
◆ Regional Outlook ◆

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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.*

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◆ **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.*

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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

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.

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.

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 supervi-

sory 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.)

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

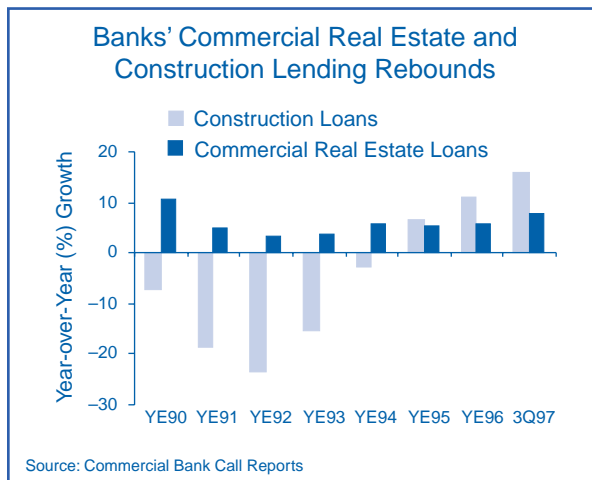
Trends in Commercial Real Estate Loan Pricing and Underwriting

- 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 lead-

CHART 1

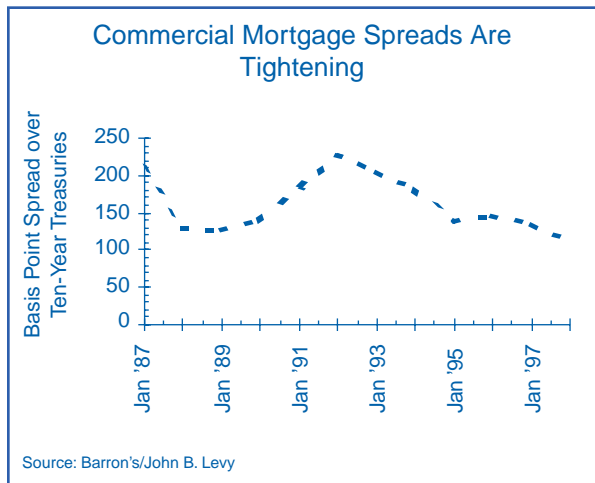


ing to both inadequate loan pricing relative to risks borne by lenders and looser loan underwriting standards. This article examines current trends in commercial real estate loan pricing and loan underwriting. It also explores the possible influences of CMBS and REITs on loan underwriting practices and commercial real estate markets.

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



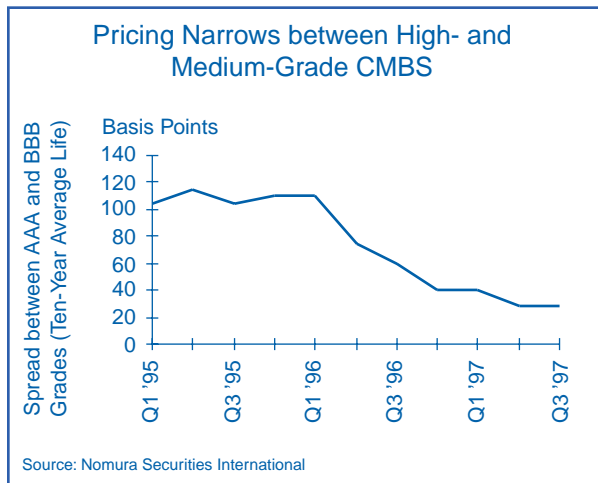
the quality spectrum. For instance, Chart 3 indicates that spreads between AAA- and BBB-rated CMBS have narrowed considerably since year-end 1995, from 110 basis points to a scant 28 basis points.

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

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

CHART 3



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

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.

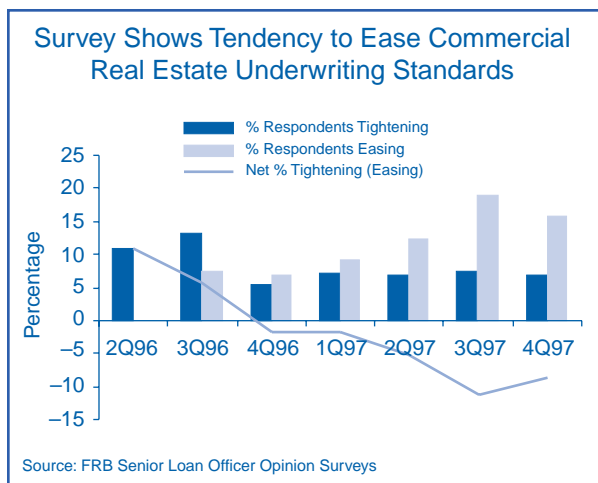
Notwithstanding these quantitative considerations, there are indications that banks are easing commercial

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.

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



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.

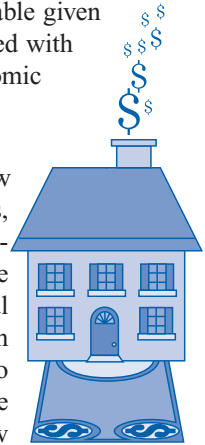
- Results from the *FDIC Report on Underwriting Practices* indicate possible easing of standards for construction and development (C&D) loans at FDIC-supervised banks. A comparison of examiner responses for the third quarter 1997 survey (covering examination reports filed from April through September 1997) with responses for the third quarter 1996 survey leads to the following observations³:
- 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)

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.

