
◆ Regional Outlook ◆

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Regional Perspectives

◆ *Metropolitan economies in the Dallas Region have slowed significantly as a result of the U.S. recession and in the aftermath of the September 11 attacks—* Employment growth for the Region in 2002 is likely to slow to its lowest rate since the mid-1980s.

◆ *The Denver and Austin MSAs may be vulnerable to weakening housing price growth because of overbuilding and sharp declines in employment growth—* Housing price growth in other MSAs with employment concentrations in troubled industries could be adversely affected also.

◆ *Traditionally, residential mortgages have proven to be a lower risk type of lending—* However, risk in mortgage lending may be increasing as slowing home prices contribute to leaner collateral positions. *See page 3.*

By the Dallas Region Staff

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 select markets. The San Francisco Bay area stands out as a place to watch in this regard. *See page 9.*

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Regional Perspectives

- Metropolitan economies in the Dallas Region have slowed significantly as a result of the U.S. recession and in the aftermath of the September 11 attacks. In 2002, employment growth for the Region is likely to slow to its lowest rate since the mid-1980s.
- The Denver and Austin metropolitan statistical areas (MSAs) may be vulnerable to housing price risk because of overbuilding and sharp declines in employment growth.
- Traditionally, residential mortgages have proven to be a lower-risk type of lending; however, recent developments that are affecting collateral values suggest that risk in mortgage lending may be increasing.

Region's Economic and Banking Conditions

Potential Exists for Housing Price Risk in Key Dallas Region Metropolitan Markets

Several of the nation's fastest-growing metropolitan economies in the past ten years have been in the Dallas Region. In addition to robust employment levels, housing activity in many of these markets also has been strong, spurred more recently by declining mortgage interest rates. However, at the same time, other economic sectors have slowed. Economic weakening in certain MSAs, as a result of either the September 11 attacks or the slowing national economy, or both, could undermine the strength

of these housing markets. Moreover, concern exists about the downside risks to housing prices in metropolitan areas that previously had experienced strong employment growth and robust gains in home prices.

This article considers the metropolitan areas of **Denver**, **Austin-San Marcos**,¹ **Dallas**, **Fort Worth-Arlington**,² and **Houston** and examines the susceptibility of these MSAs to housing price risk in the near term. These MSAs represent key economic centers within the Dallas Region and fit the profile of strong employment growth and accelerated gains in home prices (see Table 1).

TABLE 1

DALLAS REGION METROPOLITAN AREAS WERE AMONG THE NATION'S LEADERS IN EMPLOYMENT GROWTH AND HOME PRICE APPRECIATION DURING THE PERIOD 1998 TO 2000						
METROPOLITAN AREA	ANNUAL AVERAGE EMPLOYMENT GROWTH RATE	RANK ¹	PERCENTILE	ANNUAL AVERAGE HOME PRICE APPRECIATION	RANK ²	PERCENTILE
AUSTIN-SAN MARCOS, TX	5.87%	2	99.6%	9.74%	26	92.3%
DENVER, CO	3.81%	35	88.1%	11.32%	17	95.1%
DALLAS, TX	4.20%	18	94.0%	6.58%	70	78.8%
FORT WORTH-ARLINGTON, TX	3.91%	31	89.5%	5.44%	121	63.3%
HOUSTON, TX	3.20%	61	79.1%	7.67%	50	85.0%
UNITED STATES	2.41%	—	—	6.47%	—	—

¹ EMPLOYMENT RANKINGS AND PERCENTILES ARE BASED ON A SAMPLE OF 289 MSAs.
² SOME PRICE RANKINGS AND PERCENTILES ARE BASED ON A SAMPLE OF 328 MSAs.
 SOURCES: BUREAU OF LABOR STATISTICS, OFFICE OF FEDERAL HOUSING ENTERPRISE OVERSIGHT (HAVER ANALYTICS), AND THE AUTHOR'S OWN CALCULATIONS

¹ The Austin-San Marcos MSA will be referred to as Austin in this article.

² The Fort Worth-Arlington MSA will be referred to as Fort Worth in this article.

