Regional Outlook

Federal Deposit Insurance Corporation — Third Quarter 2002

FDIC Atlanta Region

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Regional Perspectives

◆ *The interest rate environment changed dramatically during 2001 as rapid rate cuts contributed to large changes in the yield curve.*

◆ *Changes in the yield curve contributed to heightened exposure to interest rate risk among many of the Region's community banks, as optionality in the loan portfolio increased and low short-term rates made liability repricing difficult. Moreover, the effectiveness of interest rate risk models was limited during 2001.*

◆ *Responses by certain of the Region's community banks to net interest margin compression may lead to higher credit, liquidity, or extension risk, depending on the robustness of future economic growth.* *See page 3.*

By the Atlanta Region Staff

In Focus This Quarter

◆ *The Road to Recovery for Commercial Credit Quality: Not without a Few Hurdles Ahead*—**The recession that began in March 2001 has been especially hard on the corporate sector. Banks that made loans to affected firms felt the immediate effects of the recession through rising problem commercial loans. Large banks took the brunt of this commercial credit deterioration, as indicated by a somewhat larger uptick in problem commercial loans among large banks compared with smaller banks. This credit deterioration was more apparent at banks that participated in loan syndications, one of the financing vehicles available primarily to large corporate customers. Various indicators pointing toward economic recovery, as well as an apparent decline in rating downgrades and default rates among corporate bond issuers in recent weeks, suggest that improvement in commercial credit quality may be just ahead. This recovery, however, faces a few hurdles, including continued high leverage, weak earnings, and prospects for a more difficult funding environment, particularly for speculative-grade corporations with maturing debt.** *See page 9.*

By Cecilia Lee Barry, Senior Financial Analyst

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Regional Perspectives

Interest Rate Risk Has Changed in the Recent Recession

The nation's slide into recession in 2001, coupled with a slow recovery during the first half of 2002, has contributed to a changing interest rate environment for insured institutions. This environment has been particularly challenging for community banks[1] in the Atlanta Region, most of which have experienced eroding net interest margins (NIMs). The rapidly changing rate environment in 2001 contributed to an increase in optionality risk,[2] which limited the effectiveness of many interest rate risk modeling techniques. As an alternative method for assessing the exposure to interest rate risk (IRR) in 2001, the authors of this article used an interest rate/volume analysis to identify the degree of sensitivity to a changing rate environment of community bank net interest income (NII) and the NIM. The results of such an analysis were published in ***Atlanta Regional Outlook,*** second quarter 1998 and fourth quarter 2000, when NII and NIM performance was assessed during periods characterized by a flat yield curve.[3] In contrast, the following discussion revisits the issue of IRR during 2001, when short-term interest rates declined significantly and the yield curve steepened.

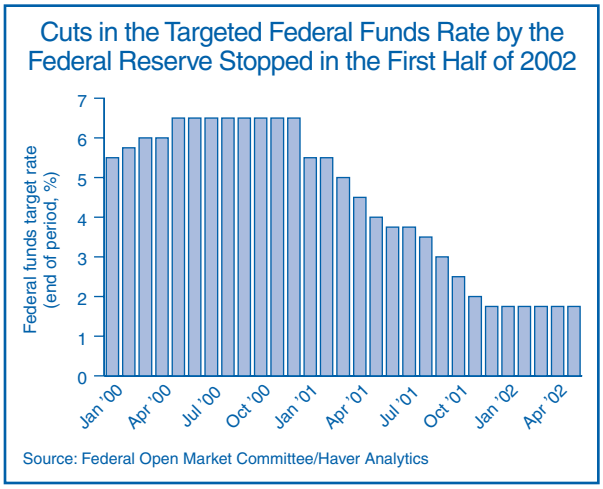
The Monetary Policy Response to the Economic Deterioration of 2001 Has Affected Interest Rate Risk

Although the ***National Bureau of Economic Research*** designated March 2001 the official start of the nation's recession, economic growth had been moderating for several quarters as performance of some economic sectors deteriorated before the onset of the downturn. The Federal Reserve attempted to mitigate the effects of the slowdown, cutting the targeted federal funds rate 11 times, by 475 basis points, during 2001. The federal funds rate (end-of-period) stood at 6.50 percent at year-end 2000; one year later it was 1.75 percent (see Chart 1), with effective rates falling to the lowest levels since the early 1960s. By early 2002, the interest rate cuts had ceased as economic conditions appeared to be improving.

The Yield Curve Has Changed Shape Dramatically

The significant reduction in interest rates contributed to a dramatic change in the yield curve in 2001. At year-end 2000, the yield curve was partially inverted, with shorter maturities having higher yields (see Chart 2, next page). An inverted (negative) yield curve, historically, has been a leading indicator of an economic recession. Normally, the yield curve is upward (positively) sloping, with longer maturities having higher yields. During 2001, lower short-term interest rates resulted in a return to a positively sloped yield curve. Financial intermediaries typically profit from the spread by "borrowing short" while "lending long." As a result,

CHART 1

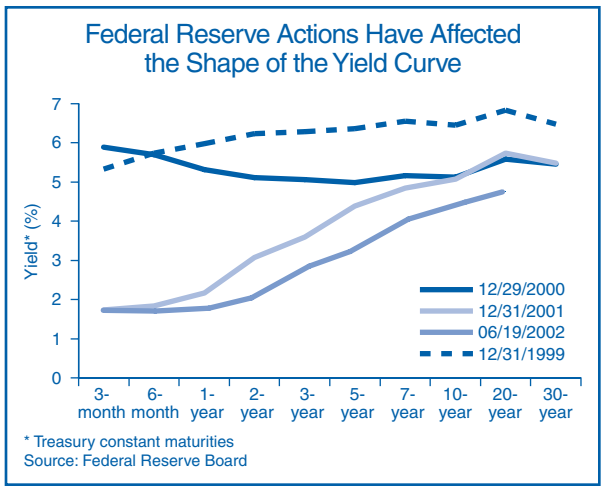


[1] Community banks are insured commercial banks with assets of $1 billion or less. We limited our sample to 667 community banks in the Atlanta Region with these characteristics: filed a Call Report at year-end 2001; in operation before January 1, 1997; and not involved in a bank merger and acquisition transaction during the past two years. Community banks that are part of a multibank holding company were excluded, as their interest rate risk may be managed on an organizational basis.

