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# ◆ Regional Outlook ◆

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BOSTON  
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INSURANCE

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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.*

*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**—For much of the Region, 1997 was the strongest year seen thus far during this economic expansion...An expected slowdown in the national economy, in part fueled by weakness in Asia, as well as increased import competition and a tight labor market, may act to slow the Region's economy in 1998...New England's economic growth is at greater risk than the nation's from a stock market crash or protracted bear market. *See page 16.*

*By Norman Williams*

◆ **Regional Banking**—The Region's banks continue to show healthy results...dependence on real estate heightens vulnerability to refinancing wave...flattening yield curve will likely place downward pressure on margins and earnings...strong asset/liability and interest rate risk management programs are increasingly critical to deal with the current rate environment. *See page 21.*

*By Daniel Frye, Cameron Tabor, Elizabeth McDonough*

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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.<sup>1</sup> 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

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<sup>1</sup> 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.<sup>2</sup> If they fail altogether, the bank's

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<sup>2</sup> 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.<sup>3</sup> 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

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<sup>3</sup>*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](http://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](http://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)	<a href="http://www.fdic.gov">www.fdic.gov</a>
Federal Financial Institutions Examination Council (FFIEC)	<a href="http://www.ffiec.gov">www.ffiec.gov</a>
U.S. Federal Reserve Board of Governors	<a href="http://www.bog.frb.fed.us">www.bog.frb.fed.us</a>
National Credit Union Administration (NCUA)	<a href="http://www.ncua.gov">www.ncua.gov</a>
Office of the Comptroller of the Currency (OCC)	<a href="http://www.occ.treas.gov">www.occ.treas.gov</a>
Office of Thrift Supervision (OTS)	<a href="http://www.ots.treas.gov">www.ots.treas.gov</a>

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

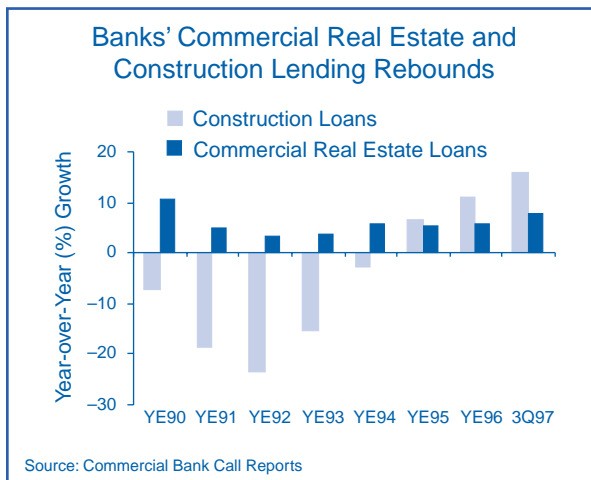
## *Trends in Commercial Real Estate Loan Pricing and Underwriting*

- 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

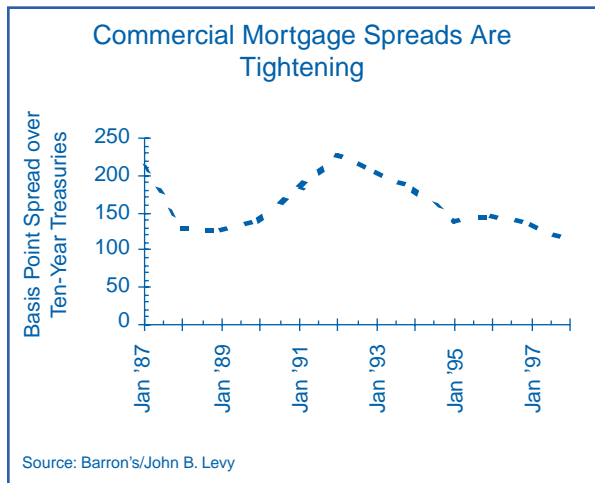


ing to both inadequate loan pricing relative to risks borne by lenders and looser loan underwriting standards. This article examines current trends in commercial real estate loan pricing and loan underwriting. It also explores the possible influences of CMBS and REITs on loan underwriting practices and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



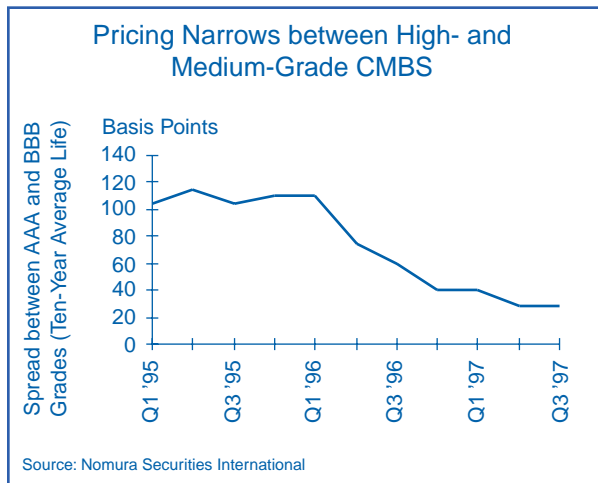
the quality spectrum. For instance, Chart 3 indicates that spreads between AAA- and BBB-rated CMBS have narrowed considerably since year-end 1995, from 110 basis points to a scant 28 basis points.

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.<sup>1</sup> 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

<sup>1</sup> 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)<sup>2</sup> 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.

