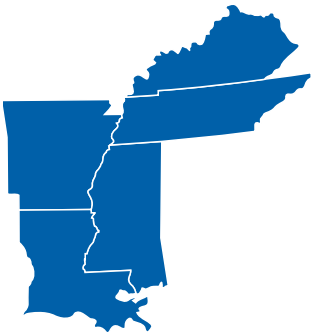
Regional Outlook

FEDERAL DEPOSIT INSURANCE CORPORATION — FIRST QUARTER 2002

FDIC MEMPHIS REGION



DIVISION OF INSURANCE

GARY L. BEASLEY, REGIONAL MANAGER

HARRY W. JOHN, REGIONAL ECONOMIST

ROBERT L. BURNS, SENIOR FINANCIAL ANALYST

F. MIGUEL HASTY, FINANCIAL ANALYST

Regional Perspectives

◆ ***Credit Quality Remains a Concern, Particularly in Areas Dependent on Manufacturing Employment*—The Memphis Region underperformed the national economy in 2001 because of a heavy reliance on a weak manufacturing sector. As a result, banks and thrifts in the Region reported greater credit quality deterioration than was experienced in many other areas of the country. Furthermore, because of structural and cyclical changes, the Region's manufacturing sector may be slow to recover when the nation's economy begins to improve.** *See page 3.*

By F. Miguel Hasty and Harry W. John

◆ ***Further Earnings Pressure Could Result If Interest Rates Rise*—Net interest margins have fallen sharply from levels reported one year ago, largely because of changes in interest rates. The potential for continuing interest rate volatility, this time in a rising rate environment, suggests that sound asset/liability management will be particularly critical to future earnings performance.** *See page 6.*

By Robert L. Burns

In Focus This Quarter

◆ ***Housing Market Has Held Up Well in This Recession, but Some Issues Raise Concern*—Recent trends in mortgage underwriting are of particular interest, as an estimated $2 trillion in mortgage debt, approximately one-third of the total outstanding, was underwritten during 2001. Nonconstruction residential mortgages traditionally have represented one of the better-performing loan classes during prior downturns. The level of credit risk, however, may be higher this time around because the mortgage lending business has changed since the last downturn. This article examines these changes, including increased involvement by insured institutions in the higher-risk subprime credit market, the acceptance of higher initial leverage on home purchases, and greater use of automated underwriting and collateral valuation processes, which have not been recession-tested.**

◆ **Home price softening could have an adverse effect on residential construction and development (C&D) and mortgage portfolios. In the aggregate, the level of risk appears modest. However, insured institutions with significant C&D loan exposures in markets that experienced ongoing residential construction during 2001, despite slowing local economies, are at higher risk. Weakening home prices could hurt loan quality in selected markets. The San Francisco Bay area stands out as a place to watch in this regard.** *See page 11.*

By Scott Hughes, Regional Economist
Judy Plock, Senior Financial Analyst
Joan Schneider, Regional Economist
Norm Williams, Regional Economist

The ***Regional Outlook*** is published quarterly by the Division of Insurance of the Federal Deposit Insurance Corporation as an information source on banking and economic issues for insured financial institutions and financial institution regulators. It is produced for the following eight geographic regions:

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Regional Perspectives

- **The Memphis Region's economy underperformed the national economy during the current downturn because of heavy reliance on a weak manufacturing sector.**

- **Banks and thrifts headquartered in areas with significant employment concentrations in the manufacturing sector have reported the greatest increase in loan delinquencies.**

- **The Region's manufacturing sector may be slow to recover when the nation's economy begins to improve.**

Credit Quality Remains a Concern, Particularly in Areas Dependent on Manufacturing

The Midsouth economy entered a period of economic decline well ahead of the national recession and underperformed the national economy in 2001. Unlike in the 1990 to 1991 recession, the Region's economy seems unlikely to outperform the nation when the economy recovers. The primary reason for the relative weakness is the significant concentration in manufacturing employment and the specific mix of industries, which has been discussed in depth in previous ***Regional Perspectives*** articles. As a result of this specific economic weakness, banks and thrifts in the Region faced greater credit quality deterioration than that experienced in many other areas of the country. Not surprisingly, banks and thrifts operating in those parts of the Midsouth with the highest exposure to the manufacturing sector reported the most significant drop in credit quality.

Weakened Credit Conditions Are More Pronounced in Areas with Manufacturing Employment Concentrations

The nation's economic downturn in 2001 was preceded by weakness in the manufacturing sector that contributed to reduced capital investment in new plants and equipment, slowed production, and precipitate eventual layoffs and plant closings. The effects of this slowdown were most pronounced in Midwestern and Midsouthern states, which have a higher concentration of manufacturing employment.

Credit quality at insured institutions also has been disproportionately affected. Credit quality declined throughout the Region during 2001, but the deterioration was more pronounced at insured institutions operating in counties dependent on manufacturing employment. Small community banks and thrifts operating in counties with high manufacturing employment concentrations[1] reported past-due loans at 3.6 percent of total loans as of September 30, 2001, up 65 basis points from one year earlier. By comparison, insured institutions operating in counties with lower manufacturing employment concentrations reported past-due loans at 2.9 percent of total loans, up 36 basis points from one year earlier.

Certain Sectors Led the Region's Manufacturing Downturn

The Region's apparel, automotive parts, furniture and fixtures, and lumber industries were among the sectors most affected by the overall slump in manufacturing. **Louisiana,** with a lower overall manufacturing concentration and more limited exposure to these specific sectors than other states in the Region, experienced only moderate layoffs. **Arkansas** and **Mississippi,** whose economies are dominated by small manufacturing plants in these sectors, experienced larger declines in payrolls and numerous plant closures. While **Kentucky** and **Tennessee** have significant exposure to these sectors, job losses were moderated by continuing strength in automobile production, which constitutes a significant share of these states' manufacturing payrolls.

Throughout much of the 1990s, the low-tech and labor-intensive textile and apparel sector experienced problems.

[1] Counties with high manufacturing employment concentrations are defined as those with 17 percent or more of total employment in manufacturing-related jobs. With 54 percent of all small community banks (less than $250 million in assets) operating in these areas, this level identifies those counties with manufacturing concentrations greater than the regional concentration.

Lower-priced imports of apparel products from Central Asia and Latin America undercut domestic pricing, forcing many apparel companies to streamline costs by cutting jobs and relocating plants to overseas locations. In large part, these job losses represent a structural decline rather than a cyclical contraction. Thus, these jobs are unlikely to return with an economic recovery.

Although automobile production held up well in 2001, many automobile parts producers and suppliers suffered. These companies faced growing competition from abroad, bloated inventories, and pressure from automobile makers to cut prices, forcing many suppliers to reduce costs, which necessitated layoffs and some plant closings. Exacerbating the effects of these layoffs, many of the Region's automotive part suppliers are located in rural counties where other employment opportunities are limited. These job losses can be characterized as both cyclical (reduced demand, inventory adjustments) and structural (foreign competition, pricing pressures). While most of these jobs are expected to return with an economic recovery, some may be permanently lost.

Employment in the lumber and wood products, paper and allied products, and furniture and fixture industries weakened because of a variety of factors, including moderating construction and stiff competition from imported lumber and wood products. Numerous lumber and paper mills were shut down, and many furniture companies reduced payrolls and closed plants.

Insured Institution Credit Quality Deteriorated in Most Areas with Significant Manufacturing Employment Concentrations

Most geographic areas with high manufacturing employment concentrations experienced adverse economic conditions during 2001 (see Map 1). These weak economic conditions appear to have contributed to deteriorating loan portfolio conditions among small community banks headquartered in these areas.[2]

Northwest Tennessee is an example of how a slowing economy can contribute to stress on bank and thrift loan portfolios. Not only does the area have a high concentration in overall manufacturing employment, but over one-third of this employment is in the weak automobile parts suppliers sector, primarily rubber parts and supplies. With rising layoffs and high unemployment, northwest Tennessee's economy is the weakest of the Region's manufacturing pockets. These trends may explain why the aggregate past-due ratio among small community banks and thrifts in the area rose 127 basis points from one year ago to 4.36 percent by third-quarter 2001. This level of past-due loans, as well as the rate of increase, is the highest among the geographic areas shown on the table that accompanies Map 1.

Some of the Region's Manufacturing Distress May Linger into the Recovery

The Region's economic recovery will likely be affected by continuing weakness in the manufacturing sector. By year-end 2001, national manufacturing activity improved.[3] The Region's manufacturing problems, however, include both structural changes and cyclical changes. For example, job losses in the apparel sector, which are likely to continue, appear to be permanent.

While automotive production remained strong in 2001 and offset some weakness in other sectors, sales are expected to slow. Production volume (distinct from industry profitability) remained stable largely because of strong incentives, such as rebates and zero percent financing. The possibility that these incentives pulled automobile sales in 2001 from future sales and an increasing global overcapacity could contribute to a slowdown in demand, leading to reduced automobile production.[4] In January 2002, Ford Motor Company announced restructuring plans that will result in up to 35,000 job cuts and five plant closures. General Motors also announced plans to reduce employment levels.

