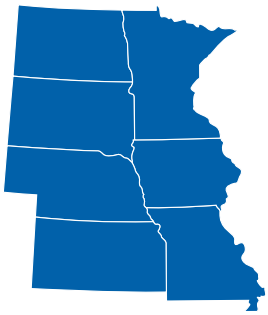
Regional Outlook

Federal Deposit Insurance Corporation — First Quarter 1998

FDIC
Kansas City
Region



Division of
Insurance

Craig A. Rice,
Regional Manager

Jeffrey W. Walser,
Regional Economist

John M. Anderlik,
Financial Analyst

In Focus This Quarter

◆ ***Y2K*—Preventing the Year 2000 (Y2K) computer problem is becoming ever more costly as the time and resources left to do so disappear. Equally costly, according to some estimates, will be the litigation that follows in the problem's wake. A failure to address Y2K exposures immediately and successfully may amount to a gamble backed by the value of the bank franchise and the officers and directors who run it.** *See page 3.*

By Gary Ternullo

◆ ***Trends in Commercial Real Estate Loan Pricing and Underwriting*—An abundant supply of financing is placing pressure on commercial real estate loan pricing and underwriting standards. Underwriting standards are being increasingly influenced by the rapid growth in commercial mortgage-backed securities and real estate investment trusts. While many within the industry believe that broader public funding of commercial real estate projects will lead to greater market transparency and improved underwriting discipline, there are a number of unique risk considerations related to the rapid growth and continuing development of these alternative funding sources.** *See page 7.*

By Steven Burton

◆ ***Total Return: A Useful Tool for Monitoring Investment Portfolio Risk*—The Federal Financial Institutions Examination Council is rescinding the 1991 policy that required "high-risk" testing for mortgage derivative products and has released for comment a policy encouraging risk management across all types of instruments on an investment portfolio basis. Total return, a concept that includes fluctuations in market value, is a useful tool for measuring the performance of an investment portfolio and providing information about market risk at the portfolio level.** *See page 13.*

By Allen Puwalski

Regular Features

◆ ***Regional Economy*—After two decades of strong growth, the rural manufacturing sector faces increasing competition and a mismatch of skills with labor requirements…the viability of many small Nebraska communities may be at risk owing to dwindling population…agricultural production contracts are changing the way bankers and farmers do business in the Midwest.** *See page 16.*

By Jeffrey Walser

◆ ***Regional Banking*—The Region's farm banks face competition for borrowers from a financially strong Farm Credit System…commercial banks are increasingly using Federal Home Loan Bank advances, a funding source that offers advantages but also poses risks…the fastest growing banks in the Region have higher than average risk in their balance sheets.** *See page 21.*

By John M. Anderlik, Craig A. Rice, Julia A. Kuhn

The ***Regional Outlook*** is published quarterly by the Division of Insurance of the Federal Deposit Insurance Corporation for the following eight geographic regions:

Atlanta Region (AL, FL, GA, NC, SC, VA, WV)
Boston Region (CT, MA, ME, NH, RI, VT)
Chicago Region (IL, IN, MI, OH, WI)
Dallas Region (CO, NM, OK, TX)
Kansas City Region (IA, KS, MN, MO, ND, NE, SD)
Memphis Region (AR, KY, LA, MS, TN)
New York Region (DC, DE, MD, NJ, NY, PA, PR, VI)
San Francisco Region (AK, AZ, CA, FJ, FM, GU, HI, ID, MT, NV, OR, UT, WA, WY)

Single copy subscriptions of the ***Regional Outlook*** can be obtained by sending the subscription form found on the back cover to the FDIC Public Information Center. Contact the Public Information Center for current pricing on bulk orders.

The ***Regional Outlook*** is available on-line by visiting the FDIC's website at www.fdic.gov/publish/regout. For more information or to provide comments or suggestions about the Kansas City Region's ***Regional Outlook,*** please call Craig Rice at (816) 234-8034 or send an e-mail to *crice@fdic.gov.*

The views expressed in the ***Regional Outlook*** are those of the authors and do not necessarily reflect official positions of the Federal Deposit Insurance Corporation. Some of the information used in the preparation of this publication was obtained from publicly available sources that are considered reliable. However, the use of this information does not constitute an endorsement of its accuracy by the Federal Deposit Insurance Corporation.

Chairman	Andrew C. Hove, Jr.
Director, Division of Insurance	Arthur J. Murton
Editor	George E. French
Assistant Editors	Daniel Frye Craig A. Rice
Publications Manager	Teresa J. Franks

Y2K: Banking in the twenty-first century may provide grand new opportunities—but you have to get there first

- **As a result of a three-decades-old programming convention, January 1, 2000, may find some computer systems unable to function correctly, if at all. Links within and between systems and organizations make the problem a complex one.**

- **Cures are expected to be difficult and costly. If those cures fail, litigation could be equally costly, and much of it may be aimed at directors and officers.**

- **Accordingly, senior bank management should be actively involved in making sure the cure takes place. A failure to do so amounts to a gamble backed by the value of the bank franchise and those who run it.**

Complex Problem, Complex Cure

By now the story is well known. At midnight on December 31, 1999, computer systems that process dates using only the last two digits of a year will cease to function correctly, if at all. Equipment that contains embedded systems—chips or circuitry designed to perform specific functions—also may fail. And the problem is pervasive. It lies within systems and between systems, in both software and hardware. The large number of ways dates are used, the number of places they can occur, and the number of creative ways for naming them confounds an accurate assessment.

Fixing the Year 2000 (Y2K) problem will require considerable time and effort. Computers and applications must be inventoried, examined for date usage, corrected where necessary, and then tested—not just by themselves but in combination with every other system with which they interact. This includes not only a bank's own systems but also those of its servicers, correspondents, customers, vendors, and trading counterparties. Moreover, there are a variety of ways to address the problem, ranging from expanding date fields to four digits to simply subtracting 28 years from every date before processing—any of which could introduce new incompatibility problems when systems that have been fixed in different ways attempt to interact.[1] And because not all systems can be corrected at once, interfaces or bridges between corrected and uncorrected systems also must be developed to maintain business system continuity. Most important, it must all be done *before* the non-negotiable deadline of December 31, 1999.

For bank management, there are two ways to find out how serious the problem will be. The first is to commit resources to determining just how exposed the bank's systems are—the first concrete step in actually solving the problem. The second is to gamble the franchise by doing little or nothing and letting the century date change provide the ultimate stress test.

Costs

The costs of a cure are many. First, there are the costs of actually finding and fixing the problem. Estimates of this cost have ranged widely, although the ***Gartner Group***'s estimate of $300 to $600 billion worldwide is the most widely quoted. Using a different approach, ***Software Productivity Research (SPR)*** places the global number at over $1.3 *trillion*, including a $176 billion slice for the United States alone. Then there are the estimated costs of litigation. At the low end, SPR places them at $300 billion globally and projects that fully one-third of that amount will be generated in the United States. At the high end, the ***Giga Information Group*** sees a much more litigious future—estimating that Y2K-related legal costs could exceed $1 *trillion*.

Significant opportunity costs may accrue as well, and the degree to which Y2K-related outlays fail to provide

[1] Every 28 years the same combination of dates and days recurs. Subtracting 28 years from a date before processing and then adding them back upon output has been suggested as a temporary but partial remedy because it permits applications to continue measuring time by subtracting two-digit years from each other. *Windowing* is another partial correction whereby some two-digit years—say those less than "50," for example—are assumed to be preceded by "20" (thus "49" becomes "2049" in date calculations) while the remainder are assumed to be preceded by a "19" (thus "50" becomes "1950"). Both approaches only delay the need for permanent corrections.

more efficient or functional systems will serve as a starting point for measuring the value of technology investments forgone. These forgone improvements will be especially costly for institutions that have started their repairs too late. They may find not only that the time for system improvements and upgrades has slipped away, but that they have insufficient time for anything beyond a patchwork solution that will continue to cost them beyond the year 2000.

At the macro level, the tally of potential Y2K costs includes declining stock values, business failures, and recession. ***J.P. Morgan*** has estimated that as much as 40 percent of organizations' remediation costs have not been accounted for in their information technology budgets, presumably indicating that many firms will see their share value erode as the costs of Y2K fixes and related losses are priced into their future earnings. The cost of *not* being Y2K compliant might be substantial as well. According to the ***Gartner Group***, as many as one in two firms may discover just how substantial as they head into 1999 with even their most *mission-critical* systems unfixed. The potential for these firms to fail looms large among the factors that have led Edward Yardeni, chief economist at ***Deutsche Morgan Grenfell***, to assign a 40 percent chance of recession in the year 2000. Peter de Jager, a consultant who also has commented extensively on Y2K issues, went even further, suggesting that 1 percent of all businesses would fail because of Y2K problems. Whatever the eventual number, many of these businesses will also be bank borrowers.

Systems and Systemic Risks

More immediate than the risk of borrower failures is the risk that a bank's own systems may fail. Banks are heavily dependent on software applications that employ dates. Among other things, they use them for calculating interest paid or due and for managing the horizons of their assets and liabilities. If these applications begin returning erroneous calculations, bank operations could be seriously disrupted.[2] If they fail altogether, the bank's credibility—and hence its franchise value—can be substantially damaged or even irrevocably lost.

The solution is often described in software terms, but executable software is not the only problem. Correcting software to process four-digit years does little good if bank databases that store the critical information about who owes what to whom and when still store them in two-digit form. Hardware is another critical area. Nearly all electronic devices have embedded, permanently programmed chips that can be difficult to find because the functions they perform are not always apparent. This situation could lead to a host of nuisances, with automated teller machines, point-of-sale terminals, bank vaults, check and credit card processing equipment, and even building systems succumbing to the Y2K problem.

This dependence on external components and services creates a systemic exposure as well. The substantial efficiencies that now exist in transmitting payments among and between banks and borrowers are a direct result of technology. Servicers and clearinghouses fulfill computer-intensive intermediary roles in this high-velocity business—pooling payments from those who owe and redistributing them among those to whom they are due. Anything that interrupts these flows can have a substantial impact on the ability of banks to settle with their customers and with each other. Accordingly, both the Bank for International Settlements and the U.S. Federal Reserve are concerned about the Y2K threat for two reasons—first because it can interrupt the operations of systems dedicated to making interbank payments and second because it can interrupt the operations of the individual participants and generate a liquidity shock that could cause other institutions to fail.

