally positive relationship between LTA ratios and NIMs; however, this chart also shows that some banks differ from the norm. The chart plots the Region's 1,754 community banks by reported 1999 LTA ratios and NIMs and segments the middle quintile (20 percent) of LTAs and NIMs. In general, the scatterplot shows that higher LTA ratios correspond with higher NIMs, and vice versa. These quadrants contain the most dots and represent the

¹ A community bank refers to an FDIC-insured commercial bank in the Kansas City Region with total assets of less than \$250 million. As of December 31, 1999, 2,059 community banks represented 93 percent of all commercial banks in the Region. Our discussion of community banks is limited to 1,754 community banks that, as of year-end 1999, met the following criteria: have been in operation throughout the 1990s and were in operation for at least three years as of January 1, 1990; are not considered credit card banks (banks with at least 50 percent of total loans in credit card receivables); and have not used pushdown accounting because of mergers during the 1990s.

² Unless otherwise noted, all year dates refer to year-end.

³ See Table 1 in "Declining Net Interest Margins and Rising Loan-to-Asset Ratios—a Disturbing Paradox," *Regional Outlook*, fourth quarter 2000.

CHART 1



expected relationships. However, the chart also shows unexpected relationships: some banks report low LTA ratios but high NIMs, or high LTA ratios but low NIMs. These quadrants contain fewer dots.

To better understand the unexpected relationships found in the upper left and lower right quadrants, we compared the four quadrants in Chart 1 by showing the data in a matrix format (see Table 1). Table 1 replaces individual dots with data on the number of banks, median NIMs, and median LTA ratios.

The shaded middle cross, which represents banks reporting either an LTA ratio or an NIM in the middle

quintile (20 percent) by rank, accurately represents the reported results of the aggregate, making it a proxy for all 1,754 community banks. Each quadrant represents banks that are in the top or bottom 40 percent as ranked by the LTA ratio and NIM. For example, the lower left quadrant, the Low LTA–Low NIM group, represents banks that rank in the bottom 40 percent of reported LTA ratios and in the bottom 40 percent of reported NIMs.

The factors that appear most important in explaining the differences among the banks in the four quadrants are loan growth, portfolio composition, and degree of leverage.

Loan Growth, Portfolio Composition, and Leverage among Groups of Banks Differ Significantly

As expected, banks with low LTAs and low NIMs, represented in the lower left quadrant, report relatively low loan volume that results in lower overall asset yields. These banks report a lower loan growth rate (see Table 2, next page) and a relatively lower overall credit risk profile than the other groups (see Table 3, next page). They also report relatively higher capital and loan loss reserve levels (see Table 4, page 7).

Also as expected, banks with high LTAs and high NIMs, represented in the upper right quadrant, report relatively high loan volume, resulting in high asset yields.

TABLE 1

COMMUNITY BANKS ARE SEGMENTED BY LOAN LEVELS AND NET INTEREST MARGINS			
NET INTEREST MARGIN PERCENT RANGE, 1999	>4.38%	Low LTA–High NIM BANKS: 169 NIM: 4.70% LTA: 50.64%	High LTA–High NIM BANKS: 389 NIM: 4.97% LTA: 73.06%
	4.10%–4.38%	MIDDLE CROSS BANKS: 622 NIM: 4.23% LTA: 62.47%	
	<4.10%	Low LTA–Low NIM BANKS: 406 NIM: 3.56% LTA: 47.82%	High LTA–Low NIM BANKS: 168 NIM: 3.78% LTA: 71.06%
		<58.2%	58.2%–64.3%
LOAN-TO-ASSET RATIO PERCENT RANGE, 1999			
SOURCE: BANK CALL REPORTS, COMMUNITY BANKS			

TABLE 2

GROWTH RATES FOR HIGH LTA BANKS GREATLY EXCEEDED THOSE OF LOW LTA BANKS, AFFECTING FUNDING DECISIONS AND COSTS					
	ASSET GROWTH '92-'99	LOAN GROWTH '92-'99	CORE DEPOSIT GROWTH '92-'99	NONCORE FUNDING GROWTH '92-'99	COST OF FUNDS 1999
Low LTA-Low NIM	4.4	7.3	3.0	15.8	4.36
Low LTA-High NIM	3.7	5.5	2.9	10.6	3.95
MIDDLE CROSS	5.7	8.7	4.3	17.5	4.31
High LTA-Low NIM	8.0	12.3	6.2	22.8	4.62
High LTA-High NIM	8.4	12.0	7.0	22.0	4.31
AGGREGATE TOTAL	6.2	9.6	4.8	18.5	4.34

SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

These banks exhibit a relatively high loan growth rate, a relatively higher overall credit risk profile, and relatively lower capital and loan loss reserve levels.

Coupled with maintenance of high capital and reserve levels (the highest of any group), this group experiences a very low cost of funds (see Table 5).

Banks with low LTAs but high NIMs, represented in the upper left quadrant, report relatively low funding expenses and high loan yields, which offset low loan levels. This group of banks maintains a relatively low loan volume that produces yields consistent with those of banks with high LTAs and high NIMs, despite a much lower concentration in traditionally higher risk loan types. However, this group of banks also reports the lowest asset and loan growth rates of any group.

Banks that report high LTA ratios but low NIMs are represented in the lower right quadrant of the matrix. Lower NIMs, for the most part, are the result of relatively high interest expenses and relatively low loan yields. Although this group reports a relatively high LTA ratio, its loan composition tends to be conservative, similar to banks with low LTAs and low NIMs. For example, residential real estate loans are 27.8 percent of this group's portfolio, the highest percentage of any

TABLE 3

LOAN COMPOSITION IS A PROXY FOR MANAGEMENT'S RISK TOLERANCE AND AFFECTS YIELDS AND NIMS							
	LOAN COMPOSITION, % OF TOTAL LOANS, 1999					YIELD ON LOANS (%)	ALLL/ TOTAL LOANS (%)
	1 TO 4 FAMILY RES. RE	NONRES. RE	CONST. & DEVEL. RE	FARM PRODUCTION AND RE	COMM. & INDUS.		
Low LTA-Low NIM	22.6	13.2	2.8	35.6	14.9	8.63	1.59
Low LTA-High NIM	19.1	16.6	2.3	30.8	18.1	9.31	1.88
MIDDLE CROSS	23.0	16.5	3.2	30.5	16.2	8.83	1.49
High LTA-Low NIM	27.8	15.6	2.7	29.3	14.5	8.52	1.23
High LTA-High NIM	20.4	21.8	4.5	23.7	18.6	9.33	1.38
AGGREGATE TOTAL	22.8	17.3	3.4	29.3	16.5	8.91	1.45

NOTES: RE = LOANS SECURED BY REAL ESTATE.
 NONRESIDENTIAL REAL ESTATE LOANS INCLUDE COMMERCIAL REAL ESTATE, MULTIFAMILY RESIDENTIAL, AND CONSTRUCTION LOANS.
 CONSTRUCTION AND DEVELOPMENT LOANS ARE INCLUDED IN BOTH THE RESIDENTIAL REAL ESTATE COLUMNS AND A SEPARATE COLUMN.
 ALLL = ALLOWANCE FOR LOAN AND LEASE LOSSES
 SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

TABLE 4

CAPITAL AND RESERVE LEVELS VARY SIGNIFICANTLY		
	EQUITY RATIO (%)	ALLL/TOTAL LOANS (%)
Low LTA-Low NIM	10.5	1.59
Low LTA-High NIM	11.9	1.88
MIDDLE CROSS	9.5	1.49
High LTA-Low NIM	8.2	1.23
High LTA-High NIM	8.8	1.38
AGGREGATE TOTAL	9.5	1.45

NOTES: ALL RATIOS ARE AS OF 12/31/1999.
ALLL = ALLOWANCE FOR LOAN AND LEASE LOSSES
SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

group. As a result, loan yields for this group are the lowest in the group. On the liability side, however, this group of insured institutions reports a higher level of interest expense than any other group because of relatively high leverage and cost of funds, resulting in the second-lowest reported NIM of any group.

Do External Factors Determine Banks' Placement in the LTA-NIM Matrix?

Having created this matrix, we wondered whether a bank's placement in the matrix is the result of local economic conditions. If location and the local economy played a significant role in placement, we would expect

to see little movement within the matrix over time. Small banks rarely move operations to another county, and economic conditions remained somewhat constant in the Region during the 1990s (e.g., agricultural counties remained agricultural). However, although the relative numbers of banks in the quadrants remained relatively static from 1992 to 1999, placement of individual banks in the matrix has changed over time. Only 37 percent of banks in the lower left quadrant and 27 percent of banks in the upper right quadrant remained there from 1992 to 1999. Only 62 banks in total remained in the middle cross group and the upper left and lower right quadrants during this period.

If location were the critical factor, we would see homogeneity among banks' LTA ratios within smaller geographic areas. However, this is not the case when we look at the Region's 306 counties that are home to three or more community banks. In fact, a large percentage of these counties (214 counties, or 70 percent) contain at least one bank with a relatively low LTA ratio and at least one bank with a relatively high LTA ratio. Only 29 of these counties were home to banks characterized by either all low or all high LTA ratios.⁴

Although location does not necessarily dictate placement of a bank within the matrix, it does influence management decisions. For instance, although a bank operating in a geographic area that is characterized by low loan demand (such as an area that is economically depressed) can choose to have a relatively high LTA ratio, that decision could heighten the level of credit risk. A bank that makes the strategic decision to

TABLE 5

FUNDING DECISIONS, ESPECIALLY THE USE OF NONCORE FUNDS, HAVE AFFECTED COSTS AND NET INTEREST MARGINS						
	CORE DEP/ASSETS (%)	CHANGE FROM 1992	NONCORE FUNDING/ASSETS (%)	CHANGE FROM 1992	EQUITY RATIO (%)	COST OF FUNDS (%)
Low LTA-Low NIM	74.4	-7.4	14.3	7.3	10.5	4.36
Low LTA-High NIM	78.4	-4.2	8.9	3.2	11.9	3.95
MIDDLE CROSS	75.8	-7.3	14.0	7.3	9.5	4.31
High LTA-Low NIM	73.7	-9.5	17.6	10.4	8.2	4.62
High LTA-High NIM	75.9	-7.7	15.1	8.5	8.8	4.31
AGGREGATE TOTAL	75.4	-7.5	14.5	7.8	9.5	4.34

NOTE: ALL RATIOS ARE AS OF 12/31/1999.
SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

⁴ We ranked the 1,754 community banks by LTA ratio and grouped them into five quintiles. We defined a low LTA ratio as falling in the lower 40 percent (quintiles 1 and 2) and a high LTA ratio as falling in the upper 40 percent (quintiles 4 and 5). Similar findings resulted when we substituted the 1992 to 1999 change in LTA ratio for the 1999 LTA ratio.

TABLE 6

THE LOCATION AND TYPE OF BANK DO NOT NECESSARILY DICTATE THE PLACEMENT OF THE BANK WITHIN THE MATRIX					
	FARM BANKS VERSUS NONFARM BANKS (%)		COUNTY POPULATION TRENDS		
	FARM	NONFARM	GROWING	DECLINING	ACCELERATED DECLINING
Low LTA-Low NIM	76.6	23.4	38.4	48.0	13.6
Low LTA-High NIM	63.3	36.7	50.9	39.1	10.0
MIDDLE CROSS	66.9	33.1	49.2	39.7	11.1
High LTA-Low NIM	65.5	34.5	41.7	52.4	5.9
High LTA-High NIM	53.2	46.8	57.3	33.2	9.5
AGGREGATE TOTAL	65.6	34.4	47.9	41.3	10.8

NOTES: REFER TO REGIONAL OUTLOOK, FIRST QUARTER 2000, ARTICLE FOR DISCUSSION OF POPULATION TRENDS: GROWING COUNTIES HAVE HAD INCREASED POPULATION SINCE 1970. DECLINING COUNTIES HAVE LOST POPULATION SINCE 1970, BUT DECLINES WERE NOT HIGHER IN THE 1990S. ACCELERATED DECLINING COUNTIES HAVE LOST POPULATION SINCE 1970, AND DECLINES ACCELERATED IN THE 1990S. SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

increase its LTA ratio to a relatively high level could experience particularly high funding costs. On the other hand, a more risk-averse institution may exhibit a relatively low risk profile; however, this may come at the expense of lost earnings and market share.