Regional Perspectives

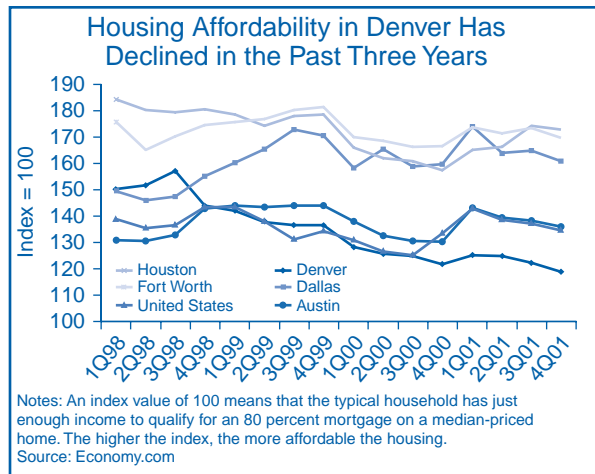
These MSAs were among the leaders in both categories from 1998 to 2000. However, employment growth and housing price appreciation slowed during 2001, new trends that are likely to continue at least through the first half of 2002.

Denver MSA

Of the five MSAs, Denver's home prices appear most at risk to a weakening economy and prolonged downturn. From second-quarter 1999 to third-quarter 2001, housing prices in this MSA grew at a double-digit rate (see Chart 1). Robust employment growth and high levels of in-migration have supported this level of price appreciation. Since mid- to late 2001, however, the Denver economy has been affected adversely by the slowing U.S. economy and the effects of September 11. Year-to-year job growth rates have decelerated every month since April 2001, and employment declined 0.3 percent in fourth-quarter 2001 from a year before (see Table 2).

As a result of the U.S. recession, employment losses have spread beyond the metro area's ailing telecommunications, manufacturing, and travel industries to the transportation; communications; public utilities; finance, insurance, and real estate; and service sectors. Notably,

CHART 1



job losses are occurring in industries that represent 55 percent of Denver's total nonfarm employment. Weakening in the broad service sector is particularly ominous for the metro area's housing market, as this sector employs the most workers (31 percent) and as employment did not decline on a quarterly basis during the U.S. recession from 1990 to 1991 or the state's recession from 1986 to 1987.

In the aftermath of September 11, the air transportation industry in the Denver area lost numerous jobs; this

TABLE 2

EMPLOYMENT GROWTH RATES DROPPED WHILE UNEMPLOYMENT RATES JUMPED SHARPLY				
METROPOLITAN AREA	NONFARM EMPLOYMENT GROWTH RATES (YEAR-TO-YEAR PERCENT CHANGE)		UNEMPLOYMENT RATES (YEAR-TO-YEAR PERCENT CHANGE)	
	FOURTH QUARTER 2000	FOURTH QUARTER 2001	FOURTH QUARTER 2000	FOURTH QUARTER 2001
AUSTIN-SAN MARCOS, TX	5.2	0.7	1.7	4.6
DENVER, CO	4.0	-0.3	2.0	4.5
DALLAS, TX	4.4	2.0	2.7	5.6
FORT WORTH-ARLINGTON, TX	3.2	2.3	2.8	4.6
HOUSTON, TX	3.0	1.6	3.4	4.4
UNITED STATES	1.7	-0.6	4.0	5.6

NOTES: NONFARM EMPLOYMENT NUMBERS ARE PRELIMINARY. UNEMPLOYMENT RATES ARE NOT SEASONALLY ADJUSTED.
SOURCE: BUREAU OF LABOR STATISTICS (HAVER ANALYTICS)

³ Ross Devol, Armen Bedroussian, Frank Fogelbach, Nathaniel H. Goetz, Ramon R. Gonzalez, and Perry Wong. January 2002. "The Impact of September 11 on U.S. Metropolitan Economies." Milken Institute.

MSA is a major United Airlines hub. The tourism sector, particularly the lodging and retail trade industries, also has been affected adversely. The results of a recent study by the *Milken Institute* estimate that 17,000 jobs will be lost in the Denver area this year as a result of the September 11 attacks.³

Denver's negative job growth rate is the lowest since the mid-1980s. *Economy.com* forecasts virtually flat employment growth for Denver in 2002, as a result of continuing problems in the high-tech, travel and tourism, financial services, and construction and real estate sectors.

Rapidly rising home prices during a period of deteriorating employment growth are unsustainable, and could portend weak home price growth, or perhaps outright depreciation, to follow in the Denver housing market. Housing affordability in Denver declined considerably during the past three years, as the median home price soared (see Chart 1). The median price for an existing single-family home in the Denver area for the year 1998 was \$152,200, 18.5 percent above the U.S. median. However, by third-quarter 2001, the median price for an existing single-family home in Denver had climbed to \$224,000, 48 percent above the U.S. median. Despite lower mortgage interest rates during this period, the number of households in Denver that could afford a median-priced home fell 17 percent compared with a 6 percent decline for the nation. The decline in housing affordability could be particularly problematic for the first-time buyer and could dampen trade-up markets.