[2] Insured institutions frequently assume optionality risk in investment and loan portfolios. Prepayment is the most common form of an embedded option written by insured institutions. Frequently, no compensation is received for the written option, as fixed-rate loans are normally underwritten without a prepayment penalty. While mortgage-backed securities offer higher nominal yields, an option-adjusted spread analysis provides more accurate information about potential risks and rewards.

[3] The yield curve is the relationship between the maturity and yield on a debt instrument. Market participants use the U.S. Treasury yield curve, as it generally does not expose investors to credit (default) risk.

CHART 2



the inverted yield curve of year-end 2000 would not be expected to contribute positively to earnings. In contrast, the upward-sloping shape of the yield curve during most of 2001 typically would be expected to be more favorable.

The rapid changes in the shape of the yield curve in 2001 greatly affected NII and the NIM at most of the Region's community banks. Optionality risk emerged unexpectedly as the rapid interest rate cuts in 2001 led to an unprecedented wave of refinancing activity. Many high-quality fixed-rate commercial borrowers refinanced loans at much lower rates as the prime rate[4] fell from 9.50 percent at year-end 2000 to 4.84 percent a year later. The liability side of the balance sheet also presented challenges as low short-term rates became a floor, limiting the downward repricing of many short-term funding sources. As a result, NII and NIMs declined, although the yield curve was positively shaped for most of 2001. The decline in NII and the compression in NIM suggest that community banks may have had far more IRR inherent in their balance sheets than Call Report data estimated before the start of 2001.

Community Bank Net Interest Rate Performance Has Declined

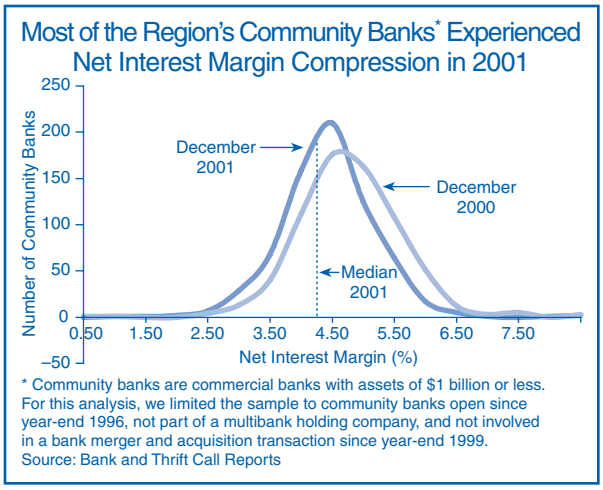
The NIM and NII at many of the Region's community banks declined during 2001. The NIM decline was systemic, as 80 percent of community banks reported margin compression. On average, the NIM shrank 33 basis points to 4.18 percent (see Chart 3). On a quarterly basis, however, the NIM compression slowed by year-end as maturity deposits started to reprice downward.

More important, however, is a decline in NII that occurred among 41 percent of the Region's community banks. In the instances where NII declined during the year, earning assets actually grew 6.9 percent. Additionally, the NIM within this subset of community banks fell by 67 basis points to 4.05 percent, compared with the 17 basis-point NIM decline among community banks that experienced an increase in NII.

In addition, community banks that experienced a decline in NII in 2001 also exhibited a comparatively higher risk profile. This subset of community banks reported higher past-due loan and charge-off levels and lower rates of return on assets. Further, 8.42 percent of community banks that reported a decline in NII were unprofitable, compared with only 2.03 percent when NII increased.

Interest rate/volume analysis is an effective tool to determine factors behind changes in interest margins and can be used as an ex post[5] measure of IRR (see box

CHART 3



[4] The prime rate is an interest rate posted by a majority of the largest U.S. commercial banks that is used to price short-term commercial bank loans.

[5] A rate/volume analysis is a historical or backward-looking assessment of performance. Large fluctuations in NII resulting from changing interest rates imply that IRR existed during the assessment period. This technique may not be useful as a forward-looking measure of IRR, as risk managers can alter an insured institution's sensitivity position. Another potential limitation of this technique is that volume shifts within a specific loan category could result in yield changes that are due solely to market forces or repricing imbalances. This was not a factor in this analysis, as volume shifts occurred into higher-yielding products.

Interest rate risk can be measured several ways. The more common methods include gap, duration, and simulation analyses, all of which are measures designed to estimate net interest income variability in future periods. To forecast the effects of rate changes on an insured institution's earnings requires projections of, among other things, the direction of change for several key interest rates; the magnitude and timing of those changes; and the average volume and mix of earning assets and interest-bearing liabilities at the time of each change. Embedded optionality in many financial instruments, as well as off-balance sheet activities and the increased use of hedging programs, makes assessing interest rate risk more complex. It is even more difficult to apply these forward-looking measurement techniques off-site, as the necessary inputs mentioned above are not fully detailed in Call Reports or other public filings. With these limitations, an interest rate/volume analysis allows some insight into how sensitive net interest income has been to changes in interest rates during a specified period. Conceptually, rate/volume analysis breaks down net interest income into its component parts and measures the contribution of each component. Net interest income is a function of average earning assets and liability volumes and asset yields and the cost of interest-bearing liabilities during a given period.

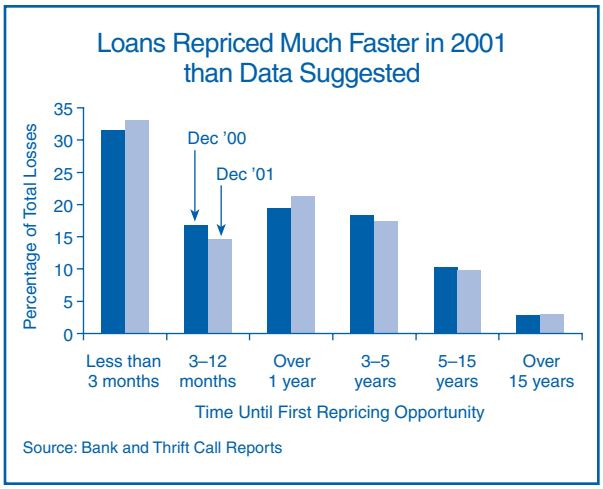
for further discussion). The variance in NII and NIM during a measurement period is due primarily to two factors. NII and the NIM are influenced by changes in the volume of earning assets and interest-bearing liabilities, and by changes in the average yield of earning assets and cost of interest-bearing liabilities. A rate/volume analysis breaks down these drivers. Performance results for the Region's community banks are shown in Table 1, next page.