Unfortunately for banks, even a fully successful, industry-wide Y2K fix will not completely mitigate their risk. The year 2000 story is simply too dramatic and lends itself too well to sensationalism. Therefore, in addition to managing the cure, bankers will have to manage the perceptions of their customers and of the public at large—a considerable challenge given that a loss of confidence by a small number of customers could precipitate liquidity problems for institutions even in the absence of a genuine threat.

[2] For example, interest due from borrowers for a one-year period beginning in 1999 and ending in 2000 might be calculated not as one year's interest *due* but rather as nearly one century of interest *payable* (00 – 99 = –99) if only the last two digits of the year are used in the calculation. Similarly, any other time calculation that straddles the century date change might return answers wrong in both size and sign.

Liability in the Executive Suite

It bears frequent repeating that Y2K is a business problem and not just a technical one. Its intricacies go beyond those of the systems themselves and extend into the labyrinth of business relationships and fiduciary obligations that bind directors and officers—and the assorted attorneys, auditors, consultants, and service providers who assist them—to their banks. Through this network could pass liability and litigation that could be several times the cost of fixing the problem itself. And although the problem may have had a technical origin, claims would likely be directed against those with deeper pockets who jointly and severally, it will be argued, should have corrected or disclosed the institution's Y2K exposures.

While the bank failures of the late 1980s and early 1990s are often attributed to unforeseen economic events, it will be difficult to assert such a defense for a failure to address the Y2K problem. It is simply too visible and offers too much advance notice. This is one reason why the potential potency of Y2K litigation should be taken seriously. Moreover, placing the blame, no matter how well deserved, at the feet of vendors and consultants may offer little protection. The Federal Financial Institutions Examination Council (FFIEC) has indicated that senior bank management should be fully aware of their vendors' progress and develop contingency plans should those vendors fail.[3] This pronouncement has elevated the standard for prudent Y2K actions in such a way as to make imperative the active involvement of top bank management in both solving

[3] *Safety and Soundness Guidelines Concerning the Year 2000 Business Risk,* December 1997. The full text is available on the FFIEC website at www.ffiec.gov.

Managing the Y2K Process

On May 5, 1997, the Federal Financial Institutions Examination Council—an interagency group composed of the Federal Deposit Insurance Corporation, Federal Reserve, Office of the Comptroller of the Currency, Office of Thrift Supervision, and National Credit Union Administration—released a statement on Year 2000 project management awareness that included an outline of the Y2K management process. That outline identified five phases that each financial institution would have to navigate in identifying and fixing its Y2K exposures:

Awareness. Before Y2K exposures can be fixed, they must be seen as problems. Creating awareness, however, is not easy because the pervasiveness of components and intersystem links that can harbor or pass the problem create complexities that are neither intuitive nor easily quantified. However, it is critical that senior managers understand the problem and fully support the commitment of resources to fixing it.

Assessment. In this phase, all information systems, electronic equipment, and building systems must be evaluated for specific Y2K exposures. Remediation plans must then be devised. In addition to plans for fixing the problem, contingency plans will be needed as a precaution against unforeseen Y2K failures originating from both within and outside the bank.

Renovation. Renovation includes not only fixing the problem internally but monitoring the efforts of customers, counterparties, vendors, and service providers. The prudent execution of due diligence and best practices at this stage will provide a measure of confidence that exposures have been addressed. It will also provide a measure of protection from liability claims should problems nevertheless emerge.

Validation. Validation means testing how a bank's systems will respond on their own as well as when connected with those outside the bank. The FFIEC believes that one full year should be available for testing and correcting problems that either remain or are introduced by the renovation process. Accordingly, institutions should plan on completing the previous three phases by the end of 1998.

Implementation. Testing corrected systems to ensure their compliance does not complete the process. The final step is to gain acceptance by the users as to the ability of the system to satisfy business requirements. A failure at this stage will require further correction or the implementation of contingency plans.

For the full text of this and other FFIEC guidance, see the FFIEC website at ***www.ffiec.gov****.*

the problem and ensuring that the franchise will be protected if one or more of those solutions fail.

Betting the Franchise

The FFIEC has divided Y2K remediation into five phases—awareness, assessment, renovation, validation, and implementation (see Inset 1, page 5). As a benchmark for progress, the FFIEC has indicated that the validation phase—the phase in which testing of Y2K fixes is conducted—should be well under way for all banks by the end of 1998. This leaves less than a year for laggards to complete the first three phases. Banks that are not devoting adequate resources to identify and address their exposures need to be aware that the consequences of delay or inaction could be severe. The bank supervisory agencies, Congress, and the financial markets are taking the risk to heart. So too are attorneys intent on sharing in what has been described as potentially the most expensive litigation in history.

Insurance companies are concerned as well, as evidenced by extremely high Y2K policy premiums or outright refusal to write Y2K coverage. Thus, any business interruptions and liability that emerge may have to be financed from the bank income statement and balance sheet. As such, a bet that Y2K will not be a problem might well amount to a gamble backed by the bank franchise and those who run it. (See Inset 2 below for additional sources of information.)

Gary Ternullo, Senior Financial Analyst
gternullo@fdic.gov

For Further Information

Further information on the Y2K problem can be obtained from banking regulatory agencies at the websites shown below.

Federal Deposit Insurance Corporation (FDIC)	*www.fdic.gov*
Federal Financial Institutions Examination Council (FFIEC)	*www.ffiec.gov*
U.S. Federal Reserve Board of Governors	*www.bog.frb.fed.us*
National Credit Union Administration (NCUA)	*www.ncua.gov*
Office of the Comptroller of the Currency (OCC)	*www.occ.treas.gov*
Office of Thrift Supervision (OTS)	*www.ots.treas.gov*

The following websites contain additional information concerning the Y2K problem. Their inclusion here does not serve as an endorsement by the FDIC of any information contained therein.

Market Partners Inc.—*Year 2000 Resources for Banks*	*www.marketpartners.com*
Gartner Group—*Technology Consultant*	*www.gartner.com*
Software Productivity Research (SPR)—*Technology Consultant*	*www.spr.com*
De Jager LLC (Peter de Jager)—*Technology Consultant*	*www.year2000.com*
Giga Information Group—*Technology Consultant*	*www.gigaweb.com*
Y2K LLC (Williams, Mullen, Christian & Dobbins)—*Attorneys*	*www.Y2K.com*
Economics Network (Dr. Edward Yardeni)—*Economist*	*www.webcom.com/yardeni*

Trends in Commercial Real Estate Loan Pricing and Underwriting

- **An abundant supply of capital is placing significant pressure on commercial real estate loan pricing.**

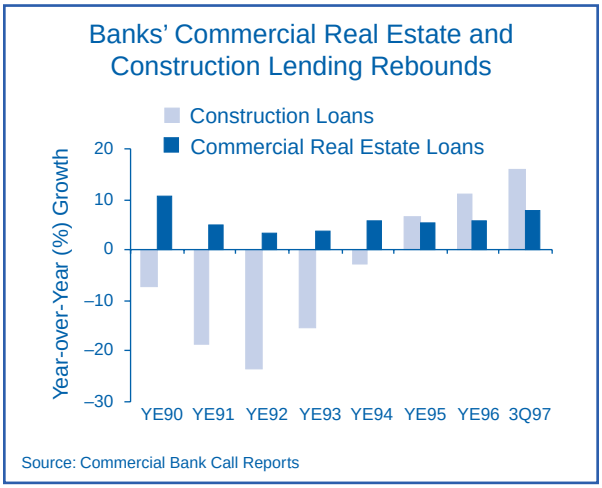
- **Considerable evidence suggests that a large percentage of insured institutions are easing commercial real estate and construction lending underwriting standards.**

- **The rapid rise in commercial mortgage-backed securities and real estate investment trust funding could change the way banks underwrite commercial real estate loans and have important effects on their competitive position in the lending markets.**

As reported in last quarter's ***Regional Outlook***, banks provided the largest share of funding for commercial real estate during 1995 and 1996 compared with all other financing sources (see ***Strong Demand and Financial Innovation Fuel Rebounding Commercial Real Estate Markets***). Chart 1 shows that banks' commercial real estate and construction lending continues to increase and that year-over-year growth rates in these two loan categories are accelerating. At the same time, however, alternative funding sources in the form of commercial mortgage-backed securities (CMBS) and real estate investment trusts (REITs) are also experiencing significant growth. ***Commercial Mortgage Alert*** reports that $26 billion in CMBS was issued through September 1997, up from $17 billion for the same period in 1996. The same publication projects that CMBS issuance will top $40 billion during 1997, compared with last year's record issuance of $29.8 billion. Measures of REIT activity also indicate impressive growth. According to the ***National Association of Real Estate Investment Trusts***, REITs issued $26.3 billion in equity through October, compared with $12.3 billion for all of 1996. In addition, REIT market capitalization rose $50 billion (64 percent) through the first nine months of 1997.

While it is good news to borrowers, the abundance of capital for commercial real estate projects raises the often-quoted concern that "too much money is chasing too few deals." Market observers worry that fierce competition and an excessive supply of financing are leading to both inadequate loan pricing relative to risks borne by lenders and looser loan underwriting standards. This article examines current trends in commercial real estate loan pricing and loan underwriting. It also explores the possible influences of CMBS and REITs on loan underwriting practices and commercial real estate markets.