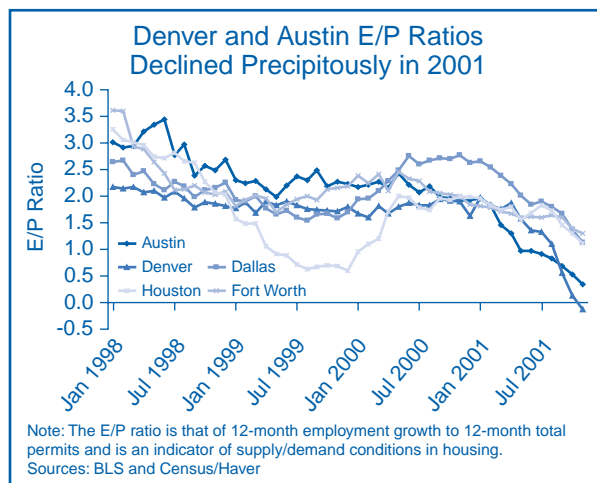
Economists with the governor's *Office of Planning and State Budgeting* concluded in the December 2001 *Colorado Economic Perspective* that housing in the state is overbuilt, and a substantial slowing in residential construction through 2002 is expected. As suggested by the following quote from this report, the Denver housing market, unlike that of the nation, may be slowing significantly: "The number of unsold homes in the Denver area was up 35.4 percent in November 2001, compared with November 2000, and new home sales in the Denver area fell 34.0 percent through the third

quarter of 2001, compared with through the third quarter 2000."⁴

Furthermore, the employment/permit (E/P) ratio⁵ in Denver, a measurement of a housing market's demand/supply balance, indicates that the current level of housing production far exceeds the amount justified by employment growth (see Chart 2). A balanced housing market in the Denver housing market is characterized by an E/P ratio of 1.57 new jobs to 1 additional housing permit.⁶ As the ratio decreases, fewer new jobs exist to support the level of housing construction. Denver's negative employment growth rate contributed to an E/P ratio of -0.12 as of November 2001.

Poor economic fundamentals (deteriorating employment conditions), declining housing affordability, and residential overbuilding are expected to contribute to considerable softening in home price growth in 2002. In addition, should the recession in Colorado become more severe than that of the nation, home prices could fall.

CHART 2



³ Ross Devol, Armen Bedroussian, Frank Fogelbach, Nathaniel H. Goetz, Ramon R. Gonzalez, and Perry Wong. January 2002. "The Impact of September 11 on U.S. Metropolitan Economies." Milken Institute.

⁴ "Colorado Economic Perspective: State Revenue and Economic Projections Through FY 2006-07," Office of State Planning and Budgeting, December 20, 2001, page 46.

⁵ The E/P ratio is calculated by dividing 12-month employment growth by 12-month total permits.

⁶ According to the *Meyers Group*, a residential real estate consulting firm, the point of equilibrium for a balanced housing market in the United States is 1.26, calculated by taking total employment over total households. Applying the same methodology to the Denver MSA, using 2000 annual data, yielded an equilibrium value of 1.57. Equilibrium values for the other four MSAs were 1.54 for Austin, 1.65 for Dallas, 1.31 for Fort Worth, and 1.53 for Houston.

Austin MSA

Austin also experienced a sharp run-up in home prices beginning in 1999 (see Chart 3) as a result of several years of strong employment growth and in-migration. However, employment growth rapidly decelerated during 2001 in this MSA, and year-over-year home price growth slowed from 15.4 percent in first-quarter 2001 to 8.2 percent in third-quarter 2001.

Austin's job growth rate was 5.2 percent during fourth-quarter 2000, ranking eighth among 289 MSAs,⁷ and the MSA reported an unemployment rate of 1.7 percent for that quarter. Both measures are indicative of a healthy economy. By fourth-quarter 2001, however, job growth was a modest 0.7 percent, one of the sharpest declines in growth among the nation's MSAs, and the unemployment rate had jumped to 4.6 percent.