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

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.

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

Selected Articles for Further Reading

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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.

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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.

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.

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

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 non-callable 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-

In Focus This Quarter

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

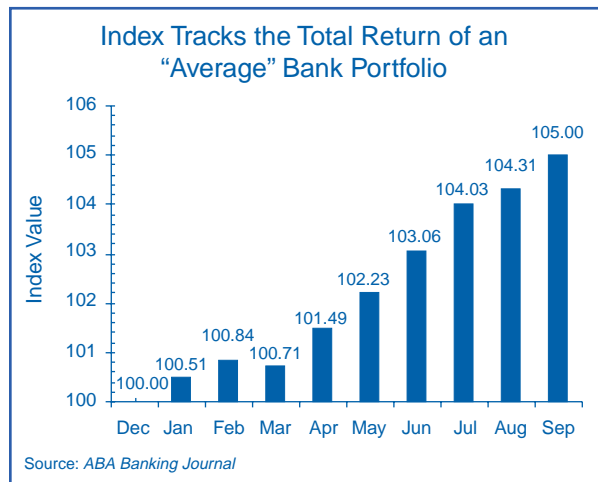
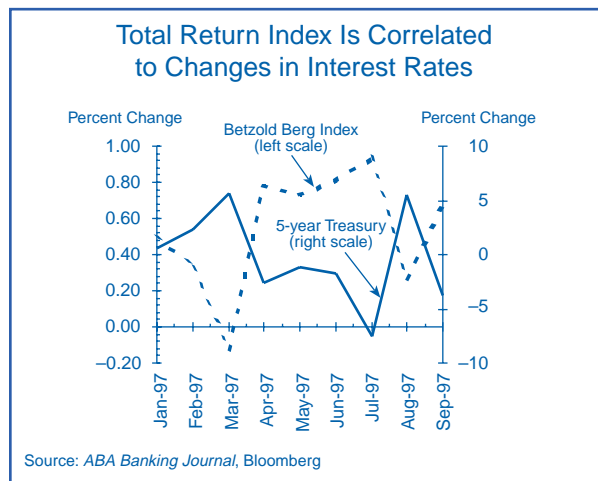


CHART 2



Further Slowing Evident in the Memphis Region

- A period of more moderate activity for most states in the Region is evident, although the Kentucky economy remains vibrant.
- Significant differences in economic performance characterize the Memphis Region, with job gains in the northeast and losses in the southwest.
- Single-family building permit activity has slowed in Arkansas and Tennessee.
- The risk outlook is increased for the Region as a result of the Asian currency crisis.

In the last recession (1990–1991), the Memphis Region's economy barely lost jobs, continuing to outperform the nation until 1995. Since then, its growth has not kept pace with that of the nation, and recent indications are that the gap is widening. Competitive forces in international trade are important determinants of structural change in the Region. Losses in the textile sector from foreign competition have been offset significantly by the migration south of the automobile industry, which has benefited from lower labor costs. Since 1991 the Region has shown more consistent annual growth than in the previous two decades (see Chart 1). And the emergence of the casino industry in the south helped make 1994 a banner year for employment growth.

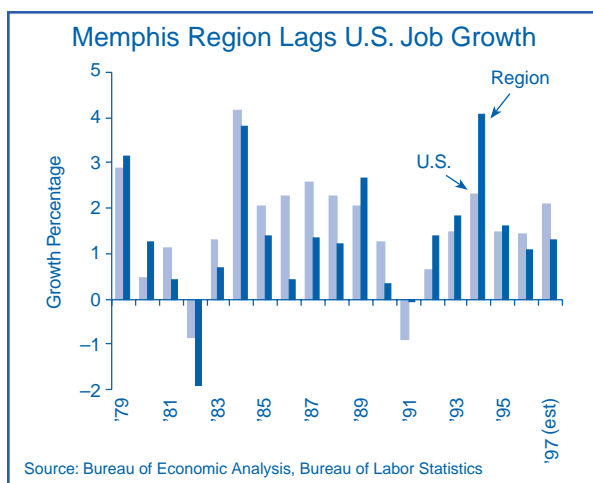
The Region's economy continued to decelerate in the second and third quarters of 1997. Household employment growth declined to 1.3 percent in the third quarter compared with a year ago, below the 2.1 percent recorded for the nation. However, personal income, measured on a quarter-to-quarter basis, grew strongly at 5.2 per-

cent, exceeding national growth by 0.3 percentage points in the second quarter. This anomaly is explained by strong crop prices, which boosted the Region's farm income. Although farm income averages only a little over 5 percent of earnings, its effects are amplified by its occasional wide variability. Year-over-year calculation of employment masks the fact that employment was virtually flat in the second quarter and *declined* modestly in the third quarter. Declines in seasonally adjusted employment on a quarter-to-quarter basis last occurred during the 1990 to 1991 recession.