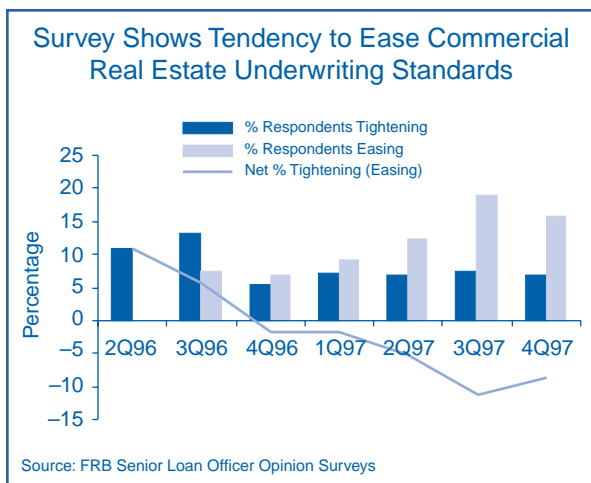
Notwithstanding these quantitative considerations, there are indications that banks are easing commercial

<sup>2</sup> 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 observations<sup>3</sup>:
- 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.

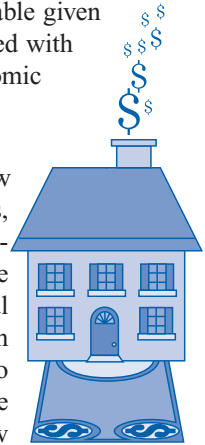
Much of the commentary in recent issues of various trade journals echoes the results of these regulatory surveys.<sup>4</sup> In brief, many industry participants are seeing a higher incidence of (1) banks funding construction loans without preleasing commitments on major portions of rentable space, (2) banks easing LTV ceilings, (3)

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<sup>3</sup> 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

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<sup>4</sup> 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.<sup>5</sup>

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  
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### ***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.

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<sup>5</sup> 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.<sup>1</sup>

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.

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<sup>1</sup> 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*,<sup>2</sup> Nicholas Betzold and Richard Berg convincingly dispute the

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<sup>2</sup> 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.<sup>3</sup> 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.<sup>4</sup> 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*

<sup>3</sup> 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.

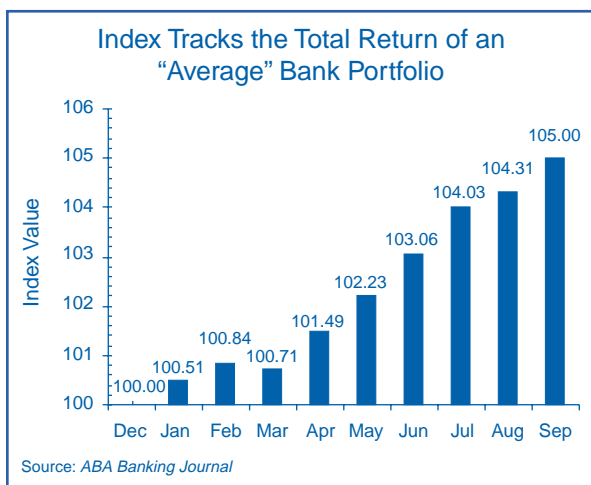
<sup>4</sup> The index is published monthly in the *ABA Banking Journal*.

**TABLE 1**

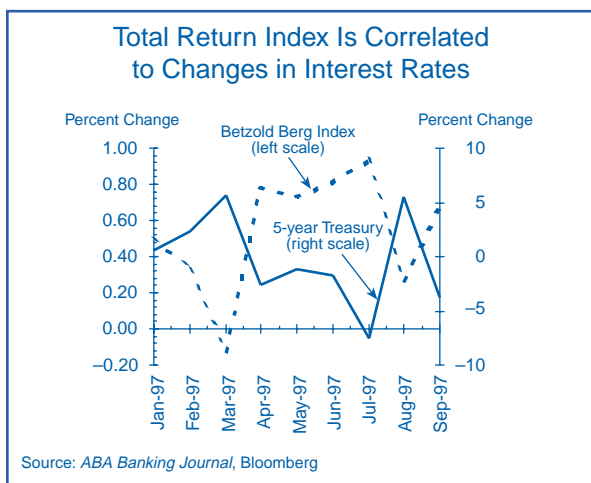
COMPOSITION OF BETZOLD BERG INDEX DECEMBER 31, 1996	
SECURITY TYPE	PERCENT OF INDEX
TREASURIES	24.52
AGENCIES	24.38
MUNICIPAL BONDS	12.26
FIXED-RATE MORTGAGE OR MORTGAGE-RELATED PRODUCTS	19.93
OTHER SECURITIES	6.09
ADJUSTABLE-RATE SECURITIES	13.00

SOURCE: BANK AND THRIFT CALL REPORTS, SEPTEMBER 30, 1996

**CHART 1**



**CHART 2**



## *Greatest Risks to Region's Current Expansion Will Come 'From Away'*

- New England's economy, except for a few pockets of weakness, performed very well in 1997.
- Slower but continued growth seems to be the most likely scenario for the Region's economy in 1998.
- A national recession would likely put an end to the current New England expansion.
- Either a significant, abrupt stock market decline or a protracted bear market could adversely affect the Boston Region's economy.

### *New England's Economy Saw Above-Average Growth in 1997*

On the basis of preliminary measures such as income and job growth, 1997 seems to have been one of the strongest years of the current expansion for the Boston Region's economy. New England manufacturing, for example, is likely to show its first annual net increase in employment this decade, thanks to a return to net job gains among **Massachusetts** factories and continued growth in the manufacturing sectors of **New Hampshire** and **Vermont**. Some of the positive developments in the Region's economy during 1997 are discussed below, as are a few of the risks that could pose a threat to its continued expansion over the near term.