F. Miguel Hasty, Financial Analyst
Harry W. John, Regional Economist

[2] Not all areas have been affected to the same degree. Northwest Arkansas is dominated by the food products industry, which remained strong despite the national economic slowdown. The area also is helped by the presence of large nonmanufacturing employers, such as Wal-Mart, Inc., and the University of Arkansas.

[3] The Institute of Supply Management reported that its index of manufacturing activity rose to 48.2 in December 2001 from 44.5 the previous month. In the same period, the new orders component rose from 48.8 to 54.9; this was the largest increase in the overall index and indicates a favorable outlook.

[4] Production levels may experience a temporary boost in early 2002, as automobile producers may need to return depleted inventories to normal levels.

Map 1

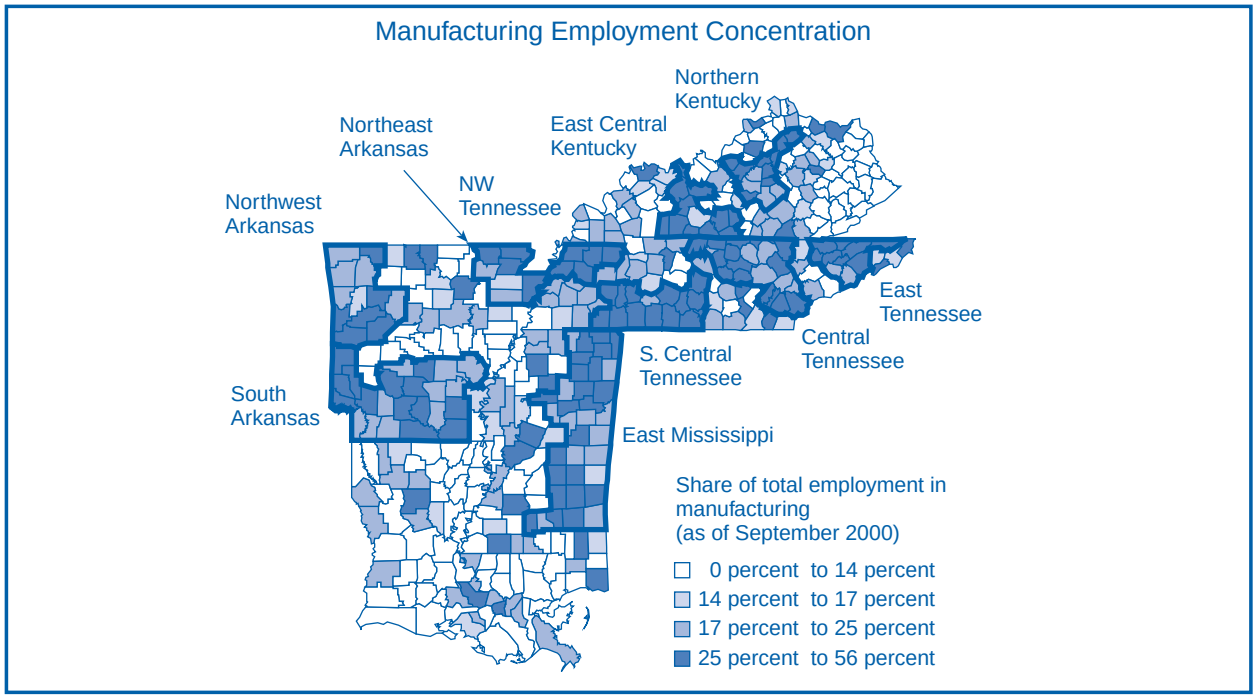


Table 1

Insured Institutions in Many Areas with Concentrations in Manufacturing Employment Report Some Credit Quality Weakening

Regional Area	Manufacturing Concentration (%)	Sub-Sector Concentrations*	Employment (Oct 2001, YOY,%)	Unemployment (Oct 2001, YOY,%)	Number of Banks in Area	Past-Due Ratio 3Q2001 (%)	Past-Due Ratio Year-Ago Change
Northwest Tennessee	31.3	Rubber products Metal products	-1.8	7.5	17	4.36	up 127 basis points
East Mississippi	31.2	Furniture and fixtures Food products	-1.4	6.1	27	3.65	up 80 basis points
South Central Tennessee	31.6	Transportation Industrial machinery	0.5	5.2	24	3.65	up 43 basis points
East Tennessee**	31.2	Chemicals Furniture and fixtures	0.0	4.5	14	3.56	down 3 basis points
Central Tennessee	30.1	Transportation Furniture and fixtures	0.4	5.2	28	3.35	up 79 basis points
South Arkansas	26.5	Food products Lumber	0.8	4.3	51	3.33	up 59 basis points
Northeast Arkansas	25.6	Transportation Electronics	-1.4	6.1	20	3.18	up 99 basis points
East Central Kentucky	26.0	Transportation Electronics	-1.5	6.2	26	3.09	up 68 basis points
Northern Kentucky	29.6	Transportation Printing	-0.3	4.4	32	3.00	up 85 basis points
Northwest Arkansas	25.0	Rubber products Metal products	3.8	2.3	32	2.86	up 31 basis points

NOTES: *The two largest manufacturing concentrations are listed for each Regional Area. There may be other important sectors. YOY=Year over Year.
**East Tennessee's economy has experienced a steady decline in chemical sector jobs since the mid-1990s because of cost cutting and restructuring at Eastman Chemical Corp., but employment in this sector has recently stabilized. This has led to stability in bank and thrift past-due ratios.
Sources: Bureau of Labor Statistics, Bank and Thrift Call Reports

Further Earnings Pressure Could Result if Interest Rates Rise

- **Most banks and thrifts in the Region experienced considerable net interest margin compression during the preceding year, largely because of interest rate volatility.**

- **As the yield curve steepened during 2001, many insured institutions extended asset maturities and repricing intervals in an effort to mitigate margin erosion. Combined with a modest shortening of liability maturities, this asset extension likely increased the vulnerability of earnings performance to rising interest rates.**

- **The apparent increase in interest rate risk exposure and the growing likelihood of rising interest rates underscore the importance of sound asset/liability management policies, models, and strategies.**

Declining net interest margins (NIMs) combined with rising provisions to the allowance for loan and lease losses led to lower returns on assets and returns on equity for most banks and thrifts in the Memphis Region during 2001. The effect of changing interest rates appears to have been the primary factor contributing to the sharp decline in margins.[1] Banks and thrifts faced compelling incentives to add to interest rate risk exposures in 2001, including

- the need to mitigate margin erosion,

- rapid balance sheet turnover, and

- a progressive steepening of the yield curve throughout the year.

The current steepness of the yield curve indicates that most market participants expect interest rates, particularly short-term rates, to rise. Rising short-term rates are likely to adversely affect already depressed margins. The extent of this drain on an institution's earnings performance will be largely influenced by current asset/liability management strategies. Managers must carefully weigh the trade-off of extending assets in an effort to improve margins with the potential adverse effects such asset extension could have on future earnings during a period of rising interest rates.

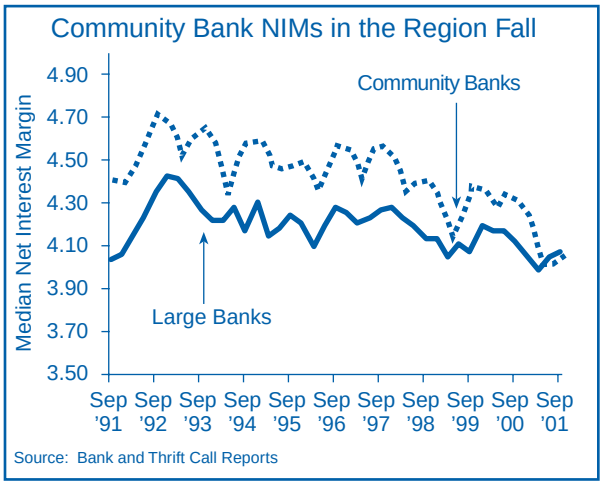
[1] Bank and thrift NIMs are affected by a multitude of factors, including competitive pressures, the level of interest rates and the shape of the yield curve, the mix of earning assets and funding sources, and the level of nonperforming assets. To some extent, changes in all of these factors placed downward pressure on margins during the preceding year.

Margins Have Contracted Significantly

NIMs at most community banks and thrifts[2] in the Region have steadily declined since the mid-1990s, as shown in Chart 1. This long-term trend has largely resulted from intense competitive pressures that affected both loan pricing and funding costs. Competition for dwindling deposit growth in the late 1990s also contributed to a significant shift to wholesale funding sources and a subsequent incremental increase in funding costs at many institutions. This steady decline in margins occurred despite growth in loan-to-asset levels during the period that improved earning asset yields.