The results of the rate/volume analysis suggest that the Region's community banks were exposed to a significant amount of IRR during 2001. This conclusion is supported by the large (21 basis point) drop in the average net interest spread (asset yield less liability cost) to 3.39 percent. On the liability side, average funding costs declined only 46 basis points to 4.49 percent, while asset yields fell by 94 basis points. Thus, repricing of deposits occurred more slowly than repricing of earning assets (principally loans). Loan yields fell by more than a full percentage point to 8.65 percent during 2001. At the start of 2001, Call Report data indicated that only 31.5 percent of loans would reprice in three months or less (see Chart 4). The large decline in loan yields would suggest that a higher percentage of loans actually were repriced. Anecdotal reports circulated that commercial bank fixed-rate borrowers were seriously considering moving their relationships if the loan facility was not repriced downward.

IRR among Other Insured Institutions Differs from That of Community Banks

The NIM performance among most of the Region's large banks[6] and thrifts differed from that of community banks during 2001. Last year, the NIM among large banks increased 16 basis points to 3.94 percent. The NIM declined only 4 basis points among the Region's thrifts, to finish the year at 2.92 percent. The difference in NIM performance was primarily due to the composition of liabilities. Large banks and thrifts rely more on the use of wholesale funding. Generally, these funding sources repriced downward in tandem with interest rate cuts. Therefore, in 2001, greater reliance on core funding contributed to a greater likelihood that an institution's NIM would decline as nonmaturity deposits were near floor levels and the repricing lags of maturity deposits were drawn out. Conversely, greater reliance on wholesale funding contributed to a greater likelihood that an institution's NIM would expand. Hence, the IRR position of many large banks and thrifts in 2001 contributed to higher profits. Despite the positive outcome, the significant changes in NIM performance among large banks and thrifts suggest they also were exposed to elevated levels of IRR.

CHART 4



[6] Large banks are commercial banks with assets of at least $1 billion.

Table 1

An Interest Rate/Volume Analysis Indicates that Interest Rate Risk was Prevalent at Many Community Banks* in the Atlanta Region during 2001

	2000			2001			Rate/Volume Analysis			
	Average Balance	Income/ Cost	Rate (%)	Average Balance	Income/ Cost	Rate (%)	Volume	Rate	Volume/ Rate	Total
ASSETS										
INTEREST-EARNING ASSETS										
Short-Term Investments:										
Interest-Bearing Deposits	1,275,968	85,235	6.68	1,962,669	85,439	4.35	45,872	(29,689)	(15,978)	204
Securities (including United States, Mortgage-Backed Securities, Subdivision, Equities)	34,314,448	2,086,232	6.08	35,061,255	2,064,927	5.89	45,404	(65,288)	(1,421)	(21,305)
Fed Funds Sold/Repurchased	4,696,266	294,399	6.27	7,949,883	302,778	3.81	203,962	(115,538)	(80,046)	8,379
Total	40,286,681	2,465,866	6.12	44,973,806	2,453,144	5.45	286,889	(268,386)	(31,225)	(12,722)
Loans:										
Real Estate	61,729,294	5,546,317	8.98	72,576,461	6,130,296	8.45	974,607	(332,246)	(58,383)	583,979
Agriculture	189,017	77,176	40.83	528,859	48,121	9.10	138,759	(59,977)	(107,836)	(29,055)
Commercial & Industrial	21,770,670	2,124,493	9.76	18,700,494	1,621,391	8.67	(299,603)	(236,908)	33,410	(503,102)
Consumer	15,570,135	1,983,881	12.74	13,454,774	1,444,398	10.74	(269,530)	(312,395)	42,442	(539,483)
Total Loans	102,968,244	9,975,111	9.69	110,056,077	9,522,539	8.65	686,638	(1,065,843)	(73,367)	(452,572)
Lease Financing Receivables	476,912	30,381	6.37	309,325	22,717	7.34	(10,676)	4,644	(1,632)	(7,664)
TOTAL INTEREST-EARNING ASSETS	**143,731,837**	**12,523,195**	**8.71**	**155,339,207**	**12,071,937**	**7.77**	**1,011,337**	**(1,353,306)**	**(109,289)**	**(451,258)**
LIABILITIES										
INTEREST-BEARING LIABILITIES										
Interest-Bearing Deposits										
Transaction Accounts	11,612,748	280,423	2.41	11,855,417	217,909	1.84	5,860	(66,974)	(1,400)	(62,514)
Nontransaction Accounts										
Savings Deposits (including Money Market Deposit Accounts)	32,395,208	1,075,173	3.32	36,976,383	933,293	2.52	152,046	(257,510)	(36,416)	(141,880)
Time Deposits > $100k	19,980,184	1,190,385	5.96	23,196,665	1,285,368	5.54	191,632	(83,248)	(13,402)	94,983
Time Deposits All Other	40,009,762	2,322,613	5.81	43,134,295	2,402,405	5.57	181,383	(94,232)	(7,359)	79,792
Federal Funds	6,286,847	359,291	5.71	6,621,875	232,102	3.51	19,147	(138,932)	(7,404)	(127,189)
Other Borrowed Money	8,232,383	587,180	7.13	7,721,680	442,176	5.73	(36,426)	(115,759)	7,181	(145,004)
TOTAL INTEREST-BEARING LIABILITIES	**118,517,130**	**5,902,987**	**4.98**	**129,506,314**	**5,588,173**	**4.31**	**547,339**	**(788,995)**	**(73,157)**	**(314,814)**
CHANGE IN NET INTEREST INCOME	**25,214,706**	**6,620,208**	**3.73**	**25,832,894**	**6,483,764**	**3.46**	**463,999**	**(564,311)**	**(36,132)**	**(136,444)**