Table 6 shows how local conditions contribute to where a bank falls in the matrix. Compared with institutions in the two higher NIM quadrants, insured institutions in the two lower NIM quadrants are more likely to be farm banks located in rural areas; institutions in the two higher NIM quadrants tend to be located in counties with growing populations. However, these are tendencies and not absolutes. Not all banks in rural areas report low

LTA ratios and low NIMs, and not all banks in metropolitan areas report high LTA ratios and high NIMs.

Matrix Group Characteristics Influence Risk Profiles

How do loan growth, portfolio mix, noncore funding, and capital and reserves influence the risk profile of each group in the matrix? Table 7 shows the relative level of risk associated with each of these characteristics.

Not surprisingly, banks in the upper right quadrant of the matrix (those with high LTAs and high NIMs)

TABLE 7

GROUPS' RISK PROFILES ARE RANKED USING FIVE CHARACTERISTICS					
MATRIX GROUP	GROUP'S RISK BY CHARACTERISTIC RELATIVE TO OTHER GROUPS				
	LTA RATIO	LOAN MIX	GROWTH TREND	NONCORE FUNDING	CAPITAL AND RESERVES
Low LTA-Low NIM	LOWER	LOWER	AVERAGE	AVERAGE	LOWER
Low LTA-High NIM	LOWER	AVERAGE	LOWER	LOWER	LOWER
MIDDLE CROSS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
High LTA-Low NIM	HIGHER	LOWER	HIGHER	HIGHER	HIGHER
High LTA-High NIM	HIGHER	HIGHER	HIGHER	HIGHER	HIGHER

RISK EXPOSURE CATEGORIES ARE RATED AS LOWER, AVERAGE, OR HIGHER.

NOTE: AN "AVERAGE" RANKING WAS ASSIGNED TO THE MIDDLE CROSS, A PROXY FOR THE TOTAL, AND EACH QUADRANT WAS RANKED RELATIVE TO THE MIDDLE CROSS. IF THESE FIGURES WERE CLOSE, AN "AVERAGE" RATING WAS ASSIGNED TO THE QUADRANT. OTHERWISE, A "HIGHER" OR "LOWER" RATING WAS ASSIGNED. OUR ASSESSMENT OF THE LOAN MIX CHARACTERISTIC FOCUSED ON EACH GROUP'S CONCENTRATION IN TRADITIONALLY HIGHER RISK LOAN TYPES AS WELL AS ANY STRONG CONCENTRATION IN RESIDENTIAL REAL ESTATE LOANS. SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

TABLE 8

PROFITABILITY INCREASES AS AN INSTITUTION ADOPTS A HIGHER RISK PROFILE		
	BANKING RISK	1999 ROE
Low LTA-Low NIM	LOWEST	8.64
Low LTA-High NIM	LOWER	9.68
MIDDLE CROSS	AVERAGE	11.91
High LTA-Low NIM	HIGHER	12.43
High LTA-High NIM	HIGHEST	14.33

NOTE: "BANKING RISK" SIGNIFIES OUR SUBJECTIVE PLACEMENT OF EACH GROUP ALONG A SPECTRUM OF CHARACTERISTICS COMMONLY THOUGHT TO AFFECT BANKING RISK.
ROE = RETURN ON EQUITY
SOURCE: BANK CALL REPORTS, COMMUNITY BANKS

appear to exhibit a higher risk profile relative to the other groups. Banks in the lower left quadrant (those with low LTAs and low NIMs) appear to exhibit a lower risk profile. However, when we look at institutions falling in the other two quadrants, the results are not so straightforward. Banks with low LTAs but relatively high NIMs appear to exhibit a lower risk exposure, while banks with relatively high LTAs but low NIMs

generally exhibit higher exposures (except for loan mix, which represents a very low exposure).

Table 7 suggests that the two groups of banks characterized by high LTA ratios may be somewhat more vulnerable during an economic downturn than banks with low loan levels. Moreover, given similar LTA ratios, banks with higher NIMs are more vulnerable than banks with lower NIMs. Taking this one step further, Table 8 shows that insured institutions that exhibit a higher level of risk are being compensated in terms of higher levels of profitability. As one might expect, return on equity appears to increase as institutions adopt a higher risk profile.

In the 1980s, Higher LTA Ratios Tended to Boost Net Interest Margins but Were Associated with Increased Risk of Failure

Regional Outlook, third quarter 1999, discussed the 1980s agricultural crisis and cited the results of studies that showed that LTA ratio was a significant indicator of bank failure.⁵ Accordingly, groups of institutions with higher LTA ratios failed at a significantly higher rate than banks with lower LTA ratios. Does our LTA-NIM matrix add any value to that discussion?

TABLE 9

QUADRANT PLACEMENT IN 1982 WAS AN INDICATOR OF POTENTIAL FOR FAILURE			
NET INTEREST MARGIN PERCENT RANGE, 1982	>5.10%	Low LTA-High NIM BANKS: 463 FAILURES: 8 FAIL RATE: 1.73%	High LTA-High NIM BANKS: 647 FAILURES: 86 FAIL RATE: 13.29%
	4.57%-5.10%	MIDDLE CROSS BANKS: 1,230 FAILURES: 55 FAIL RATE: 4.47%	
	<4.57%	Low LTA-Low NIM BANKS: 643 FAILURES: 8 FAIL RATE: 1.24%	High LTA-Low NIM BANKS: 449 FAILURES: 40 FAIL RATE: 8.91%
		<48.5%	48.5%-54.5%
		LOAN-TO-ASSET RATIO PERCENT RANGE, 1982	

SOURCE: BANK CALL REPORTS, COMMERCIAL BANKS WITH LESS THAN \$250 MILLION IN ASSETS, EXCLUDING CREDIT CARD BANKS AND DE NOVO BANKS AS OF YEAR-END 1982

⁵ See "Agricultural Sector Under Stress: The 1980s and Today," *Regional Outlook*, third quarter 1999, for more detail on these studies.

To answer this question, we looked at community banks⁶ in existence in 1982, before the last banking crisis in the Region. As the 1982 matrix (see Table 9) shows, the distribution of community banks by LTA and NIM in 1982 was similar to the distribution in 1999; most banks' LTA ratios and NIMs trended in the same direction. We filtered bank failures from 1983 through 1989 through the 1982 matrix to determine if any matrix group failed at a relatively higher rate than the others.

The 1982 matrix shows that failure rates differed significantly among the groups. Table 9 reaffirms that, at least during the 1980s agricultural crisis, LTA ratio was strongly correlated with failure. Banks represented in the two low LTA quadrants failed at a combined 1.5 percent rate. In contrast, banks represented in the two high LTA quadrants failed at a combined 11.5 percent rate, more than two and one-half times that of the banks in the middle cross.

⁶ The 1982 matrix includes community banks that, as of year-end 1982, met the following criteria: in operation for at least three years as of January 1, 1982; are not considered credit card banks (banks with at least 50 percent of total loans in credit card receivables); and have not used pushdown accounting because of mergers during the 1990s.

The 1982 matrix also shows that NIMs, as a proxy for other performance variables, may indicate heightened management tolerance for risk and the potential for failure. Banks reporting low LTA ratios failed at relatively low rates; however, banks with low LTA ratios but high NIMs failed at somewhat higher rates than banks with low LTA ratios and low NIMs. However, as the LTA ratio rises, the NIM also appears to be an indicator of the potential for a bank to fail. For example, High LTA–High NIM banks failed at the highest rate, almost one and one-half times that of High LTA–Low NIM banks.

It should be noted that the 1982 matrix is an academic study of historical data and is not intended to predict community bank failure rates. Certainly, banking conditions have changed since 1982, and should the Region experience another banking crisis, the effects may not be the same. However, the 1982 matrix supports our contention that banks that report high LTA ratios and high NIMs have a higher tolerance for risk than banks that report low LTA ratios and low NIMs. Also, the 1982 matrix shows that groups of banks can realize comparable earnings while exhibiting significantly different risk profiles.

*Richard D. Cofer, Jr., Senior Financial Analyst
John M. Anderlik, CFA, Regional Manager*

Credit Problems for U.S. Businesses Continue to Increase

- **Commercial credit quality trends have been slipping since 1998, despite generally favorable U.S. business conditions.**
- **The recent economic slowdown, coupled with tighter credit conditions, points to continued deterioration in business credit quality over the coming months.**
- **Trends in bond defaults, syndicated lending, corporate profitability, and expected default levels reveal a number of industry sectors that pose a heightened degree of risk to lenders.**

Introduction

Continuing increases in problem commercial loans have focused the spotlight on business lending conditions. On September 30, 2000, commercial banks reported the highest relative level of noncurrent¹ commercial loans—at 1.52 percent of total commercial loans—since third quarter 1994. In fact, commercial banks have been reporting steadily higher rates of noncurrent domestic commercial loans since the second quarter of 1999. The first quarter 2000 edition of *Regional Outlook* identified several factors contributing to the decline in business credit quality despite the strong economic indicators then in place. These factors, which are still relevant today, include the rise in financial leverage for domestic corporations, greater investment risk appetite and looser underwriting standards from 1996 to 1999, and increasing financial stress within various industry sectors. More recently, an apparent slowdown in economic growth increases prospects for further deterioration in business credit conditions.

Large Banks Experience a Reversal in Commercial Credit Quality Trends

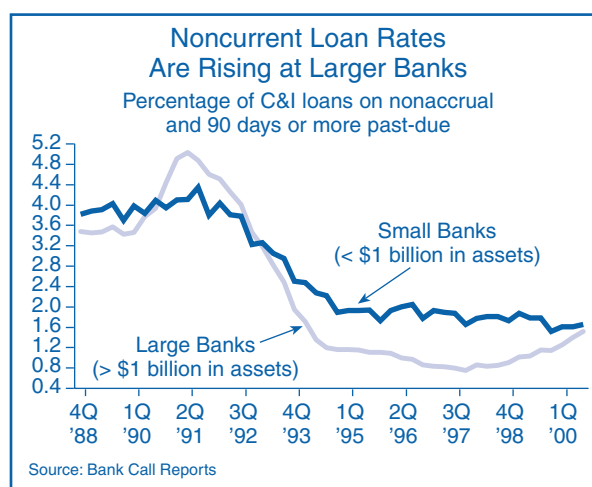
Through much of the 1990s, a sustained period of economic growth produced improving commercial loan credit quality indicators for insured commercial banks. This trend reversed itself in 1998, when banks began

experiencing a steady rise in nonperforming and delinquent commercial loans. While the initial catalyst for this reversal was related mainly to events abroad,² a slowing domestic economy has since taken center stage as the underlying driving force behind worsening commercial credit quality trends.

As of September 30, 2000, noncurrent commercial and industrial (C&I) loans held by commercial banks stood at \$15.6 billion, a 46 percent increase over the previous year. Roughly 97 percent of this increase is attributable to the rise in nonaccrual and delinquent credit to U.S. domiciled borrowers. Net C&I loan loss rates are also rising. Through the first three quarters of 2000, annualized C&I loan loss rates reached 0.64 percent, up from 0.58 percent in 1999. The last time banks saw C&I loss rates this high was in 1993 (0.74 percent).

Larger banks, which have the greatest exposures to large- and middle-market corporate credits, have been hardest hit by the turnaround in business credit conditions. As shown in Chart 1, banks with over \$1 billion in assets have experienced most of the recent deterioration in C&I noncurrent loan rates. Since the fourth quarter of 1997, the noncurrent C&I loan rate of large

CHART 1



² Significant events that contributed to higher levels of problem foreign loans in 1998 include the collapse of Asian currency exchange rates and default by the Russian government on its sovereign debts. Some domestic industries that were highly dependent on exports (steel, for example) were also adversely affected by these events.