The sustainability of growth is a key issue in evaluating the prospects for the Region. Concerns at this stage of the long positive national business cycle are as follows:

- A tight national labor market is slowing in-migration, resulting in labor shortages in specific locations and industry sectors and a general slowing of demand growth in the Region.
- Weakness in the textile and apparel sectors may continue to be a drag on manufacturing employment, resulting in isolated pockets of severe distress in otherwise healthy areas.
- Slowing population growth may lead to continued softening in residential construction.
- The repercussions of East Asian financial problems may dampen demand for the Region's exports, which have recently contributed significantly to growth.
- The Region's high share of more volatile manufacturing employment may amplify the local effect of a potential slowing in the national economy.

CHART 1



Despite these concerns, the Region retains significant labor and business cost advantages relative to the nation, an important factor in light of increasing global competition. The Region's dependence on cost-sensitive manufacturing jobs has been mentioned: 18.6 percent of total employment for the Region was in manufacturing in 1996, significantly more than the 15.4 percent for the nation. (See the *Regional Outlook*, second quarter 1997, for a discussion of manufacturing employment volatility.) In addition, rapid in-migration to most states in the Region has resulted in construction, infrastructure, and service industry activity as well as supplying the labor to sustain high employment growth. Chart 2 shows the importance of net migration as a component of total population growth for the Region and its link to employment.

Net migration to the Region has fallen from its peak of 91,000 persons in 1993–94 to 63,000 in 1995–96. This downward trend is likely to continue, as employers are increasingly complaining that they cannot find *skilled* workers, despite the fact that pockets of high unemployment persist in some rural areas. Labor shortages are particularly evident in the oil, shipbuilding, and construction sectors. The declining trend in net migration can be seen in Chart 3 and is evident for all states in the Region. The migration peak corresponds with the 1994 employment growth peak depicted in Chart 1.

After a period of strong activity, the construction industry may be poised for a downturn as a result of slowing population growth. Evidence of a decline in building permits in the Region, particularly in **Arkansas**, is an indication of potential risk. For that state, year-to-date single-family home-building permits through

CHART 2

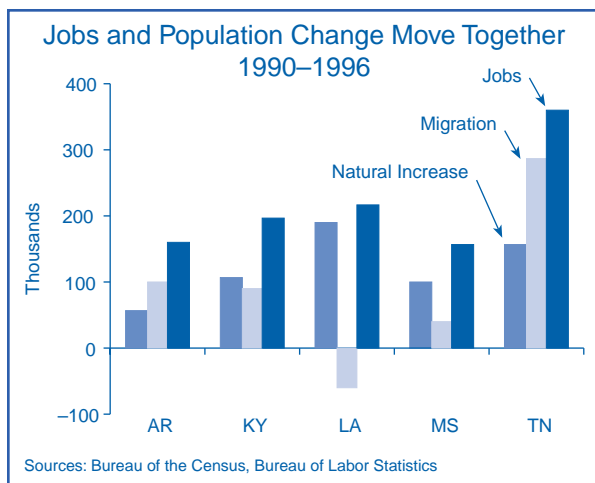
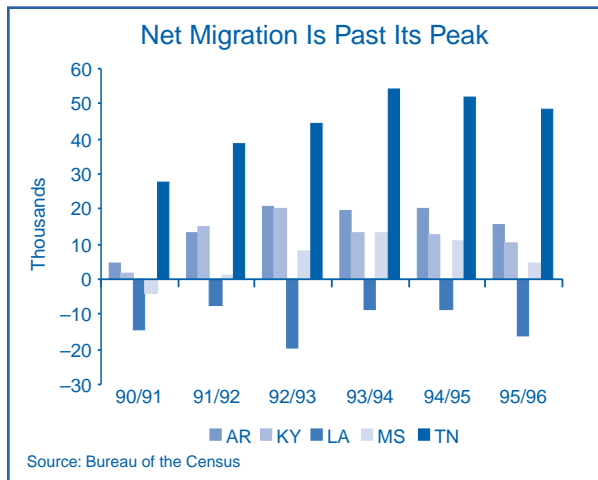


CHART 3



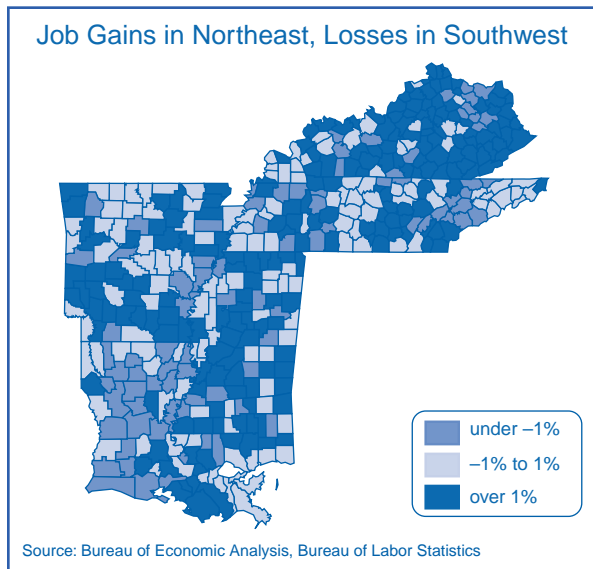
November were down 17 percent compared with last year. Multifamily activity is even lower. Although the permit data are a volatile series, these declines are significant. Because construction activity follows permit issuance, current permit information may provide an indication of future activity. Although **Louisiana** and **Mississippi** do not show significant declines in permits, **Tennessee** single-family permits are down 3 percent from a year ago, and multifamily activity is much lower. In **Kentucky**, permit activity and employment growth remain strong. *Existing* home sales for the Region have remained strong. Despite these mixed indications of weakening construction, low mortgage interest rates have spurred refinancing activity, which began to pick up in the summer. In terms of the Region's residential loan exposure, outstanding loans of commercial banks in the one- to four-family sectors increased from 21.7 percent of all loans in 1990 to 29.0 percent by mid-1997.