The Austin economy has been affected adversely by weakness in the personal computer, semiconductor, and telecommunications sectors, as well as by the serious decline in the dot-com industry. Deterioration in these high-tech industries began well before the current recession and exerted a more adverse effect on production, capital expenditures, employment, and earnings than weakening in non-high-tech sectors. Layoffs in the computer, communications equipment, and semiconductor manufacturing industries are spilling over into support and secondary industries, such as software and computer-related services, business and professional services, financial services, and retailing. More than one-third of the output of the Austin economy is related to the high-tech sector.⁸

Unlike in Denver, the median home price in the Austin MSA does not exceed that of the United States significantly. In 1998, the median home price in Austin was 3.3 percent below the U.S. average; by third-quarter 2001, it was only 2.5 percent above the national average. Median home prices in the Austin MSA lagged those of the United States through much of the 1990s and have surpassed those of the nation only recently. Moreover, housing affordability in the Austin MSA, despite a slight deterioration three years ago, remains comparable to the national average (see Chart 1).

⁷ The 289 MSAs are tracked by Haver Analytics with Bureau of Labor Statistics employment data.

⁸ Standard & Poor's DRI for the U.S. Conference of Mayors and the National Association of Counties.

CHART 3



However, the Austin E/P ratio declined from 1.91 in November 2000 to 0.34 in November 2001 (see Chart 2), indicating a growing supply/demand imbalance in residential construction. The drop in the E/P ratio is attributable solely to weak employment growth. The Austin MSA added an average of 35,000 jobs annually between 1998 and 2000; however, in the year ending November 2001, the MSA added only 4,300 new jobs. During the same period, the number of residential building permits filed fell from more than 16,000 units to about 12,000 units, underscoring the weakness in local job growth. Homebuilding activity slowed, and the number of unsold homes doubled between November 2000 and November 2001.

Housing price growth began slowing in first-quarter 2001 and is likely to continue slowing through 2002, a trend particularly evident for high-priced homes. This sector of the real estate market has been hit hard by weakening in the high-tech sector and the failure of many Internet start-up companies. Economic forecasts developed by *Economy.com* and *AngelouEconomics* call for a slow regional recovery with historically weaker gains in employment, population, and retail sales growth. Although housing prices are not expected to depreciate this year, prolonged difficulties in the high-tech sector could change the outlook for home prices in this MSA.

Dallas, Fort Worth, and Houston MSAs

The Dallas, Fort Worth, and Houston economies are discussed together because these MSAs are characterized by relatively moderate employment growth rates and do not show any serious signs of overbuilding. As a result, home

prices in these housing markets are not at risk. Housing price growth for these three MSAs has been comparable to that of the United States in recent years (see Chart 3). Moreover, despite job growth rates that have slowed during the past year, these MSAs continue to add jobs faster than the U.S. average, and unemployment rates are at, or below, that of the nation (see Table 2).

These MSAs have been affected by the U.S. recession and fallout from September 11. However, these areas have diversified during the past ten years, helping them withstand problems in the high-tech, energy, transportation, and travel-related industries. Moreover, the weakness in these economies appears to be cyclical rather than structural, suggesting that once the U.S. and global economies recover, stronger employment growth would be expected to resume.

Housing affordability does not appear to be problematic for homebuyers in these MSAs (see Chart 1). Median home prices in Dallas, Fort Worth, and Houston were at least 10 percent below the U.S. median in 2001. Moreover, 1999 per capita incomes⁹ for all three MSAs exceeded that for the United States. Consequently, a greater proportion of households in these metro areas, compared with those in the nation as a whole, can afford a median-priced home.

However, November 2001 E/P ratios for these MSAs were down substantially from year-earlier levels (see Chart 2). The Fort Worth and Houston E/P ratios were 1.30 and 1.11 in November 2001, down from around 2.00 a year before. The Dallas E/P ratio fell more precipitously from 2.77 to 1.13. Although these housing markets are not considered overbuilt, a softening in supply/demand conditions has occurred. Slowing employment growth and an increase in residential building permits are contributing to the lower E/P numbers.

Employment growth and affordable housing are likely to support some housing price appreciation in these markets in 2002, albeit at a slower pace. Weakening demand relative to new supply could dampen housing price growth. Although prices are not expected to depreciate in the Dallas, Fort Worth, or Houston metropolitan markets, housing price growth in submarkets with employment concentrations in troubled industries, such as the telecom corridor in North Dallas, could be affected adversely.

⁹ 1999 per capita income figures are the most recently available and were supplied by the Bureau of Economic Analysis.