CHART 1



An Abundance of Capital Has Placed Significant Pressure on Commercial Real Estate Loan Pricing

Chart 2 (next page) shows that prime-graded commercial mortgage spreads have steadily declined since 1992 and are now at levels not seen since the real estate boom years of 1988 and 1989. At 113 basis points above ten-year treasuries, current spreads on ten-year commercial mortgages are only slightly higher than A-rated ten-year industrial corporate bonds, which traded at spreads of 66 basis points over comparable-term treasuries as of September 1997. Some property sectors have experienced more narrowing of spreads than others. ***American Council of Life Insurance (ACLI)*** data show that mortgage spreads relative to treasuries compressed 31 basis points for industrial, 22 basis points for hotel, 21 basis points for retail, 11 basis points for multifamily, and 10 basis points for office real estate from March 1996 to March 1997. Moreover, because of continuing downward pressure, current pricing varies little across

Chart 2

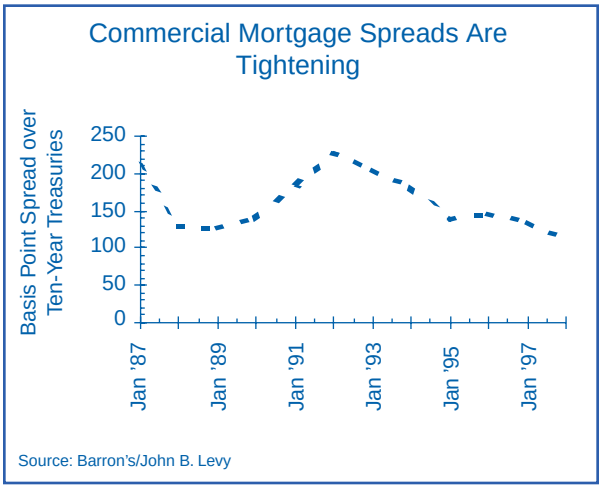
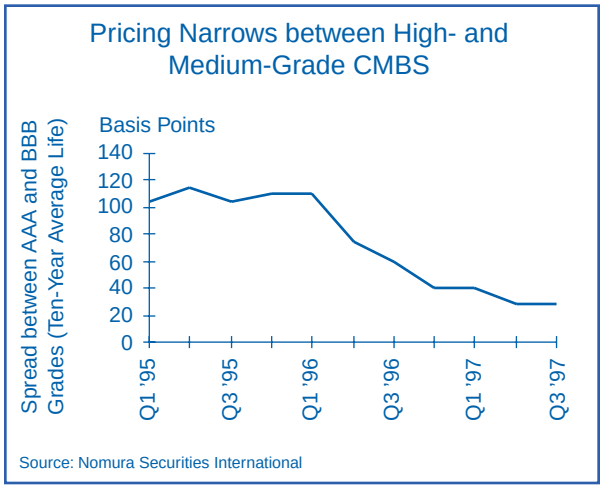


Chart 3



the quality spectrum. For instance, Chart 3 indicates that spreads between AAA- and BBB-rated CMBS have narrowed considerably since year-end 1995, from 110 basis points to a scant 28 basis points.

It seems likely that competitive factors will continue to place pricing pressure on lenders. The relatively recent entrance of Wall Street firms into the financing arena via conduits is a striking example of just how competitive the market for commercial real estate financing has become.[1] Conduits are rapidly becoming the dominant issuer of CMBS and underlie much of the rapid growth in CMBS noted above. Through the first nine months of 1997, ***Commercial Mortgage Alert*** reported that conduits accounted for 50 percent of total CMBS issuance, compared with 30 percent during the same period in 1996.

Many industry participants see conduits and REITs as significant and increasing competitive threats to traditional lenders. For example, a recent issue of ***Commercial Real Estate South*** discussed the continuing expansion of conduit business into a much wider range of property and credit quality types. This publication noted that conduits have a particular incentive to aggressively pursue higher quality loans in order to strengthen pools that contain weaker credits. Such aggressiveness threatens to squeeze banks' profit margins on low-risk deals, which might give banks an incentive to pursue lower quality credits. Given their focus on larger credits, conduits presently pose a competitive threat primarily to larger lenders. However, the rapid growth of capital within the industry may eventually force larger lenders to target smaller markets, which would in turn increase competition at the regional or local community level. While their influence is less direct, the growing use of REITs to finance commercial real estate projects also places pressure on loan pricing spreads, since lenders must compete for a smaller pool of customers. With their access to a seemingly limitless source of public funding, REITs could pose a particular threat to community bankers by dominating certain geographic markets or property sectors.

Narrowing pricing spreads raise concerns over whether lenders are being adequately compensated for the operational, funding, credit, and market risk inherent in originating, servicing, and holding commercial real estate loans. More important, tightening spreads raise prospects that lenders will ease other loan terms and relax loan standards to the extent that they are unable to differentiate their product based solely on price. While such easing may enable lenders to retain business in the face of stiff competition, imprudent underwriting could ultimately lead to higher loan losses than would otherwise be the case in the event of a downturn in commercial property markets.

Are Commercial Real Estate Loan Underwriting Standards Becoming Looser?

Most industry experts have argued that the memory of the real estate downturn of the late 1980s and early 1990s keeps lenders from becoming overly aggressive in making commercial real estate loans despite the abundance of funding alternatives currently available to

[1] Conduits are entities created to originate mortgage loans for distribution to investors in the secondary market.

borrowers. These experts point out that today's loan-to-value (LTV) ratios are lower than they were at the peak of the last real estate boom, that lenders are concentrating more on obtaining adequate debt-coverage ratios, and that lenders are requiring borrowers to bring more cash equity to the table. One might also argue that practices have improved and become much more uniform with the implementation of regulatory appraisal standards and the adoption of interagency guidelines for real estate lending policies. Rating agencies impose additional guidelines and standards as lenders originate loans for possible sale into the secondary markets.

While information about specific quantitative underwriting criteria applied to new loan originations by commercial banks is not readily available, some sense of industry trends may be gleaned from competitors' practices. For example, the ***ACLI*** performs a quarterly survey of underwriting criteria for commercial real estate loan commitments originated by major life insurance lenders. The ACLI's second quarter 1997 survey indicated that new commitments (total volume of $4.1 billion) had a weighted average LTV for all property types of 66 percent and a weighted average debt-coverage ratio (DCR)[2] of 1.6 times. These figures compare favorably to an LTV ratio in late 1989 approaching 75 percent and a DCR just under 1.3 times.

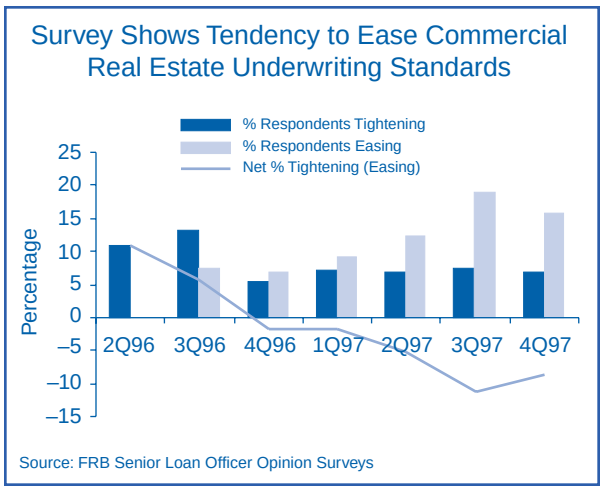
ACLI data suggest that recent commercial mortgage originations are better supported by borrower equity and property cash flows than they were in the late 1980s. It is important to recognize, however, that LTV and DCR ratios are driven largely by market conditions and expectations. Property valuations take into account recent sales and expected cash flows, and cash flows available to service debt are based on projected net operating revenues, which often incorporate projected increases in rents and other revenue sources. In other words, the overwhelmingly favorable conditions in today's real estate markets may also be a factor in the improved LTV and DCR ratios. Keeping in mind the cyclical nature of real estate, one can easily see how a shift from today's positive outlook to a more pessimistic outlook might result in a sharp reversal in these commonly cited ratios.

Notwithstanding these quantitative considerations, there are indications that banks are easing commercial real estate underwriting standards. This evidence, derived from industry and examiner surveys conducted by the three banking agencies, includes the following observations:

- In the ***Office of the Comptroller of the Currency's (OCC's) 1997 Survey of Credit Underwriting Practices***, OCC examiners reported eased commercial real estate lending standards in 38 percent of banking companies surveyed. For comparison purposes, the 1996 survey reported eased standards in 16 percent of banking companies surveyed. Among institutions with eased lending standards in the 1997 survey, examiners noted a 75 percent incidence of reductions in loan fees or rate spreads, a 43 percent incidence of eased guarantor requirements, and a 29 percent incidence of lower collateral requirements. Examiners cited competitive factors and a change in economic outlook as the main reasons for changes in underwriting standards.

- Chart 4 summarizes current and historical results of the ***Federal Reserve Board Senior Loan Officer Opinion Survey*** for responses to the question of whether bank credit standards for approving applications for commercial real estate loans have eased, tightened, or remained unchanged. These survey results show that banks have had a tendency to ease underwriting standards since the fourth quarter of 1996. This tendency appears to have become stronger through the third quarter 1997 survey but moderated somewhat in the most recent survey. The most recent survey showed that large banks (over $15 billion in assets) were much more likely to indicate easing commercial real estate standards than

CHART 4



[2] The debt-coverage ratio measures annual net operating income generated by a property relative to annual principal and interest payments due on the underlying loan.

smaller banks. Specifically, 21 percent of large banks reported easing standards, while only 3 percent reported tightening standards. In comparison, only 9 percent of smaller banks reported easing standards, while 13 percent reported tightening standards.

- Results from the ***FDIC Report on Underwriting Practices*** indicate possible easing of standards for construction and development (C&D) loans at FDIC-supervised banks. A comparison of examiner responses for the third quarter 1997 survey (covering examination reports filed from April through September 1997) with responses for the third quarter 1996 survey leads to the following observations[3]:

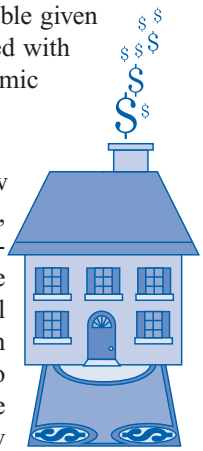
- The percentage of banks frequently or commonly originating C&D loans tied to speculative projects (that is, projects lacking meaningful preleasing or presales, or loans without a formal take-out commitment for permanent financing following completion of construction) rose markedly, from 11 percent to 29 percent.

- The percentage of banks frequently or commonly granting C&D loans without considering alternative repayment sources other than income generated by the project being financed rose significantly, from 8 percent to 20 percent.

- The percentage of banks frequently or commonly basing C&D loans on unrealistic appraisals rose from 5 percent to 11 percent.

- The percentage of banks frequently or commonly funding or deferring interest payments during the term of construction loans rose from 7 percent to 15 percent.

Much of the commentary in recent issues of various trade journals echoes the results of these regulatory surveys.[4] In brief, many industry participants are seeing a higher incidence of (1) banks funding construction loans without preleasing commitments on major portions of rentable space, (2) banks easing LTV ceilings, (3) lenders curtailing reserve requirements for such items as tenant improvements and insurance, and (4) nonrecourse lending. Some industry participants have also noted the increasing acceptance of "trended rents," whereby property valuations are based on positive rent projections extrapolated several years into the future. Of course, these trended rents will hold true only if economic circumstances remain favorable for extended periods—an assumption that may not be reasonable given the cyclical nature of real estate coupled with the advanced age of the current economic expansion.