Significant Differences in Economic Performance Characterize the Region's States

In spite of the similarities of relatively low cost structure, there has been substantial variation across the Region in nonfarm employment growth. The fastest growing state in the third quarter was Kentucky (2.2 percent), followed by Louisiana (1.3 percent), Arkansas (0.9 percent), Tennessee (0.8 percent), and Mississippi (0.6 percent). These differences are shown by county in Chart 4 (next page).

The following brief tour of the states examines selected locations and issues.

CHART 4



Farm Income Boosts Arkansas Economy, Although Construction Permits Are Down

Arkansas's second-quarter compounded annualized personal income growth of 9.5 percent was first in the nation (quarter over previous quarter). This extraordinary performance was buoyed by a substantial increase in farm earnings from crop cash receipts, particularly soybeans and cotton. These gains contrast with third-quarter employment losses, and concern exists that they may not be sustainable, particularly in light of the recent price weakness in these commodities, which is attributable in part to the East Asian crisis. Areas of relative strength have been trade, construction, restaurants, and general merchandise stores; other sectors have suffered job losses. A key factor in the stability of the economy continues to be the poultry industry, which is heavily dependent on grain prices. Another factor is in-migration, estimated to be 20,700 persons per year at its peak in 1992–1993 but recently estimated by the census to be down to 15,600 in 1995–1996.

Kentucky Continues to Match National Growth

Kentucky's personal income growth in the second quarter was 1.3 percent, twenty-fifth in the nation and tied with that of Tennessee. This is the state that was most affected in the Region by the nationwide UPS strike, as the company's main U.S. air hub is in **Louisville**. The August strike, which involved some 9,000 workers, caused a large temporary decline in transportation, communications, and utilities employment. On a positive note, UPS reported recently that the hub is ahead of projected revenues. Additions to the Ford truck plant, to be completed in the first half of 1998, will add 1,000

new jobs in the Louisville area, with an annual payroll of \$50 million. The fact that jobs will be filled by union workers from plants elsewhere will boost net migration and should stimulate residential construction activity. Meanwhile, other forces have affected the rural areas of the state. The Fruit of the Loom layoffs in the south (**Camblesville** and **Jamestown**) have been partially offset by a good tobacco harvest, which has produced a large temporary increase in farm labor. The manufacturing expansions in the north should widen the economic gap between urban and rural areas. However, the northern areas remain vulnerable to national trends in domestic automobile production. (See *Regional Banking Conditions* for a discussion of certain Kentucky banks that have significant levels of "other borrowed funds.")

Louisiana Sees Some Resurgence in Oil While Textiles Remain Weak

At 0.8 percent, Louisiana ranked forty-sixth nationally in personal income growth in the second quarter of 1997. The state is reducing its dependence on the textile industry, with just 2.5 percent of the 1.22 million non-farm jobs now in this sector. With its large chemical industry, one-third of whose value is exported, exchange rates and the economies of the countries that buy its products are important factors. Major trading partners are Mexico, Canada, and Japan. The relative stability of natural gas prices over the past several years has triggered a resurgence in the chemical industry, with an estimated \$2 to \$3 billion in expansion and construction activity. New defense contracts and repair work associated with offshore exploration have boosted shipbuilding, fabricated metals, and machinery manufacturing in the south. Louisiana has one of the highest unemployment rates in the nation, but finding qualified workers for technical positions is said to be a problem. Shipbuilders are seeking permission to hire foreign workers to fill the need for welders, shipfitters, electricians, and other jobs. If oil prices fall below the \$15 to \$16 per barrel break-even point, some slowing of activity can be expected.

Recently, statewide payroll gains in oil and gas have offset apparel losses two to one. Optimism is reportedly high in the oil and gas sectors, where manufacturing orders are strong. Further potential employment adjustments for oil and textiles are indicated, as average weekly hours were up sharply in petroleum refining and down in textiles. Eating and drinking places added a robust 5,300 jobs (4.5 percent year-over-year growth), with the convention and casino business in the south as

a driver. Also, strong commercial construction starts were recorded in the second quarter. Employment in the **Shreveport-Bossier City** area, which has been dependent on mining (gas) activity, should benefit from the recent opening of the land-based 606-room Horseshoe Casino. There are plans to open four more hotel/casinos in the Shreveport area by 1999. Casino boat revenues in **Baton Rouge** are up by double-digit percentages from a year ago. In the **New Orleans** area, there has been recent evidence of renewed strength, with real estate investment trust purchases of the Louisiana Light and Electric tower and the Texaco Center signaling a resurgence in commercial property and construction activity. However, the area remains highly dependent on petroleum and petroleum-based products, which comprise 25 percent of total earnings, and thus is still vulnerable to oil price shocks.