Mortgage Portfolios in Residential Lending Experience Growth

Trending with the Region's economic growth during the 1990s, residential mortgages¹⁰ booked by insured institutions headquartered in these five MSAs increased in volume and as a share of total assets. Mortgage loans¹¹ grew 186 percent (merger-adjusted) in these MSAs during the ten years ending September 30, 2001, compared with 142 percent for the Region and 64 percent for the nation. The Houston and Denver banking markets experienced the most significant growth in mortgage portfolios, increasing 231 percent and 635 percent, respectively. Mortgage volume in Houston grew dramatically during the 1990s from a small initial base resulting from the depressed local economy in the late 1980s. Mortgage originations in Denver increased rapidly, largely because of major in-migration during the 1990s, motivating institutions to grow balance sheets *and* shift greater asset allocations into mortgages.¹²

Thus, despite a slowing economy, mortgage portfolios among insured institutions in these MSAs have grown significantly, and residential real estate credit quality remains strong for these institutions as well. The results of a quarterly survey conducted by the ***Mortgage Bankers Association of America*** (MBAA), a trade group representing insured and uninsured mortgage lenders, indicate that nationwide 5.00 percent of residential mortgage loans were delinquent by 30 days or more in third-quarter 2001, up from 4.12 percent a year before. Moreover, the survey results state that the delinquency rate for residential mortgages originated in **Texas** was somewhat worse at 6.65 percent in third-quarter 2001, up from 5.62 percent a year earlier.¹³

Although the MBAA data evidence some credit quality deterioration, such weakening has not yet appeared among mortgage portfolios of insured institutions; past-due rates for the nation and Texas were 1.91 and 1.49, respectively, as of third-quarter 2001. The past-due rate for institutions headquartered in Texas declined slightly

¹⁰ One- to four-family residential mortgages only, not including mortgage-backed securities (MBS). MBS can be diversified geographically and do not represent the same level of exposure as direct mortgages.

¹¹ All banking data refer to insured institutions headquartered in that metro area, unless otherwise indicated.

¹² Insured institutions in the Denver MSA increased mortgages as a percentage of total assets from 11 percent as of September 30, 1991, to 29 percent as of September 30, 2001.

¹³ Data supplied by Haver Analytics.

from a year earlier, suggesting that mortgage underwriting standards of insured institutions may be somewhat more conservative than those of other mortgage loan originators.

Slowing Home Price Appreciation May Pressure Collateral Values

Traditionally, residential mortgages in insured institutions have proven to be a lower-risk type of lending. However, some recent developments affecting collateral values suggest that risk in mortgage lending may be growing. The loan-to-value ratio of many new mortgages is increasing. More than 20 percent of all mortgages originated nationwide in 2001 were for more than 90 percent of the value of the house, almost three times the level in 1990. In addition, the increasing volume of cash-out refinancings has reduced homeowners' equity. According to the results of a *Freddie Mac* survey referenced in this quarter's *In Focus* article, "over half of all recent refinancings involved material 'cash out' features," providing less of a buffer for lienholders should mortgages default.¹⁴ Furthermore, although home prices in these MSAs have not shown widespread declines, anecdotal reports suggest that high-end home prices are coming under pressure, especially in markets that experienced substantial growth in the high-tech sector in the late 1990s but that have since slowed. And finally, recent rapid growth in mortgage portfolios among insured institutions in these five MSAs suggests that many of these

¹⁴ "Homeowners Continuing to Increase Their Loan Balances When Refinancing, According to Latest Freddie Mac Study," *Freddie Mac Press Release*, October 24, 2001.

mortgages are not seasoned and are based on relatively high real estate values. Should home prices decline, many of these mortgages would be left with leaner collateral positions.

Construction and Development Loan Concentrations Have Risen

Construction and development (C&D) lending is an important element of residential lending for many Dallas Region insured institutions. While call report data do not separate C&D lending into commercial or residential categories, discussions with bankers suggest that a majority of C&D loans support residential building. C&D lending exposure has increased over the past several years, as evidenced by the rise in C&D lending as a percentage of Tier 1 capital. At year-end 1998, 7 percent of insured institutions headquartered in these MSAs reported concentrations of C&D loans in excess of 200 percent of Tier 1 capital; by September 30, 2001, the level in excess of 200 percent more than doubled to 18 percent. Insured institutions in the Austin MSA reported the greatest increase in construction loans. This loan type represented 35 percent of Tier 1 capital among banks in the Austin MSA as of year-end 1998; by third-quarter 2001, this share had climbed to 117 percent.