¹ Nonaccrual loans plus loans 90 days or more delinquent.

banks has increased from 0.74 percent to 1.50 percent. Over the same period, noncurrent C&I loan rates at small banks were unchanged at 1.64 percent. While the increase in noncurrent loan rates at larger banks is significant, these higher rates remain well below those that preceded the 1990 to 1991 recession, when noncurrent loan rates at large banks were in the 3.40 percent to 3.60 percent range.

Much of the recent deterioration in banks' business credit quality is attributable to the seasoning of credits underwritten during a period of relaxed lending standards. Each of the three bank supervisory agencies has recognized and warned about the potential impact of loosened loan underwriting standards in the event of a slowdown in the economy. For example, just over a year ago, the Office of the Comptroller of the Currency (OCC) issued a warning to banks about the "...cumulative effect of the past four years of easing standards..." for commercial loans.³ The shift toward more liberal credit standards from 1996 to 1999 was fueled by various factors, including a robust economy, intense competition to originate syndicated credits, and an increased appetite for risk. During this period, a number of banks moved aggressively into non-investment-grade lending to combat narrowing interest margins and declining investment-grade yields. According to a recent *Standard & Poor's* commentary, several banks have acknowledged the role of 1997 and 1998 vintage credits in producing higher levels of problem loans.⁴

Business Loan Performance Is Not Likely to Improve Any Time Soon

Prospects for any near-term reversal in deteriorating commercial loan trends are dimming as signs of slower economic growth and tighter credit conditions emerge. Economic indicators suggest an aging economic expansion that is losing momentum. In third quarter 2000, the U.S. economy recorded its 39th consecutive quarter of growth. However, real gross domestic product growth for the third quarter was only 2.2 percent, well below the previous quarter's growth of 5.6 percent and below the 4.9 percent average quarterly growth rate during the past eight quarters. Corporate earnings also appear to be slowing. Annualized corporate profit growth in the third

quarter slowed to 5.1 percent, down from a 15.6 percent annualized growth rate in second quarter 2000 and a 10.4 percent average growth rate over the past eight quarters.⁵ Corporate earnings are widely anticipated to slow even further based on the number of companies that have warned of profits falling below expectations in the fourth quarter.⁶

Prospects for slower economic growth prompted the Federal Reserve to lower its target for the federal funds rate (the rate charged on overnight lending) by 1/2 percentage point to 6 percent on January 3, 2000. This cut follows a 175-basis-point increase in the targeted federal funds rate since the end of June 1999. Although higher interest rates have undoubtedly raised borrowing costs for U.S. corporations, business borrowing rates—even before the Federal Reserve cut interest rates in January 2001—are well below those prevalent during much of the 1980s (see Chart 2, next page). Moreover, changes in rates have been far less volatile in the latter part of the 1990s than they were during the 1980s and early 1990s.

Tolerance for risk on the part of investors and lenders is waning. In a November 2000 survey of underwriting practices, the *Federal Reserve Board* noted that 44 percent of U.S. banks tightened credit terms for large- and middle-market borrowers in the past three months, the highest incidence of tightening since fourth quarter 1990. This tightening of credit terms is primarily in response to economic concerns, industry-specific problems, and a lower tolerance for risk. Banks appear to be especially apprehensive about taking on additional credit risk related to merger and acquisition financing deals, new borrowing prospects, and specific industry segments such as health care, movie theaters, and communications.⁷

Tighter credit terms by banks will have the greatest impact on high-risk companies, which have fewer financing options in an environment of slumping bond and stock prices. Moreover, there appears to be a significant increase in the volume of maturing debt that could be forced into default if capital market or bank

³ Office of the Comptroller of the Currency Press Release. October 5, 1999.

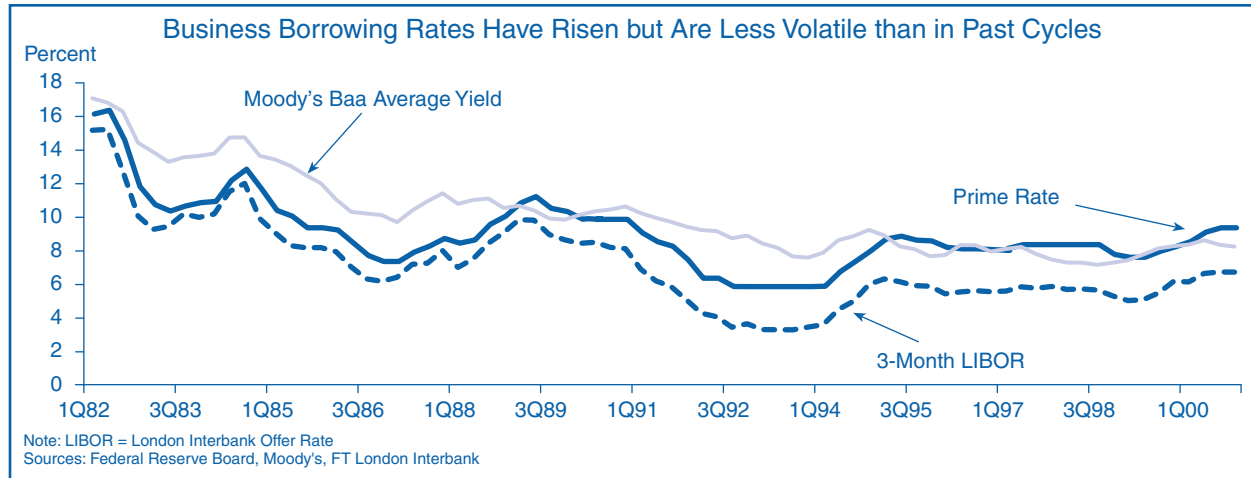
⁴ July 20, 2000. "U.S. Bank Loan Portfolios Reflect Rise in Corporate Bond Defaults." *Standard & Poor's Commentary*.

⁵ These figures are taken from the U.S. Department of Commerce's statistics on corporate profits with inventory valuation adjustments.

⁶ According to First Call/Thomson Financial, 505 companies released warnings that fourth quarter 2000 earnings would fall below expectations, up 96 percent from the 257 companies with negative profit warnings for fourth quarter 1999.

⁷ See the Federal Reserve Board's *November 2000 Senior Loan Officer Opinion Survey on Bank Lending Practices*.

CHART 2



funding is not available. According to *Moody's*, some \$108 billion of rated speculative-grade corporate debt held by banks matures over the next three years, a 40 percent increase over year-earlier levels.

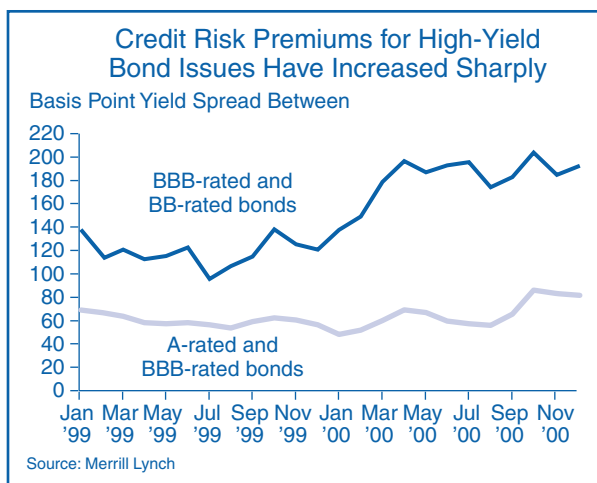
Higher-risk companies also have a lower capacity to absorb the cost of higher interest rates. Yet many companies with debt maturing in the near term will likely be forced to pay higher risk premiums than in the past. For example, *Moody's* notes that in November 2000, speculative-grade bond yield spreads over seven-year Treasuries reached their widest level since February 1991, at 771 basis points.⁸ Chart 3 illustrates further how credit spreads between just-investment-grade bond issues and near-investment-grade bond issues have widened considerably compared with spreads between lower-investment-grade bond issues since the beginning of 2000. Some of the most significant increases in credit spreads have been observed in the high-yield telecommunications sector, where credit spreads over seven-year Treasuries widened by 688 basis points in 2000.⁹

The effects of tighter credit conditions and a reduced appetite for risk are beginning to emerge in loan origination volumes. According to *Loan Pricing Corporation*, originations of highly leveraged loans¹⁰ through

the first three quarters of 2000 fell to \$117 billion from \$140 billion for the same period in 1999.

Corporate bond trends provide further evidence of financial stress in the domestic market and suggest more near-term deterioration in problem business loans. Corporate bond default rates have climbed significantly since 1997 (see Chart 4). Through November 2000, trailing 12-month default rates on speculative-grade corporate bonds reached 6.8 percent, up from 3.5 percent at the end of 1998. Higher default rates have been accompanied by an accelerated pace of negative ratings revisions, which, according to *Moody's*, reached a rate of 3.2 speculative-grade downgrades for every speculative-grade upgrade through the first 11 months of 2000.¹¹ More signifi-

CHART 3



⁸ December 2000. *Moody's Leveraged Finance Commentary*.

⁹ Merrill Lynch Global Bond composites. Issues facing the telecommunications industry are explored further in the article entitled "Three Industries Navigating in a Competitively Charged Environment" in this issue of the *Regional Outlook*.

¹⁰ Loan Pricing Corporation defines highly leveraged loan transactions as those carrying interest rates of 250 basis points or more over the London Interbank Offer Rate (LIBOR).

¹¹ See *Moody's Credit Perspectives*, December 4, 2000.

cant, *Moody's* projects that speculative-grade corporate bond defaults will continue to move higher to 9.1 percent over the coming year. Given a fairly strong correlation between speculative bond default rates and banks' noncurrent loan rates, these projections suggest a continuing rise in the relative level of problem commercial loans.¹²

Loan Default Risk Is Rising in a Number of Industry Sectors

Evidence from Corporate Bond Defaults

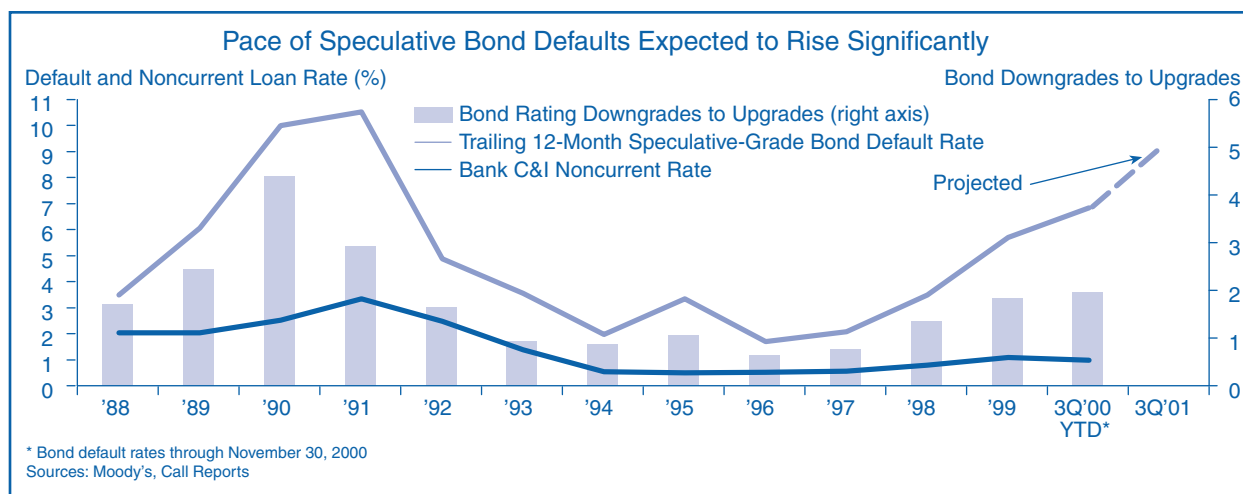
Corporate bond defaults provide clues as to which industries may experience a higher rate of defaults. Chart 4 shows the historical trend in speculative-grade bond defaults since 1988. The initial upward spike in default rates in 1998 was largely the result of events abroad, when 74, or 59 percent, of 126 defaulted issues were attributed to foreign-domiciled issues.¹³ In 1999, the distribution of defaults shifted decidedly toward domestic issues, with U.S. firms accounting for 99, or 67 percent, of 147 defaults. Of the U.S.-domiciled defaults in 1999, 64 percent were related to industrial

sectors, with concentrations in price-sensitive commodity and trade-dependent sectors such as oil and gas, shipping, and steel. Other domestic sectors that experienced a noteworthy rise in defaulted issues in 1999 were telecommunications and health care. Year-to-date 2000 defaults continue to be dominated by U.S. firms.¹⁴ According to *Moody's*, year-to-date defaulted bond issues have been concentrated in health care; telecommunications; and textiles, leather, and apparel.¹⁵

Evidence from Syndicated Loan Trends

Past growth in syndicated loans may be another indicator of default risk. Many lenders appeared to increase their appetite for risk from 1996 through 1999, judging by the growth in leveraged loan and highly leveraged loan volumes during this period (see Chart 5, next page).¹⁶ Because rapid loan growth can be an indicator of aggressive risk taking, it is important to review some significant borrowing industries that experienced rapid credit growth from 1996 to 2000. It is also worthwhile to review industries where higher-risk (high-yield) borrowing accounted for a substantial proportion of syndicated loan transactions.