Mississippi Textiles Are Weak While Casinos and Tourism Show Some Strength

Mississippi income growth in the second quarter was 1.1 percent, thirty-first in the nation. Hotel occupancy rates have been rising on the strength of the casinos along the coast; however, the textiles and apparel sector continues to erode, with more than 850 jobs lost in nine plants since the beginning of 1997. Virtually all sectors except construction and services show third-quarter employment declines. Casino gaming revenues accounted for \$1.86 billion in 1996 (in an economy of \$47.7 billion in personal income) and recorded 7.8 percent growth year-over-year in October. Gulf Coast county revenues grew slightly faster than those for Mississippi River casinos. Relative to the national slowing in gaming revenue, this growth can still be considered quite strong; the banner years of national double-digit growth for gaming appear to be past.

Tennessee Continues to Lead the Slowdown

Tennessee's second-quarter personal income growth of 1.3 percent ranked twenty-fifth in the nation. In 1996 the state was subject to an abrupt slowdown, with personal income growth slumping to forty-seventh in the nation. This decline contrasts sharply with the rapid growth seen earlier in the cycle, in which Tennessee was the leader. Employment growth is being constrained both by supply in the sectors that are doing well and by weakness in specific sectors such as textiles. As a result, manufacturing employment has suffered losses, although construction has managed to remain robust. In **Nashville** there is a shortage of labor for all major trade contractor categories and truck drivers. One company has reportedly been forced to idle more than 10 percent

of its equipment because of labor shortages. As noted earlier, recent permit data suggest that the residential construction boom may be slowing in some areas, particularly **Memphis**. Industry analysts estimate that commercial construction will be at about 80 percent of last year's levels in the area.

Implications: Divergences in economic activity resulting from differences in economic circumstances imply that individual banks' experiences will differ significantly depending on their location and that these differences may increase. However, the known association between employment and residential loan growth suggests that the probability of a slowing in loan applications in the whole Region is increasing. This anticipated trend may be postponed by current low interest rates and increased refinance activity, which could temporarily offset any reductions in loan demand. In the Region, Tennessee is most dependent on in-migration to fuel employment and population growth, and this sensitivity increases exposure to the risk of a construction slowdown.

Focus on the Asian Currency Crisis

The Asian currency crisis has caused concerns regarding the demand for the Region's agricultural and other exports. Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand have experienced substantial declines in their currencies. Table 1 gives a broad indication of the Region's potential exposure and

TABLE 1

A RELATIVELY SMALL PERCENTAGE OF THE REGION'S EXPORTS GO TO COUNTRIES AFFECTED BY THE CURRENCY CRISIS		
	TOTAL EXPORTS (%)	EXPORTS TO AFFECTED AREAS (%)
ARKANSAS	2.2	0.1
KENTUCKY	4.8	0.3
LOUISIANA	3.5	0.5
MISSISSIPPI	2.0	0.1
TENNESSEE	5.9	0.6
U.S. GROSS DOMESTIC PRODUCT	8.0	0.9

SOURCE: EXPORT LOCATOR SERIES, BUREAU OF THE CENSUS

shows the percentage of gross state product in exports to these countries.¹

While the Region's overall exposure is less than that of the nation, concentrations in petrochemical exports in southern Louisiana and eastern Tennessee are potentially at risk. Precise data on exports by commodity and state to country of destination are either ambiguous or unobtainable. Partial data indicate, however, that the seven affected countries account for approximately 12 percent of total chemical exports from Tennessee.

Data limitations also preclude detailed analysis of impacts on the agricultural sector. However, it is known that cotton accounts for 19 percent of all agricultural exports from the Region, followed by soybeans (17 percent) and tobacco (8 percent). States that have high concentrations in food, tobacco, and agricultural exports are Louisiana (49 percent of total exports) and Arkansas (43 percent of total exports).

The *Federal Reserve Beige Book* reports that contacts in the agricultural sector continue to anticipate a slowing in farm exports because of the crisis. There is also evidence that some grain elevators are at higher levels than normal for this time of year. The *USDA Foreign*

Agricultural Service initially estimated a drop in total U.S. agricultural exports to the four nations initially affected (the Philippines, Malaysia, Thailand, and Indonesia) of as much as 20 percent (\$575 million) over the next one to two years. This would be a total drop in agricultural exports to all countries of 1 percent. Subsequent currency depreciations have amplified this figure significantly: A recent estimate released by the U.S. Department of Agriculture's chief economist is of a \$2 to \$3 billion impact. Very little poultry is exported to most of the affected countries, which bodes well for the large poultry sector in Arkansas and Mississippi; however, substantial quantities are exported to Hong Kong.

Implications: Trade uncertainty has been added to the outlook for the Region. Some downward effect on income growth resulting from the East Asian currency crisis is anticipated, but the Region is generally less dependent than the nation on exports. However, concentrations in food processing, chemicals, and agriculture may lead to disproportionate impacts in certain areas. Hedging strategies in the futures markets are often used to spread commodity and currency risks; interest in such activities may increase given the current situation.

¹ State data are for 1994 and, in light of recent rapid export growth, will slightly understate the relative importance of exports.