With a combination of relatively low interest rates, rising real estate prices, and an expanding economy, it is perhaps not too surprising that some lenders have eased commercial real estate underwriting standards. Such easing may be a natural response to improved confidence in the real estate markets. However, indicators that show loosening standards may also be warning flags that lenders have succumbed to tighter pricing and competitive pressures. To avoid losses like those sustained by banks during the last real estate downturn, prudent lenders will refrain from incorporating unrealistic expectations into their lending practices.

CMBS Could Change the Way Lenders Underwrite Loans

Much as residential mortgage lending standards were shaped by the advent of mortgage-backed securities, CMBS promise to change the way banks underwrite and service commercial real estate loans. For instance, lending terms and practices could become increasingly standardized as lenders attempt to improve the liquidity and marketability of their commercial mortgage portfolios. Banks that choose to deviate from these emerging standards will sacrifice flexibility in terms of their ability to manage portfolio risks and respond rapidly to liquidity demands.

The ability to securitize commercial real estate loans also may fundamentally alter the way lending decisions

[3] The authors of this survey note that comparisons of survey results across time periods must be interpreted with caution since the survey samples are dictated principally by examination scheduling factors. As a result, sample populations may be materially different from one period to another.

[4] See, for example, ***Commercial Real Estate South***, "Public Markets Fuel Financing Glut" (October 1997); ***Midwest Real Estate News***, "Wall Street and Main Street Squeeze Lenders" (October 1997); and ***Commercial Property News***, "Michelson, Greenland Seize Low CMBS Spreads" (1 May 1997).

are made. Before the development of CMBS markets, loan approval was essentially a binary, good-or-bad, accept-or-reject decision whose primary focus was on the credit risk inherent in a single asset. In contrast, the most important elements in CMBS are deal structure, price execution for multiple tranches, credit enhancements, and portfolio composition. Here, the loan originator is more likely to use a portfolio approach in making credit decisions: That is, how will this loan enhance the expected return and risk diversification of the overall pool?

External rating agencies will become increasingly important as CMBS markets expand, since these agencies' guidelines will effectively dictate the underwriting standards applied to securitized loans. While such standardization could arguably improve market discipline and loan performance disclosure, there are several potential risks to consider as the CMBS markets evolve:

- While rating agencies do incorporate qualitative considerations into their analysis, issue ratings and credit enhancement level decisions are driven primarily by *quantitative* factors, namely debt service coverage and expected loss levels. Moreover, most of the *qualitative* factors the agencies consider involve an analysis of portfolio balance and pool diversification. Hence, weak or poor qualitative standards (for example, lack of alternative repayment sources or minimal borrower equity in the project) applied to individual loans within the pool may receive only secondary consideration. A quantitative perspective also ignores such immeasurable factors as borrower "character" and the existence of long-standing lender-borrower relationships.

- Rating agencies cannot be relied upon as a backstop to unsound underwriting practices. While they generally review a substantial volume of the loans within a pool, typically the largest individual credits, they are not practically able to review every credit in the securitization. Some within the industry have even suggested that investment bankers commonly move one problem property, discovered through one agency's sample, into pools reviewed by another agency in the hope that it will not be sampled.

- Competition among the rating agencies could become a factor in the underwriting process. This "shopping of the agencies" could result in continual pressure for rating agencies to ease their underwriting guidelines.

- In theory, bank-issued CMBS transfer much of the underlying credit risk associated with commercial real estate lending to investors. However, like other types of asset securitization, CMBS raise concerns over the degree to which banks will voluntarily absorb investor losses. Bank issuers may be more likely than nonbank issuers to provide voluntary support to poorly performing CMBS for at least two reasons: A tarnished reputation in one aspect of a bank's operations could carry over to other business activities like deposit taking and borrowing due to a bank's broad brand name association within the marketplace; and banks often have greater financial resources than nonbanks with which to support securitization activities.

Because the rapid growth in CMBS has been a relatively recent phenomenon, current underwriting guidelines applied by the rating agencies to CMBS have not been tested during a cyclical downturn in real estate prices. It remains to be seen how the market will react to rising loan losses that result in investor losses.

Will Increased Public Funding through CMBS and REITs Improve Market Discipline?

Many contend that the increased transparency brought to the market by CMBS will temper cyclical swings in real estate values. This viewpoint argues that investors will serve as a constraint against the natural tendency to overbuild commercial real estate during boom periods, since less funding will be allocated to segments of the market where excess capacity exists. This viewpoint presupposes that the investing public is sophisticated enough to recognize when markets are out of balance and when projects are economically infeasible. In this sense, CMBS shift much of the burden of monitoring credit quality standards and credit performance from lenders to public investors.

In contrast, others have argued that lenders are much better suited than investors to make judgments about credit quality standards and project feasibility. This line of reasoning suggests that the increase in public ownership of property through CMBS and REITs could actually reduce market discipline, since the most sophisticated participants with access to the best information (that is, lenders) may come to have less at stake in making prudent credit decisions. Of course, excessive losses attributable to any one CMBS issuer might lead to differentiation in pricing based on investors'

perceptions of the quality of underwriting applied by specific issuers.[5]

Putting market efficiency arguments aside, the sheer volume of REIT and CMBS activity causes some concern over the extent to which such financing is driving property valuations. With such an abundance of capital flowing into the commercial real estate market, it is perhaps easy to see why lenders might opt to ease standards rather than lose business. However, to the extent securitization activities are driving decisions in today's commercial real estate markets, lenders might wish to consider how property values would react if the availability of such financing were sharply diminished. The most recent real estate downturn provided a ready example of how tighter credit availability compounded the effects of declining commercial property values by limiting the ability of lenders to sell distressed properties. While there may not be consensus on whether CMBS and REITs will temper cyclical price swings, the underwriting standards and practices evolving in response to these financing vehicles will likely play a crucial role in determining the magnitude of losses experienced by investors and banks during the next downturn in commercial property values.

Steven Burton, Senior Banking Analyst
sburton@fdic.gov

Selected Articles for Further Reading

Bloomfield, Craig. "Michelson, Greenland Seize Low CMBS Spreads." *Commercial Property News.* 1 May 1997. p. 33.

"CMBS Issuance Seen Topping $40 Billion." *Commercial Mortgage Alert.* 10 November 1997. p. 1.

Fitch Investor Services, Inc. "Commercial Mortgage Stress Test." *Fitch Research: Structured Finance Special Report.* 8 June 1992.

Office of the Comptroller of the Currency. *Advisory Letter 97-3: Credit Underwriting Standards and Portfolio Credit Risk Management.* 3 March 1997.

Sinderman, Martin. "Public Markets Fuel Financing Glut." *Commercial Real Estate South.* October 1997. p. 1.

Wolf, Barney. "Wall Street and Main Street Squeeze Lenders." *Midwest Real Estate News.* October 1997. p. 1.

[5] The evolution of the credit card securitization markets is one example of how investors now differentiate between issuers in terms of pricing.

Total Return: A Useful Tool for Monitoring Investment Portfolio Risk

- **The Federal Financial Institutions Examination Council (FFIEC) is replacing the 1991 policy that contained a specific "high-risk test" for mortgage derivative products (MDPs) held by insured institutions with a policy that encourages risk management across all types of instruments on an investment portfolio basis.**

- **A good way to start measuring portfolio risk is by monitoring an appropriate measure of return.**

- **Total return, a concept that includes fluctuations in market value, is a more appropriate tool than simple yield for measuring the performance of an investment portfolio, especially one that contains bonds with embedded options.**

The Federal Financial Institutions Examination Council (FFIEC) has released for comment a new Joint Agency Policy Statement on Investment Securities and End-User Derivatives Activities that will replace a statement issued February 3, 1992. While much of the content of the former statement has been retained, the section requiring specific "high-risk" testing for mortgage derivative products (MDPs) has been eliminated. The "high-risk" test applied specifically to bonds collateralized by residential mortgage pass-through certificates or whole loans but that distributed cash flows to bondholders on a basis other than pro rata.[1]

The goal of the original policy statement was to deter banks from investing in products that presented risks that they were not able to adequately monitor and control. MDPs were singled out because of their rapid growth, nontraditional and potentially risky nature, and common use by insured financial institutions. The new policy states that, as a sound management practice, institutions should conduct prepurchase and ongoing analysis of all their investments at a level appropriate to the size and complexity of those holdings.

The policy change is in part a response to increasing bank investment in securities that have complex cash flows analogous to MDPs but that escaped the analysis requirement of the previous policy. Mortgage index amortizing notes are an example of popular bank investments that potentially exhibit all the risks of MDPs but were not subject to the testing requirement of the soon-to-be rescinded policy because they are not collateralized by mortgages. Callable agency and "step-up" bonds are popular bank investments because they offer a slightly larger spread to Treasury than noncallable agency securities, and they were not subject to the "high-risk" test under the old policy. However, the additional yield offered on these kinds of securities compensates the investor for assuming additional risk. Appropriately measuring portfolio return can enhance the ability to monitor the extent to which these kinds of securities put future earnings at risk.

Total Return Analysis Is a Useful Tool for Analyzing Risk at the Portfolio Level

Total return analysis is a basic but useful tool that can alert management to the level of certain risks in an investment portfolio. It can also provide information that is useful for validating the assumptions used in more sophisticated models. Total return is calculated from three components: beginning price, income and reinvested cash flow, and ending price (market value) at a horizon date. Total return incorporates the change in the market value of the investment, resulting in a more comprehensive measure of performance than other measures that ignore such changes. Monitoring total return on a portfolio basis can provide institutions with important information about the risks inherent in the portfolio and how these risks may be changing over time.

In two articles in the ***ABA Banking Journal***,[2] Nicholas Betzold and Richard Berg convincingly dispute the

[1] A security was deemed "high risk" if it exhibited any of the following characteristics: (1) it had a weighted average life of more than ten years; (2) its average life extended by more than four years or shortened by more than six years from a 300 basis point parallel shift in rates; (3) its price changed by more than 17 percent given a 300 basis point parallel shift in rates.