*Community banks are commercial banks with assets of $1 billion or less. For this analysis, we limited the sample to community banks open since year-end 1996, not part of a multibank holding company, and not involved in a bank merger and acquisition transaction since year-end 1999.
Note: All columns (except rates) in dollars.
Source: FDIC Call Reports

Heightened Levels of IRR Have Other Consequences

Many of the Region's community banks may have assumed more credit risk to compensate for a lower NIM. These institutions aggressively originated real estate loans during 2001, with the volume of this lending category growing more than 18 percent. Further, this large-volume change in real estate loans was responsible for 90 percent of the change in interest income. The rapid growth in real estate loans occurred despite the economic slowdown. The majority of new real estate lending in the Region occurred in a traditionally higher-risk category—construction and development loans. Historically, construction projects delivered to the marketplace during an economic recession have posed greater credit risk. Moreover, a volume-driven growth strategy in a highly competitive environment may lead to underpricing of credit risk.

Responses to lower NII and margin pressures during 2001 could lead to liquidity risk in certain scenarios. During the long economic expansion of the 1990s, many institutions encountered funding challenges from two sources—strong local loan demand in excess of core deposit growth and heightened competition from nonbank investment alternatives. The decline in U.S. equity prices and the low level of short-term interest rates have greatly reduced nonbank investment competitiveness and have led to a re-intermediation of funds into insured institutions. These funds primarily have flowed into money market demand accounts and large time deposits.[7] The permanence of these flows, however, is open to debate. Nevertheless, liquidity risk could arise if these funding sources are short-lived, as many community banks have used them to fund their rapid expansion in real estate loans.

Another possible consequence of some community banks' efforts to counter margin compression during 2001 may pressure future earnings should interest rates rise sharply for a prolonged period. Institutions have increased holdings of long-maturity assets in a low interest-rate environment. These holdings could be subject to a phenomenon that is commonly known as extension risk. Residential mortgages and related products (mortgage-backed securities) are the most commonly held assets that pose extension risk for insured institutions. The large wave of mortgage and other commercial loan refinancing during 2001 and the subsequent reinvestment in lower-yielding mortgage-related investments have contributed to an increase in extension risk. Extension risk, if unhedged, could pressure NIMs in a rising rate environment, as community banks would hold a large percentage of earning assets in investments with coupon yields well below market.

IRR Models Vary in Sophistication

The dramatic change in the shape and level of the yield curve in 2001 and the resultant increase in optionality risk limited the effectiveness of many IRR models. Bank managers generally use a sensitivity model or a stress test model to estimate IRR.[8] Most sensitivity models estimate IRR by measuring the potential change in NII caused by a parallel shift (equal upward or downward change) in the yield curve. Typically, a maximum shock of +/– 300 basis points is used. Obviously, this type of model has many limitations, including an inability to estimate changes in NII caused by a nonparallel shift in the yield curve. A more sophisticated way to estimate a decline in portfolio value is through a scenario model such as a value-at-risk (VAR) model. A VAR model estimates the portfolio loss that would occur during a specified period given a certain event. There are several types of VAR models,[9] but most community banks, if they use one, use a historical methodology, which employs a sample size of historical events in the loss estimation process. Often, the sample size does not include enough abnormal events (large market fluctuations). The probability of abnormal events occurring may be higher than predicted; hence, the amount of capital at risk is greater than forecasted. The interest rate cuts during 2001 and the subsequent twist (nonparallel shift) in the yield curve were unprecedented. Thus, it is very likely neither VAR models nor sensitivity models estimated this abnormal event, and, as a result, they underestimated the degree of IRR.

[7] Large time deposits are those with a balance of $100,000 or more.

[8] See "The Essential Element," Bank Oxygen, July 3, 2002, and July 30, 2002, for further discussion.

[9] For further description of VAR model types and discussion of their strengths and weakness see Darryll Hendricks, April 1996, "Evaluation of Value-at-Risk Models Using Historical Data," *Economic Policy Review*, Federal Reserve Bank of New York; and Thomas J. Linsmeier and Neil D. Pearson, July 1996, "Risk Measurement: An Introduction to Value at Risk," University of Illinois at Urbana-Champaign.

Future Challenges

IRR modeling could be difficult for the second half of 2002 and early 2003. Continued slow economic growth, which restrains the Federal Reserve from raising rates, would likely benefit community bank NIMs. Maintaining low short-term rates along with a steep positively sloped yield curve will allow the repricing of maturity deposits to run its course. Large banks and thrifts likely have already experienced most of the NIM expansion that can be expected in this rate environment. Stronger economic growth, higher inflation, or a rapid decline in the relative value of the U.S. dollar could prompt an increase in short-term rates. The timing of such an increase could have a disparate effect on various types of insured institutions. However, a rapid rise in short-term rates paired with a flattening yield curve (upward twist) would be disadvantageous to most insured institutions. Such a rapid rise in interest rates could extend the duration of certain earning assets.

Given the various paths in which interest rates may move, IRR managers should use an interest rate forecast that is consistent with an institution's overall strategic planning process. For example, if loan volume is expected to grow robustly thanks to an economic rebound, short-term rates likely will rise as the economy expands. It would be inconsistent to use a constant interest rate forecast in IRR models under this scenario.