David T. Griffiths, Regional Economist

Regional Banking Conditions

- **Banks in the Region report strong earnings and loan growth in the third quarter.**
- **Banks are continuing a trend toward increased use of alternate sources to fund loan growth.**
- **Declining allowance levels have accompanied loan growth and merit close attention, given indications of weaker underwriting standards.**

Overview of Memphis Region Banking Conditions

The third quarter of 1997 produced a continuation of recent favorable reports on some of the primary measures of insured institutions' financial strength:

- The aggregate leverage capital ratio increased by 11 basis points to 9.05 percent.
- Return on assets remained stable at just over 1.3 percent.
- Nonperforming asset totals remained well below 1 percent of total assets.

Continued robust loan growth is another notable result of the third quarter. Third-quarter annualized loan growth for all insured institutions in the Region, adjusted for merger and new bank activity, was almost 14 percent, virtually the same rate as over the previous one-year period. By comparison, third-quarter annualized deposit growth was 6.5 percent, with growth of almost 9 percent over the previous one-year period. The Region's insured institutions now boast the highest loan-to-deposit ratio level of this decade, at 83 percent. The rapid growth in loan portfolios seems to be a primary factor in an increased use of other borrowed funds (OBF), which is discussed later in this article. This growth is also a factor in the important issue of the adequacy of the allowance for loan and lease losses, an issue that has resulted in cautionary statements by bank regulatory agencies in recent months.

Banks Turn to Alternate Funding Sources

As loan growth continues to outpace deposit growth, banks are turning to alternate funding sources. A trend toward increasing reliance on large certificates of

deposit was discussed in the second quarter 1997 *Regional Outlook*. As shown in Chart 1 (next page), the Region's banks are also using other borrowed funds to a greater degree as loan-to-deposit levels have climbed. For this article, "other borrowed funds" primarily includes federal funds purchased and securities sold under agreement to repurchase less any offsetting federal funds sold and securities purchased under agreement to resale, and other borrowed money as defined in Call Report instructions.

More Banks Are Using OBF

The number of banks in the Region with 10 percent or more of total liabilities in other borrowed funds (High OBF Group) has grown from 34 at year-end 1990 to 106 at the end of the third quarter of 1997. As shown in Chart 2 (next page), most of the new institutions in the group are banks with total assets of less than \$500 million.

Geographically, the High OBF Group is concentrated in metropolitan areas and throughout western **Kentucky**. Kentucky and **Tennessee** are home to a disproportionate majority of the group, with 55 and 25 banks, respectively. Not surprisingly, these two states have the highest loan-to-deposit totals in the Region.

The Primary Source of OBF Is Changing

In 1990, federal funds purchased and securities sold under agreement to repurchase represented approximately 90 percent of total OBF. Since that time, banks have increasingly relied on additional sources of OBF, with federal funds purchased and securities sold under agreement to repurchase declining to 60 percent of the total at the end of the third quarter of 1997. Although banks do not directly report the makeup of these additional sources of funding, one primary source is advances from the Federal Home Loan Bank (FHLB) system.¹ Since January 1990, when banks were first

¹ Based on information from the FHLBs of Cincinnati and Dallas.

CHART 1

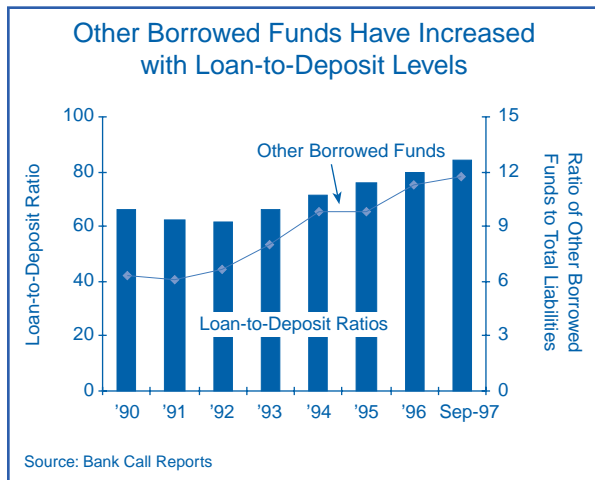
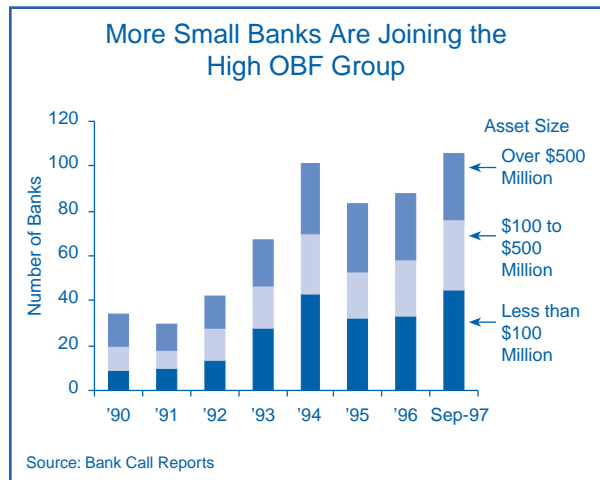


CHART 2



allowed to join the FHLB, membership has grown to approximately 60 percent of the Region's commercial banks.

Banks have found several advantages to using FHLB advances: low overhead costs to obtain advances compared with human resource and marketing expenses required to generate core deposits; the absence of reserve requirements and deposit assessments on advances; and specially priced programs for affordable housing and community development projects. Other advantages are greater flexibility and control over funding, including quick and easy access to funds; ability to structure repayment programs; and availability of long-term (up to 20 years) funding. This flexibility and control can also be used to address interest rate risk concerns; for example, banks can draw 15-year

advances with no prepayment penalty to support 15-year residential lending.