### *Income Growth May Continue to Exceed U.S. Average*

Income per capita likely rose by a healthy 5.8 percent during 1997 in New England, compared with an estimated gain near 5 percent for the nation as a whole. Per capita income gains last year were likely strongest in the Region's largest economies, with anticipated gains of 6.2 percent in Massachusetts and about 6.0 percent in **Connecticut**.

Chart 1 illustrates the recent history of per capita income for New England and the nation. The fall 1997 forecast by the *New England Economic Project* calls for the Region to continue to post larger gains in per capita income than the nation in 1998. This projection is expected to hold true for all states in the Region except **Rhode Island**.

### *Job Gains Were Strong Overall, but Eased in New Hampshire and Vermont*

Table 1 presents preliminary estimates for 1997 non-farm payroll employment growth (through November) for the states in the Boston Region. Most states witnessed growth rates that matched or exceeded their average pace for this expansion through 1996 (the far right column in Table 1). New Hampshire was again among the Region's fastest growing states last year, but its growth rate slowed after a gain nearly double the U.S. pace in 1996. Vermont's rate of job growth also eased last year. However, given that Vermont's current expansion is among the longest running of any state in the Region, some slowing is to be expected.

Job growth in the Region's largest labor markets also increased last year. Massachusetts, with 2.5 percent growth in 1997, exceeded the rate of net job creation for

**CHART 1**

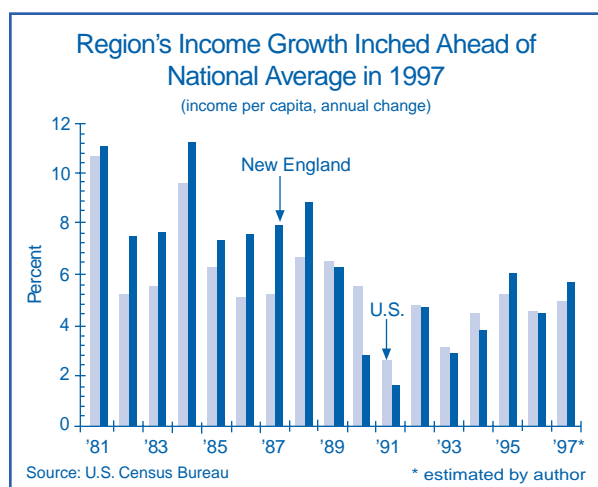


TABLE 1

MOST STATES SAW ACCELERATED JOB GROWTH DURING 1997 (PERCENT CHANGE IN AVERAGE NONFARM EMPLOYMENT FROM YEAR AGO)			
	1997*	1996	TREND THIS EXPANSION**
U.S.	2.2	2.1	2.0
NEW ENGLAND	2.1	1.7	1.8
CONNECTICUT	1.9	1.4	0.9
MAINE	1.7	0.3	1.3
MASSACHUSETTS	2.5	2.0	2.1
NEW HAMPSHIRE	2.3	3.7	3.0
RHODE ISLAND	0.9	0.4	0.9
VERMONT	1.4	1.8	2.0

\* YEAR-TO-DATE THROUGH NOVEMBER  
SOURCE: BUREAU OF LABOR STATISTICS

\*\* COMPOUND ANNUAL RATE, 1996/LAST TROUGH

the nation. Connecticut, which has posted increasing rates of job growth every year since 1992, also continued to gain steam.

**Unemployment Rates Generally Low, but Chronic Pockets of Weakness Persist**

By 1997, the combination of modest labor force growth and increasing job gains across much of the Region resulted in unemployment rates well below the U.S. average in many states. Chart 2 shows that a broad swath of counties across the Region had very tight labor markets last year.

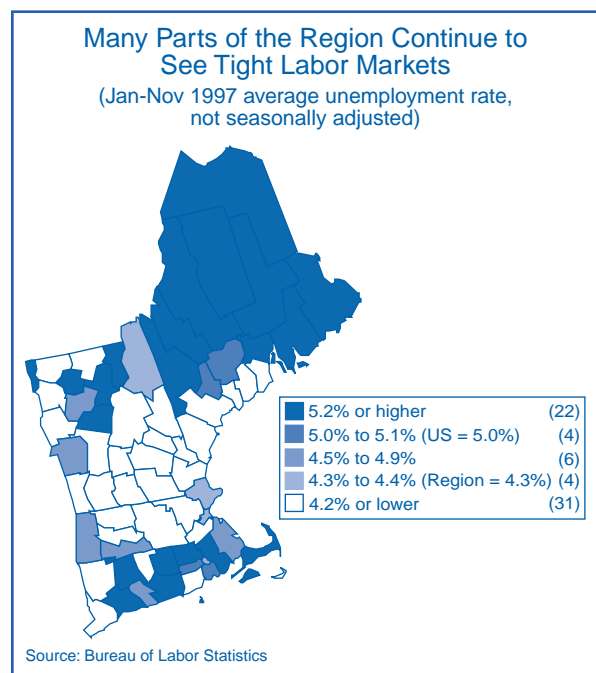
Through November, unemployment rates were below the Regionwide average (and well below the U.S. average) in 31 counties, many of them in New Hampshire, Vermont, southern **Maine**, and eastern Massachusetts. These counties account for a little over one-third of the Region's total population. Conversely, all but one of Rhode Island's counties exceeded the 5.0 percent U.S. average unemployment rate between January and November 1997.

The sparsely settled counties of northern Maine also continued to see fairly high unemployment rates last year. Washington County had the highest unemployment with an average rate of 10.1 percent. Other pockets of high unemployment existed in northeastern Vermont, which, like northern Maine, has had consistently soft labor markets during this expansion.