Bank managers' attempts to mitigate the negative effects of IRR in 2001 may lead to unexpected challenges. In the case of insured institutions that relied on significant loan growth (particularly in the commercial real estate loan portfolio) to offset NIM compression, credit risk could arise if slow or negative economic growth causes a decline in real estate absorption rates. On the other hand, robust economic growth that leads to higher market interest rates could pressure earnings because of longer earning asset durations. A lesser concern under the robust growth scenario would be an increase in liquidity risk if nonbank investment alternatives become more attractive. Another concern arising from the optionality exposure in 2001 is that many banks may not adequately consider embedded options when pricing loans. Insured institutions that may be most vulnerable to an increasing rate environment are those that experienced the greatest drop in NII during 2001 (i.e., institutions whose loans have repriced at historically low levels and whose liabilities will reprice upward in a rising rate environment). Most such institutions are community banks headquartered in urban areas, primarily in **Florida, Virginia, Georgia,** and **Alabama.**

Atlanta Region Staff

The Road to Recovery for Commercial Credit Quality: Not without a Few Hurdles Ahead

Introduction

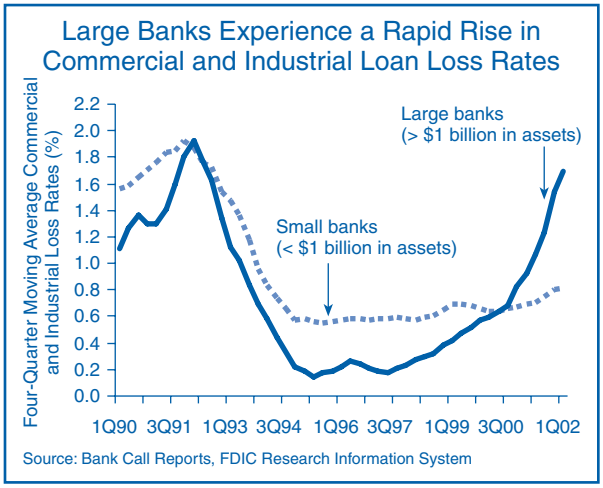
The banking industry as a whole has performed well in recent years, despite increasing loan delinquencies, notably in commercial credits. Although the extent of commercial loan deterioration has not reached levels experienced in the early 1990s, it nonetheless warrants scrutiny. With a variety of economic indicators pointing toward recovery, the volume of problem commercial loans held by insured institutions could plateau during 2002. Many banks tightened business loan underwriting standards beginning in early 2000, a trend that should contribute to an eventual turnaround in commercial loan quality. Nevertheless, several factors could delay this improvement. Corporate profitability has yet to recover fully, and many firms continue to operate with significant financial leverage. Highly leveraged firms are especially vulnerable to declining revenues, which reduce the cash flow available to service debt obligations. More significantly, lower investor tolerance for risk has created a far less hospitable financing market for speculative-grade firms, possibly straining liquidity and increasing the likelihood that these companies could default as debts mature.

Commercial Credit Deterioration Should Subside with the Economic Recovery

While the banking industry has fared well through the latest recession, it did not escape the effects of the troubled corporate sector. Large banks (those with assets greater than $1 billion), in particular, have seen a significant rise in noncurrent commercial and industrial (C&I) loan and loss rates.[1] While total C&I loans represented 25 percent of all outstanding loans held by all insured commercial banks as of March 31, 2002, net C&I loan losses comprised 32 percent of all loan losses. In first quarter 2002, noncurrent C&I loans reached 2.6 percent of outstanding loans (2.8 percent for large banks), the highest level since fourth quarter 1993. The four-quarter moving average C&I loss rate also rose among small and large banks; however, the rate of increase for large banks was significantly higher, as shown in Chart 1.

[1] Noncurrent loans are defined as loans 90 or more days past due or on nonaccrual status.

CHART 1



Improving economic conditions and tighter underwriting standards suggest that commercial credit quality should improve. A range of indicators suggests that economic recovery is under way, albeit more slowly than some expected earlier this year. The housing sector remains robust, job conditions have stabilized, and real gross domestic product (GDP) grew 5.0 percent in first quarter 2002. Although GDP grew at a slower pace of 1.1 percent in second quarter 2002, business equipment spending increased 2.9 percent, in contrast to a decrease of 2.7 percent in first quarter 2002. Also, the manufacturing sector began to show signs of recovery with the ***Institute for Supply Management*** (ISM) index for manufacturing reaching 56.2 and 50.5 in June and July 2002, respectively. The ISM index has remained above 50, which signals an economic expansion, for the six consecutive months since February 2002. Also, the index of coincident indicators, a gauge of current economic activity, rose 0.3 percent in June 2002. Furthermore, a survey of 50 leading corporate economists by ***Blue Chip Economic Indicators*** shows that analysts expect the U.S. economy to grow at a rate of 3.3 percent in third quarter 2002.[2]

Recent changes in underwriting standards also bode well for credit quality at commercial banks. The Federal

[2] *Blue Chip Economic Indicators,* July 2002. Also see *Regional Outlook,* Second Quarter 2002, "Back to the Future: How This Downturn Compares to Past Recessions." See http://www.fdic.gov/bank/analytical/regional/ro20022q/na/index.html.

Reserve Board's ***Senior Loan Officer Opinion Survey on Bank Lending Practices,*** which focuses on changes in the supply of and demand for bank loans to businesses and households over the previous three months, has shown consistent tightening of business loan standards during the past two years. The April 2002 survey indicated some further tightening of standards, but the percentage of banks reporting this tightening has declined since the January survey, consistent with the anticipation of a continued economic rebound.[3] Since credit quality typically lags the business cycle, near-term recovery appears more likely, provided the economy continues to improve. This recovery in commercial credit quality, however, is not without a few hurdles ahead.

High Default Rates, Rating Downgrades, and Bankruptcies Persist

While the U.S. economy is showing signs of recovery and underwriting standards have tightened, corporate credit quality could continue to be affected by several adverse trends. The number of bankruptcies filed by public companies this year is on pace to challenge the record set in 2001.[4] Furthermore, default rates for U.S. speculative-grade corporate bond issuers remained high at 10.3 percent in June 2002, and the high ratio of corporate rating downgrades to upgrades indicates continuing weakness in the corporate sector (see Chart 2).[5] The main reasons for rating downgrades have been poor profitability and high leverage.