As shown in Table 1, FHLB membership and use of FHLB advances by community banks with less than \$500 million in total assets is not uniform throughout the Region. Banks in states served by the FHLB of Cincinnati had higher membership levels and more members using advances as of October 31, 1997. As previously noted, banks in these states have experienced higher loan demand. Among banks served by the FHLB of Dallas, those in **Arkansas** are using the system for the greatest dollar volume. (This fact may be partially attributable to the fact that the FHLB of Dallas used to operate a satellite office in Arkansas.)

TABLE 1

FHLB USE VARIES BY STATE AND FEDERAL HOME LOAN BANK				
INFORMATION AS OF 10/31/97	BANK MEMBERS	PERCENT OF BANKS	BANKS WITH ADVANCES (\$ MILLIONS)	
			NUMBER	ADVANCES
DALLAS FHLB:				
ARKANSAS	120	55	63	\$ 337
LOUISIANA	78	52	39	101
MISSISSIPPI	52	54	34	155
CINCINNATI FHLB:				
KENTUCKY	178	69	143	1,029
TENNESSEE	136	62	99	1,005

NOTE: INCLUDES ONLY BANKS WITH \$500 MILLION OR LESS IN TOTAL ASSETS
SOURCE: FHLB OF DALLAS AND FHLB OF CINCINNATI

Implications: *The advantages of OBF come at a cost, typically in the form of higher interest rates or greater interest rate risk. The median net interest margin for banks in the High OBF Group has ranged from 18 to 40 basis points below the remainder of the Region's banks during the 1990s. While this overall difference can be attributed to many causes, the higher interest expense typically associated with OBF was probably a factor. Note that while the use of other borrowings may result in lower net interest margins, the addition of earning assets supported by these funds, as well as potential reduction in overhead costs, may be improving return on equity.*

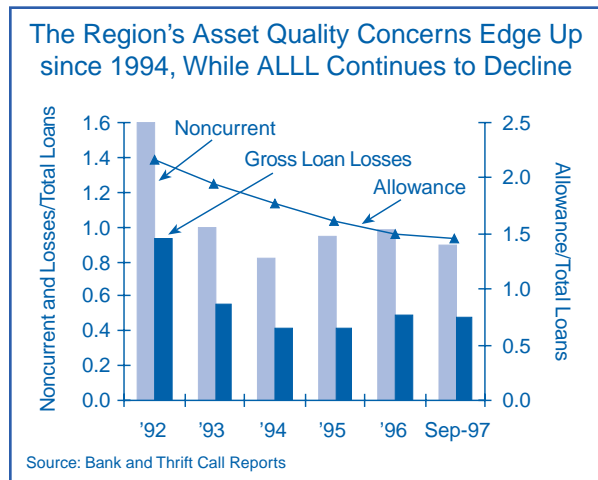
The potential for interest rate risk arises with OBF as with all funding sources, particularly when federal funds purchased or short-term FHLB advances are used to fund longer term assets. In addition to timing mismatches, the use of OBF can result in additional yield curve or option risk. However, many banks have found that certain FHLB advances, managed properly, can be used to reduce interest rate risk, as described above in the example involving 15-year mortgage loans.

Another potential risk arises when OBF are used to create rather than fund growth. Bankers can quickly leverage their balance sheets and reduce capital ratios through such borrowings. An example is a "government arbitrage" strategy employed by some Memphis Region institutions as a means of using capital in excess of regulatory minimums. In such an investment, the bank borrows from the FHLB at a floating rate and reinvests in floating rate mortgage-derivative products to earn the spread. While such strategies may improve return on equity, the bank's risk profile is likely to increase as a result.

Allowances for Loan and Lease Losses Are Falling

Funding is only one area of concern arising from loan growth. Another results from loan portfolios growing faster than allowances for loan and lease losses (ALLL), resulting in declining coverage levels. This trend has drawn increased regulatory attention. In August 1997, the Office of the Comptroller of the Currency (OCC) issued an Advisory Letter (AL-97-8) noting trends toward weaker loan underwriting standards and declining levels of allowance coverage and discussing concern over weaknesses in methodologies being used to determine ALLL adequacy.

CHART 3



By traditional measures, the allowance coverage for Memphis Region banks and thrifts has fallen in recent years, as shown in Chart 3. The initial reduction in allowance levels during 1993 and 1994 occurred during a period associated with overall improvement in asset quality. Since then, however, certain risk measures, including noncurrent loan levels and loan loss rates, have increased. Noncurrent loans, although down from 1996, rose from 0.82 percent of total loans at the end of 1994 to 0.90 percent at the end of the third quarter of 1997. Gross loan charge-offs have likewise increased, from 0.41 in 1994 to an annualized 0.48 percent of total loans at the end of the third quarter of 1997. Also, the deterioration in these ratios may be somewhat understated because of the substantial increase in total loans during the period. These quantitative indicators of loan quality do not seem to support the decline in allowance coverage that has continued since 1994.