CHART 4



¹² There is a strong correlation between historical speculative-grade corporate bond defaults and noncurrent loan rates. The correlation coefficient between these two variables for the period 1984 to the present is 0.67.

¹³ Indonesia alone accounted for 32 defaulted issues in 1998, and sovereign issuers accounted for 36 percent of defaulted debt volume. *Historical Default Rates of Corporate Bond Issuers, 1998*. Moody's Investor Service.

¹⁴ *Historical Default Rates of Corporate Bond Issuers, 1999*. Moody's Investor Service.

¹⁵ *Moody's Credit Perspectives*, December 11, 2000. Issues facing the health care and textile industries are explored further in the article entitled "Three Industries Navigating in a Competitively Charged Environment" in this issue of the *Regional Outlook*.

¹⁶ Loan Pricing Corporation defines leveraged transactions as those that carry interest rate spreads of 150 basis points or more over LIBOR and highly leveraged transactions as those that carry spreads of 250 basis points or more over LIBOR. Because these definitions are spread-driven, the rise in the proportion of higher-yield issuance is attributable in part to a general increase in credit spreads. This was the case particularly during the 1998 period, when credit spreads rose significantly.

CHART 5

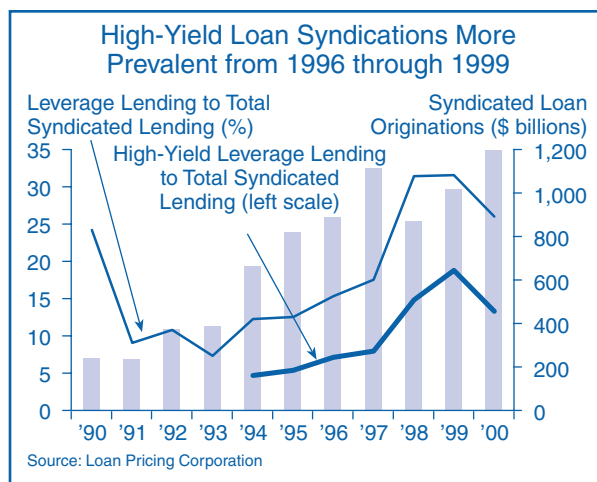


Table 1 lists selected industries¹⁷ that accounted for a significant proportion of syndicated loan volumes from 1996 to 2000, according to *Thomson Financial Securities Data*. Industries that experienced some of the most rapid growth rates in syndicated loan volumes during that time include utilities, telecommunications, and real estate investment trusts (REITs). Industries that recorded a particularly significant proportion of high-yield

transactions during that period include real estate and construction, REITs, health care, and entertainment/lodging/leisure.

Evidence from Corporate Profit Trends

Industry sector earnings trends may also be an indicator of industry default risk, because higher defaults are more likely in sectors with weak earnings. As noted above, profit growth rates of domestic firms appear to be decelerating following two years of strong earnings growth overall. Rapid growth in previous quarters appears to have been driven in large part by high-tech and related sectors, such as electronic equipment and communications. These sectors have to a large extent overshadowed noteworthy declines in profit growth in other sectors, such as metals, chemical production, medical services, property casualty insurance, apparel and textiles, manufactured housing, agriculture, transportation, and wholesale trade (see Table 2).

Evidence from Credit Risk Models

Credit default models have proliferated in recent years because of advances in technology, data availability, and financial theory. One such model is *KMV LLC's* Cred-

TABLE 1

HISTORICAL U.S. SYNDICATED LOAN TRENDS HELP IDENTIFY POSSIBLE SOURCES OF INDUSTRY CREDIT RISKS				
INDUSTRY	SHARE OF 1996 TO 2000 ISSUANCE (%)	1996 TO 2000 AVG. ANNUAL ISSUANCE GROWTH (%)	2000 ISSUANCE GROWTH (%)	HY AS A % 1996 TO 2000 ISSUANCE
WHOLESALE AND RETAIL TRADE	7.8	-2	-12	34
ELECTRIC, GAS AND SANITARY UTILITIES	6.5	34	15	19
TELECOMMUNICATIONS	5.4	28	54	29
NONDEPOSITORY INVESTMENT COMPANIES	5.2	19	24	33
OIL AND GAS	4.1	23	83	18
SECURITIES BROKERS/DEALERS	3.7	15	13	4
ENTERTAINMENT/LEISURE/LODGING	3.3	5	31	42
REAL ESTATE INVESTMENT TRUST	2.7	27	25	49
HEALTH CARE	2.6	-4	-41	44
REAL ESTATE AND CONSTRUCTION	2.5	25	46	50

NOTE: HY (HIGH-YIELD) ISSUANCE INCLUDES DEALS PRICED AT 125 BASIS POINTS OR MORE OVER LIBOR.
SOURCE: THOMSON FINANCIAL SECURITIES DATA

¹⁷ This list is taken from a group of 50 sectors defined using Standard Industrial Codes (SICs). Only industries that accounted for more than 2 percent of 1996 to 2000 origination volumes were considered for inclusion.

it Monitor[®]. This model, which uses publicly available information to estimate the likelihood of default for individual firms, is widely used by lenders to monitor and evaluate obligor risk and credit risk trends. While it is not the only model available, the KMV model can be applied consistently and easily to the analysis of industry sector credit risk across a broad range of industry groupings.

In brief, the KMV model uses options-pricing theory to derive market-based expected default probabilities or an expected default frequency (EDF[™]).¹⁸ The model relies mainly on three pieces of information: (1) a firm's asset market value; (2) the volatility of a firm's asset market values; and (3) the firm's capital structure or financial leverage. Although EDF[™] scores are company-specific, median industry expected default prob-

abilities can be constructed and compared across industries and across time to discern relative rankings of industry risk and industry risk trends. These median EDF[™] scores also can be mapped to other default measurement scales, such as external rating agency ratings, based on individual EDF[™] scores of firms with rated debt.

Since the second quarter of 1998, median EDF[™] scores have risen significantly across a wide range of U.S. non-financial industry sectors (see Chart 6, next page). The service and trade sector includes the greatest proportion of firms with high default risk. The median probability of default for the manufacturing sector firms is lower, but it is rising and roughly equaled that of Standard & Poor's BB-grade (sub-investment-grade) obligors as of December 2000.

TABLE 2

VARIOUS INDUSTRIES HAVE EXHIBITED NEGATIVE PROFITABILITY TRENDS			
INDUSTRY	ANNUAL GROWTH IN NET INCOME		
	1998 TO 1999 (%)	1996 TO 1999 AVERAGE (%)	1994 TO 1999 AVERAGE (%)
STEEL	-1,237.9	-428.6	-187.4
COPPER	-80.7	-65.5	13.2
INTERNET	-43.2	-42.7	-35.5
TIRES AND RUBBER	-81.9	-28.6	-12.7
ALUMINUM	-13.2	-13.9	156.4
CHEMICALS	-38.1	-3.9	18.4
MEDICAL SERVICES AND INFORMATION SYSTEMS	-48.2	-2.5	44.8
PROPERTY CASUALTY INSURANCE	-3.9	-2.0	3.8
RECREATIONAL GOODS AND SERVICES	.5	2.5	17.1
APPAREL AND TEXTILES	2.5	10.4	3.3
MANUFACTURED HOUSING AND RECREATIONAL VEHICLES	-9.8	11.7	27.3
AGRICULTURE	-1.3	12.3	4.6
WHOLESALE TRADE	-8.8	13.7	13.7
CEMENT AND AGGREGATES	1.2	21.6	60.5
OILFIELD SERVICES AND PRODUCTION	-373.7	39.9	19.3
AIRLINES AND FREIGHT	-13.2	1,085.5	666.5
ALL CORPORATE PROFITS (WITH INVENTORY VALUATION AND CAPITAL CONSUMPTION ADJ.)	5.0	4.4	13.6

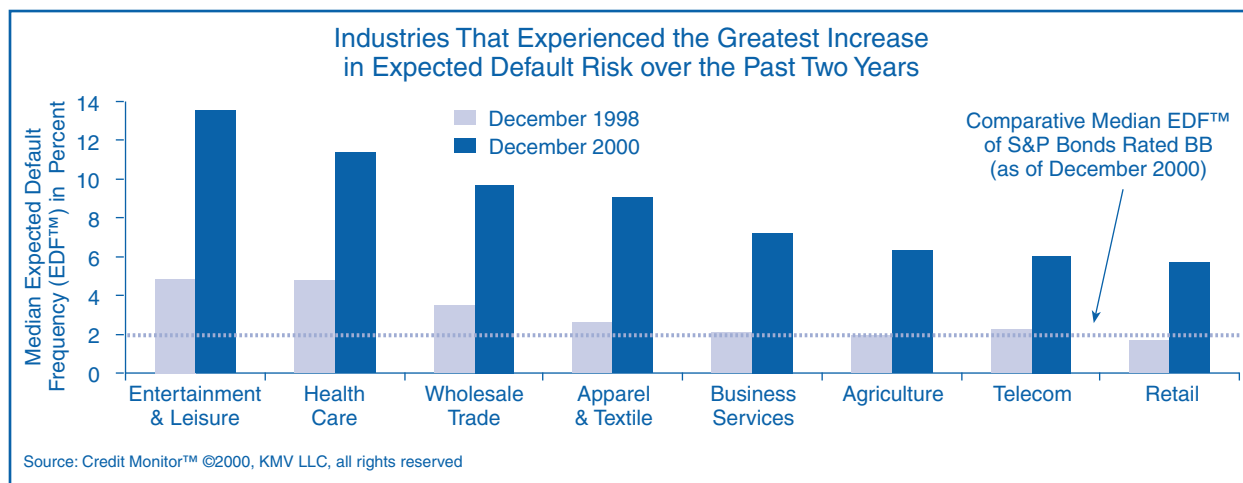
SOURCES: ECONOMY.COM PRECIS REPORTS; U.S. DEPARTMENT OF COMMERCE, SURVEY OF BUSINESS CONDITIONS

¹⁸ Typically expressed as the probability of default over the coming year.