[2] The articles were published in December 1996 and April 1997. Reprints of the articles are available at the *ABA Banking Journal* website at http://www.banking.com.aba/backissues.htm.

view that if the investment strategy is to buy and hold to maturity, total return is not relevant. Consider the following example. In 1990, Bank A purchases a seven-year security yielding 8.83 percent that is callable after three years. At the same time, Bank B buys a noncallable seven-year agency security yielding 8.53 percent. For three years, Bank A's bond yields 30 basis points more than Bank B's. However, from 1990 to 1993, interest rates fell almost 300 basis points. Bank A's bond would likely be called, forcing the bank to reinvest at a significantly lower rate for the remaining four years of the seven-year investment horizon. Over the seven-year horizon, Bank A could expect an average yield that is about 150 basis points less than Bank B's.

From the yield perspective, Bank A enjoyed three years of superior performance. However, during those three years, monitoring total return might have revealed a less favorable but more accurate picture of Bank A's performance relative to Bank B's. Here is why: As rates fell from 1990 to 1993, bonds gained in value. However, as rates fell, the market value of the callable security would have gained incrementally less than the noncallable bond because each downward tick in rates increased the expectation that the bond would be called, and the higher coupon would be earned over a shorter period. In contrast, the noncallable security's market value would have enjoyed the full benefit of the falling rate environment because its maturity and cash flows are fixed.

The disparate change in the market value of the two bonds reflects the fact that Bank A, in essence, sold a call option to the bond issuer. The issuer bought the right to repurchase the debt at par after three years. Bank A was compensated for selling this right to the issuer with increased yield. In the example, the issuer's option to call the bond would have gained value as rates fell. The increasing positive value of the call option to the issuer represents an increasing negative value to the bondholder and erodes the value of the bond.

Step-up bonds present reinvestment risk similar to that of generic callable bonds, but with the added complexity of a coupon that rises, usually annually, if the bonds are not called. Total return analysis would similarly reveal adverse changes in the value of the embedded call options and the extent to which the additional coupon is compensating for call risk.

UBPR Yield

Bank management often uses the portfolio yield that is calculated in the Uniform Bank Performance Report (UBPR) to assess performance of the bank's securities portfolio against its peers. This yield measure is calculated by dividing annualized book income on a tax equivalent basis (plus or minus amortization or accretion of any premium or discount) by the amortized cost of the securities. This measure of present yield says little about potential future yield and the extent to which, because implicit options have been sold, the latter has been put at risk for the sake of the former.

Total return measures the risk-adjusted return of a portfolio more closely than yield because it incorporates changes in reinvestment risk over time. *Ultimately, a portfolio manager who earns total returns consistently higher than average will earn more in terms of simple yield. Conversely, a manager who earns less in terms of total return will eventually find an unfavorable reinvestment environment that will erode reported yield.*

The popularity of using yield to gauge the performance of bank securities portfolios may be due to the convenient presentation of bank peer portfolio yields in the UBPR. Some managers may be reticent to evaluate portfolio performance using total return without a peer-like benchmark for calibrating total return expectations.

Betzold and Berg have devised an investment portfolio index (introduced in the April 1997 ***ABA Banking Journal***) that is designed to track the total return of a typical bank portfolio composed of the same percentages of investment sectors as the average bank. The portfolio on which the index is based is rebalanced monthly as principal pays down, and it is rebalanced quarterly to reflect the latest Call Report data on portfolio allocations. Table 1 depicts the investment weighting of the index as of December 31, 1996, based on September 30, 1996, Call Report data.

According to Betzold and Berg, this index produced total returns that closely approximated those of the actu-

al median bank total portfolio measured by Call Report data from 1993 through third quarter 1997.[3] They concluded that their index seems to provide a reasonable proxy for the total return of the "average" bank investment portfolio.

Chart 1 shows the performance of the index so far this year.[4] Changes in the index value over time can be translated into total returns that approximate the median bank portfolio's total return. For example, the annualized total return for the index from year-end 1996 through third quarter 1997 was 6.72 percent and is calculated as follows:

> Calculate the bond equivalent semiannual yield and express the semiannual bond equivalent yield as an effective annual yield.

$$6.72\% = 100\left[\left(\frac{105.00}{100.00}\right)^{\frac{4}{3}} - 1\right]$$

The performance of the index for 1997 suggests that banks' total investment portfolio returns were highly negatively correlated with changes in the five-year Treasury rate (see Chart 2). This finding indicates that changes in total return from period to period can provide useful information about the level of a portfolio's interest rate sensitivity. As emphasized above, these changes in total return over time include the effects of changes in market value of any call options on a bank's investment securities and hence provide information about the degree to which future income is at risk.

Given the increasing level of optionality embedded in the average bank securities portfolio—even if it arises solely from callable agency debt and "step-up" structured notes—yield should not be the sole measure of overall portfolio performance. Total return analysis is an appropriate supplement that gauges the risk-return characteristics of an investment strategy that involves selling implicit options.

Allen Puwalski, Senior Financial Analyst

[3] While the Call Report does not contain the information necessary to compute total return precisely, the authors computed an estimate using the reported yield and market value data.

[4] The index is published monthly in the ***ABA Banking Journal.***

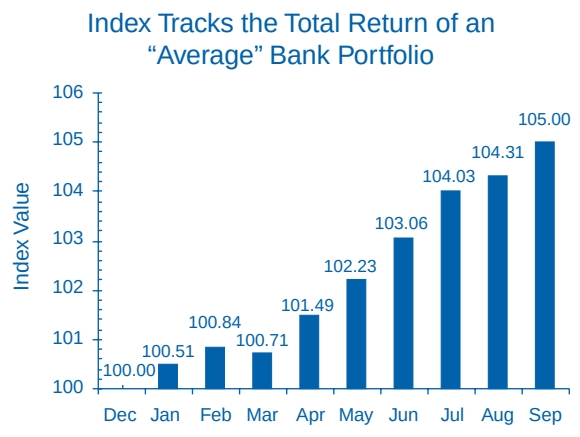
Table 1

Composition of Betzold Berg Index December 31, 1996

Security Type	Percent of Index
Treasuries	24.52
Agencies	24.38
Municipal bonds	12.26
Fixed-rate mortgage or mortgage-related products	19.93
Other securities	6.09
Adjustable-rate securities	13.00

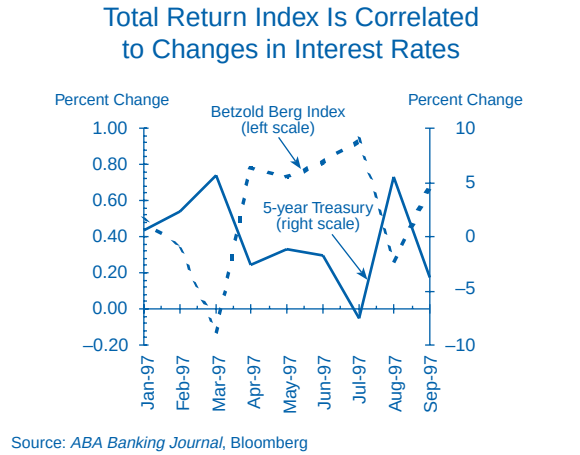
Source: Bank and Thrift Call Reports, September 30, 1996

Chart 1



Source: *ABA Banking Journal*

Chart 2



Source: *ABA Banking Journal*, Bloomberg

Kansas City Region: Globalization and Technological Change Challenge Rural Manufacturing

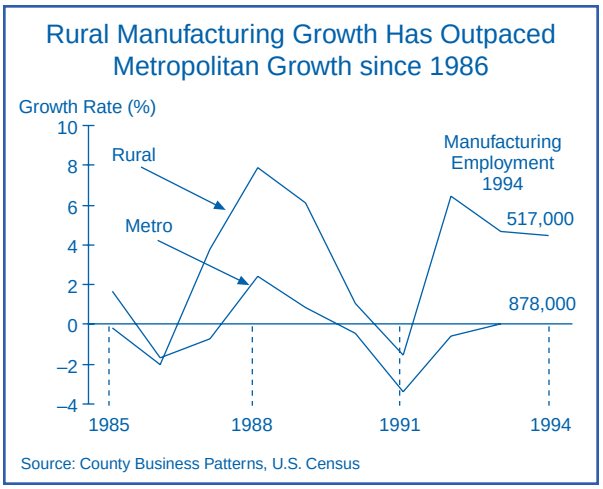
- **After two decades of strong growth, the rural manufacturing sector faces increasing competition and a mismatch of skills with labor requirements.**
- **Half of Nebraska's counties have lost population since 1980, and the viability of many small communities may be at risk.**
- **Agricultural production contracts are changing the way bankers and farmers do business in the Midwest.**

Rural Manufacturing Faces Uncertain Prospects

Manufacturing in the Region's nonmetropolitan counties has experienced significant growth in the past decade. From 1985 to 1994, manufacturing employment grew from 383,000 jobs to 517,000 jobs, an increase of 35 percent. During the same period, manufacturing jobs in metropolitan counties declined 3.4 percent to 878,000 jobs. As shown in Chart 1, growth in rural counties has outpaced that in urban counties every year since 1986.

According to an analysis by economists at the ***Kansas City Federal Reserve Bank***, using 1991 data, food processing was the most common type of manufacturing in the Region, accounting for 19.6 percent of the total. This compares to only 9.2 percent for the United States as a whole. The rural counties of the Region were also above the U.S. average in the manufacture of lumber and wood, leather products, and machinery. They trailed the U.S. share in production of chemicals, primary metals, electronic equipment, and instruments.

CHART 1



Over the past three decades, the growth of rural manufacturing has been a significant contributor to economic growth in the Region's rural areas, employing farmers who left agriculture or providing a second income for part-time farmers. Manufacturing plants have been an important source of tax dollars to support local school and government needs, and manufacturing has provided important business for local vendors and service providers.

Despite its past success, many industry observers believe that rural manufacturing is threatened by recent trends in the marketplace. A 1996 survey of rural manufacturing by the ***U.S. Department of Agriculture*** found a "clear rural gap in the use of advanced telecommunications and production technologies."[1] The study concludes that the technological gap in rural plants is largely a result of the industry mix. The technology component of food processing is somewhat less than that of electronics manufacturing. The predominance of lower technology industries in the rural sector leads to important long-term risks for the sector.

Much of the expansion in rural manufacturing in the 1970s and 1980s occurred as firms sought lower land and labor costs away from the cities. But the advantage of low wages is not unique to the rural United States. Globalization of competition, as advanced by the North American Free Trade Agreement (NAFTA) and the World Trade Organization (WTO), will likely disproportionately affect nonmetropolitan manufacturers who tend to rely on unskilled labor, standardized products,

[1] "1996 Rural Manufacturing Survey." Economic Research Service, USDA. p. 8.

and routinized production practices. Manufacturers of low-technology products will be most susceptible to competition from producers in Mexico and Asia. In the longer run, U.S. manufacturers may favor offshore locations over rural domestic sites.