In Massachusetts, weakness persisted in the western and southeastern counties (areas historically more reliant on

volatile manufacturing industries, such as textiles and paper products). In Connecticut, Fairfield County and (sparsely populated) Tolland and Litchfield Counties were the only subareas with unemployment rates below 4.3 percent (the Regionwide average). Except for Middlesex County (4.8 percent), the remaining four counties exceeded the U.S. average unemployment rate of 5.0 percent during the first 11 months of 1997. Persistent pockets of relatively high unemployment are Connecticut's legacy from the last recession, when cyclical factors were amplified by the secular downsizing of the state's defense, insurance, and banking industries.

CHART 2



**Outlook: Slower Growth Ahead?**

Looking forward, last year's strong employment growth rate is expected to slow in 1998, according to the fall 1997 forecast by the *New England Economic Project*. Based on expectations of slower national growth this year, the group is calling for a net increase in employment of 1.6 percent in New England, a rate that would still compare favorably with an anticipated U.S. rate of 1.2 percent. Much of the expected slowdown in New England derives from the fact that our economy is increasingly tied to the national business cycle. The Region's growing scarcity of qualified workers in expanding industries may also slow growth. These factors, combined with the lack of any significant imbalances in the Region's economy at present, mean that the current expansion is most at risk from a national recession or other outside influences.

**Implications:** Slower growth over the next year may increase pressure on insured institutions to relax underwriting standards or to take other risky measures to generate new business and retain existing customers. Downward pressure on pricing coupled with increased risk taking could exacerbate any problems that develop when the economy does enter the next recession.

**Risks to New England Expansion to Come 'From Away'**

Mainers have an expression for outsiders—they are “from away.” This colloquialism is quite appropriate to the risks that could derail the expansion New England has enjoyed for the past five years. As discussed above, the Region's states are performing quite well, and the most likely scenario going forward is one of moderating growth.



Unlike the last recession, there appear to be no major imbalances in the Region's real estate markets, nor is another round of huge defense and insurance industry layoffs likely any time soon. The other major factor aggravating the last recession, namely a large restructuring in New England's computer industry, is also unlikely to recur. The shift in market demand to PC-dominated open systems in the late 1980s and early 1990s, and the massive layoffs that resulted among the Region's once-dominant minicomputer giants, left a

more diverse landscape of computer hardware firms in New England. Now that employment is spread over more firms and a broader range of products, the Region's computer industry should be better able to avoid large-scale layoffs when the next major shift in computer technology occurs.

**New England Not Immune to a National Recession**

Since the Region has no imbalances, its next recession will most likely occur concomitantly with a national downturn. However, the general consensus is that a national recession is not very likely in the near term. For instance, of the 39 economists/forecasters surveyed by the *National Association for Business Economics* in November 1997, none saw a recession in 1998, and only 11 (28 percent) thought the economy would turn down in 1999. An *In Focus* article by Paul Bishop in next quarter's *Regional Outlook* will examine some potential U.S. recession scenarios.

**Asian 'Crisis' May Slow Region's Growth Slightly**

The spreading southeast Asia currency “crisis” in the latter half of 1997 led many economists to forecast that ongoing weakness in that part of the global economy would result in an easing of growth in U.S. gross domestic product (GDP) by 0.5 to 1.0 percentage points in 1998. While some portions of the country will be more adversely affected than others, the effect on the Boston Region should be modest. Growth in the Region's economy will slow, as local exporters see a decline in demand because of weaker Asian economies and because devalued Asian currencies make U.S. goods more expensive in those markets. This analysis also applies to the Region's many colleges and universities that “export” education services to foreign students studying at local schools. Local manufacturers whose products compete with Asian goods may see demand slacken as exchange rate fluctuations make some Asian goods more affordable. On the bright side, total exports account for less than a 10 percent share of the various New England states' gross products, except in Vermont, where IBM's exports to Canada raise the figure to near 17 percent. State exports to Asia (eight nations), China, and Japan generally made up only 1 to 3 percent of each state's estimated gross state product in 1996, while nationally this figure was 2.4 percent of GDP. Thus, the



direct effects on the Region's export- or import-competing industries are likely to be no more severe than they will be for the nation as a whole. Only if the Asia problem unduly depresses U.S. equity markets would this Region be more adversely affected than other parts of the nation.

### ***Equity Market Crash or Protracted Bear Market Poses Risks to the Region's Expansion***

Despite some weakness in January, many would agree that by most measures the stock market remained "priced" in early 1998. Given the fleeting nature of the October 1997 market correction, the possibility of a significant stock market decline remains high. Also, the negative effects of slumping Asian economies and a slowing domestic economy on U.S. corporate earnings growth have the potential to contribute to a flat, or even bearish, market in the near future.

In New England, the Massachusetts economy is at greatest risk from a negative shock to equity markets. Connecticut may also bear a greater risk, given its growing securities employment and Fairfield County's ties to the New York City economy. The risks of a market decline or shift to a longer term bear market are twofold for the Massachusetts economy (a primary driver of this expansion). First, a larger than average share of state income is tied to equities. Second, expanding employment in certain high-growth sectors depends, to some extent, on continued strength in the stock market.

On the first point, a recent analysis by *Regional Financial Associates*<sup>1</sup> indicated that "only Florida has a higher share of taxable income from capital gains than Massachusetts' residents." In a declining equity market, households would curtail spending as the value of their equity holdings (and thus their income through realized capital gains) fell. Consumption is a major driver of economic activity. Slower growth or an outright decline in consumer outlays would curtail the Region's economic expansion.