Although no one factor can explain the rise in expected default measures for U.S. nonfinancial firms, rising financial leverage is clearly a major determinant. U.S. corporate debt burdens continue to rise in conjunction with the longest-running economic expansion in U.S. history. The debt-to-net-worth ratio (book value) of nonfarm, nonfinancial businesses rose to 83 percent in the second quarter of 2000, up from 72 percent at year-end 1996. Although these figures remain below the relative debt levels experienced in the late 1980s and early 1990s,¹⁹ U.S. businesses are nevertheless becoming increasingly vulnerable to rising credit costs and disruptions in credit availability. Higher asset value volatility²⁰ has also played a role in rising EDFTM scores, which, as in any options-based credit risk model, leads to a greater likelihood of default.

Chart 7 shows eight of the highest-risk industries in terms of changes in median EDFTM scores over the past two years. These industries were drawn from a list of 50 financial and nonfinancial sectors segregated by Standard Industrial Codes (SICs). For each of these 50 sectors, median EDFTM scores were determined for December 2000 and compared with median EDFTM scores for the same sector in December 1998. Consistent with general industry observations, entertainment and leisure, health care, and telecommunications are among the sectors where default risk has risen most significantly over the past two years.

CHART 7

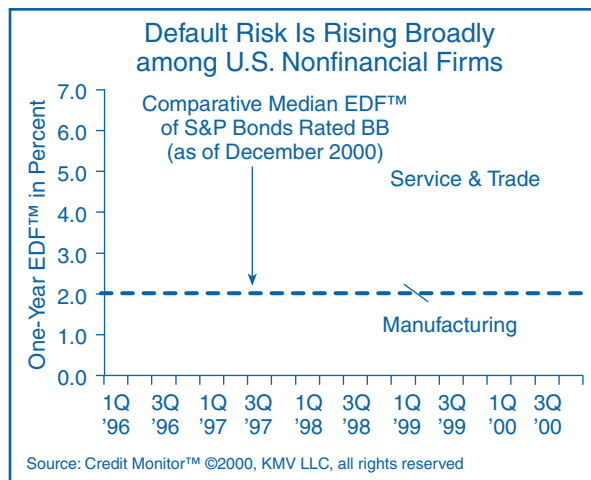


¹⁹ The debt-to-net worth ratio for U.S. nonfarm, nonfinancial businesses averaged slightly under 87 percent from 1988 to 1992.

²⁰ Implicit in changes in stock prices.

²¹ Syndicated loan originations are an imperfect measure of actual loan exposures in the financial industry. For example, it is not possible to determine the level of outstanding exposures simply by summing up origination levels from year to year, because payments on long-term debt are not considered. Moreover, a substantial volume of debt represents revolving lines of credit where credit exposures roll over on a periodic basis. Nevertheless, trends in originations do contain some information on the relative level of industry exposures, because they show which industries are borrowing more or less during any given year.

CHART 6



While Chart 7 illustrates sectors undergoing financial stress, it does not provide information on the relative importance of these sectors to lenders. *Thomson Financial Securities Data* provides information on the volumes of syndicated loan originations by banks and nonbanks. Matching industry-expected default trends with syndicated loan origination trends by industry is one way to determine the relative importance of higher-risk industry credit exposures.²¹

Chart 8 shows median EDFTM and syndicated loan origination pairs for selected industries during the past three

years. Of the industries shown, the telecommunications industry appears to present the greatest degree of risk, given a nearly \$50 billion increase in loan volumes from 1998 to 2000, coupled with a 170 percent increase in median expected default levels over the same period. In contrast, loans to securities brokers and dealers can be considered relatively less risky—despite a \$17 billion rise in originations from 1998 to 2000—because of a fairly modest rise in median expected defaults. It is also interesting to contrast the health care and entertainment and leisure sectors. Firms in both sectors have experienced a dramatic rise in expected defaults. However, since 1998, Thomson Financial Securities Data shows a significant curtailment in lending to health care companies, while entertainment and leisure originations have held steady over the same period. Because banks appear to be reducing credit exposures to health care firms, banks should eventually see a decline in the level of defaulting debt related to this sector.

Chart 8 illustrates how U.S. syndicated loan issuance and expected default measures can be linked to produce a better sense of risk-weighted industry exposure volumes held by lenders. On the basis of this type of analysis, producing a list of industry sectors that appear to pose the greatest degree of syndicated loan default risk is relatively straightforward. Perhaps not surprisingly, industries such as telecommunications, wholesale and retail trade, entertainment and leisure, health care, and apparel and textiles rank high in terms of risk-weighted industry credit exposures using this analysis.²²

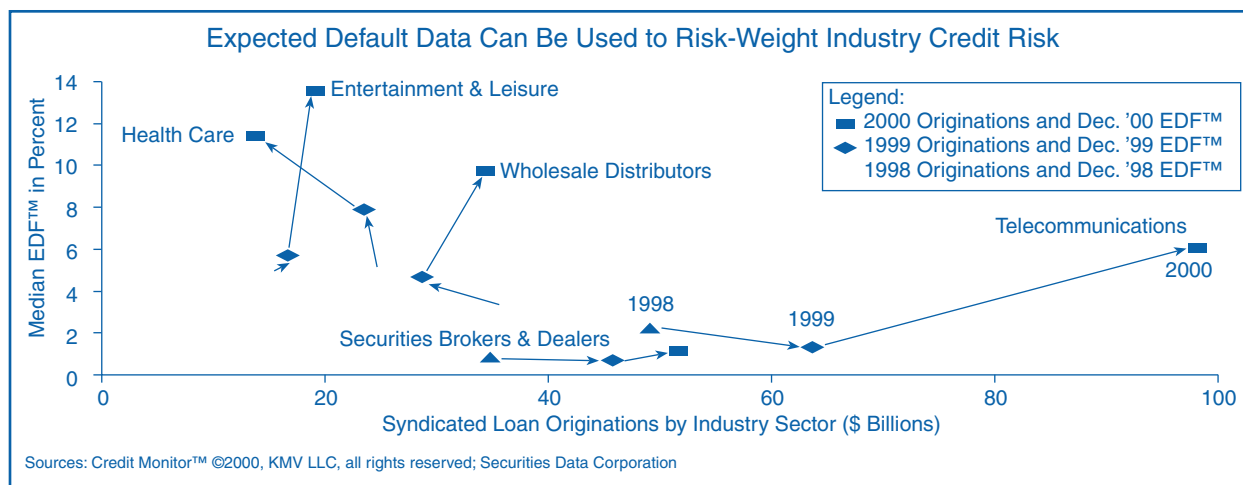
Conclusion

Many U.S. banks are experiencing deterioration in business loan quality measures. The adverse effects of higher interest rates, a tightening of credit terms, slowing profit growth, and industry sector weaknesses are the primary contributing factors to this deterioration. Several indicators—including a projected increase in corporate bond default rates, rising expected default trends in certain industry sectors, and evidence of lax underwriting practices in previous periods—suggest that banks could experience substantial further deterioration in business loan quality in the near term.

Although worsening business loan quality is a concern, these negative trends must be put into perspective. In relative terms, current indicators of business loan problems do not approach the experience of banks during the last economic downturn of the early 1990s. Moreover, continued strong earnings and capital provide a significant buffer for banks to weather the effects of higher levels of nonperforming business loans and business loan losses. Nevertheless, the prospect of a slowdown in the economy raises concerns about the possible severity of commercial loan problems, a situation that will undoubtedly be watched closely by both banks and bank supervisors in the coming months.

Steven Burton, Senior Banking Analyst

CHART 8



²² Fifty sectors, grouped by SIC codes, were considered.

Three Industries Navigating in a Competitively Charged Environment

The rising tide of a booming economy in the United States has lifted the boats of a broad spectrum of industries over the past nine years. Some industries, however, have fallen on hard times despite continued economic expansion. These industries represent a broad cross-section of the economy. Problems in these industries were precipitated by diverse factors, reflecting the differences among sectors in industries ranging from old economy (such as textiles) to services (such as health care) to those on the horizon (such as telecommunications).

These industries will navigate in turbulent waters over the next few years. All three face an uncertain economic outlook, changing public policies that can influence their operating environment, and fierce competition.

The importance of these industries to the U.S. economy varies based on employment. The telecommunications industry accounts for about 1.4 million jobs, or 0.85 percent of total U.S. employment.¹ Health care, on the other hand, contributes over 11 million jobs, or 7 percent of total employment. Textile industry employment has been falling steadily for many years and is now under 550,000, accounting for less than 0.40 percent of total U.S. employment.

As diverse as these industries are, a common denominator exists. Intense competition characterizes their operating environment, leaving little room for strategic missteps. Indeed, there have been reports that these industries have been significant contributors to the recent rise in problem bank loans.

With a better grasp of the origins of stress in these industries comes a basis for understanding the lending risks associated with a changing policy and economic environment in the years to come. The following discussion describes trends and developments contributing to stress in these industries and looks at the near- and long-term outlook. Our discussion also looks at the implications for the insured institutions lending to the telecommunications, health care, and textiles industries.

¹ Source: Economy.com. Includes employment in telecommunications services, telecommunications equipment manufacturing, and cable television.

Telecommunications

The telecommunications sector consists of several industry subsectors, including telecommunications services, cable television, and telecommunications equipment, all of which are facing significant challenges.

Telecommunications Services

Rapid growth in the telecommunications services industry has been fueled by strong domestic consumer demand. However, the pace of consumption of telecommunications services has slowed in recent months. This sector has experienced booming growth in revenues from computer network access since 1998, while local and long distance revenues have grown at a much more moderate pace (see Chart 1).

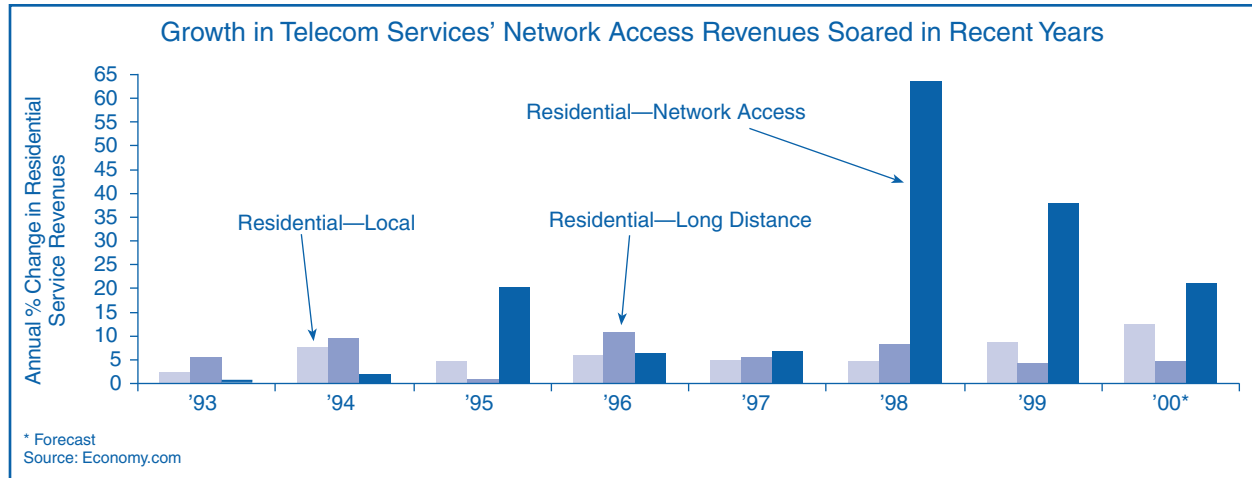
Rapid change and intense competition characterize the industry environment. Long distance businesses, in particular, have experienced fierce competition, resulting in severe pricing pressures. Competitors include both established and new wireline long distance providers, as well as wireless services. Local telephone companies, however, have fared well in recent years, as residences and small businesses have added phone lines to accommodate the growing demand for Internet access. However, as high-speed DSL and cable Internet access become more readily available, the demand for additional telephone lines may diminish, cutting into a lucrative source of revenue for local phone companies.