As globalization has increased, manufacturers have been moving toward more flexibility in production processes. Computer-aided design, computer-aided manufacturing, and just-in-time inventories are some of the strategies manufacturers have adopted to reduce costs and cycle time in their processes. These strategies have changed the skills mix, requiring higher levels of skills for both manager and workers, and the rural workforce may not be prepared for these kinds of changes. Respondents to the ***Rural Manufacturing Survey*** were asked to rank potential problems related to implementation of new technologies and management practices. The leading problem listed was "adequacy of worker skills." The rural workforce has lagged the urban workforce in formal educational attainment and has had fewer opportunities for exposure to new technologies and strategies.

Implications: Past growth in rural manufacturing is unlikely to be sustained in the next decade. Competition from offshore and the shift to processes that require higher levels of skill and training will likely work to the sector's disadvantage. Slower growth or even reductions in manufacturing employment in rural counties could have a negative effect on the revenues earned by local businesses and the taxes collected by local government. Rural communities will have to pay close attention to the quality and focus of education if they wish to adapt to the changing needs of manufacturing employers.

Rural Counties in Nebraska Continue to Lose Population

According to population estimates for 1996 released by the ***U.S. Census Bureau***, 46 of **Nebraska**'s 93 counties have lost population in the 1990s. These 46 rural counties also saw declines in population in the 1980s. Since the 1990 Census, the state's total nonmetropolitan population has grown at a modest 0.2 percent annual rate, while the metropolitan areas of **Omaha** and **Lincoln** have grown at a 1.2 percent annual rate.

The 46 Nebraska counties that have lost population in the 1980s and the 1990s share a number of common characteristics, including the following:

- *Small population.* The 46 counties had an average population of 4,812 in 1996, and only 4 counties of the group had populations of more than 10,000, while 6 of the counties had populations of less than 1,000. By comparison, Nebraska's other 41 nonmetropolitan counties, each of which gained population in the 1990s, had an average population of 14,237 in 1996.

- *Dependence on agriculture.* According to the United States Department of Agriculture's classification, 42 of the 46 counties have agriculture as their most important industry. The ***Censuses of Agriculture*** document a decline in the number of farms in Nebraska from 60,243 in 1982 to 52,923 in 1992, a 12 percent decline. During the 1980s and 1990s, the long-range trend of consolidation in agriculture has continued in Nebraska. Increased mechanization of agriculture has displaced both farm operators and laborers, many of whom migrated from rural counties to metropolitan counties.

- *Declining level of retail activity.* Since the 1970s, a significant number of retail businesses have disappeared from the rural counties in the Midwest. Improved transportation and competition from national retailers have drawn shoppers to neighboring larger cities. One measure of rural retail trade patterns is the "retail pull factor" developed by ***Dr. Kenneth Stone*** of Iowa State University. The pull factor is calculated by dividing per capita retail sales for a particular county by per capita sales for the state. The result is adjusted to reflect differences in per capita income across counties. A pull factor of greater than one suggests the county attracts retail trade from other counties. A value less than one suggests residents of that county travel elsewhere to make retail purchases. A calculation of pull factors for the 46 Nebraska counties losing population in the 1990s shows that 45 of the counties have had factors of less than one since 1970, indicating a deficit of retail expenditures. The pull factors of the great majority of the counties have declined since 1970. Table 1 (next page) illustrates the trend of the retail pull factor of the 46 counties. The table shows an average pull factor of 0.52 in 1996, implying that residents of these areas made an average of 48 percent of their retail expenditures outside their home counties, suggesting a continuing decline in local retail outlets.

Observers have divergent opinions about the future of the declining rural counties of Nebraska. ***Dr. Charles***

Table 1

Retail Activity Declines in 46 Nebraska Counties	
Year	Income-Adjusted Pull Factor
1970	0.80
1980	0.83
1990	0.50
1991	0.53
1992	0.51
1993	0.58
1994	0.57
1995	0.52
1996	0.52

Note: Pull factors of less than 1.00 indicate net retail outflows
Source: Retail data from Nebraska Department of Revenue; pull factors calculated by author

Lamphear, an economist at the University of Nebraska, argues that the disappearance of some rural communities may be inevitable. Dr. Lamphear was quoted in the July 6, 1997, edition of the ***Omaha World-Herald***, "Some towns will come back; some won't. What is happening is part of a natural movement, a changing settlement pattern that has been under way for most of this century.…Infrastructure does take some dollars to maintain. The real truth is that neither local communities nor the state can afford to bring them all up to standards. We have to let some go."

In an October 6, 1997, article in the ***Omaha World-Herald***, ***Dr. Thomas Pogue,*** an economist from the University of Iowa, argued that the decline of rural areas will not be as detrimental as many believe and suggested strategies for small communities to remain viable. "We're moving from a rural agrarian environment to a more consolidated urban country. To make the transition, rural communities will have to adapt to global changes and expand their economic opportunities beyond traditional agricultural and natural resource-related industries."

While the decline in population may not be reversible, opportunities for those who remain in sparsely populated areas have potential for improvement. Advances in communication technology can improve both employment opportunities and the quality of life in remote communities. For example, **Cambridge**, Nebraska, a town of 1,107 people in Furnas County, has attracted immigrants by maintaining a modern hospital, spending to keep its schools technologically current, and providing low-cost access to the Internet through its independent telephone company.

Implications for Banks: Declining populations will likely have negative consequences for the ability of banks in the 46 counties to attract profitable loan and deposit customers. Over the longer term, the advancing average age of the population in these counties poses further risks to the deposit base, as wealth leaves the community after the deaths of local residents.

Contract Agriculture Appears in the Midwest—What Does It Mean for Farmers and Bankers?

During the past three years, production contracts have been adopted by increasing numbers of hog farmers in the Region. Similar contracts have been used in the broiler (chicken) industry in Southern states for more than 30 years and were introduced on a large scale in the hog industry in North Carolina beginning in the late 1980s. Both the broiler industry and the North Carolina hog industry have enjoyed sustained significant growth and technological improvement in systems centered on production contracting. Production contracts have also begun to appear in the grain industry, as specialized high-value crops become more important. One industry observer predicts that 25 percent of all grain may be produced under contract within the next decade. Contracts have attracted the most attention in recent years as they have been introduced into the traditional hog-raising states of the Midwest.

The traditional Midwestern hog grower typically breeds and raises pigs in specialized buildings, feeding them grain that is purchased or grown on the farm. When the pigs reach maturity, at about six months of age, the grower sells them to a packer or buying station at the current market price. The grower often has a long-term loan to finance the buildings that house the hogs and an annual operating loan to finance feed expenses. Under the traditional arrangement, the grower assumes all production-related risks, such as the health and performance of the animals, and all marketing risks, primarily price.

The hog production contract widely used in North Carolina establishes a new division of labor. The example discussed in this article will be the finishing contract, by far the most common in the industry. Under this arrangement the contractor supplies young pigs about eight to ten weeks old to the grower, who feeds them until they are about six months old and weigh 250

pounds. Table 2 illustrates the respective responsibilities of the contractor and the grower.

The grower is compensated for raising the pigs based on the size of the facilities, the number of pigs grown to maturity, and sometimes on the efficiency with which the pigs convert feed to meat. The contractor makes all decisions about feed, veterinary care, and marketing, and assumes all price risks in the live hog market.

The contracting strategy allows the contractor to concentrate on identifying and developing superior genetics, discovering optimal feeding strategies, and developing marketing relationships. The details of everyday management of the hog production operation are left to the individual growers, who are strongly motivated by the terms of the contract. The contract arrangement allows the grower to engage in livestock production with less risk and requires less skill and experience.

The November 17, 1997, issue of the ***National Hog Farmer*** presents an example of the payoff of a production contract to a grower. (See table 3.)

At this scale, the returns to the grower are not large, but the labor required may be as little as one hour a day. Contract hog production is increasingly being used as supplementary income by those with other employment.

The appearance of contract production is changing the skills and information that bankers need to evaluate loans to hog growers. ***Mark Drabenstott***, an economist at the Kansas City Federal Reserve Bank, predicts one effect of contract production on the banks that support the hog industry: "Industrialization will have the effect of reducing the amount of marketing risk that a farmer faces. At the same time, however, it will increase the 'relationship' risk. That is, the value of the farm loan will depend critically on the performance of the contractor. Because these contractors will generally be large, complex companies, the task of evaluating the financial quality of the relationship will be difficult. Large farm lenders who can devote a special staff to analyzing such risk will have a clear advantage over small lenders."[2]

Some large commercial banks and the Farm Credit System have begun negotiating "master loans" with hog contractors, in which the lenders provide financing for hog houses for all the growers associated with a contractor. After the lender has evaluated the financial and operational soundness of the contractor, it can extend loans to the associated growers, who have already been screened by the contractor. This strategy tends to exclude many community banks that lack the lending capacity and analytical experience to structure such deals.

A conference for lenders to the hog industry, sponsored by the National Pork Producers Council in October 1997, addressed some of the new kinds of information and relationships needed for bankers to adapt to changes in the industry. In general, the fast pace of technological and organizational change in the industry requires bankers to keep current and develop forecasting skills necessary for evaluating new kinds of production projects. In order to negotiate with and evaluate contractors, many bankers will need to develop more specialized and deeper expertise.

Table 2

Hog-Finishing Contract—Division of Responsibilities
Contractor provides
Hogs
Feed
Veterinary care
Marketing
Grower provides
Facilities—Specialized buildings
Utilities
Labor

Table 3

Returns to a Typical Hog-Finishing Contract	
1,000-Head Finishing Barn	
Capital Cost	$160,000
Yearly Amortization	$26,000
Payments to Grower	$32,000
Return to Grower	$6,000

Source: National Hog Farmer, November 17, 1997

[2] M. Drabenstott, "The IndUStrialization of US Agriculture." Federal Reserve Bank of Kansas City (www.agribiz.com/fbFiles/readings/KC_FED.html).

Implications of Contract Production for Agriculture Bankers: Large contractors will have the ability to attract financing from outside the banking sector. Existing contractors have used commercial paper and bonds to finance expansion. The larger size and geographic scope of contracting companies allows them to attract other sources of capital.