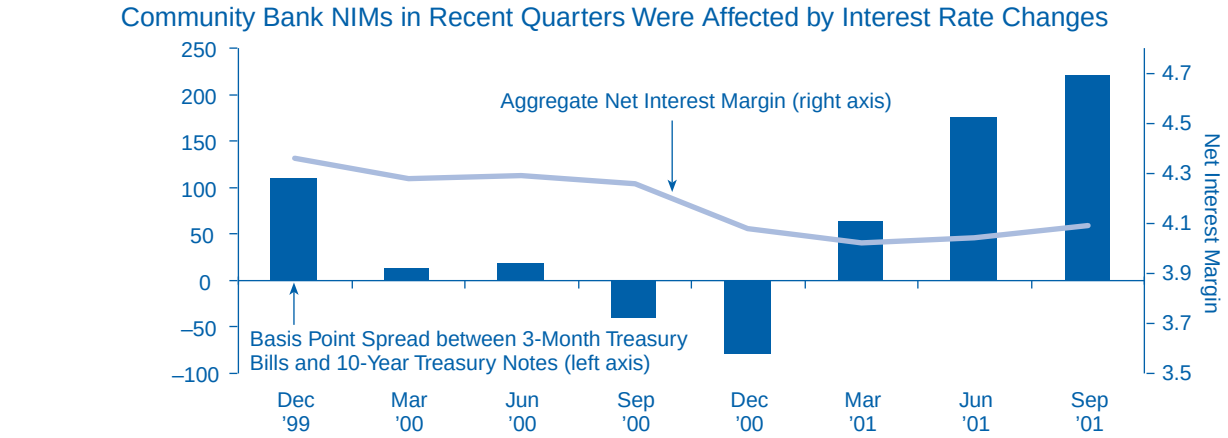
During 2000, NIMs were further hampered by the flattening and eventual inversion of the yield curve. In late

CHART 1



[2] Community banks and thrifts are defined as those with less than $1 billion in total assets that are not credit card lenders or specialty institutions such as trust banks.

CHART 2



AGGREGATE BANK EARNINGS PERFORMANCE MEASURES								
YIELD ON ASSETS	8.24	8.21	8.42	8.74	8.62	8.44	8.22	7.96
COST OF FUNDS	3.88	3.94	4.13	4.48	4.54	4.42	4.18	3.87
NIM	4.36	4.28	4.29	4.26	4.08	4.02	4.04	4.09
INTEREST RATES								
10 YEARS	6.44	6.00	6.03	5.80	5.11	4.92	5.51	4.59
3 MONTHS	5.33	5.87	5.85	6.21	5.90	4.29	3.66	2.37
SPREAD	1.11	0.13	0.18	–0.41	–0.79	0.63	1.75	2.22

Source: Bank and Thrift Call Reports

1999, the Federal Reserve Board began to raise short-term interest rates in an effort to slow what appeared to be an overheating economy. As the yield curve flattened during 2000, bank and thrift NIMs were adversely affected, as shown in Chart 2. In fourth-quarter 2000, the cost of funds increased while the yield on earning assets declined (see table that accompanies Chart 2).[3]

A slowdown in loan growth, consistent with weakening economic conditions in the Region, and a dip in loan-to-asset levels also hurt margins in fourth-quarter 2000 and first-quarter 2001. At the same time loan growth slowed, deposit flows increased, leaving banks with excess funds that were generally invested in lower-yielding Federal Funds sold positions.[4]

Throughout 2001, interest rates declined sharply and the yield curve gradually steepened. The positive benefits of a steeper yield curve have been slow to accrue to most insured institutions. Banks and thrifts have been unable to lower funding costs commensurate with the steep reductions in asset yields because of high volumes of asset prepayments and calls (discussed below).

Dramatic Asset Turnover Occurred in 2001, with Mortgage-Related Assets Most Affected

Falling interest rates in 2001 induced many borrowers and bond issuers to refinance debt. Often, insured institutions preferred to voluntarily rework loans to a lower interest rate rather than potentially lose the borrowing relationship. Within securities portfolios, embedded call features and prepayment options were exercised. These refinancings and prepayments resulted in the reinvestment of a substantial volume of assets at lower interest rates.

The decline in mortgage rates during 2001 led to a tremendous increase in mortgage refinancings (see Chart 3, next page), eclipsing the activity during the last refinancing wave in 1998. The boom in mortgage lending undoubtedly contributed to increased fee generation for underwriters but threatened margins at institutions with considerable mortgage exposure because they were unable to reprice liabilities as rapidly as loans refinanced to lower interest rates. The refinancing wave also affected

[3] The cost of funds for insured institutions is typically aligned with the short end of the curve because of the short-term nature of most funding sources. Conversely, yields on earning assets are often more closely associated with the intermediate and long end of the yield curve.

[4] Federal Funds sold positions at community banks in the Memphis Region climbed from 2.1 percent of total aggregate assets on September 30, 2000, to 4.99 percent of total aggregate assets by March 31, 2001.

insured institutions with substantial holdings of mortgage-backed securities (MBS) and mortgage derivative securities (MDS), as these securities, particularly the former, experienced accelerating prepayment rates.

The mortgage refinancing wave also added to many institutions' exposure to rising interest rates because of changes in product type. As shown in Chart 3, mortgage holders increasingly opted for fixed-rate rather than adjustable-rate mortgages. To the extent that these longer-term fixed-rate mortgages were retained in bank and thrift portfolios or indirectly purchased in the form of MBSs (see inset box), asset maturities and repricing intervals extended.

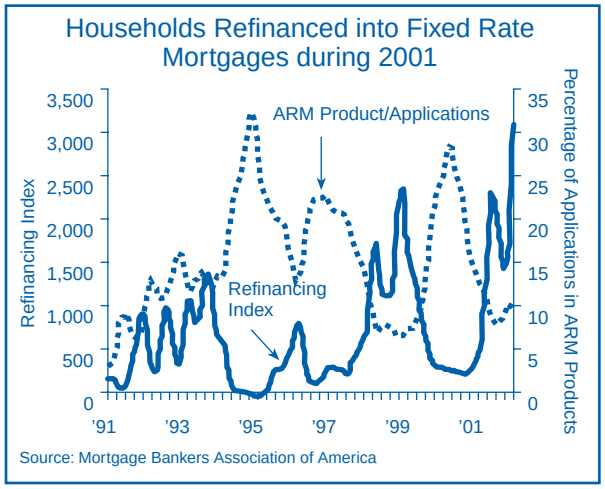
Most Banks Reported Limited Asset Extension as of September 30, 2001, but the Incentive to Extend Intensified in the Fourth Quarter

During the first nine months of 2001, most community banks[5] reported a modest elongation of asset maturities. The level of long-term assets (assets with more than five years until maturity or repricing) held by all community banks in the Region rose from 15.8 percent of total assets at year-end 2000 to 16.4 percent as of September 30, 2001.

Although community banks in aggregate reported only a limited increase in long-term asset levels during the first nine months of 2000, one group of banks, those with low loan-to-asset ratios,[6] incurred greater asset extension. Long-term asset levels among this group increased from less than 20 percent of total assets at year-end 2000 to 22.5 percent as of September 30, 2001. These banks appear to have faced greater margin pressures because of low loan volume potentially resulting from lower demand in their trade areas. As a result, managers at many of these banks likely attempted to stem margin compression by moving farther out on the yield curve.

The asset extension that occurred during the first nine months of 2001 could continue at some institutions, as a potential "rate trap" developed in late 2001. The yield curve steepened considerably in the weeks just before September 30 and in the remaining months of 2001. This provided additional incentive for banks to invest in longer-term instruments. Short-term rates (3-, 6-, and

CHART 3



Market Risk in Investment Portfolios Increases

Mortgage-backed securities return to favor. Aggregate MBS and MDS holdings at community banks grew an unprecedented 44 percent during the first nine months of 2001 (59 percent annualized growth rate), rising from 18.4 percent of total securities at the beginning of the year to 26.8 percent by the end of the third quarter. This reverses a long-term trend of declining MBS and MDS balances dating from the mid-1990s. While the higher yields available on such instruments make them attractive in the current environment, MBSs and MDSs introduce additional portfolio management complexity, primarily in the form of increased optionality. Rising interest rates would likely trigger a slowdown in refinancing activity and, consequently, an extension of the weighted average lives of these securities, locking in suddenly below-market yields on these investments for a prolonged period.

Investment portfolio maturity/repricing intervals extend. This extension occurred in both traditional fixed income securities (Treasury, agency, municipal, and corporate bonds) and MBSs. Significant call volume on traditional securities and prepayments on previously held MBSs caused extensive turnover in investment portfolios, allowing management the opportunity to restructure portfolios. The restructuring through the first nine months of 2001 reflects the decisions of many portfolio managers to pick up yield by extending maturities/repricing intervals.

[5] Asset maturity data are not available for thrifts.

[6] The threshold used for this analysis was a 60 percent loan-to-asset ratio. As of September 30, 2001, 269 nonspecialty community banks in the Memphis Region—over one-third of the Region's community banks—met this definition.

12-month rates) dropped by 140 to 170 basis points from August 31 to December 30. By comparison, long-term rates (10- and 30-year rates) rose slightly during this period. By year-end 2001, managers faced the alternatives of investing short term at less than 2 percent or picking up 250 to 300 basis points by investing in intermediate- or long-term loans or securities.