Capital spending by telecommunications services companies has soared in recent years, although it was expected to level off in 2000 in response to higher interest rates and reduced earnings growth. Nevertheless, high levels of telecommunications equipment investment are expected to continue for the foreseeable future, as telecom service firms require additional equipment upgrades to accommodate increased network traffic and wireless applications (see Chart 2).

Cable TV

Cable TV is another important component of the telecommunications services industry. According to *Economy.com*, "among the current technologies available, cable is viewed as the leading option for delivering

CHART 1



video, telephony, entertainment, and computing services to households and businesses.”² Cable TV sales revenue has grown more than 19 percent a year since 1995. In spite of this stellar revenue growth, most cable companies are not earning a profit because of the high levels of capital investment required.

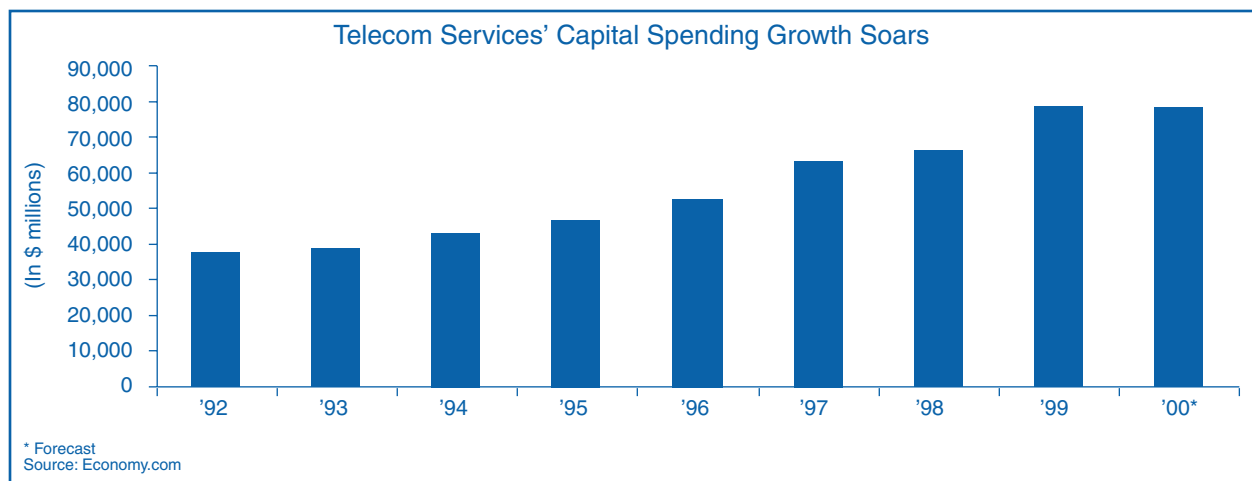
Telecommunications Equipment

The telecommunications equipment industry is growing rapidly, as telecom service providers rush to upgrade infrastructure to enhance their offerings of high-speed broadband services. Telecommunications service providers are not only upgrading fiber optic and cable line networks; they are rapidly upgrading antiquated circuit-switched networks to more efficient packet-switch networks. However, the growth in revenues and

profits was expected to moderate in 2000 because of higher interest rates and slower growth in the domestic economy (see Chart 3, next page).

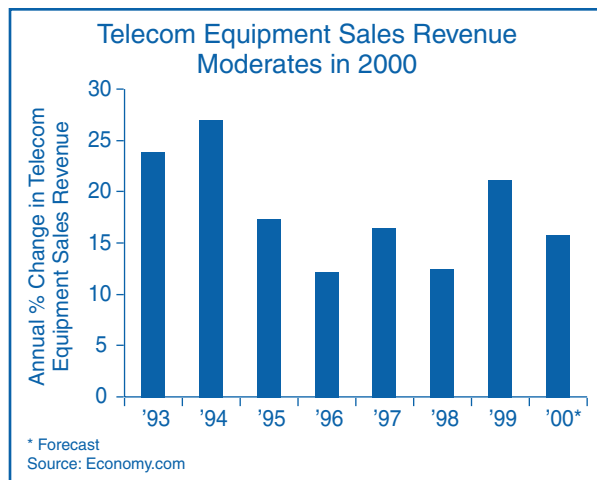
The wireless phone industry also has experienced problems since late 2000. The major mobile phone companies have missed earnings projections, casting doubt on the growth potential of the industry. Much is riding on the development of third-generation (3G) wireless technology, which is expected to allow wireless access to the Internet, transmission of video and other images, and videoconferencing—all from a handheld mobile phone. Although huge amounts of money are being invested to develop 3G technology, it is unclear what applications will generate the demand to make the investments profitable.

CHART 2



² September 2000. Economy.com, Precis: Industry: Cable TV.

CHART 3



Outlook

The telecommunications industry has been badly battered in both equity and bond markets in the past several months. A spate of bad news has resulted in sharply lower stock prices and higher costs in debt markets. As a result, the availability of financing for some higher-risk firms is now questionable. Investors are concerned about the prospect of slowing wireless subscriber growth, continuing capital expenditures, intense competition, and the rapid rise in telecom debt³ (see Chart 4).

The long-term outlook for the telecommunications services industry is positive. The emergence of high-margin technologies and continued growth in wireless subscriber rates should enhance profitability in the future. Consumers and businesses are also expected to

spend an increasing share of their incomes on telecom services. Nevertheless, strong competition, huge investments in equipment upgrades, and rapidly changing technology will force firms to be nimble and innovative.

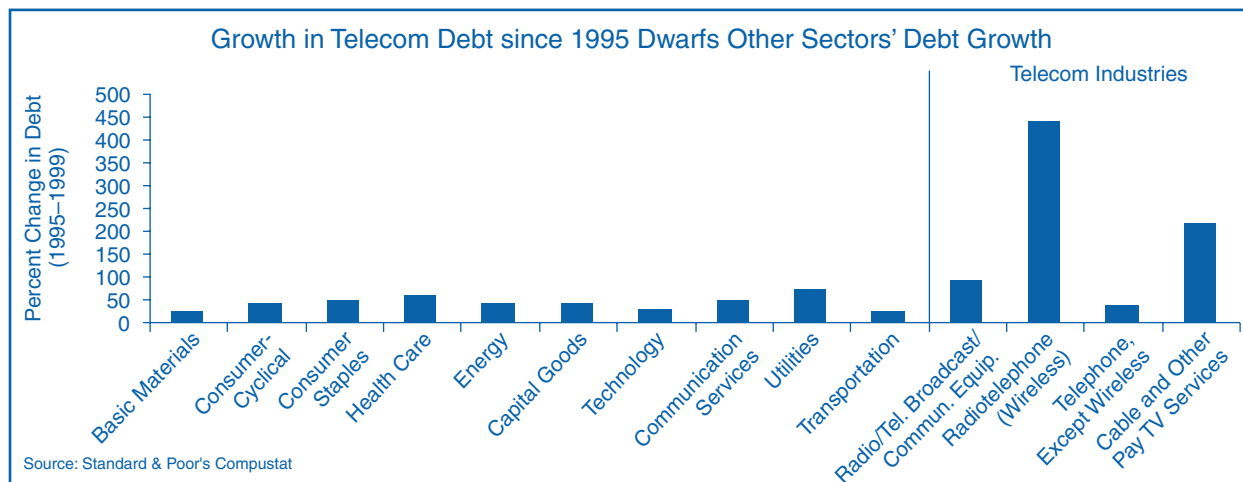
The long-term outlook for the telecommunications equipment industry is positive, as the demand for data, Internet, and wireless services continues to grow strongly. Nevertheless, individual firms in the industry face a highly competitive environment and rapidly changing technology.

Cable TV's long-term outlook is also positive because of growing advertising sales and technological developments that should allow cable firms to offer a broader array of services. Still, the competitive environment is fierce. In addition to competing with a host of "traditional" telecommunications firms, cable firms must contend with satellite TV providers, which are partnering with major firms to offer sophisticated communications and entertainment services.

Implications for Banks

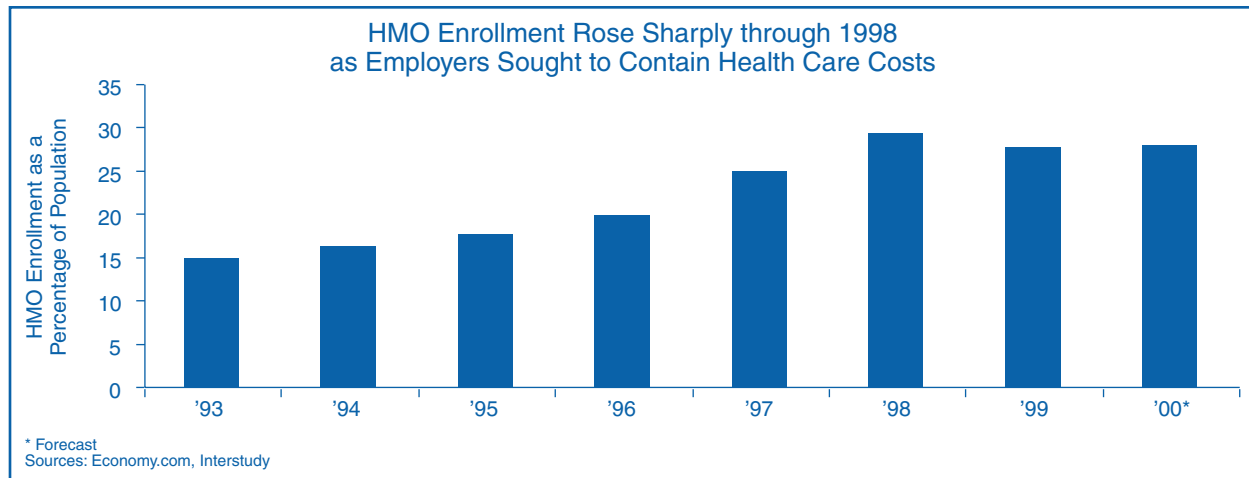
The most important characteristics of the telecom industry with respect to lending risks are its highly competitive environment and its pace of technological change. These characteristics suggest that the medium-to long-term outlook for a particular credit may not be well represented by current conditions. The success of telecom firms will be based on management's ability to adapt to change and compete with a fluid set of competitors.

CHART 4



³ Solomon, Deborah, and Nicole Harris. October 18, 2000. "Talks on Merger By AT&T Wireless Face Investor Static." *Wall Street Journal*.

CHART 5



With both equity and bond markets turning against the telecommunications industry, cash-hungry telecom firms may have difficulty obtaining financing. This could pose a serious risk for banks with a significant exposure to telecom start-ups without a major partner or an investor sponsor.

The high capital requirements and financial leverage of many telecommunications firms complicate these lending risks. Some of these firms are borrowing heavily to put into place an infrastructure to accommodate a demand for services that is yet to come on-stream, meaning that the payback on this investment may not occur for a number of years.

Health Care

Industry trends such as declining hospital occupancy rates and rising outpatient visits to hospitals, intense competition, and the unexpected results of new Medicare policy combined to put the health care industry in difficult financial straits during the past few years. However, subsequent industry consolidation and streamlining and revised Medicare rules have helped to stabilize prospects for many health care providers.

Recent Trends and Developments

The health care industry has been suffering since the implementation of the Balanced Budget Act of 1997 (BBA), which cut Medicare payments much more than expected. However, two subsequent bills were passed to “give back” a portion of the Medicare payment cuts implemented in the BBA. The Balanced Budget Refinement Act of 1999 should restore some \$16 billion of the

cuts to health care facilities over five years.⁴ Also, the recently passed Benefits Improvement and Protection Act of 2000 (BIPA) will restore about \$35 billion in benefits to the industry over the next five years. BIPA will provide the greatest benefit to hospitals, managed care plans, nursing homes, and home health agencies.

The health care industry’s financial situation has stabilized somewhat in the past year because of widespread consolidation of hospitals and other health care providers. This has helped the industry reach greater levels of efficiency as well as improved bargaining power in negotiations with managed care organizations.