Individual community banks may have difficulty competing with large banks that offer master loans to contractors and their growers at competitive interest rates. Even where smaller banks successfully compete for loans to farmers, contracting arrangements could reduce the demand for operating loans. Competitive pressure from contract farmers could accelerate the disappearance of smaller, traditional producers. Higher costs of production and fewer food processors willing to buy from the smaller growers could contribute to further declines in their numbers. In the case of the hog industry, smaller farmers who traditionally have used hog production as a diversification strategy, feeding corn to hogs to add value to the grain, may no longer have that option. Community banks that have lent to the traditional producer could see less of this business and lower returns to farms that leave the hog industry.

Contract production arrangements will likely become more common in all sectors of agriculture, including grain farming. Bankers may have to adopt new lending practices that include analysis and evaluation of the contractors working with farmers.

Jeffrey Walser, Regional Economist

Regional Banking Conditions: Government-Sponsored Enterprises Change the Competitive Landscape

- **The Farm Credit System appears poised to make inroads into the market share of the Region's banks in the agricultural lending sector.**
- **Federal Home Loan Bank advances offer advantages and pose risks to the Region's banks.**
- **Banks growing the fastest display higher risk by a number of measures and may be susceptible to an economic downturn.**

Commercial Banks Faced with Formidable Competition from Farm Credit System Institutions

Farm Credit System (FCS) institutions are gaining farm debt market share at the expense of commercial banks. The increased competition comes at a time when commercial banks, particularly small rural institutions, are facing increased competition on both sides of the balance sheet.

A combination of factors crippled FCS during the 1980s. FCS loan interest rates were based on the average cost of its borrowings, which consisted primarily of long-term, fixed-rate, noncallable bonds. When short-term market rates declined, FCS was not able to adjust its loan interest rates downward, and consequently, its loan products became uncompetitive and its best borrowers refinanced elsewhere. The problems in the agricultural economy led to substantial loan losses and an increase in operating costs, caused in part by servicing the bad loans. The FCS institutions collectively lost $4.8 billion over two years, and in 1987 Congress approved a $1.26 billion bailout. FCS's market share of farm debt declined from a high of 34 percent in 1982 to just 24 percent in 1994. In part as a result of FCS's decline, commercial banks increased their share from 22 percent to 39 percent[1] during the same period.

Recent data from the ***U.S. Department of Agriculture*** indicate that FCS institutions have stopped the loss of market share. In addition, there are reasons to believe that these institutions are poised to gain back lost market share:

- *High level of capital and reserves.* Two district FCS institutions (AgAmerica and Agribank) covering the Kansas City Region report capital levels far exceeding regulatory requirements[2] and loan loss reserves at more than 3 percent of loans. This financial flexibility will allow for continued growth.

- *Efficiency.* AgAmerica and Agribank both reported efficiency ratios[3] of around 45 percent, a level indicating substantially lower overhead expense than the Region's commercial farm banks, which have an average efficiency ratio of 59 percent. This cost advantage may allow FCS institutions to maintain profitable margins while lowering loan rates to gain market share.

- *Market power.* Even though FCS institutions are a collection of hundreds of smaller associations, they enjoy the advantages of being associated with large district banks such as AgAmerica and Agribank. These large institutions bring technological and marketing expertise to the smaller institutions, in contrast to what is available to smaller commercial banks. Innovations developed by the district banks, such as credit-scoring models tailored for farm loans, provide cost advantages to the associations. In addition, their network allows them to make larger loans than local but smaller commercial banks could make.

[1] United States Department of Agriculture, *Situations and Outlook Report*, February 1997.

[2] The Farm Credit Administration requires permanent capital of at least 7 percent of risk-adjusted assets and off-balance sheet commitments.

[3] The efficiency ratio is defined as noninterest expense divided by net interest income and other operating income.

- *Improved interest rate risk management.* The FCS has instituted comprehensive asset/liability programs to manage interest rate risk. At AgAmerica,[4] for example, the duration of interest-bearing assets and liabilities are nearly matched, providing a fairly predictable net interest margin.

Bankers throughout the Region are stating that FCS institutions increasingly are cutting their loan rates to attract new customers. While we possess no empirical data to support this, both AgAmerica and Agribank report they are facing increased competition from banks and insurance companies. In its 1996 annual report, ***AgAmerica*** stated, "Competitive pressures on loan interest rates remain high in the District territory. The District's associations have been facing significant competition from insurance companies and rural agricultural, regional, and national banks. The District's associations have had to reduce loan spreads to remain competitive...." Despite the increased competition, AgAmerica reported a 7 percent loan growth rate in 1996. Commercial banks nationwide only experienced a 2 percent growth rate in agricultural loans.

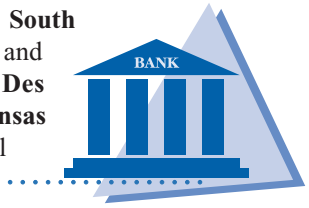
Implications: The FCS competes vigorously for prime agricultural borrowers. In fact, customers of FCS institutions typically are more financially secure and are larger operators than borrowers at commercial banks.[5] If the FCS actively pursues growth strategies, commercial banks will likely face intense competition for their most desirable borrowers. FCS may be able to compete for smaller agricultural loan customers as well. In particular, FCS institutions employ expedited loan processes, which may include credit scoring, which could enable them to compete for customers who have primarily been served by commercial banks.

Fifty-eight percent of banks in the Kansas City Region are farm banks.[6] Competitive pressures on loan pricing and terms for these institutions are likely to remain intense. Therefore, maintaining a profitable niche of business and cost-efficient operations, without taking excessive risk, will continue to challenge bank management.

FHLB Advances: Advantages and Potential Risks

In the ***Third Quarter 1997 Regional Outlook,*** we discussed the Region's strong loan growth and consequent strain on liquidity in light of slow deposit growth. One source of alternative funding available to commercial banks and thrifts is the Federal Home Loan Bank (FHLB) system, which makes loans (called advances) to member institutions to fund residential loans. Nationally and in the Region, increasing numbers of commercial banks are becoming members of the system and using FHLB advances to augment retail deposits. FHLB advances offer both advantages and possible risks for this Region's institutions.

Since 1990, commercial banks that make long-term residential loans or invest in mortgage-backed securities[7] have been allowed to join the FHLB system. In the Kansas City Region, nearly half of all FDIC-insured institutions (949 commercial banks and 142 thrifts) are members of the FHLB system.[8] By comparison, at the end of 1995, 737 banks and 154 thrifts were members. Financial institutions headquartered in **North Dakota**, **South Dakota**, **Minnesota**, **Iowa**, and **Missouri** belong to the **Des Moines** FHLB, while **Kansas** and **Nebraska** financial institutions are members of the **Topeka** FHLB.



The FHLBs offer many different types of advances, all of which must be secured by qualifying assets (those upon which membership was based). Advances can have fixed rates or adjustable rates tied to any one of a number of indices. Most advances have maturities ranging from 1 day to 15 years; advances to fund community development loans can have maturities of up to 30 years. Many advances have embedded put and call options, and many also carry substantial prepayment penalties. The FHLBs also offer letters of credit and lines of credit.

[4] 1996 Annual Report, AgAmerica Farm Credit District. The AgAmerica territory includes the Kansas City Region states of Iowa, Nebraska, and South Dakota.
[5] USDA, Koenig and Dodson, 1995.
[6] A farm bank is defined as having more than 25 percent of total loans in agricultural real estate and operating loans.

[7] Of several statutory requirements to become a member of the FHLB system, the most important is that member institutions must maintain residential mortgage loans equal to at least 10 percent of their total assets.
[8] Kansas and Nebraska membership figures are as of 11/5/97; Missouri, Iowa, Minnesota, North Dakota, and South Dakota figures are as of 9/30/97.

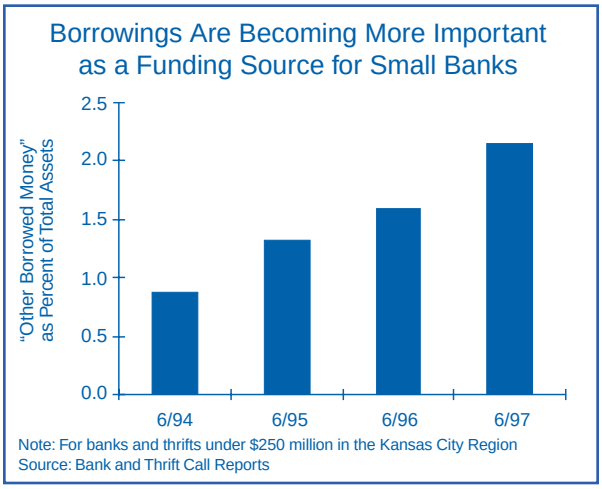
The cost of most FHLB advances is higher than retail deposits but, unlike deposits, they require little staff time to service and do not require reserves or deposit insurance premiums. In addition, many FHLB products represent unique funding sources for commercial banks —most do not have alternative 15-year sources of funds, for example. The FHLBs also offer amortizing advances, which can be used to fund amortizing assets such as 15-year mortgage loans. Such advances are sometimes purchased with embedded put options that allow institutions to prepay advances in full or in part to more closely match prepayments in their loan portfolios.

In this Region, banks are increasingly supplementing their slow-growing retail deposits with FHLB borrowings. Although Call Reports do not track FHLB borrowings specifically, such borrowings likely make up a large portion of Call Reports' "other borrowed money" figures. As shown in Chart 1, other borrowings at 2,171 small institutions[9] in the Region have more than doubled in the three years since June 30, 1994. According to the Des Moines and Topeka FHLBs, as of September 30, 1997, institutions in the Region had outstanding advances of approximately $11 billion. The most popular products are short-term LIBOR advances used primarily by large banks; these advances represent about 45 percent of the total advances outstanding. Long-term fixed-rate advances used by all sizes of banks make up another 35 percent of the advances.

Implications: Given the Region's continued strong loan growth and slow deposit growth, it is likely that commercial banks will continue to become members of the FHLB system and use their products. FHLB advances may become an integral part of the asset/liability and liquidity strategies of this Region's banks in the near future.