Additionally, considerable attention has been focused on changes in bank underwriting standards, particularly for commercial and commercial real estate loans. Concerns over underwriting standards were raised in the Federal Reserve's *November 1997 Senior Loan Officer Opinion Survey on Bank Lending Practices*, the OCC's *1997 Survey of Credit Underwriting Practices*, and the FDIC's *Report on Underwriting Practices* for April to November 1997. These subjective assessments also point to increased loan portfolio risk.

The declining allowance coverage is fairly consistent among banks of differing asset size and geographic location. The overall trend also holds among banks with varying lines of business concentrations, as shown in Table 2 (next page).

Banks in the Region that currently have a concentration in commercial loans (25 percent or more of total loans) exhibit generally higher allowance levels, at 1.61 percent of total loans, than the Region overall. The higher allowance level for this group is somewhat expected, as such loan concentrations are historically associated with higher risk levels. Another traditionally higher risk line of business concentration, commercial real estate and construction lending, does not follow this pattern, as these banks have a slightly lower allowance to total loans than the Region overall. Banks with concentrations in consumer lending show the weakest allowance coverage. This group also has significantly lower coverage of gross loan losses (2.06 times gross charge-offs) than the 2.97 times coverage of the Region overall. The historically greater degree of risk associated with commercial real estate and current concerns over consumer lending suggest that allowance coverage for these banks should be higher than the Region overall rather than lower.

Another group of banks exhibiting higher risk profiles and declining allowance coverage is the High Loan Growth Group,² also shown in Table 2. The most signif-

icant decline in allowance coverage occurred in institutions in which one- to four-family residential lending was the primary component of loan growth. Although loan losses in one- to four-family residential lending have traditionally been modest, recent changes in underwriting standards, such as higher loan-to-value limitations and debt-income ratios, may reduce the usefulness of historical experience in this area. Institutions in which commercial real estate and construction lending was the primary component of overall loan growth also showed significant declines in allowance coverage. The low and declining ALLL for these banks warrants close attention because of the greater risk typically associated with this growth component.

The decline in allowance coverage has occurred in spite of considerable increases in quarterly provisions. With increased revenue, banks have set aside more money into the allowance for loan losses. As shown in Chart 4, provisions relative to net income have more than doubled since 1994, during a period of rising net income levels. These provisions have more than covered net loan losses but have not kept pace with overall loan portfolio growth.

Chart 4 displays provisions, charge-offs, and net income for each quarter as a cumulative total through the year; for example, the third quarter 1997 is a cumulative ratio for all three quarters. This format serves to normalize the high provisions and charge-offs that normally occur in the fourth quarter for many banks.

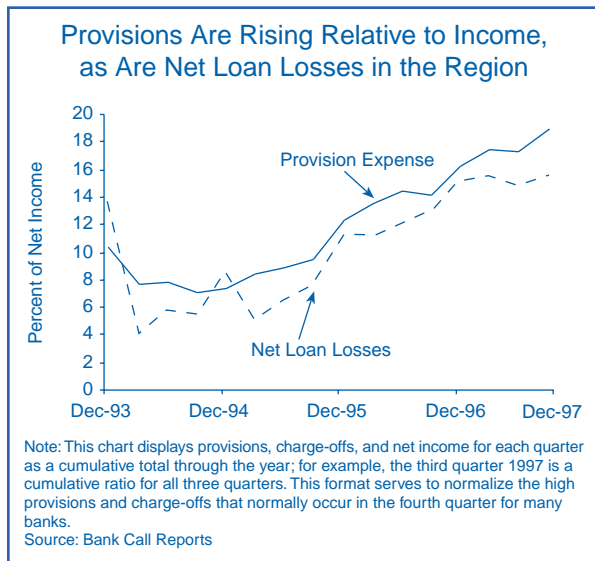
² The group includes banks with less than \$1 billion in total assets that experienced 50 percent loan growth or greater from December 31, 1994, to September 30, 1997. Any banks involved in mergers or consolidations, and banks chartered after December 31, 1991, were excluded from the group.

TABLE 2

OVERALL DECLINE IN ALLL IS CONSISTENT AMONG GROUPS			
	BANKS IN GROUP	ALLL/TOTAL LOANS DEC-94	SEP-97
UNITED STATES	9,215	2.22	1.89
MEMPHIS REGION	999	1.86	1.51
BANKS WITH LINE OF BUSINESS CONCENTRATIONS IN:			
COMMERCIAL LENDING	106	2.18	1.61
COMMERCIAL REAL ESTATE LENDING	244	1.71	1.48
CONSUMER LENDING	223	1.67	1.44
HIGH LOAN GROWTH BANKS AND GROUPS BY PRIMARY COMPONENTS:			
TOTAL HIGH LOAN GROWTH GROUP	216	1.59	1.32
PRIMARILY 1- TO 4-FAMILY RESIDENTIAL	107	1.63	1.26
PRIMARILY COMMERCIAL REAL ESTATE	68	1.53	1.36

SOURCE: BANK CALL REPORTS

CHART 4



Implications: A lower allowance level may limit a bank's ability to respond effectively to increasing loan losses. In the event of declining asset quality, institutions with low allowance levels relative to risk could see greater earnings volatility as a result of the combined impact of lost earnings from nonearning assets and higher necessary provisions for loan and lease losses. These effects could be more pronounced in banks with elevated risk profiles resulting from concentrations, higher intrinsic risk in certain lines of business, or faster loan growth rates.

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