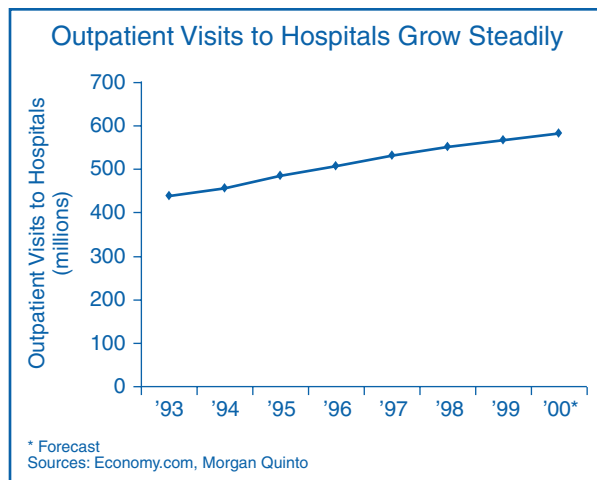
Notwithstanding these favorable developments, other trends continue to pose serious challenges to many firms. Higher labor costs, continued HMO penetration, breakthrough pharmaceutical therapies resulting in reduced demand for services, and increased outpatient volumes have buffeted many health care facilities (see Chart 5 and Chart 6, next page).

Higher-Risk Sectors

A better understanding of risks and trends in health care can be gained by discussing its specific sectors. We have segregated these sectors based on the results of an option-pricing model of firm default risk. These models estimate the probability that the market value of a firm’s assets will fall below a level that would trigger default. Firms that have low stock prices, volatile stock prices, or high debt levels will tend to be flagged as having high default risk by such models.

⁴ June 15, 2000. *Healthcare: Facilities*. Standard & Poor’s Industry Surveys.

CHART 6



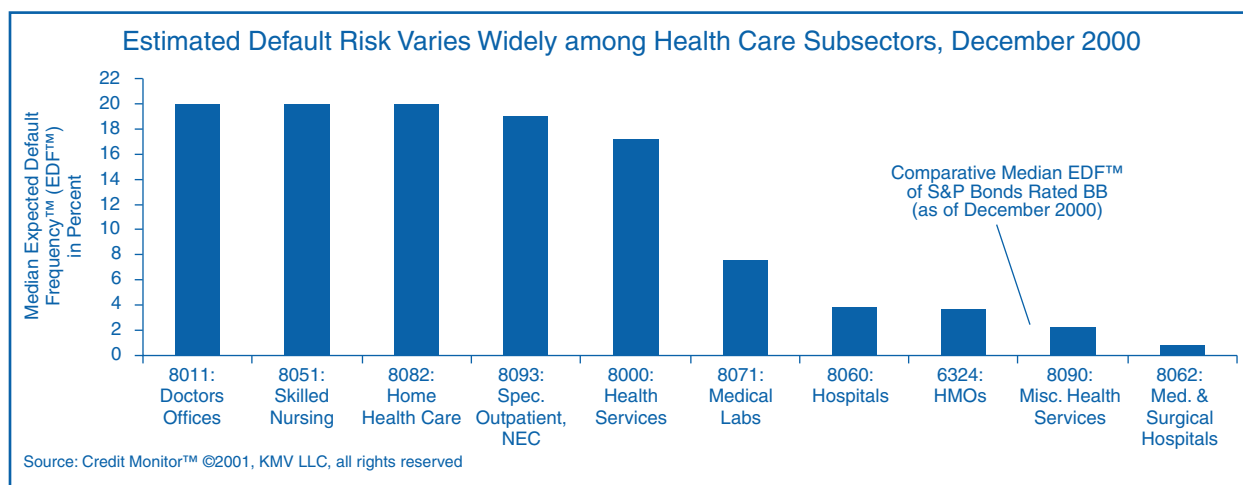
One such model that is readily available is Credit Monitor™, which was developed by KMV LLC.⁵ We stratify health care sectors based on their median one-year default probability as estimated by expected default frequencies™ (EDFs™) generated by Credit Monitor™. Sectors identified in this article as higher-risk sectors, therefore, are those with a relatively high percentage of firms with low stock prices, volatile stock prices, or high debt levels. Readers are cautioned that the risk profile of a specific company may be very different from the sector risk profiles described here.

Health care industry subsectors have been grouped into three categories: higher risk, moderate risk, and lower risk, which refer to the degree of default risk relative to other subsectors in the industry. The estimated default risk across these subsectors varies substantially. The highest-risk health care sectors include Offices of Medical Doctors; Skilled Nursing Care Facilities; Home Health Care Services; Specialized Outpatient Facilities, NEC; and Health Services (see Chart 7).

Offices of Medical Doctors are largely physicians’ practice management firms. These firms acquire a practice of physicians based on a multiple of the practice’s discounted cash flow. The multiple can be several times the practice’s asset value at the time of purchase. However, these firms have had difficulty achieving profitability because of legal restrictions on referrals among affiliated groups of physicians, as well as the reluctance of physicians to submit their medical practice to the criteria of cost control.⁶ Total liabilities in this sector have grown rapidly over the past few years.

Skilled Nursing Care Facilities’ earnings have been hurt badly by the BBA. However, they stand to benefit from the Medicare “giveback” provided by the recently enacted BIPA, which seeks to rectify the deeper-than-expected cuts in funding resulting from the BBA. Skilled nursing care facilities’ performance has also been adversely affected by (1) declining occupancy

CHART 7



⁵ Credit Monitor™’s Expected Default Frequency™ (EDF™) estimates the probability of default within one year. KMV LLC’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 measured in terms of asset volatility. EDFs™ are one of many potential measures of industry risk, and their use in this article should not be construed as an endorsement by the FDIC or Credit Monitor™.

⁶ Gruehn, Charles. April 2000. *Healthcare Industry Manual*. Federal Reserve Bank of Atlanta.

rates caused at least partly by increased competition from lower-acuity facilities such as assisted living facilities; (2) rising labor and legal costs; and (3) surging debt service costs. Many of these firms are experiencing severe financial stress. The stressed facilities have registered negative net income for the past year or so, as well as burgeoning debt levels. The high debt levels are the result of acquisitions of ancillary support services that in many cases are not generating adequate cash flow because of the BBA.⁷ Most of these firms have seen their interest coverage ratios decline sharply over the past few years.

Home Health Care Services focus primarily on respiratory therapy programs and intravenous and infusion services. The industry is undergoing financial stress as a result of the Health Care Financing Administration's implementation of a prospective payment system that reduced reimbursements on respiratory therapy and infusion therapy.

Specialty Outpatient Facilities, NEC are primarily engaged in outpatient care of a specialized nature, such as alcohol and drug treatment and birth control/family planning. They have permanent facilities and medical staff to provide diagnosis, treatment, or both for patients who are ambulatory and do not require inpatient care. Many of the firms in this sector have experienced a rising debt burden over the past few years, pushing default risk to higher levels.

Health Services firms are engaged primarily in furnishing medical, surgical, and other health services. Firms listed in this broad category rather than more specific categories include companies providing dental services, laser eye correction, and physical and occupational therapy. Many publicly traded firms in this category have experienced sharply rising liabilities over the past three to four years.

Moderate-Risk Sectors

Moderate-risk health care sectors include medical laboratories, hospitals, and HMOs.

Medical Laboratories provide professional analytic or diagnostic services to the medical profession or to the patient as prescribed by a physician. Companies with diverse financial performance and risk of default are included in this sector. A number of medical laborato-

ries have registered deteriorating interest coverage ratios in the past year or two.

Hospitals, as defined for these purposes, are specialty hospitals. They are primarily engaged in providing diagnostic services, treatment, and other hospital services for specialized categories of patients. Only eight publicly traded firms are listed in this category. They are involved in providing specialized hospital care such as rehabilitation, diabetes treatment, and drug and substance abuse treatment.

Hospital and Medical Service Plans (HMOs) are primarily engaged in providing hospital, medical, and other health services to subscribers or members in accordance with prearranged agreements or service plans. Generally, these service plans provide benefits to subscribers or members in return for specified subscription charges. Also included in this industry are separate HMOs that provide medical insurance. After several years of intense competition among HMOs, which restricted premium-rate hikes when medical costs were rising sharply, HMOs began to pursue a more aggressive approach toward price increases. This new approach has improved the near- and intermediate-term outlook for this sector. Yet, the prospect of the passage of a Patients' Bill of Rights suggests that rising costs could be an issue for HMOs in the future. As an industry, HMOs are highly concentrated, with the top 10 HMOs accounting for nearly two-thirds of total HMO enrollment in the United States.⁸

Lower-Risk Sectors

The lowest-risk sectors in the health care industry include miscellaneous health and allied services, and general medical and surgical hospitals. Many of these firms have an estimated default risk that puts them in speculative credit risk categories in spite of the fact that they are considered lower risk compared with other health care sectors.

Miscellaneous Health and Allied Services firms are involved in providing kidney or renal dialysis services and outpatient care of a specialized nature, such as alcohol and drug treatment and birth control/family planning. Some firms are engaged in providing health and allied services such as blood banks, blood donor stations, childbirth preparation classes, medical photography and art, and oxygen tent services.

⁷Ibid.

⁸ August 31, 2000. *Healthcare: Managed Care*. Standard & Poor's Industry Surveys.

General Medical and Surgical Hospitals provide general medical and surgical diagnostic and treatment services, other hospital services, and continuing nursing services. They have an organized medical staff, inpatient beds, and equipment and facilities to provide complete health care. According to a study conducted by HCIA-Sachs and Ernst & Young, “The BBA created the greatest financial instability that hospitals have experienced since the creation of Medicare in 1965. Yet the most severe reductions have just begun to impact hospitals, and will continue to do so through 2002. The recently enacted Balanced Budget Refinement Act provides little sustained relief to the industry, and significant financial problems are likely to remain.”⁹ The study also indicates that smaller hospitals (fewer than 100 beds) are in the “greatest financial jeopardy.” The recent enactment of BIPA will help to stabilize the finances of hospitals over the next several years. However, other trends adversely affecting hospitals include as much as 40 percent estimated excess capacity, rising labor costs, a severe shortage of nurses, continued HMO penetration, breakthrough pharmaceutical therapies, and increased outpatient volumes (see Charts 5, 6, and 8).

Outlook

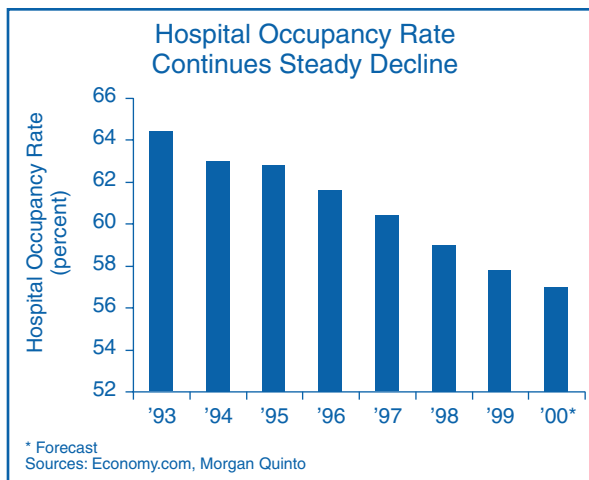
The outlook for the health care industry has improved substantially in the past year. Industry consolidation and legislation to give back some of the Medicare cuts implemented in the Balanced Budget Act of 1997 have gone a long way to stabilize health care providers’ financial prospects, particularly those of hospitals and nursing homes.

The passage of a Patients’ Bill of Rights in 2001 could also strengthen the hand of health care providers relative to HMOs. Such a bill could contain provisions that would weaken the position of managed care organizations to contain costs and negotiate with health service providers.

Longer term, the demographic trends are positive, with the population aging and life expectancy increasing. The result should be a growing demand for health care services in the future. On the negative side, however, the current trends toward greater use of outpatient procedures and drug therapies will dampen the demand for inpatient hospital services.