Despite the advantages of FHLB advances, they are not entirely without risk. *The consequences of inappropriate use of advances may be harsh. These include increased interest rate risk and lower earnings as a result of substantial prepayment penalties or having advances called when interest rates increase.* To help banks make informed choices, the Des Moines FHLB is offering a service to banks that analyzes their balance sheets using an interest rate risk model to determine appropriate strategies for using advances. According to a senior financial analyst at the Des Moines FHLB, five banks in its district were taking advantage of this service as of early November 1997.

CHART 1



Another potential risk to banks is the possible inclination of bankers to leverage their balance sheets with FHLB advances. In fact, the FHLB is advocating that its members use advances to rapidly increase assets and reduce capital levels if they are in excess of regulatory minimum levels. The idea is that banks can improve their return on equity from the spread of the yield on the new assets (presumably loans if loan demand exists, otherwise mortgage-backed securities) over the cost of the advances. While it is true that many banks have capital levels in excess of regulatory minimums, bankers should review their banks' risk profiles before attempting any growth strategy. From a regulatory perspective, capital adequacy is not simply based on ratios but depends on a number of factors, including management's ability, asset quality, balance sheet concentrations, and other risk characteristics. Regulatory minimum capital ratios are in some sense a lowest common denominator; higher capital ratios may be necessary for banks with higher risk exposure.

For additional information regarding banks' use of FHLB products, please contact Julia A. Kuhn, Senior Capital Markets and Securities Specialist for the FDIC's Division of Supervision, at jkuhn@fdic.gov or (816) 234-8071.

[9] The small institutions referred to here are the same institutions described in footnote 10 under ***"High-Growth Institutions Carry Higher-than-Average Risk."***

High-Growth Institutions Carry Higher-than-Average Risk

Past articles in the ***Regional Outlook*** have discussed strong loan growth in the Region. This article examines the institutions with fewer than $250 million in assets that have exhibited the strongest asset growth over the past three years. In particular, this article compares the highest quintile (the top 20 percent) of growth banks—the 434 banks and thrifts that posted at least 32 percent growth over the past three years that this article refers to as "top-quintile banks"—with the entire sample of institutions.[10] We discuss where these institutions are located, how they funded their growth, and whether they have been taking on measurably more risk as a result of their growth strategies.

Where Top-Quintile Banks Are Located: One would expect that top-quintile banks would be located in primarily metropolitan areas, which offer more opportunities to expand loan and deposit bases. A location analysis of top-quintile banks indicates some concentration of such institutions in metropolitan areas (these locations have 39 percent of top-quintile banks but only 21 percent of all institutions in the sample), but also shows that many rural areas have high-growth institutions. In fact, most top-quintile banks are located in rural counties, and more than one-third are located in the most rural counties (those with less than 20,000 urban residents and not adjacent to metropolitan counties). Top-quintile banks also tend to be located in the Region's eastern states (Minnesota, Iowa, and Missouri) and the very eastern portions of the western states, probably because of the comparatively robust economic activity in these areas.

How Top-Quintile Banks Are Funded: On average,[11] top-quintile banks grew their assets from $42 million to $64 million in the three years ending June 30, 1997. By contrast, the average institution sampled grew from $43 million to $51 million over that period. As expected, loan growth spurred top-quintile banks' asset growth; on average, these institutions increased their loan portfolios by $17 million.

Most of the funding for this growth came from deposit growth or, more important, core deposit growth. Deposits for the average top-quintile bank grew by $18 million—slightly more than loans—and core deposits grew by $15 million. In contrast, the entire sample of institutions funded only $5 million of their $8 million loan growth with additional core deposits. So, despite the commonly held notion that rapid asset growth is usually funded by "hot money" (noncore sources such as large certificates of deposit or brokered funds), top-quintile banks in the Region actually did a better-than-average job of funding their loan growth with core deposit growth.

Not surprisingly, top-quintile banks also used other sources to fund their growth. In particular, the average top-quintile bank's other borrowings increased 297 percent over the three years, from $616,000 to $2.4 million. Although Call Reports do not itemize these borrowings, they are likely the result of increased bank participation in the FHLB system (refer to ***FHLB Advances: Advantages and Potential Risks*** in this article for further details).

Are Top-Quintile Banks More Risky? By traditional measures, top-quintile banks have more risk than the typical institution in the Region. In particular, top-quintile banks have lower capital, liquidity, and loan loss reserve levels than banks from the entire sample. Table 1 shows that the average top-quintile bank's equity capital ratio[12] is 153 basis points below that of the average bank in the sample. In addition, top-quintile banks have a much higher average loans-to-assets ratio, which indicates that they have less liquid assets to fund unexpected cash outflows. Top-quintile banks also have lower loan loss reserves as a percentage of total loans.

Top-quintile banks also differ from other banks in their loan portfolio composition. As shown in Table 2, the most significant difference is that top-quintile banks have significantly fewer agricultural and agricultural real estate loans, a likely result of the aforementioned tendency for high-growth banks to be located in metropolitan areas. Top-quintile banks have a proportionately

[10] The sample for this article included the 2,171 FDIC-insured banks and thrifts in the Region that had fewer than $250 million in assets as of June 30, 1997, and had not been involved in mergers in the prior three years. Only institutions in continuous existence since June 30, 1994, were considered in the sample. In addition to institutions involved in mergers, we excluded three banks from the sample that had extreme and unusual decreases in total assets. For analysis, the institutions were sorted by three-year growth rates (from June 30, 1994, to June 30, 1997) and segmented by quintiles.

[11] "Average" in this article refers to the weighted average of the 434 top-quintile and 2,171 total institutions in the sample, respectively.

[12] The equity capital ratio used in this article is period-ending equity capital divided by period-ending total assets as reported in Bank and Thrift Call Reports. In contrast, regulatory ratios use an average total assets denominator.

Table 1

Financial Ratios Illustrate Top-Quintile Banks' Lower Capital and Liquidity Levels

Financial Ratios	Top-Quintile Banks (%) 6/94	6/97	Change	All Banks Sampled (%) 6/94	6/97	Change
Equity Capital Ratio	9.42	8.92	–0.50	10.08	10.45	0.37
Loans/Assets	63.86	68.22	4.36	55.72	61.39	5.67
Delinquent Loans/Loans	1.77	2.11	0.34	2.03	2.25	0.22
ALLL/Loans	1.38	1.20	–0.18	1.61	1.43	–0.18
ALLL/Non-Current Loans	198.02	155.08	–42.94	172.86	152.69	–20.17

Note: ALLL = Allowance for Loan and Lease Losses
Source: Bank and Thrift Call Reports

larger commercial and industrial loan portfolio, particularly in the larger-loan segment. The incidence of larger commercial loans in top-quintile banks may indicate concentrations to individual borrowers not seen in the rest of the sample. In addition, while top-quintile banks have a larger percentage of real estate loans (which, because of their secured nature, are generally less risky than many other types of loans), much of the difference is the result of top-quintile banks' heavier reliance on the traditionally more risky construction and commercial real estate segments.

Much of the increased risk of top-quintile banks compared with other banks comes from their risk profile at the *beginning* of the analysis period. Although in June 1994 the average top-quintile bank and the average overall sample bank were approximately the same size, top-quintile banks already had lower capital, liquidity, and loan loss reserve levels. And except for decreasing agricultural loans in favor of commercial and construction loans, top-quintile banks' loan composition has not changed significantly in the past three years.

However, top-quintile banks have increased their overall risk compared to the sample over the past three years. For example, to facilitate their growth, top-quintile banks reduced their equity capital ratios while overall banks improved their ratios by 37 basis points. In addition, top-quintile banks' loan quality has deteriorated faster (but still remains slightly better) than that of the

Table 2

Top-Quintile Banks' Loan Composition Shows Higher Balances in Riskier Loan Categories

Selected Loan Categories	% of Total Loans: Top-Quintile Banks 6/94	6/97	Change	All Banks Sampled 6/94	6/97	Change
Agriculture Loans	12.5	9.9	–2.9	20.6	17.0	–3.6
Comm. and Ind. Loans	17.8	18.7	0.9	14.7	15.8	1.1
Under $100,000	10.8	9.4	–1.4	9.9	9.4	–0.5
$100,000–$250,000	2.7	3.1	0.4	1.8	2.1	0.3
$250,000–$1,000,000	3.5	4.5	1.0	2.5	3.1	0.6
Consumer Loans	13.0	12.5	–0.5	12.5	12.0	–0.5
Real Estate Loans	55.8	57.4	1.6	50.9	53.6	2.7
RE Agricultural	6.1	5.4	–0.7	9.2	8.8	–0.4
Construction	4.2	5.3	1.1	2.3	3.2	0.9
RE Nonresidential	13.3	14.4	1.1	10.6	11.5	0.9
RE Residential	30.3	30.5	0.2	27.4	28.8	1.4

Note: RE = Real Estate
Source: Bank and Thrift Call Reports

overall sample; as a result, top-quintile banks' ratio of loan loss reserves to noncurrent loans has declined to that of the overall sample.

Implications: While the analysis shows that the 434 top-quintile banks as a whole have a higher-than-average risk profile, individual banks may have considerably more risk than the figures convey. For example, many top-quintile banks have displayed enormous growth rates in certain higher-risk loan categories in the past three years:

- 167 banks doubled their commercial real estate loans; of these, 43 tripled them and another 28 quintupled them.
- 154 banks doubled their commercial and industrial loans, and 19 of those quintupled them.
- 166 banks doubled their construction loans, and 110 of those tripled them.
- 113 banks doubled their consumer loans despite the national increase in bankruptcy filings.

Because of their heightened risk exposure, these institutions may be especially vulnerable to a downturn in the national business cycle or the onset of adverse local economic conditions.

John M. Anderlik, Financial Analyst
Craig A. Rice, Regional Manager
Julia A. Kuhn, Senior Capital Markets and Securities Specialist

Subscription Form

To obtain a subscription to the FDIC ***Regional Outlook***, please print or type the following information:

Institution Name _____

Contact Person _____

Telephone _____

Street Address _____

City, State, Zip Code _____

Please fax or mail this order form to:

FDIC Public Information Center
801 17th Street, N.W., Room 100
Washington, D.C. 20434
Fax Number (202) 416-2076

Please indicate below each Region's issue you wish to receive:

Atlanta	_____	Boston	_____	Chicago	_____
Dallas	_____	Kansas City	_____	Memphis	_____
New York	_____	San Francisco	_____	All	_____

FDIC
Federal Deposit Insurance Corporation
Washington, DC 20429-9990

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

BULK RATE MAIL
Postage & Fees Paid
FDIC
Permit No. G-36