During a period with a slowing economy and declining employment growth, housing inventories may not sell well. As a result, builders may not remain current on C&D loan payments, pressuring the credit quality of insured institutions.

By the Dallas Region Staff

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

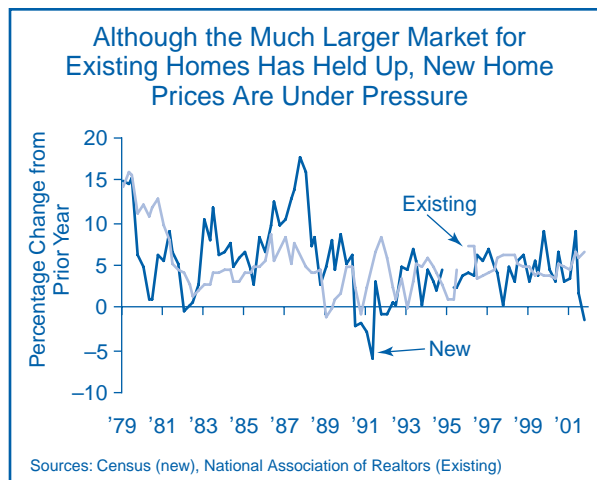
Despite three quarters of recession, most housing indicators remained quite healthy this past year relative to trends seen in past recessions. For example, new and existing home sales both set records during the year, while new home construction failed to decline, an occurrence not seen in the past six 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



initial adverse effects of the recession on housing demand.

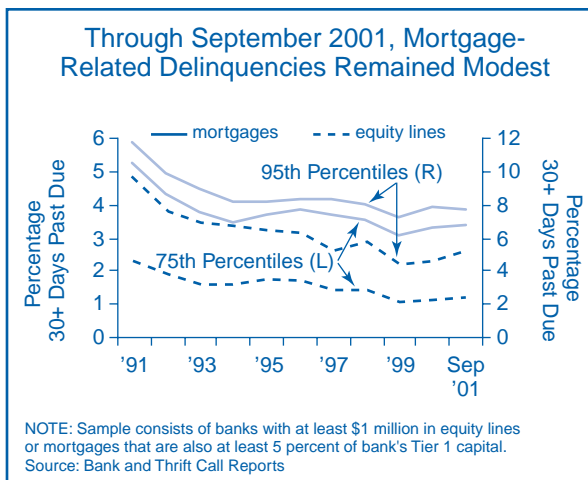
One sign of potential weakness appeared late in 2001 in the modest year-over-year decline in median prices of new single-family homes (see Chart 1). Because existing home sales outnumber new home sales roughly fivefold, price trends in the latter are generally not predictive of prices for the much larger 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

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.

CHART 2



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

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

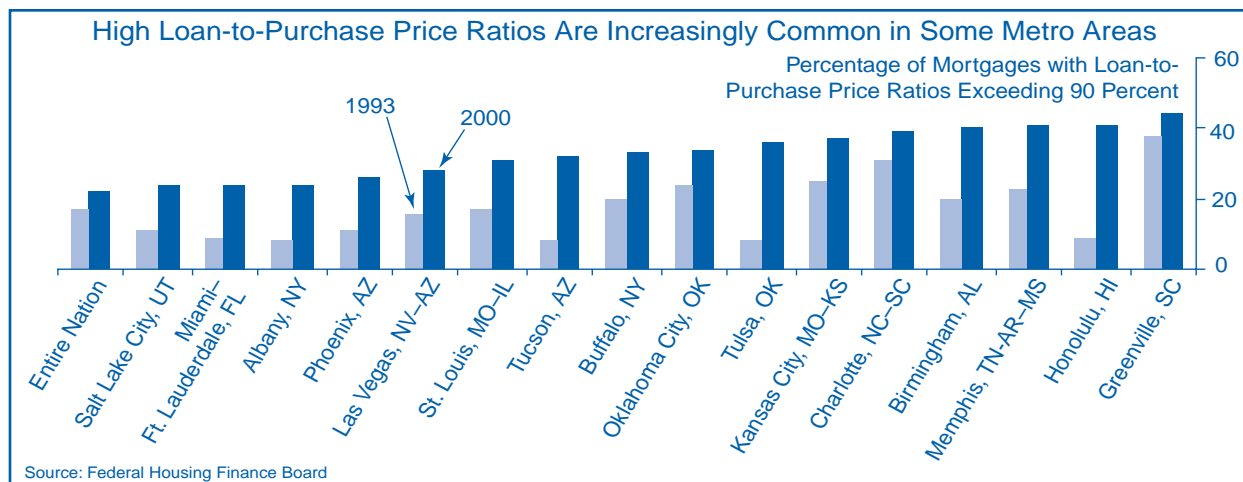
Although history suggests that residential mortgage defaults will be relatively low even in a recession, changes in the mortgage market since the 1990–1991 recession could affect mortgage performance during the present downturn. Many underwriting changes over the past decade have been driven in part 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

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.