⁹ HCIA-Sachs, LLC, and Ernst & Young, LLP. May 1, 2000. *The Financial State of Hospitals: Post-BBA and Post-BBRA*.

CHART 8



Implications for Banks

The opportunities for financing health care firms will continue to grow into the future. Recent experience has shown that the financial performance of many health care providers is profoundly influenced by changes in Medicare policy. As Medicare expenditures grow to occupy a greater and greater place in the federal budget, Medicare policy will be scrutinized to an unprecedented degree, magnifying the importance of understanding the policy risk associated with health care lending.

Powerful demographic trends should lead to the growth in demand for many health care services over the next 10 to 20 years. For example, demand for nursing homes and assisted living facilities will increase sharply as baby boomers reach old age. However, regional supply and demand for these services can get out of balance as providers add facilities to meet demand. Monitoring local demand and supply trends is an important part of assessing the credit risks in these loans.

Textiles

The textile industry has been plagued by excess capacity, fierce competition from cheaper imports, and sagging textile prices. The result was a sharp drop in industry profits in 1999 and continued weakness in 2000.

Recent Trends and Developments

The textile industry is a mature industry that by a number of measures has been declining. Intense competition from low-cost imports has taken its toll on domestic

textile businesses. Since 1995, textile imports have increased nearly 50 percent while exports have grown just under 10 percent. A strong dollar should help textile imports continue to outpace exports. As a result of industry consolidation and the movement of many operations offshore, textile employment has continued to fall steadily. Textile employment has dropped from 663,000 in 1995 to an estimated 544,000 in 2000.¹⁰

Closely linked to all these trends, labor productivity in the textile industry is low relative to the average for other manufacturing industries because of low output prices and a heavier reliance on labor in the production process.

The Department of Commerce reports that the industry's profit as a percentage of sales declined from 3.2 percent in 1998 to just 1.3 percent in 1999 (see Chart 9).¹¹ Also, drought in the South has had an adverse effect on textile manufacturing firms, as these firms use a large amount of water in bleaching and dyeing fabric.¹²

Because of improving global demand and plant closings in the United States, many analysts believe textile prices have now reached a low point. Indeed, data for 2000 show a slight increase and some firming of prices in the first three quarters of the year (see Chart 10, next page). Nevertheless, the profit picture seems to have weakened further in 2000 because of an increase in nonoperating expenses.

Publicly traded firms in the textile industry can be separated into six major categories: knitting mills, textile mill products, broadwoven fabric mills—cotton, broadwoven fabric mills—manmade fiber/silk, carpets/rugs, and miscellaneous fabricated textile products. The default risk characteristics of these sectors vary significantly as measured by the median EDF™.

Higher-Risk Sectors

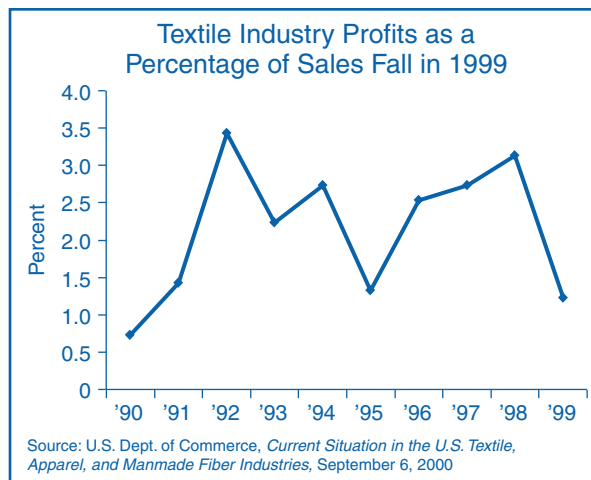
The higher-risk sectors include knitting mills, Broadwoven Fabric Mills—Cotton, and Textile Mill Products (see Chart 11, next page).

¹⁰ Economy.com. November 2000. Apparel and Textiles, Precis Industry.

¹¹ Office of Textiles and Apparel, U.S. Dept. of Commerce. September 6, 2000. *Current Situation in the U.S. Textile, Apparel, and Manmade Fiber Industries*.

¹² Kilman, Scott, and Amy Merrick. July 25, 2000. "Drought in the South Crimps Economy in Region." *Wall Street Journal*.

CHART 9



Knitting Mills are engaged in knitting, dyeing, and finishing hosiery, stockings, outerwear, underwear, and other products from yarn or knitted fabrics. Two public firms in this industry accounted for 66 percent of the sector's 1999 sales. Three out of eight firms in this sector reported net losses and six out of eight reported declining sales in 1999. The trends are similar in 2000 based on incomplete available data.

Broadwoven Fabric Mills—Cotton are engaged primarily in weaving fabrics more than 12 inches in width, wholly or chiefly by weight of cotton. One dominant firm accounted for nearly 38 percent of the sales of all publicly traded firms in this sector in 1999. The performance of firms in this sector was mixed in 1999. Six out of nine of these firms recorded negative net income in 1999. Two companies reported a sizable increase in 1999 net income. Incomplete 2000 results suggest that six firms are in the black, leaving just three with negative net income.

Textile Mill Products is a broad category that includes establishments engaged in performing any of the following operations: (1) preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage; (2) manufacturing broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabrics, and knit apparel; (4) coating, waterproofing, or otherwise treating fabrics; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt goods, lace goods, nonwoven fabrics, and miscellaneous textiles. Two firms dominate this sector. Together, they accounted for over 60 percent of the sector's sales in 1999 (considering publicly traded

CHART 10



firms only). Net income for both firms was off sharply in 1999. Still, some companies registered net income gains in 1999, building on several years of growth in net earnings. Although the 2000 data are incomplete, most firms in this sector have reported weak earnings. Indeed, several firms have reported more quarters of negative than positive net income.

Moderate-Risk Sectors

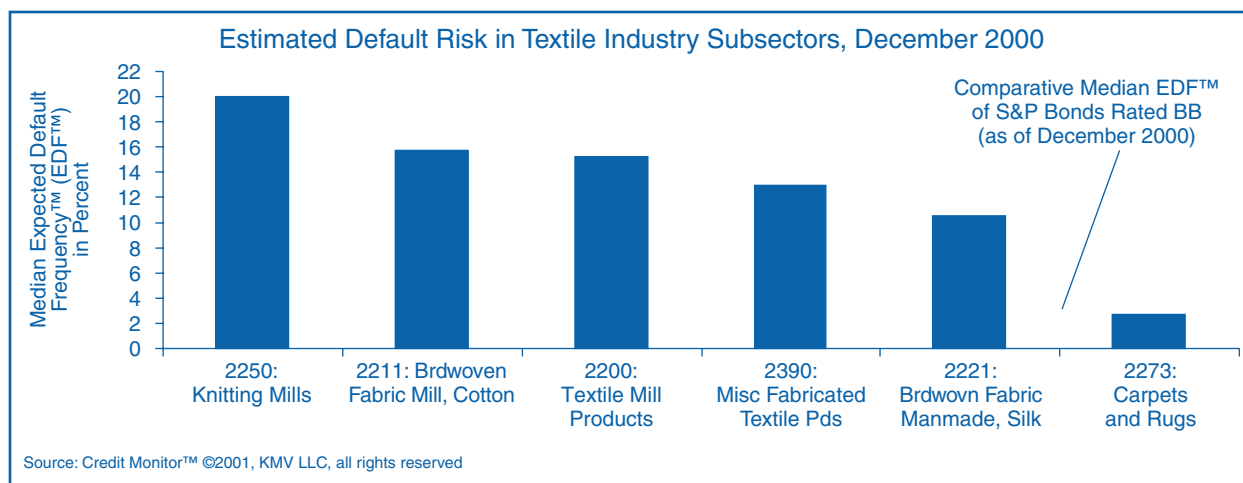
The moderate default risk sectors include Miscellaneous Fabricated Textile Products and Broadwoven Fabric Mills—Manmade Fiber/Silk.

Miscellaneous Fabricated Textile Products includes businesses primarily involved in manufacturing curtains and draperies, house furnishings, textile bags, and canvas and related products; performing pleating, decorative and novelty stitching, and tucking for the trade; manufactur-

ing automotive trimmings, apparel findings, and related products; Schiffli machine embroideries; and manufacturing fabricated textile products, not elsewhere classified. Net income for three out of the five publicly traded firms in this sector was negative in 1999. Two of those firms have experienced losses for at least two years' running. Most of these firms reported negative net income through the first two or three quarters of 2000. The three largest firms' total debt has grown considerably over the past few years. The increase is related primarily to financing acquisitions.

Broadwoven Fabric Mills—Manmade Fiber/Silk are engaged in weaving fabrics more than 12 inches in width using primarily silk and manmade fibers, including glass. Net income for each of the six publicly traded firms in this category was down in 1999—in most cases down sharply. Earnings for most of these firms

CHART 11



appear to have continued to deteriorate in 2000. Interest coverage ratios for several firms were down in 1999 and 2000 because of lower income, higher liabilities in some cases, and higher interest rates.

Lower-Risk Sector

Manufacturers of carpets and rugs represent the only lower-risk sector in the textile industry.

Carpets/Rugs businesses are involved in manufacturing woven, tufted, and other carpets and rugs. This sector, as a group, experienced strong income growth in 1999. Only one out of six publicly traded firms failed to make a profit in 1999, and several firms reported sizable profit increases. Available 2000 data suggest that each of these firms will have generated positive earnings. Two firms dominate the carpet and rug sector, accounting for about 65 percent of 1999 sales for the group. Carpet and rug manufacturing is capital and research intensive, which gives the U.S.-based firms a comparative advantage over overseas companies, which do not have the same level of access to capital markets and an educated workforce.

Outlook

Some positive factors could temper the adversity being experienced by the U.S. textile industry. Low fiber costs and an improved trade situation with Asia should strengthen the textile industry in the future. Labor productivity has been rising slowly, as firms continue to invest in labor-saving computer technology and equipment. The industry is pursuing various strategies to remain competitive, including consolidations and mergers and setting up operations in Mexico.¹³ Nevertheless, the current slowdown in the U.S. economy and the increased risk of an actual recession has posed challenges for the textile industry.

Another concern for U.S. producers is trade liberalization and its effect on textile imports. The normalization of trade relations with China and the elimination of

import quotas by 2005 according to the World Trade Organization (WTO) Agreement on Textiles and Clothing could lead to even greater imports.

Implications for Banks

Banks lending to textile firms face an array of risks emanating from the economic environment in which these firms operate. These risks include the ebb and flow of demand associated with the business cycle of the U.S. and world economies; the exchange rate of the U.S. dollar, which affects the competitiveness of domestically produced textile products; and the prices of both inputs and textile products. U.S. trade policy will also have a profound impact on the competitive environment in which domestic textile firms operate. Banks need to monitor these developments carefully.

Concentration risk can be a significant issue for some banks. Textile mill employment is highly concentrated geographically. About 72 percent of all textile mill jobs are located in five southeastern states (North Carolina, Georgia, South Carolina, Alabama, and Virginia). Almost 29 percent of these jobs are in North Carolina alone. Another 18 percent are in Georgia. Even within these states, textile employment can be regionally concentrated, introducing concentration risk to banks with significant exposures to local textile firms. This risk is measured in terms of not only the volume of textile loans in the portfolio but also the spillover effects that plant layoffs can have in the community.¹⁴

In an increasingly global market, credit risk in textiles will depend on decisions about production processes and intercompany linkages. For example, capital-intensive domestic producers may be in a better position to compete with offshore firms with greater access to cheap labor resources. Some textile firms may be able to enhance profitability and control risk by entering into partnerships with domestic and overseas organizations.

Stephen Gabriel, Financial Economist

¹³ Reichard, Robert. January 2000. "New Year Offers Problems and Opportunities," *Textile World*.

¹⁴ See "Regional Economy," *Atlanta Regional Outlook*, second quarter 1998.

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