Changing Deposit Trends Shorten Liabilities

Even as assets extended during the first nine months of 2001, depositors migrated to shorter-term products, leading to a modest contraction in liability maturities and repricing intervals. This change in customer preferences included an increase in aggregate balances of money market demand accounts and savings accounts (as a share of total deposits) and an increase in certificates of deposit with maturities of one year or less compared with longer maturity times.

Many banks appear to be using longer-term wholesale funding to offset shortening deposit maturities.[7] But as other borrowings represent less than 5 percent of aggregate liabilities among the Region's community banks, this strategy seems unlikely to completely mitigate increasing price sensitivity resulting from changes elsewhere on the balance sheet.

[7] Call report information on other borrowing, such as Federal Home Loan Bank advances, is based solely on maturity with no consideration of repricing intervals. Therefore, it is possible that maturities were extended to provide a longer-term funding source but that the borrowings are repriceable in shorter periods.

Interest Rate Risk Management Will Likely Become More Complex and Important in 2002

The need for additional attention to interest rate risk considerations was demonstrated by the margin compression that occurred in late 2000 and early 2001. For many institutions, falling margins may have been largely unavoidable, but in some cases the decline also may have been largely unanticipated. Many asset/liability management models were unable to measure the potential adverse effects of the nonparallel shift and inversion of the yield curve in 2000. Likewise, many models were not sufficiently dynamic to accurately gauge the level of asset turnover that accompanied the dramatic decline in interest rates during 2001. As a result, asset/liability management strategies that were implemented based on the results of these tools may have fallen short of their goals.

The potential for continuing interest rate volatility, this time in a rising rate environment, suggests that sound asset/liability management policies and practices will be particularly critical to future earning performance. At a minimum, managers should ensure that measurement processes provide for an accurate assessment of the effects of changing interest rates on performance and that their institutions are operating within sound risk tolerances established by policy or board direction.

Robert L. Burns, Senior Financial Analyst

Housing Market Has Held Up Well in This Recession, but Some Issues Raise Concern

Trends in housing markets are important performance drivers for many FDIC-insured institutions. The health of residential markets can affect the credit quality of residential mortgage loans, home equity loans, and loans to finance residential construction and is linked indirectly to the performance of other types of consumer and small-business debt. Further, an estimated $2 trillion in mortgage debt, approximately one-third of the mortgage market, was underwritten during 2001, with 56 percent of this activity in refinancing transactions.[1] This activity makes recent trends in underwriting of particular interest. An ancillary issue for many mortgage lenders, interest rate risk, is not addressed in this article.[2]

The U.S. economy entered a recession in March 2001, and the question arises as to how consumer creditworthiness, housing values, and recent mortgage-lending practices will fare during this downturn. Developments contributing to increased credit risk include higher consumer debt burdens, looser mortgage loan underwriting standards, and the emergence of subprime mortgage lending as a significant line of business for some banks. Mitigating this risk has been the steady appreciation of home prices, which have shown signs of softening in some markets but not to the extent seen at a comparable stage in previous recessions.

Home price weakness may be more pronounced in 2002 as the effects of the recession take hold, but in the authors' judgment, systemic weakness in home prices is unlikely, absent a deep and long recession. Adverse mortgage lending trends are not expected to threaten the capital or earnings of the vast majority of insured institutions. Nonconstruction residential mortgages, even during the most pronounced periods of stress in the 1980s and early 1990s, remained the best-performing loan class, especially for lenders specializing in residential real estate; and, historically, these mortgages have been one of the lowest credit-risk loan types for all manner of insured institutions.[3]

That said, however, there *are* pockets of risk for insured institutions. There is evidence that borrowers with weak credit may be experiencing greater repayment difficulties, elevating the risks faced by subprime mortgage lenders. Further, a slump in residential real estate markets could be especially detrimental to insured institutions with significant exposures to housing construction because projects might not sell at projected asking prices or as quickly as anticipated. Finally, in specific markets where housing prices may have achieved unsustainable levels, some increase in housing-related credit quality problems can be expected, and in this regard, the San Francisco Bay area stands out as a place to watch.

The Recession Thus Far Has Had a Minimal Impact on Mortgage Delinquencies at Insured Institutions

Despite three quarters of recession, most housing indicators remained quite healthy this past year relative to trends seen in past recessions. For example, new and existing home sales both set records during the year, while new home construction failed to decline, an occurrence not seen in the past six recessions. Another indicator, year-over-year growth in existing home prices—as measured by either the ***Office of Federal Housing Enterprise Oversight (OFHEO)*** repeat sales price index or the ***National Association of Realtors (NAR)*** median single-family price statistic—showed deceleration but remained well above trends seen at similar points in past recessions. This behavior partly reflected the early robustness of household income in the face of recession and relatively low fixed mortgage rates during 2001, which helped to counter some of the

[1] Mortgage Market Forecast, www.mbaa.org/marketdata/forecasts/, January 2002.

[2] For a discussion of this issue, see "Regional Perspectives," Boston and Chicago Regions, *Regional Outlook,* First Quarter 2002.

[3] See "Region's Insured Institutions Exhibit Lower Risk Profile than the Nation's, Appendix: Risk-Weighting Methodology," Table A in Boston Region, *Regional Outlook,* First-Quarter 2000.

Chart 1

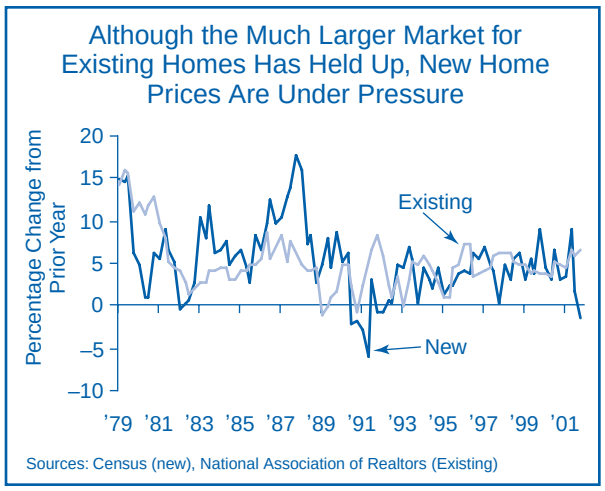
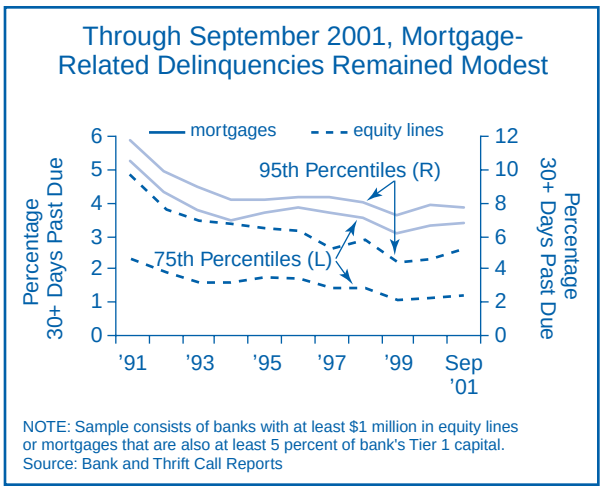


Chart 2



initial adverse effects of the recession on housing demand.

One sign of potential weakness appeared late in 2001 in the modest year-over-year decline in median prices of new single-family homes (see Chart 1). Because existing home sales outnumber new home sales roughly fivefold, price trends in the latter are generally not predictive of prices for the much larger existing home market.[4] However, as discussed later in this article, adverse pricing trends in the new home segment do raise concerns for residential developers and insured institutions that finance residential construction.

The steady increase in prices of existing homes depicted in Chart 1 masks considerable regional variation. As detailed later in this article, home price growth began to weaken in 2001 in a number of metropolitan statistical areas (MSAs). While there is no clear common denominator among the markets in which this occurred, a number of these markets had both extremely rapid home price growth in the recent past and significant slowdowns in employment growth or outright contractions in employment last year.

Credit quality indicators for insured institutions' mortgage loans have shown only preliminary signs of weakness thus far. Through the first nine months of 2001, insured institutions showed negligible advances in median past-due ratios for mortgages and equity lines of credit, although continued strong mortgage origination activity in 2001 may have masked (in the aggregate) developing credit problems for more seasoned mortgage loans. For institutions that held at least $1 million in residential mortgages or home equity lines of credit *and* whose exposures comprised at least 5 percent of Tier 1 capital, some modest deterioration is evident in the worst-performing mortgages and home equity lines since 1999, as seen in Chart 2.[5] Even if this recession lingers, worsens, or both, residential mortgage lending (nonconstruction and development-related) likely poses only modest risk to most insured institutions' earnings and capital, since it has held up better in prior recessions than other loan types.

What Are the Risks Facing Housing Lenders in 2002 and Beyond?

In an environment of significantly slower economic growth than prevailed during the 1990s, can the strength of housing prices and the relatively benign credit quality environment for housing lenders be expected to continue? The answer will depend on the interplay of economic conditions and lenders' risk profiles. In the remainder of this article, we discuss the gradual increase in the risk profile for insured mortgage lenders that appears to have occurred during the

[4] Existing home prices are also more reflective than new home prices of trends in broader economic indicators, such as aggregate per capita personal income.