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

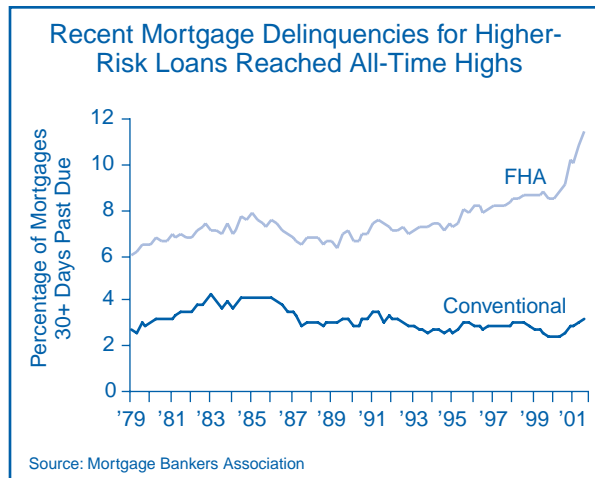
Subprime mortgage loan performance appears to have deteriorated notably during 2001. One source of support for this observation comes from delinquency trends on Federal Housing Agency (FHA)-insured mortgages, which are often granted to first-time homebuyers with troubled credit histories and borrowers 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

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 high-

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.

er-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

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.

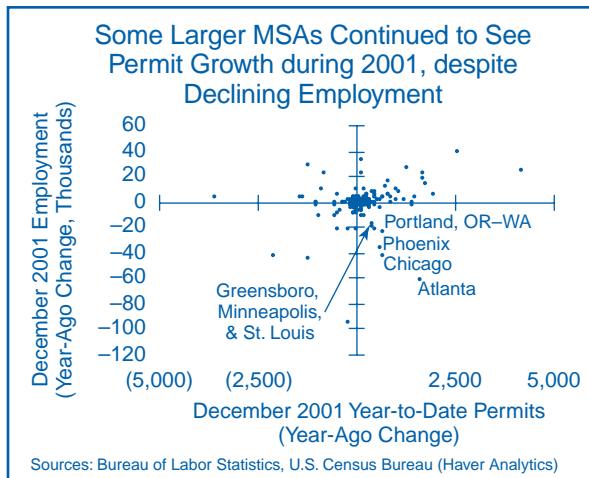
To measure the cyclical aspect of the relationship between a market's supply and demand, some analysts rely heavily on the concept of employment-driven demand.¹⁶ Such analysis involves tracking a demand/supply ratio based on employment growth and permit issuance. Areas where permitting activity continues 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

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.

CHART 5



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.

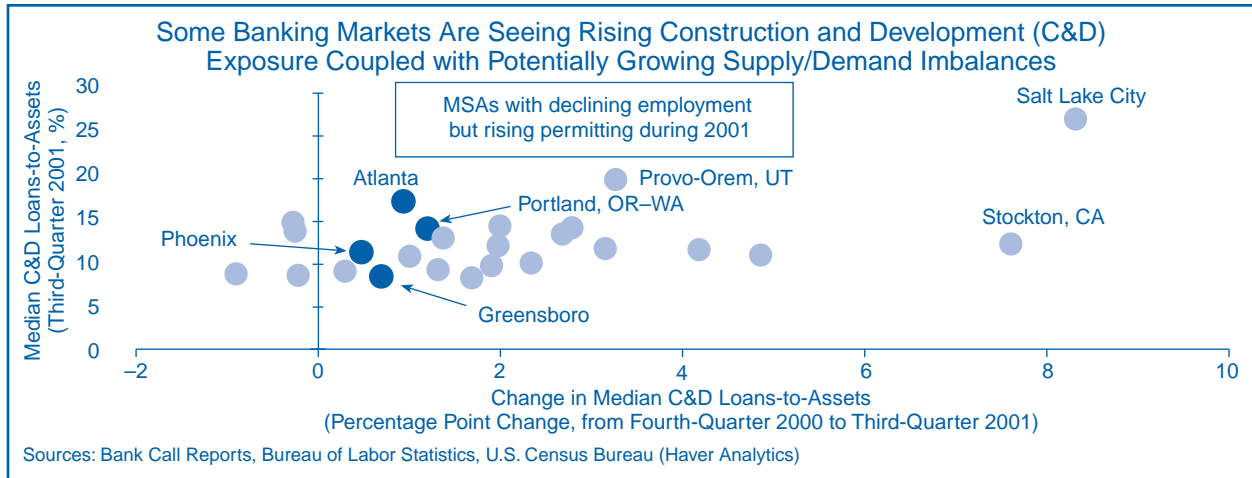
Cyclical Risks May Be Developing with Respect to Home Prices