On the second point, the securities (primarily asset management) and high-technology industries have been among the Region's strongest generators of new jobs in recent years. Chart 3 highlights the importance to the Region of securities industry employment. The graph

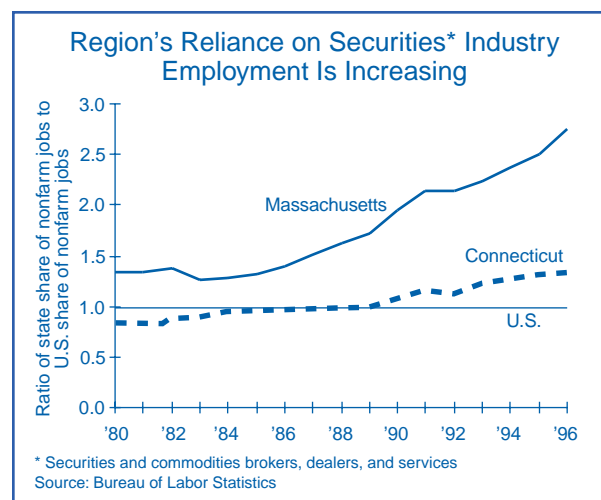
illustrates the ratio of two states' shares of nonfarm employment in securities to that for the United States as a whole. A value of 1.0 would mean that a state's share of jobs in the securities industry is equal to that for the U.S. economy.

Massachusetts (in particular the greater **Boston** area) and parts of New Hampshire, Rhode Island, and Connecticut have seen increasing employment in the securities industry in recent years. As can be seen in Chart 3, Massachusetts was almost three times as reliant on employment in the securities industry as the United States as a whole in 1996. While consistently above the United States since 1980, this dependence has been growing markedly in recent years. Connecticut, too, has seen a rising share of employment in the industry, exceeding the U.S. share since 1990.

A declining U.S. equity market would certainly derail the recent spate of rapid job growth in this industry. Securities employment could even decline if either the duration or depth of a market downturn were sufficiently pronounced.

Information technology, particularly software and related services, is another area that has generated significant gains in employment and income for the Region during this expansion. Most established publicly traded technology firms are modestly leveraged, relying primarily on their equity to fund investment and to expand their businesses. Information technology startups are also reliant on a strong equity market to attract venture capital to the industry. Most venture capital is placed with the ultimate goal of an initial public offering in

**CHART 3**



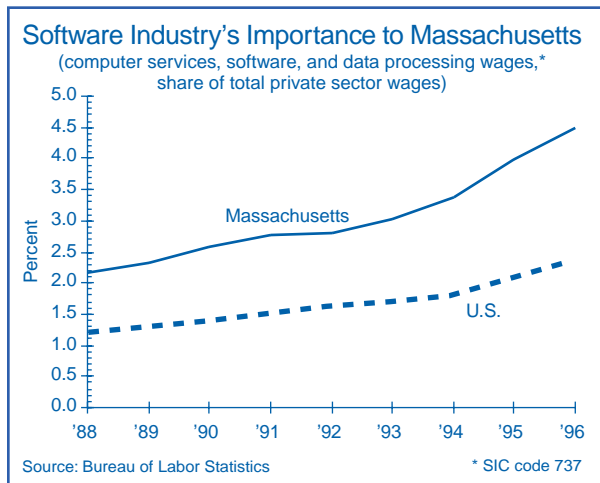
<sup>1</sup> "Stock Market Mania," Mark M. Zandi, *Regional Financial Review*, September 1997.

mind, as taking a startup public allows the venture capital firm to profit from its investments. Without a strong market to support public offerings, the supply of venture capital might be curtailed. This situation would most likely slow job and income growth at young firms, while reduced equity values would also impede growth at more established companies.

In recent years, a large share of venture capital in New England has gone to software startups, thanks to strong growth in Internet-related applications. Chart 4 highlights the importance of the wages generated by the software (and related services) industry to Massachusetts. In 1996, the state was about twice as reliant on jobs and income from this industry as the nation as a whole. Private sector wages in this industry grew by about 15 percent per year (at a compound annual rate) between 1990 and 1996 in Massachusetts, versus a much more sedate annual pace of 4.5 percent for all private sector wages.

**Implications:** Direct exposure of insured institutions to equity markets is generally modest in the Region. The few institutions with large equity holdings relative to Tier 1 capital generally have significant unrealized gains or adequate capital positions or both to weather a substantial decline in the market. However, institutions may also have indirect exposure to the equity markets

**CHART 4**



through loans to companies in the securities industry or through loans secured by equity securities. Further, to the extent that a market downturn would impede consumer spending and otherwise weaken growth in the Region's economy, insured institutions, along with firms in most other industries, could expect to see heightened pressure on revenues and profits.

*Norman Williams, Regional Economist*

## Regional Banking Conditions

- The Region's insured institutions continue to report strong profits and improved asset quality.
- A focus on return on equity at publicly traded companies results in lower capital levels.
- A flattening yield curve would likely pressure margins and earnings in 1998 and beyond.
- Strong asset/liability management skills will be required to deal with a prolonged period of refinancing activity in the current interest rate environment.