[5] It is interesting to examine the (adverse) tail of the credit quality distribution when looking at residential mortgage trends, as average and median past-due ratios move little and are typically very low—thus, only the highest 25th and 5th percentiles of past-due ratios are presented in Chart 2.

1990s, as well as some cyclical risks to their performance that may exist as the recession plays out.

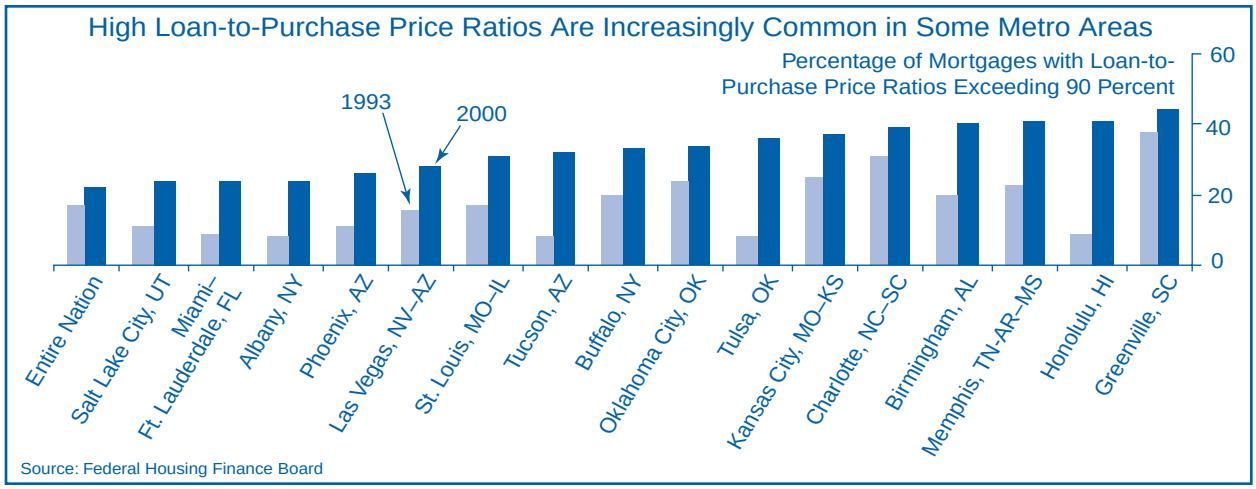
Evolving Lending Practices Have Increased the Risk Profile for Mortgage Lenders

Although history suggests that residential mortgage defaults will be relatively low even in a recession, changes in the mortgage market since the 1990–1991 recession could affect mortgage performance during the present downturn. Many underwriting changes over the past decade have been driven in part by the growing importance of the secondary market for mortgage debt, and of Fannie Mae and Freddie Mac in particular. In 1980, federal and related agencies had direct or indirect interests in approximately 17 percent of all mortgage debt.[6] By 2000, their share of the mortgage market had increased to roughly 41 percent. Insured bank and thrift mortgage exposures grew over the same period, but, as a share of direct mortgage debt, bank and thrift mortgage holdings decreased from 59 to 35 percent. These trends notwithstanding, insured institutions still provide substantial funding, directly or indirectly, to the housing market: as of September 30, 2001, 1 to 4 family mortgage loans and mortgage-backed securities held by insured institutions aggregated $2.3 trillion, up 37 percent from five years earlier.

Although an active secondary mortgage market has broadened homeownership, improved mortgage loan liquidity, and allowed insured institutions to allay credit risk, it has also heightened market competition and transformed the lending process. In presecondary market days, lenders largely had to retain originated mortgages in their own portfolios. Consequently, only lenders with ready funding sources (such as banks, thrifts, and insurance and finance companies) were able to compete in the mortgage markets. The advent of the secondary market enlarged the pool of available funding and permitted both insured institutions and other originators to transfer their mortgage business readily into entities such as mortgage pools and trusts. Consequently, many new players, including on-line and brick-and-mortar mortgage brokers, have entered the mortgage origination market.

The resulting robust mortgage loan competition, combined with Internet-based consumer research tools, has led to considerable commodification of the mortgage market. Rather than competing on the basis of traditional relationships, lenders' market shares are increasingly driven by price. For smaller savings institutions that focus heavily on residential mortgage underwriting, this issue has likely elevated business risk. Heightened competition has caused some loosening of mortgage underwriting standards and pushed lenders to use technology to expedite and streamline the underwriting process. Consequently, credit-scoring mechanisms and automated valuation techniques currently in place have not been tested through a full credit cycle. Because pricing competition has pressured margins, some mortgage lenders have pursued subprime or high loan-to-value (HLTV) mortgages. The ability of insured institutions to mitigate subprime losses through an economic downturn is untested to a large extent as well—finance companies dominated the high-risk mortgage market in past recessions.

CHART 3



[6] These interests include residential, commercial, and farm real estate debts held directly by, or held in mortgage pools or trusts issued by, federal and related agencies. Source: Table 1186, Statistical Abstract of the United States: 2001, page 733.

In general, mortgage underwriting standards have loosened industrywide over the past decade. For instance, lenders have increasingly accepted higher loan-to-purchase price (LTPP) ratios for purchase money mortgages.[7] According to the ***Federal Housing Finance Board,*** LTPP ratios are high and have risen in several metropolitan areas over the past seven years (see Chart 3). Between 1993 and 2000, the **Honolulu, Tulsa,** and **Tucson** markets exhibited the largest increases in mortgages with LTPP ratios exceeding 90 percent.

Although lenders often mitigate the risk of loss associated with low downpayments by requiring private mortgage insurance (PMI), recently the mortgage industry has allowed borrowers to avoid purchasing PMI. In particular, "piggyback" financing has made homeownership increasingly possible for households that cannot afford the traditional 20 percent down payment or do not wish to pay for PMI. With piggyback financing, the borrower often arranges a conforming 80 percent LTPP first mortgage and finances a portion of the remaining 20 percent with a concurrent second mortgage on the property (e.g., "80-10-10"). This type of transaction has become popular because interest paid on the (albeit more expensive) second mortgage is tax-deductible, whereas PMI premiums are not. Thus, piggyback financing is probably most attractive to individuals in higher-cost/tax areas or higher tax brackets, such as those in the **Northeast** and **California.** This trend effectively shifts the first loss position on all low down payment loans to the lender that retains the junior position. These institutions are, of course, compensated for some of this risk with the higher interest rates charged on the piggyback portion of these mortgages.

Competitive factors have prompted the industry to enhance underwriting automation. As part of the push, credit scoring has become a routine part of the credit analysis process, and, increasingly, lenders are using automated valuation models (AVMs) to determine collateral coverage. However, credit scoring and collateral valuation models have been in popular use only since the 1990–1991 recession; consequently, their predictive ability in a downturn is uncertain. Although some have touted AVMs as the answer to appraisal fraud, the ability of statistical models to simulate the qualitative judgments considered critical to traditional appraisals is unknown. Paper appraisals reportedly continue to dominate the industry; however, recently, the two largest government-sponsored enterprises have begun accepting AVMs in lieu of standard appraisals for loans under $275,000.[8] For lenders that specialize in HLTV mortgages, there is less room for error with AVMs.

Cyclical Weakness Is Already Apparent in Subprime Mortgage Lending

Historically, certain insured institutions have made mortgage loans with narrow collateral margins or to borrowers with limited or blemished credit histories. However, significant entry by FDIC-insured institutions into mortgage lending to borrowers with weak or marginal credit, *as a targeted line of business,* generally has occurred only since the early 1990s. These "subprime" mortgages are neither defined nor reported on Bank Call Reports. As a result, gauging the extent of bank involvement in subprime lending at any point in time is difficult. However, the FDIC estimates that fewer than 1 percent of all insured institutions have significant subprime residential mortgage exposures. Nevertheless, according to some measures, subprime mortgages as a share of total mortgage originations peaked at 13 percent in early 2000, before moderating somewhat during the first three quarters of last year.[9] Thus, a much larger number of institutions probably have some limited involvement in subprime mortgage lending. A survey by the ***Minneapolis Federal Reserve Bank*** found that 29 percent of banks in the **Minneapolis District** offered loans to low-credit quality consumer borrowers in 1999.[10]

Subprime mortgage loan performance appears to have deteriorated notably during 2001. One source of support for this observation comes from delinquency trends on Federal Housing Agency (FHA)-insured mortgages, which are often granted to first-time homebuyers with troubled credit histories and borrowers with low down payments. The ***Mortgage Bankers Association*** reports that while the national delinquency rate on conventional mortgages rose 58 basis points in the year ending third-quarter 2001, the delinquency rate on FHA mortgages shot up by 234 basis points, to 11.4 percent (see Chart 4). This growing gap between

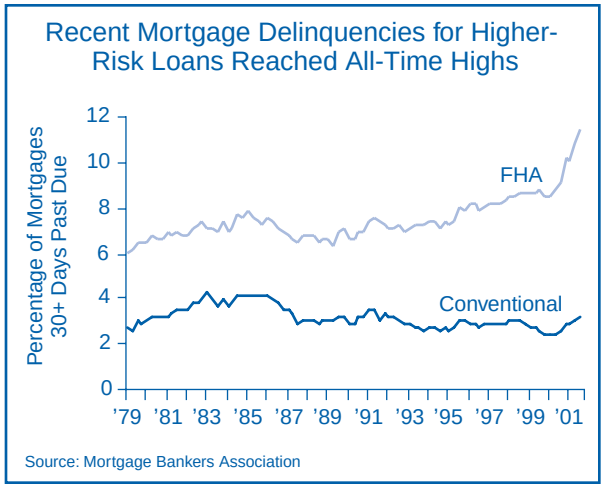
[7] Purchase money mortgages are loans extended solely for the initial purchase of a home. Statistics on loan-to-value ratios for supplemental home equity loans/lines (e.g., piggyback or "80-10-10" financing), as well as refinanced mortgages, are not readily available.