Corporate Profitability Remains Fragile

Corporate profitability has been depressed since first quarter 2001 (see Chart 3). However, this trend is improving slowly in 2002. U.S. corporate profits rose during second quarter 2002 for the first time in five quarters.[6] However, the rate of recovery is not expected to be strong in 2002, as some 93 companies in the Standard & Poor's 500 have announced that third quarter earnings will be less than expected, more than twice the number of companies that have announced they will beat estimates.[7] In fact, earnings forecasts have been revised downward consistently for the past several months, and analysts have warned recently that earnings estimates for the second half of 2002 are likely to be reduced. The bright spot in earnings continues to be the consumer sector, with automobile manufacturers and certain retail areas posting strong sales. The worst-performing sectors on a

CHART 2

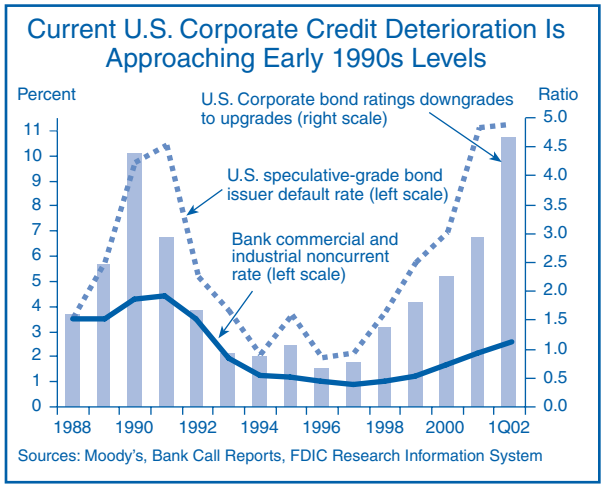
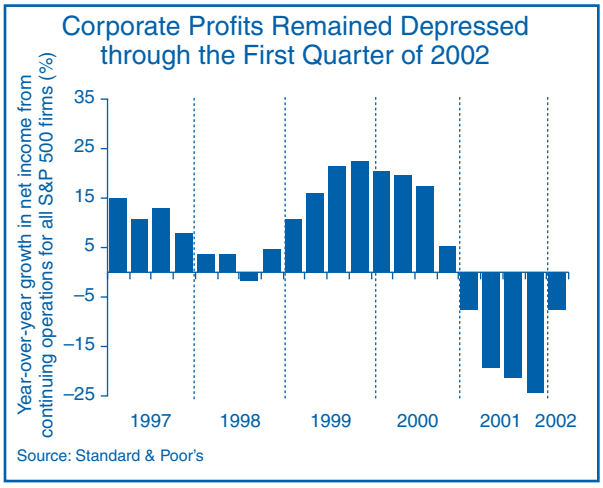


CHART 3



[3] *Senior Loan Officer Opinion Survey on Bank Lending Practices,* The Federal Reserve Board, April 2002. The survey reported that the percentage of domestic banks that reported tightened standards on C&I loans to large and middle-market firms (annual sales of at least $50 million) since the January survey declined to 25 percent from 45 percent. The percentage of domestic banks that report tightened standards on business loans to small firms declined more, from 42 percent in January to 15 percent in April.

[4] *Bankruptcydata.com* reports that 257 publicly traded companies filed for bankruptcy in 2001, while 114 companies had filed by June 30, 2002.

[5] In the first half of 2002, Moody's downgraded 262 companies and upgraded 59, producing a downgrades to upgrades ratio of 4.4:1.

[6] On a year-over-year basis, 371 companies in the Standard & Poor's 500 Index that reported earnings through July 26, 2002, posted profits.

[7] Danielle Sessa, "U.S. Stocks Slide as Johnson & Johnson, Pepsi Shares Tumble," *Bloomberg.com,* July 19, 2002.

year-over-year basis appear to be energy, transportation, utilities, capital goods, and communications services.[8] The latest recession was driven primarily by the sharp decline in the demand for capital goods. With the slow economic recovery, businesses have continued to limit capital spending. The rate of recovery for corporate profitability will depend in large part on how soon and to what extent businesses resume spending.

The prospect of slow earnings growth could be particularly problematic for many highly leveraged corporations. Debt levels relative to cash flow have been rising because of anemic earnings (see Chart 4). Negative earnings news also comes at a time when several well-publicized accounting irregularities have shaken investors' confidence in corporate earnings reports. A ***Huron Consulting Group*** study of financial restatements indicates that during the past five calendar years, the number of restated financial statements filed by public companies has grown from approximately 120 in 1997 to 270 in 2001.[9] The number of restatements continued to grow in 2001, despite a reduction in the number of public companies. That study found that the largest source of restatements relates to how companies recognize revenue. With depressed corporate profits and diminishing investor confidence, some firms with debts maturing in the near term may have difficulty refinancing.

Firms with Maturing Debts Could Face a Critical Period in the Near Term

Moody's estimates that $141 billion worth of U.S. speculative-grade corporate bonds and rated bank debt will come due over the next three years: $27 billion (19 percent) in 2002, $54 billion (38 percent) in 2003, and $60 billion (43 percent) in 2004.[10] To put these numbers into perspective, total U.S. corporate bond defaults were $115 billion in all of 2001, of which 95 percent of those defaulting were speculative-grade borrowers. Although Moody's expects the bulk of high-yield debt maturing in 2002 to be refinanced despite unfavorable market conditions, concern exists about the large percentage of issues rated B1 or lower that will come due in 2003 and 2004 (see Chart 5).[11]

Chart 4

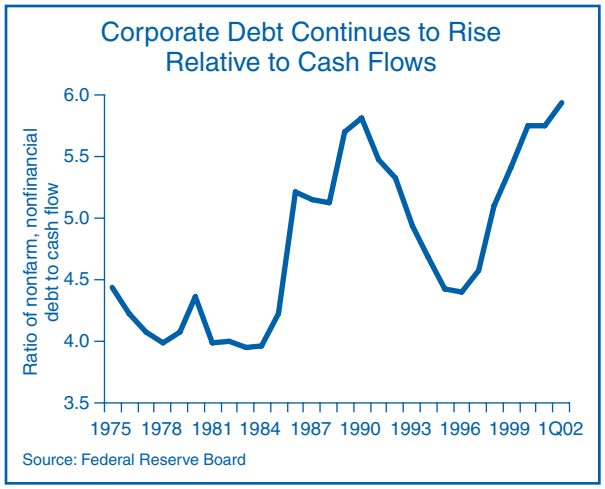
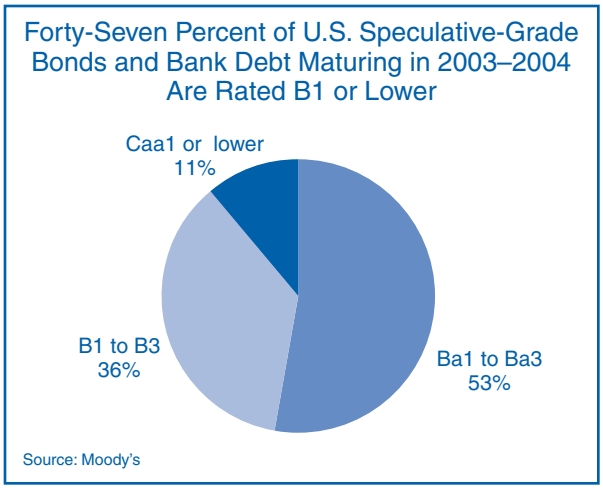