### Overall Conditions Remain Upbeat

The Boston Region's insured institutions continue to report strong performance. Profits have risen to record highs, capital and reserve levels are adequate, and loan delinquencies and charge-offs are low and appear to be headed lower. As of September 30, 1997, the Region's institutions posted an aggregate year-to-date return on assets (ROA) of 1.30 percent. This compares favorably to the year-to-date ROA posted by all insured institutions of 1.18 percent and is 15 percent higher than the comparable period in 1996. Profits continue to be driven by strong net interest margins, improved asset quality, and gains in operating efficiency. Additionally, noninterest income continues to grow relative to asset size for the Region's large or specialized firms, in large part because of continued strong growth in the equities market and its concomitant positive effect on fees associated with asset management and capital markets-related activities.

Earnings continue to boost aggregate capital levels; however, leverage ratios vary widely depending on the nature of institution ownership. Publicly traded institutions and those that are subsidiaries of publicly traded companies maintain significantly lower capital levels than closely held banks and mutually owned savings institutions (see Table 1). For institutions headquartered in the Boston Region, the Tier 1 capital ratio is inversely related to asset size, with subsidiaries of the largest publicly traded companies maintaining the lowest average Tier 1 capital levels. Asset growth has not kept pace with capital formation, and as a result, dividend payouts are high for publicly traded organizations to ensure that a relatively higher degree of leverage is maintained. Investor demands for high returns on equity result in the redeployment of "excess capital" from subsidiary banks and thrifts to other corporate purposes, such as acquisitions, stock repurchase programs, and higher dividend payouts at the corporate level. As a result, these institutions are achieving higher returns on equity than their nonpublic counterparts but are doing so from a weaker capital position.

**TABLE 1**

PUBLICLY TRADED INSTITUTIONS USE GREATER DEGREE OF LEVERAGE TO BOOST ROE (ORDERED BY OWNERSHIP, TYPE, AND ASSET SIZE)								
PERCENTAGES	PUBLICLY TRADED INSTITUTIONS					CLOSELY HELD/MUTUAL INSTITUTIONS		
	COMMERCIAL			SAVINGS		COMMERCIAL	SAVINGS	
	> \$25 BILLION	\$1 TO \$25 BILLION	< \$1 BILLION	≥ \$1 BILLION	< \$1 BILLION	< \$1 BILLION	≥ \$1 BILLION	< \$1 BILLION
RETURN ON ASSETS	1.35	1.20	1.22	1.02	1.11	0.92	1.09	1.02
RETURN ON EQUITY	17.52	15.06	14.06	12.92	13.13	9.71	10.07	8.83
DIVIDEND PAYOUT (YTD)	93.30	62.90	25.00	50.20	31.80	30.10	14.40	—
TIER 1 RATIO	6.84	7.43	8.70	7.30	8.21	9.23	10.16	10.96

\* EXCLUDES CREDIT CARD BANKS AND TRUST SPECIALISTS  
SOURCE: BANK & THRIFT CALL REPORTS

Total past-due loans are now less than 2 percent of total loans. With the exception of consumer loans, all loan categories have downward delinquency and charge-off trends. Credit card loans continue to drive up delinquencies and charge-offs in the consumer loan category. Delinquent credit card loans rose 81 basis points from a year ago, to 4.24 percent. During the third quarter, the credit card charge-off rate was 4.91 percent, up from 3.18 percent in the year earlier period. These increases continue to mirror national credit card performance trends and increases in personal bankruptcy filings, and they underscore the need for continued close monitoring of the consumer sector by both industry participants and regulators.

The strong net interest margins that have elevated earnings to record levels have resulted from very favorable swings in interest rates during the 1990s. The prime rate is at a historically high spread over short-term interest rates, and a wholesale shift of consumer deposits from certificates of deposit into savings and NOW accounts in the early 1990s has greatly benefited most insured institutions. Since interest rates rose in 1994, these institutions have been able to retain a substantial portion of the shifted funds in the lower cost accounts despite paying rates that are well below short-term, money market rates. However, lower inflation expectations and declining federal deficits, coupled with the ripple effects of the troubled economies and currencies of southeast Asia on U.S. financial markets, have resulted in declining long-term interest rates and a dramatic flattening of the yield curve. If it persists, this interest rate environment will pressure earnings for many of the Region's insured institutions. In the long term, bankers may have to operate on thinner margins while incurring more interest rate risk, particularly if Federal Reserve monetary policy remains restrictive in real terms. The following discussion explores the issue of prepayment risk and identifies several factors suggesting that the Region's insured institutions, particularly those under \$1 billion in total assets, may be at greater risk of prepayment activity than insured institutions in other parts of the country.

#### ***Dependence on Real-Estate-Backed Assets Places Region's Insured Institutions at Risk of a Refinancing Wave***

As discussed in the fourth quarter 1997 *Boston Regional Outlook*, real estate lending is the primary

source of revenue for most of the Region's insured institutions. As of September 30, 1997, the 418 institutions with assets less than \$1 billion reported that 87 percent of total loans were centered in real estate. Excluding the Region's three largest banks (only a 29 percent real estate concentration), the remaining 38 institutions with assets over \$1 billion had 70 percent of total loans centered in real estate. Approximately three-quarters of the real estate loan exposure is centered in the residential sector.

Adjustable rate mortgages (ARMs) and balloon mortgages comprise about 60 percent of the residential portfolio, a significantly higher percentage than the overall mortgage market. The *Federal Housing Finance Board* estimates that nationally, less than 30 percent of all residential mortgages originated since year-end 1989 have been in shorter term instruments. The concentration in ARMs and balloons in the Region is consistent with the historical desire of insured institutions to hold short-duration mortgages and sell longer term, fixed-rate paper into the secondary market to minimize interest rate risk. During the third quarter of 1997, both the fixed and adjustable rate portfolios were generating aggregate yields in excess of 8 percent.