[8] "Automated Appraisals Require Caution by Lenders," *American Banker,* October 10, 2001.

[9] Based on dollar volumes, data from Inside Mortgage Finance Publications, Bethesda, MD.

[10] Ron Feldman and Jason Schmidt, "Why All Concerns About Subprime Lending Are Not Created Equal," *Fedgazette,* Minneapolis Federal Reserve, July 1999.

CHART 4



delinquency rates on conventional and government-insured mortgages suggests that marginal and subprime borrowers are facing growing repayment difficulties.

A database of more than 6.5 million subprime loans tracked by ***Loan Performance Corporation*** (formerly *Mortgage Information Corporation*) reported similar trends. The nationwide third quarter 2001 ratio of seriously delinquent subprime mortgages was 7.3 percent, up from 5.5 percent one year earlier.[11] Moreover, subprime delinquencies significantly exceeded those found among prime mortgages, as just under 0.5 percent of conventional prime mortgages were seriously delinquent.[12] Also of possible concern are vintage data trends, which show how pools of primary and junior-lien subprime mortgages perform over time. Mortgages originated in 2000 are performing poorly in relation to previous years' vintages.[13] This simply could reflect the impact of the current recession. Alternatively, ***Loan Performance Corporation*** analysts have suggested that the 2001 refinancing boom might have created some adverse selection in mortgage pools originated during the relatively higher interest rate environment of late 1999 and early 2000.[14] Because higher-coupon and variable-rate loans comprised a significant share of mortgage originations during that period, overall prepayment rates on the 2000 vintage might have been unusually high during 2001. Consequently, the best-quality loans in the 2000 pool might have refinanced, leaving loans of lesser credit quality behind and elevating the residual delinquency experience in that pool.

Given these trends, an important issue for subprime lenders is their ability to anticipate and plan for the impact of an economic slump on their operations. Some institutions clearly adopt subprime lending as part of an overall business strategy, setting up monitoring and collection departments geared to dealing with such loans. Among large, national lenders, for example, one institution that makes 5 to 10 percent of its loans to subprime borrowers recently provided additional resources to its loan services and default management departments. This action followed a period when one-third of its increase in nonperforming single-family mortgage loans was associated with loans to subprime borrowers.[15]

C&D Lending Risks May Be Elevated in MSAs with Potential Supply/Demand Imbalances

Historically, lending to finance housing construction is riskier than mortgage lending on existing structures. Insured institutions report construction and development (C&D) lending in a single category that includes both commercial and residential construction. While it is thus impossible to ascertain from quarterly call reports the extent of bank involvement in financing housing construction, anecdotal evidence suggests that, although smaller insured institutions engage to some degree in commercial property development, their C&D lending largely finances single-family construction. If markets with an oversupply of housing see weaker economic performance, insured institutions engaged in financing residential real estate development may be at risk. This could result in an increase in C&D loan delinquencies, losses, and other-real-estate-owned (OREO).

Demand for housing can be affected by two distinct trends: secular, or longer term; and cyclical, or shorter term. Over the long term, demographic trends, such as population growth rates and concentrations of households by age cohort, can affect overall demand for housing, as well as the types of homes demanded. Demand in local housing markets also can be affected by more cyclical factors such as recent changes in economic

[11] *The Market Pulse,* Loan Performance Corporation (formerly Mortgage Information Corporation), Winter 2001 and Fall 2001.

[12] *The Market Pulse,* Loan Performance Corporation, Fall 2001.

[13] Per Loan Performance Corporation delinquency data, subprime primary mortgages originated in 2000 displayed higher delinquency ratios for their age compared with similarly seasoned subprime loans originated in 1996, 1997, 1998, or 1999. Moody's second-quarter 2001 *Home Equity Index Update* found the same to be true of subprime home equity loans.

[14] "Another Look at the 2000 Book," *The Market Pulse,* Loan Performance Corporation (formerly Mortgage Information Corporation), Winter 2001.

[15] Calmetta Coleman, "Default Worries on Home Loans Escalate as Lenders Report Delinquency," *Wall Street Journal,* October 29, 2001.

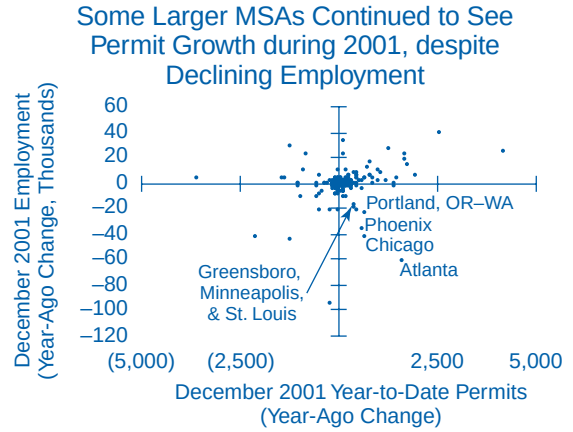
conditions, including interest rates. New supply of homes in local housing markets is produced in response to perceived or estimated future demand. Correct interpretation of market and economic signals is critical to the success of builders in metropolitan areas; however, this activity is complicated by the lags associated with developing, permitting, and constructing properties. The effect of overestimating future demand could be multiplied if several builders inaccurately gauge changes in demand. Consequently, a construction market with numerous smaller developers, such as **Atlanta,** may see amplified swings in construction activity and may experience excess supply during certain periods.

Although conceptually straightforward, measuring the balance between housing demand and supply is challenging, particularly at lower geographic levels. Shortcomings in data availability, quality, and timeliness can limit the effectiveness of this type of analysis. As already mentioned, some insight about current housing market conditions in specific metropolitan areas may be gained by analyzing both secular and cyclical trends. However, given the onset of recession last year, the role of cyclical factors is of prime concern at this time.

To measure the cyclical aspect of the relationship between a market's supply and demand, some analysts rely heavily on the concept of employment-driven demand.[16] Such analysis involves tracking a demand/supply ratio based on employment growth and permit issuance. Areas where permitting activity continues to accelerate while employment levels decrease may produce an increasing imbalance in the local housing market.[17]

Using a simplified version of employment-driven demand, we identified a number of metropolitan areas as being at risk for a rising imbalance in their housing markets (see Chart 5), the largest of which are **Chicago, Greensboro (NC), Minneapolis, Phoenix, Portland (OR-WA), St. Louis,** and, most notably, Atlanta. These markets are displaying signs that residential

CHART 5



Sources: Bureau of Labor Statistics, U.S. Census Bureau (Haver Analytics)

construction activity may not be responding in kind to local economies that have started to contract during this recession. Further, Phoenix, Portland, and Atlanta were identified previously as banking markets exhibiting elevated risk profiles.[18]

Chart 6 displays the level (y axis) and trend (x axis) in C&D lending exposures for the top 25 MSAs by median C&D concentration as a share of assets.[19] It is apparent that some markets identified in Chart 5 as having significant banking exposure to C&D lending also may have a cyclical imbalance in home building. Atlanta, for example, demonstrates one of the highest exposures, with a ratio of median C&D to total assets of 17 percent in third-quarter 2001, a roughly 100-basis-point increase from year-end 2000. In other words, while employment-driven demand has softened in the metropolitan area, single-family construction activity has continued, and community bank lenders may have increased their level of residential financing commitments.