Chart 5



[8] Charles L. Hill, et al., *This Week in Earnings,* Thomson First Call, July 22, 2002.

[9] *A Study of Restatement Matters, for the five years ended December 31, 2001,* Huron Consulting Group, June 2002. This study excluded restatements caused by changes in accounting principles and nonfinancial-related restatements.

[10] Tom Marshella, et al., "Refunding Risk for U.S. Speculative Grade Borrowers, 2002–2004," *Global Credit Research,* Moody's Investors Service, December 2001. Figures related to refunding risk presented throughout this article are taken from Moody's refunding risk studies, conducted annually since November 1998.

[11] Speculative-grade debt ratings assigned by Moody's in the order of declining credit quality are as follows: Ba, B, Caa, Ca, and C. Moody's also applies numerical modifiers 1, 2, and 3 in each generic rating classification. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category, while the modifier 3 indicates a ranking in the lower end of that generic rating category.

Credit deterioration of bank loans is similar to the current trend in corporate bonds. Migration of maturing loans into lower grade categories has accelerated in recent years (see Chart 6). This ratings decay reflects the borrowers' deteriorated financial condition and the effects of liberal underwriting conditions from 1996 to 1998, when speculative-grade originations were more common. For example, the 1999 and 2000 refunding risk studies conducted by Moody's noted that 16 percent and 17 percent, respectively, of all rated bank loans maturing in 2002 were rated B1 or lower. The trend worsened significantly in 2001, when the study noted that 39 percent of bank loans maturing in 2002 were rated B1 or lower. When firms have to refinance low-grade debts in today's environment, they may face additional pressure on earnings and liquidity.

Loss Severity Has Increased with Higher Default Rates

Moody's credit ratings reflect the likelihood of default and the severity of loss given default. As a result, the migration of maturing bonds and loans into lower grades implies a greater risk of default or increased loss severity upon default, or perhaps both. Moody's notes, as part of its 15th annual study of global corporate defaults and ratings performance, that average recovery rates fell for the third straight year in 2001.[12] The recovery rate has deteriorated for all levels of security and subordination except for senior secured bonds (see Table 1).

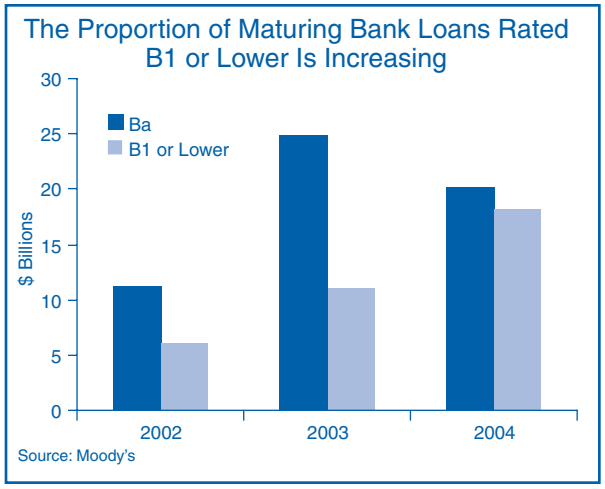
Table 1

Average Speculative-Grade Recovery Rates in 2001 Show a Declining Trend in Nearly All Levels of Security and Subordination

Seniority/Security	Average Recovery per $100	
	1982–2000	2001
Senior secured bank loan	$67.06	$54.68
Equipment trust	$64.65	NA
Senior secured bonds	$52.09	$58.00
Senior unsecured bonds	$43.82	$36.20
Senior subordinated bonds	$34.59	$19.90
Subordinated bonds	$31.83	$16.45
Junior subordinated bonds	$22.48	NA

Note: NA=not available
Source: Moody's

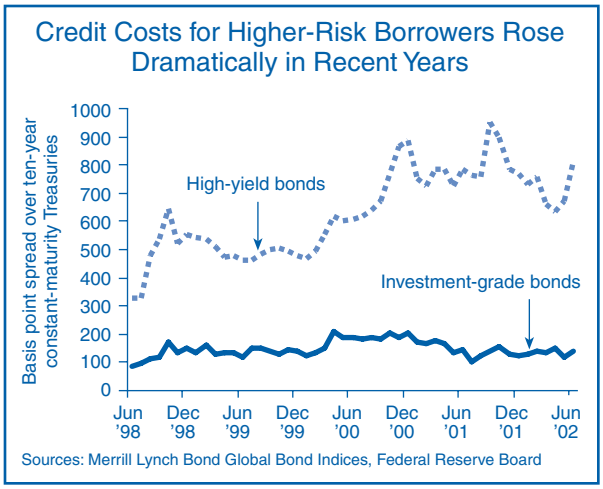
Chart 6



Higher-Risk Borrowers Pay High Premiums

A speculative-grade company refinancing debt today will face a much higher price, in terms of spreads over a cost of funds index or risk-free instruments, compared to several years ago. Yield spreads between investment-grade and speculative-grade bonds have widened significantly since early 2000 (see Chart 7), in part because of lower investor tolerance for risk, rising