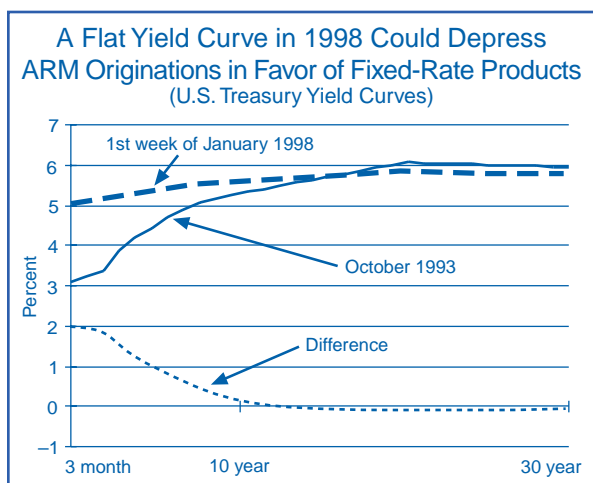
In early January 1998, *Freddie Mac's Primary Mortgage Market Survey (PMMS)* indicated that the average interest rate for 15-year and 30-year, fixed-rate mortgages had fallen to 6.46 percent and 6.89 percent, respectively. These rates are within 10 basis points of lows reached in October 1993 and may be leading to another refinancing boom. The *Mortgage Bankers Association of America* announced that during January 1998, its Refinancing Index rose to an all-time high and was nearly double the peak reached during the last big refinancing wave in the fall of 1993. This burst of activity is occurring despite the fact that average fixed mortgage rates are slightly higher than the prior trough. Additionally, the refinancing waves in 1991 through 1993 followed an 11-year period when the average interest rate for 30-year, fixed-rate mortgages, according to the *PMMS*, was in excess of 10 percent every single year. According to *Bloomberg*, as of December 31, 1997, only 11 percent of all securitized Federal National Mortgage Association/Federal Home Loan Mortgage Corporation 30-year mortgage pools bore coupons in excess of 8 percent. With the rate differential between outstanding mortgages and current rates much narrower than it was in the early 1990s, what is driving the renewed prepayment activity?

### ***A Flat Yield Curve Will Spur a Shift into Long-Term, Fixed-Rate Mortgages***

One of the primary factors in the renewed prepayment activity is the shape of the yield curve. With short-term rates high relative to long-term rates, holders of adjustable rate mortgages have a strong incentive to refinance into fixed-rate instruments. Chart 1 contrasts the shape of the yield curve in early January 1998 and in October 1993. As the chart indicates, the one-year treasury yield was nearly 200 basis points lower in 1993. The one-year treasury is a common index for ARMs in the Region, and in 1993, a fully indexed ARM had a current coupon in the low 6s, well below fixed-rate mortgages. In today's environment, a fully indexed ARM is likely to have a current coupon in excess of 8 percent, well above current fixed rates. Additionally, there is very little difference between current long-term, fixed rates and those on five- and seven-year balloon mortgages. Balloon mortgages were popular during the refinancing waves of the early 1990s and are now at points where they are converting to one-year ARMs or maturing. This fact suggests that borrowers holding adjustable rate and balloon mortgages will likely lead the next refinancing wave if current conditions continue. Many insured institutions would be affected considerably, as these shorter duration mortgages comprise the largest portion of residential portfolios.

The shape of the yield curve will also create reinvestment problems for insured institutions. During the earlier refinancing waves, the short end of the yield curve was sufficiently low that ARMs and balloon mortgages still had rates that were attractive to consumers. ARM teaser rates approximating 3 percent were common, and

**CHART 1**



the spread between the five- and ten-year treasury was nearly 60 basis points, which also gave balloon mortgages an attractive rate advantage compared with longer term mortgages. *Inside Mortgage Finance* recently published data made available by *Freddie Mac* which indicated that during the earlier refinancing waves, approximately 15 percent of fixed-rate loans actually refinanced into ARMs or balloons. For ARMs, 30 to 40 percent of refinancings went back into the shorter duration mortgages, and for balloon mortgages, over 70 percent did so. Refinancing provided an ample supply of shorter duration mortgages for insured institutions looking to replace runoff and expand their loan portfolios. The flatter yield curve this time around will not provide the same opportunities. The *Freddie Mac* data indicate that in the third quarter of 1997, over 96 percent of fixed-rate loans, and approximately 90 percent of ARMs and balloons, refinanced into fixed-rate mortgages of 15 or more years.

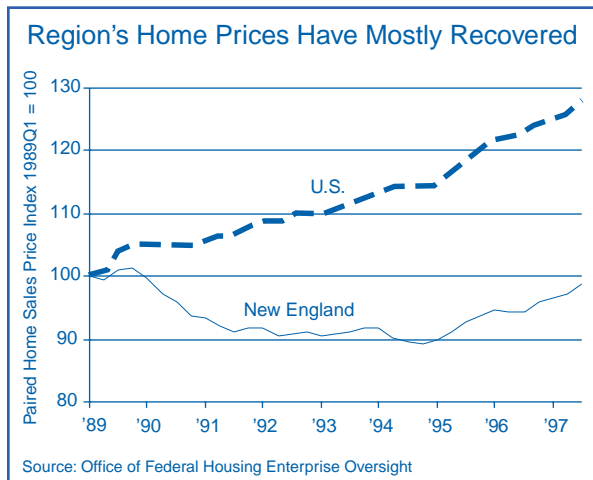
### ***This Time Around, the Region's Homeowners Are Better Positioned to Take Advantage of Refinancing Opportunities***

The Region's insured institutions may face a heightened risk of prepayments. During the earlier refinancing waves, the country was just emerging from recession, while New England remained weak. Jobs were still being lost in some of the Region's key industries, and consumer confidence was low. Additionally, home prices in the Region had fallen considerably from peaks in the late 1980s, leaving many consumers "upside down" on their mortgages and unable to refinance because of the lack of equity in their homes. Credit was tight as well. Lenders were working through ongoing real estate problems and were not aggressively seeking new business as they focused on restoring capital levels. The effects of these problems were seen in the relatively slower prepayment rates in securitized mortgage pools backed by mortgages generated in New England.