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

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



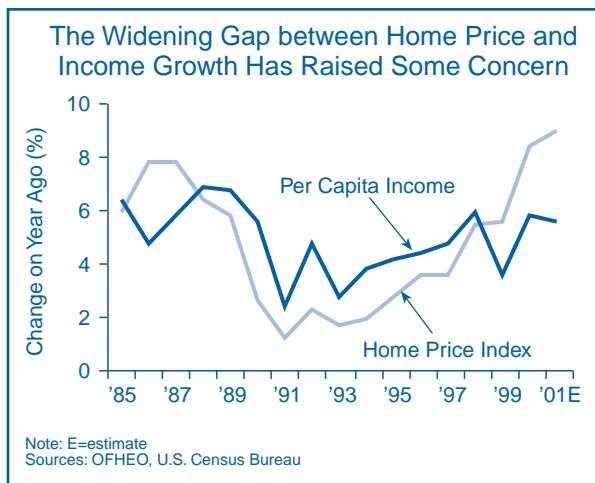
the past several years and the technology stock-fed speculative “bubble” in equity prices that persisted through early 2000. The subsequent bursting of this bubble and the resulting economic distress have raised concerns of a sequel featuring housing prices.

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

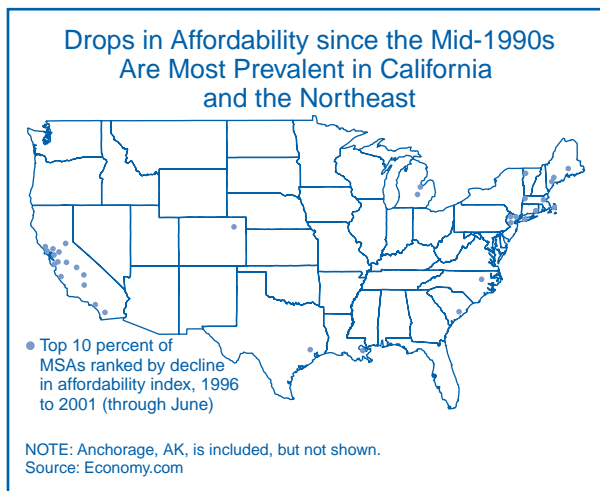
negative episodes during the past few decades in various metropolitan markets. At the national level, existing-home price growth historically has followed trends in population-adjusted personal income growth,²¹ and some have pointed to a growing imbalance between the two as a sign that home prices may 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.

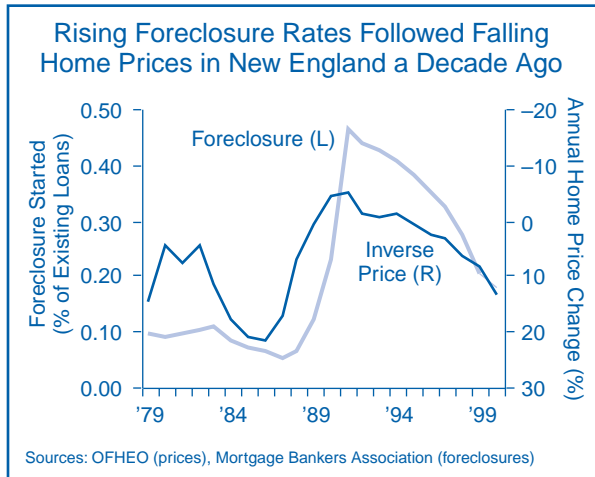
Map 1 shows markets that have seen the most significant reductions in affordability (sharp price gains) during the past several years. Not surprisingly, many of them—namely larger cities in California and the Northeast—are those that historically have seen the biggest swings in prices and a penchant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

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.

CHART 8



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

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

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 Area²⁵ 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 **North-east** 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 cred-

its 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.

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Permit No. G-36