Cyclical Risks May Be Developing with Respect to Home Prices

Popular comparisons have been made recently between the healthy run-up in housing prices during

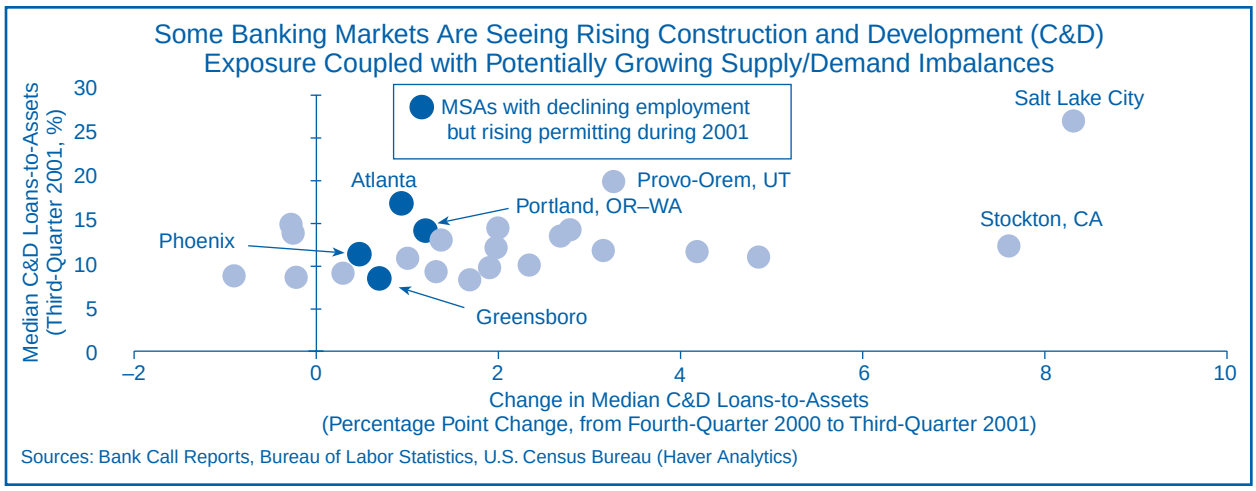
[16] For example, see www.myersgroup.com.

[17] This approach, although more reflective of recent economic events than perhaps more secular measures, is not without its drawbacks. For example, employment data from the Bureau of Labor Statistics' establishment survey are frequently revised, and, consequently, employment-driven demand may need to be reexamined.

[18] See "In Focus This Quarter," *Regional Outlook*, Fourth-Quarter 2001.

[19] We considered only MSAs that had at least six locally headquartered community banks that engaged in C&D lending activity and then charted the top 25 MSAs ranked by September 2001 median C&D/assets.

Chart 6

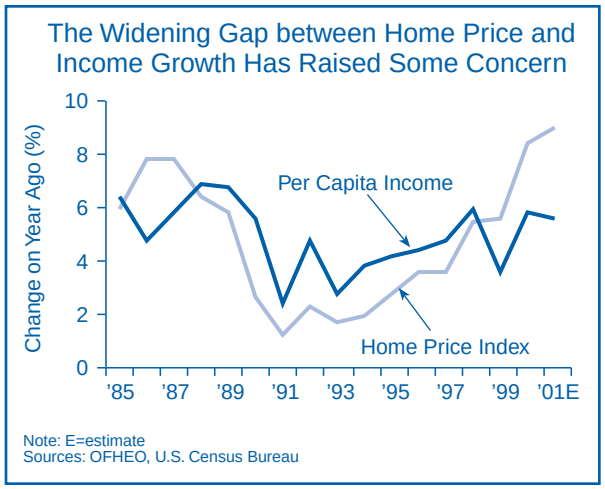


the past several years and the technology stock-fed speculative "bubble" in equity prices that persisted through early 2000. The subsequent bursting of this bubble and the resulting economic distress have raised concerns of a sequel featuring housing prices.

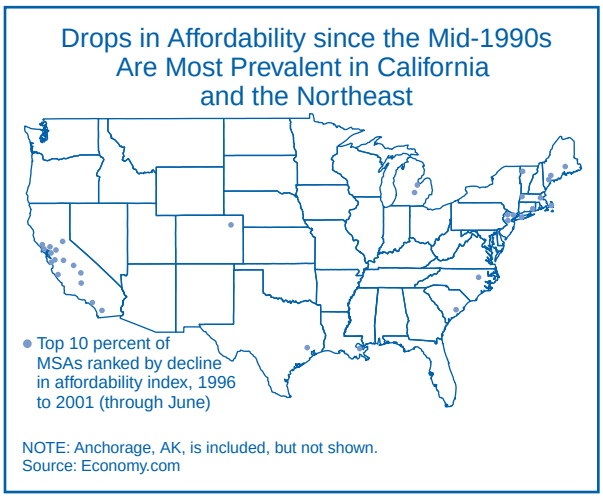
According to the OFHEO repeat sales price index, there has never been an instance of outright declines in aggregate U.S. existing home prices.[20] However, home prices do exhibit strong cyclical tendencies, with the rate of appreciation slowing during national recessions. In addition, there have been some decidedly negative episodes during the past few decades in various metropolitan markets. At the national level, existing-home price growth historically has followed trends in population-adjusted personal income growth,[21] and some have pointed to a growing imbalance between the two as a sign that home prices may weaken as the effects of the recession take hold (see Chart 7).

Given that home price bubbles have occurred in the past, most notably in **Texas,** California, and the Northeast during the 1980s, and that their ultimate deflation

Chart 7



Map 1



[20] According to the National Association of Realtors' U.S. median price, a few episodes of price declines (on a quarterly, year-ago basis) are present in the time series—specifically first- and second-quarter 1989; fourth-quarter 1990; and first-quarter 1993—only the 1990 episode occurred during a recession. Also, as shown in Chart 1, U.S. median *new* home prices have experienced meaningful declines.

[21] This relationship is generally true at the metropolitan level as well.

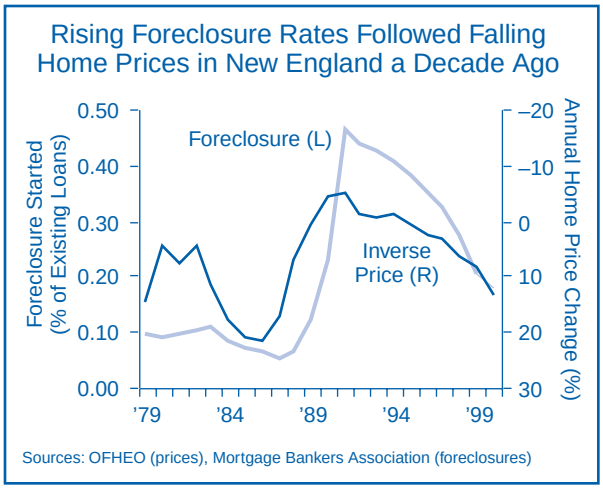
resulted in significant negative fallout for these areas' economies and insured institutions, it is useful to look at these historical examples as a potential "worst-case" scenario (with very low probability) for residential real estate markets during the current recession. It is unlikely that significant, systemic risks from home price bubbles have arisen yet for residential lenders. Of course, this situation could change if the current recession deepens or is protracted, or if growth during the subsequent recovery is anemic. Further, national trends can obscure dramatic variations in local markets, and a handful of MSAs today are coming off several years of rapid home price growth and falling affordability. These markets, and the residential lenders targeting them, may be more at risk as local economic growth falters.

Map 1 shows markets that have seen the most significant reductions in affordability (sharp price gains) during the past several years. Not surprisingly, many of them—namely larger cities in California and the Northeast—are those that historically have seen the biggest swings in prices and a penchant for speculative excess.

In markets with rapidly declining affordability, credit risk arises from the increasing likelihood that new borrowers will commit a greater share of household financial resources to meet monthly payments. Credit problems could become more readily apparent given any subsequent disruptions to employment or income in these markets—especially among households with limited wealth or that require multiple job holders to meet mortgage payments. These risks may be amplified by the increased underwriting of HLTV and subprime mortgages during the past decade.

Disruptions to aggregate household liquidity from lost employment or decreased income can result in rising mortgage *delinquencies*. With respect to *foreclosures,* however, some research has suggested that the decline in prices relative to the balance owed on the mortgage (rising loan-to-value ratio) is the most significant factor.[22] Even in instances of prolonged job/income loss, owners with positive equity are likely able to sell their homes profitably, thus avoiding foreclosure. Chart 8 shows the strong relationship between declining home prices and increasing foreclosure rates in **New England** a decade ago (the chart plots the inverse price change in order to emphasize the relationship).[23]

Chart 8



The data available through late 2001 were mixed with respect to home resale price trends at the MSA level. On the one hand, while existing home prices as measured by the OFHEO home price index showed no markets with year-over-year price declines in fourth-quarter 2001, NAR's median resale price metric did show about a dozen markets with year-over-year declines, none exceeding four percent. A *deceleration* in year-over-year home price growth was evident for many markets (and the nation) using either measure. It should be noted that the OFHEO data do not include sales of high-priced homes and are less influenced by changes in the mix of homes sold than are average and median prices;[24] this issue is more meaningful in the nation's most expensive markets, such as MSAs in the

[22] For instance, "Mortgage Default Risk and Real Estate Prices: The Use of Index-Based Futures and Options in Real Estate," Case, Shiller, & Weiss, NBER Working Paper #5078, NBER, April 1995, finds this to be the case, while citing past work that identified the link between rising LTVs and foreclosure rates.

[23] In states where dominant metro areas have seen large price declines in past years, such as Massachusetts, this relationship is more pronounced than in larger states or the nation as a whole. For example, the two-decade correlation between foreclosures started and price change is –78 percent in Massachusetts versus roughly –60 percent in both California and the nation.

[24] Data are obtained from aggregating repeat sales or refinancings of the same properties over time and using statistical methods to calculate an overall rate of home price appreciation for each market. Sampled properties are confined to those whose mortgages are "conventional" and do not exceed a conforming loan limit (set at $275,000 in 2001) required for securitization through Fannie Mae and Freddie Mac. For more information, see www.ofheo.gov/house/.