In 1998, conditions in the Region are vastly improved. Unemployment is low, and wages and consumer confidence are high and rising. Additionally, data compiled by the *Office of Federal Housing Enterprise Oversight* indicate that for many markets in New England, home prices have recovered what was lost during the last downturn and have reached new highs (see Chart 2, next page). Borrowers now have greater equity in their homes, providing them with not only the ability to refinance but also the potential to eliminate costly mort-



CHART 2



gage insurance that is required for mortgages in excess of 80 percent of the appraised value of the underlying collateral. Additionally, the single-family mortgage limit for “conforming” mortgages was recently raised to \$227,000, considerably higher than the \$202,000 limit in 1992 and 1993. This increase will be beneficial to homeowners in New England, where home prices have historically been well above national averages. The opportunity to eliminate the premium paid for being classified as a “jumbo” mortgage, coupled with the opportunity to reduce or eliminate private mortgage insurance, provides refinancing incentives in addition to those already created by lower interest rates. The elimination of these surcharges could lower a borrower’s effective interest rate by more than 1 percent. Finally, the current environment will offer consumers an opportunity to consolidate consumer debt, which has risen steadily over the past few years, in the form of both credit cards and home equity loans. *Freddie Mac* estimates that in 1996, nearly half of all refinancings were “cash-out refis,” and that percentage is on the rise. A significant portion of the “cash-out” is used for debt consolidation. Increased refinancing activity will also negatively affect earning asset yields to the extent that it replaces higher yielding consumer and home equity debt.

### **Risks Are Not Limited to Residential Real Estate Portfolios**

If the current interest rate environment persists, asset yields are likely to fall considerably. The decline will not be limited to the residential loan portfolio. Commercial real estate markets have improved through-

out the Region, and commercial borrowers are also actively refinancing existing debt. Insured institutions also have large investments in mortgage backed securities (MBS) that will see increased prepayment activity. In aggregate, more than two-thirds of the earning assets for the Region’s insured institutions (excluding the largest three banks) are backed by real estate. Additionally, in the past few years, insured institutions have shifted the non-MBS portion of investment portfolios from U.S. Treasury securities toward U.S. agency debt. A large portion of this debt, particularly that issued in the past three years, is callable. Portfolio concentrations in callable debt securities will provide additional downward pressure on asset yields. In addition to the downward pressure on asset yields resulting from a refinancing wave, several institutions may see declines in noninterest income because of reduced mortgage servicing income or writedowns of mortgage servicing assets, including interest-only strips, as paydowns on underlying serviced portfolios accelerate.

### **Implications and Concerns**

#### **Loan Quality**

Competition will add fuel to the prepayment fire as banks and nonbanks alike aggressively fight to retain customers and replace runoff. Marketing campaigns and media coverage will continue to increase consumer awareness of refinancing opportunities as well. These pressures raise additional concerns that underwriting standards may be compromised as institutions strive to retain or book new business. Intense competition and demand for loans has already resulted in declining spreads relative to U.S. Treasury securities. John G. Medlin, Chairman of Wachovia Corp., was recently quoted in the *American Banker* as saying, “Credit standards are the weakest at any time during my nearly four decades in banking.” Mr. Medlin said that many banks simply are not pricing for risk, but are using “stretch-sock pricing”—one rate fits all. With margins already considered “razor thin,” the easing of other terms and conditions that could affect overall credit quality may be on the rise and warrants close scrutiny.

#### **Interest Rate Risk Management**

More than 80 percent of the funding structure of the Region’s insured institutions is in either nonmaturity deposits or deposits and borrowings with maturities of one year or less. The short end of the yield curve has not moved materially lower and will provide only minimal interest rate relief on the funding side of the balance

sheet. Therefore, it is likely that a prolonged period with a relatively low and flat yield curve will place a great deal of downward pressure on net interest margins. The result will be a modest decline in profitability for many of the Region's insured institutions that increases the importance of maintaining a strong capital position. With earnings at historically high levels, a modest decline in profitability alone does not create great concern. The greater concern centers on how insured institutions are ultimately positioned for the future. With the potential for a significant amount of refinancing activity, much of which will be into fixed-rate instruments, many institutions will be faced with the decision to either book longer term assets or sell them and reinvest in shorter duration instruments. The latter alternative will put further downward pressure on margins. With pressure to produce strong current earnings, particularly for publicly traded companies, the decision to sacrifice short-term earnings in favor of a more balanced interest rate risk posture will not come easily. Asset/

liability management skills will be tested. Asset/liability management strategies will have to be carefully considered and interest rate risk management tools carefully evaluated to ensure that management accurately quantifies an institution's exposure. As the current situation indicates, models that evaluate exposure to simple, parallel shifts in the yield curve may not be appropriate for most institutions, given the large concentration in real-estate-backed assets. Strong interest rate risk measurement and management systems are critical to effectively deal with the current environment and to position the Region's insured institutions for the bumps that inevitably lie down the road.

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