Chart 7



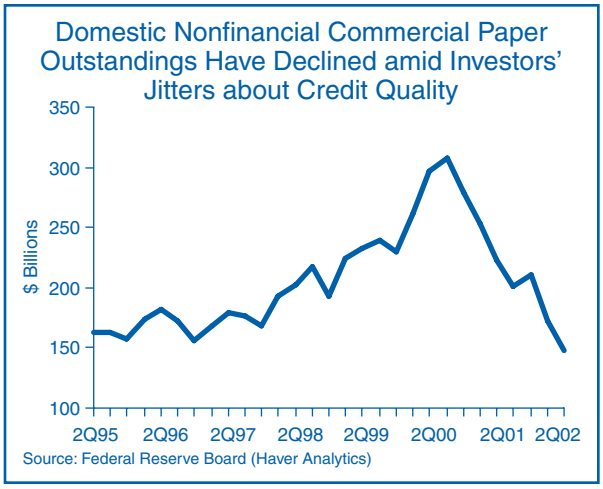
[12] David Hamilton, et al., "Default & Recovery Rates of Corporate Bond Issuers: A Statistical Review of Moody's Ratings Performance 1970–2001," *Global Credit Research,* Moody's Investors Service, February 2002. The recovery rate is defined as the secondary market price of the defaulted instrument approximately one month after the time of default.

defaults, and weakening corporate cash flows. After narrowing a bit in first quarter 2002, spreads have widened again on renewed concerns about accounting irregularities and the realization that the economic recovery may come at a slower pace than anticipated. Lower investor tolerance for risk has affected not only speculative-grade borrowers but also some investment-grade borrowers. For example, the commercial paper (CP) market, which many investment-grade borrowers have used as a cheap source of funding, is no longer readily available to all investment-grade borrowers.[13]

Drawn-Down Commercial Paper Back-up Lines Heighten Commercial Bank Exposure[14]

Since its peak at the end of 2000, the CP market for domestic nonfinancial companies has shrunk by almost 50 percent (see Chart 8). A reduction in the need for working capital and heavy refinancing activity have contributed to this contraction. However, the record number of downgrades among issuers of CP in 2001 also contributed to this decline. Money market funds cannot hold more than 5 percent of assets in CP graded less than A1/P1/F1.[15] Thus, the recent flux of downgrades effectively squeezed some issuers out of this market and forced them to refinance with fixed-rate bonds.[16] Also, fears of deteriorating credit quality have shut some investment-grade companies out of the CP market. Since the collapse of Enron, investors have been reluctant to hold the debt of certain companies. Some of these companies reported accounting irregularities, and the restatement of financial statements revealed previously hidden losses. In some cases, issuers that were not involved with accounting irregularities were forced to draw on bank credit lines when they were unable to roll over their CP because of the lack of demand or extremely high rates demanded by investors. When a CP issuer draws down on the back-up line, rating agencies often view this as a weakness in the company's liquidity, and a rating downgrade can occur. In turn, lower ratings lead to higher funding costs for the borrowers.

CHART 8



The steepness of the current yield curve also results in significantly higher refinancing costs for investment-grade corporations that no longer have access to short-term funding through the CP market. As these companies are forced to borrow longer term, they face higher refinancing costs in the long-term end of the current yield curve.[17] For example, if a Tier 1 corporation formerly issuing 90-day CP was forced to issue ten-year fixed-term debt in mid-July 2002, the cost would have been almost 350 basis points higher than issuing 90-day CP.

Using back-up lines of credit when companies cannot roll over maturing CP has become expensive for some issuers. Bankers are realizing that initial pricing does not reflect the risk inherent in drawn-down lines. As a result, bankers have started to impose high utilization premiums on BBB-rated CP back-up lines. Also, borrowers recently have been seeking term-out options, another sign that refunding risk is a concern.[18] Recent transactions reported by ***Loan Pricing Corporation*** show that some investment-grade companies are seek-

[13] Commercial paper is short-term promissory notes issued by large firms, generally maturing in nine months or less. It is an important source of short-term funding for corporations that need a steady stream of working capital.

[14] A CP back-up line is a commitment to provide a liquidity support for a company's CP program. It is typically a revolving credit, a 364-day facility. The rationale is that the borrower does not intend to use the back-up line, which generally costs more than issuing CP, unless the CP cannot be rolled over or repaid.

[15] The CP market can be divided into three tiers: Tier 1 (A1/P1/F1 or better), Tier 2 (A2/P2/F2), and Tier 3 (A3/P3/F3). The first two groups make up the bulk of the market. The first rating refers to a rating assigned by Standard & Poor's, while the second and third reflect ratings assigned by Moody's and Fitch, respectively.

[16] Moody's Investors Service, *Moody's Credit Perspectives,* December 31, 2001. Moody's downgraded 38 commercial paper programs from P1 in 2001.

[17] Bloomberg Fair Market Sector Curves, July 5, 2002. The spread between 60-day and five-year Treasury instruments was nearly 300 basis points.

[18] Once the back-up line has been drawn down, the borrower again has to repay or roll over the debt. A revolving facility can be "termed out" so that it becomes an installment loan with a much longer maturity, such as three to five years. Such an option, however, can be costly.

ing term-out options even at a fee of 200 basis points. The higher premiums demanded reflect both the volatility in the market and deteriorating credit quality indicated by high default rates and rating downgrades in recent quarters.

Conclusion

During the boom times of the late 1990s, corporations enjoyed an abundance of liquidity sources and easy access to capital. Many corporations used debt to finance business expansions, and rolling over maturing debt was not a significant concern. Recently, however, stock prices have been declining and investors have been concerned about the possibility of more corporate financial restatements. In this environment, highly leveraged borrowers worry about maturing debts and refunding risk implications. Lenders are demanding higher spreads because of the volatile financial markets and the deteriorated financial condition and debt ratings of many borrowers. In general, firms seeking to roll over maturing debt clearly face a less hospitable financing market today. With corporate profitability not yet strong, highly leveraged companies may find it increasingly difficult to meet debt service requirements and loan covenants. Despite these hurdles, the economy appears to be improving, and more companies are beginning to report higher earnings. With an economic recovery and tighter underwriting standards, the deterioration in commercial credit quality should stabilize and turn around.

Cecilia Lee Barry, Senior Financial Analyst

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