Table 1

As Recession Evolved, Home Price Appreciation Waned through 2001 ...Further Deceleration in Growth (or Declines) May Be Possible in 2002

MSAs Ranked by Deceleration in Home Price Index from 1Q01 to 4Q01	Annual Percent Changes						
	OFHEO Home Price Index					Nonfarm Employment	
	1998–2000	1Q01	2Q01	3Q01	4Q01	1998–2000	2001
United States	**6.3**	**9.6**	**9.1**	**8.8**	**6.9**	**2.4**	**0.3**
San Jose CA PMSA	17.7	24.4	16.9	8.4	0.6	3.4	–0.4
Santa Cruz-Watsonville CA PMSA	16.8	25.7	17.3	11.9	5.9	N/A	N/A
San Francisco CA PMSA	16.5	19.4	13.9	9.1	3.5	3.3	1.3
Salinas CA MSA	13.7	24.3	22.4	19.0	9.4	3.3	0.9
Santa Rosa CA PMSA	14.8	22.7	19.6	13.6	8.6	4.1	1.6
Oakland CA PMSA	14.7	22.3	18.0	14.1	8.2	3.4	2.0
Austin-San Marcos TX MSA	9.4	15.2	12.1	7.7	5.0	5.9	2.1
Merced CA MSA	6.4	24.6	21.8	17.3	15.7	N/A	N/A
Jamestown NY MSA	4.9	9.9	0.8	7.4	1.6	N/A	N/A
Stockton-Lodi CA MSA	9.0	22.8	25.2	20.6	14.9	3.7	3.0
Wheeling WV-OH MSA	4.1	10.8	7.7	11.7	3.7	1.1	–0.5
Goldsboro NC MSA	4.0	7.9	3.2	1.6	0.9	N/A	N/A
Cumberland MD-WV MSA	2.7	8.6	8.4	8.1	1.8	N/A	N/A
Lewiston-Auburn ME NECMA	4.2	14.0	8.6	10.1	7.1	4.4	–0.4
Bangor ME NECMA	3.7	13.2	7.4	9.3	6.5	N/A	N/A
Fargo-Moorhead ND-MN MSA	4.0	11.1	6.5	5.4	4.6	2.1	–0.3
Barnstable-Yarmouth MA NECMA	12.8	17.6	14.5	14.6	12.5	3.9	1.3
Pine Bluff AR MSA	2.2	6.6	9.7	5.0	0.3	0.8	–1.7
Dubuque IA MSA	3.9	8.8	6.0	6.9	2.5	1.1	–0.6
Boulder-Longmont CO PMSA	10.9	14.6	11.7	11.7	8.3	5.1	3.2
Denver CO PMSA	11.1	13.7	11.8	10.9	7.9	3.8	2.3
Utica-Rome NY MSA	3.5	14.6	9.5	8.4	9.1	2.4	0.1
Vallejo-Fairfield-Napa CA PMSA	11.8	20.0	19.1	16.6	14.7	4.7	2.8
Bryan-College Station TX MSA	4.8	11.1	2.1	5.6	5.8	4.0	0.7
San Diego CA MSA	11.8	15.6	13.8	12.9	10.4	4.3	2.7
San Luis Obispo-Atascadero-Paso Robles CA MSA	11.4	19.2	18.0	17.8	14.2	N/A	N/A
Tucson AZ MSA	3.3	8.6	8.0	6.8	3.6	3.5	0.8
Jersey City NJ PMSA	8.0	11.1	17.6	13.7	6.2	2.1	2.7
Clarksville-Hopkinsville TN-KY MSA	3.3	9.1	4.2	6.5	4.2	N/A	N/A
Rapid City SD MSA	6.2	8.9	9.3	7.7	4.1	3.1	0.1
La Crosse WI-MN MSA	5.7	7.4	5.8	5.1	2.6	2.3	1.0
St. Cloud MN MSA	6.9	10.4	8.5	9.4	5.7	3.8	1.4

Sources: Office of Federal Housing Enterprise Oversight (OFHEO), Bureau of Labor Statistics

San Francisco Bay Area[25] and parts of the Northeast, since prices for high-end homes (typically financed by jumbo mortgages) may be more volatile over the economic cycle.

Table 1 lists markets whose 2001 deceleration in home price growth was in the top 10 percent of the more than 300 metro areas for which the OFHEO statistic is available. The table also provides (where available) each MSA's recent employment trend as an indicator of overall economic conditions. These markets may yet see even more pronounced deceleration in home price growth or even declines in home prices this year (as may others not shown). This possibility will be determined for the most part by the performance of each market's local economy.

The metro areas in the table are ordered by the magnitude of their deceleration in home price growth over the initial quarters of this recession. As a result, the marked deceleration in year-over-year price growth in the recently overheated San Francisco Bay Area puts many of its MSAs near the top of the list. In the table, **San Jose**, **San Francisco, Oakland, Denver,** and **San Diego** also previously were identified as banking markets with elevated risk profiles.[26] For some of the smaller MSAs in Table 1 with more volatile appreciation rates, such as **Utica** and **Fargo,** comparisons of recent price trends are more appropriate using the 1998–2000 average as a benchmark, as these markets experienced pronounced spikes in year-ago price growth during first-quarter 2001.

It is hard to generalize about which markets will see the most pronounced home price weakness as the recession continues. However, certain markets have shown a tendency in the past to be driven to a greater degree by speculative, rather than fundamental, factors. These markets are more likely to see significant downward corrections in price when economic activity falls for a prolonged period or by a sufficient magnitude. One study from the mid-1990s found, in comparing 14 cities in the **Northeast** and **West** with 16 inland cities, that while both groups tended to respond similarly to local and national economic forces (fundamental, or "equilibrium," price drivers), prices in the former group tended to be influenced to a greater degree by speculative, or "disequilibrium," variables, including recent trends in price appreciation.[27] Cities along the nation's coasts also have tended to see the most significant price swings over the past 20 years.

History also provides some insights into the nature and extent of any price declines in markets where economic conditions deteriorate. A study of two significant examples, Boston and Los Angeles in the 1980s and early 1990s, concluded that declines differed by property type (i.e., condos versus single-family) and price class (i.e., high-end versus entry-level).[28] This dispersion in price declines arose from differing rates of appreciation (properties that experienced the greatest inflation during the boom saw the largest deflation) and from the nature of each city's economic decline, which differed according to concentrations of job losses by industry and wage type, underlying demographic factors, and housing supply trends.

Looking at recent developments, it seems that the greatest near-term risk of a significant downward adjustment in housing prices is in the San Francisco Bay area. In recent years, this area witnessed double-digit home price appreciation that exceeded growth in per capita income by a wide margin. A recent analysis from the ***University of California-Berkeley's Haas School of Business*** forecast that prices in the Bay Area housing market will decline by 15 percent overall (and by 30 percent for luxury homes) by the time the local economy's recession ends late this year.[29] Meanwhile, the larger MSAs in **Southern California** have not seen as significant a disparity between home price appreciation and personal income growth during this cycle as during the 1980s. Also in contrast to the 1980s, New England (and the Northeast generally) has seen little speculative purchase or construction activity in recent years, which should help to mitigate any price weakness through the current recession in these markets.[30]

[25] As considered here, this includes the following MSAs: San Jose, Santa Cruz-Watsonville, San Francisco, Santa Rosa, Oakland, Salinas, and Vallejo-Fairfield-Napa.

[26] See "In Focus This Quarter," *Regional Outlook,* Fourth Quarter 2001.

[27] Jesse M. Abraham and Patric H. Hendershott, "Bubbles in Metropolitan Housing Markets," Working Paper #4774, NBER, June 1994.

[28] Karl E. Case and Robert J. Shiller, "A Decade of Boom and Bust in the Prices of Single-Family Homes: Boston and Los Angeles, 1983 to 1993," *New England Economic Review,* March/April 1994.

[29] David Goll, "Bay Area Housing Market Will Remain Slow," *East Bay Business Times,* January 23, 2002.

[30] "Regional Perspectives," Boston Region, *Regional Outlook,* First Quarter 2002.

Conclusion

Home prices are holding up in most markets, and, generally, permanent residential mortgages have fared well in prior recessions. However, history might understate credit risks for insured institutions during this cycle because the mortgage lending business has changed since the last recession. Chief among these changes are robust mortgage market competition, which has contributed to narrower collateral margins; increased reliance on underwriting automation; and expanded involvement in the subprime credit market. In addition, residential C&D lenders in certain markets might be particularly vulnerable, since C&D credits typically undergo higher loss rates and some areas are experiencing continued construction despite a cyclical slowdown (as measured by employment trends). Permanent mortgage lenders in certain areas, such as the San Francisco Bay area, could also face higher loss rates and foreclosures going forward, as the current economic weakness places downward pressure on home prices and dampens the ability of households to meet mortgage payments.

Scott Hughes, Regional Economist
Judy Plock, Senior Financial Analyst
Joan Schneider, Regional Economist
Norm Williams, Regional Economist

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