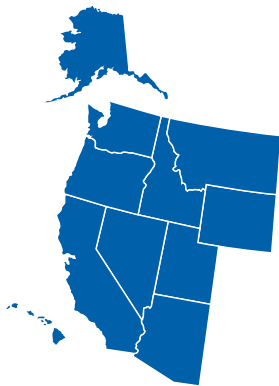

◆ Regional Outlook ◆

FEDERAL DEPOSIT INSURANCE CORPORATION

FIRST QUARTER 2002

FDIC SAN FRANCISCO REGION



DIVISION OF
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◆ *The Region's real estate markets have softened, in part because of weakness in the high-tech and tourism sectors*—The slowing in the dot-com, semiconductor manufacturing, and tourism sectors has dampened demand for real estate, and vacancy rates have increased in some markets.

◆ *Many insured institutions in the Region hold relatively high construction loan exposures at a time when demand for real estate is weakening*—During the past several years, robust construction activity has contributed to higher construction loan concentrations among insured institutions in some areas. Recent deterioration in the real estate sector may affect construction loan quality adversely.

◆ *Community construction lenders active in areas dependent on construction employment face additional pressures*—Construction loan concentrations among community institutions tend to be higher in areas that rely on cyclical construction employment. This reliance during a period of weakening construction activity may adversely affect the quality of other segments of the loan portfolio. *See page 3.*

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

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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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- The Region's real estate markets have softened, in part because of weakness in the high-tech and tourism sectors. The slowing in the dot-com, semiconductor manufacturing, and tourism sectors has dampened demand for real estate, and vacancy rates have increased in some markets.
- Many insured institutions in the Region hold relatively high construction loan exposures at a time when demand for real estate is weakening. During the past several years, robust construction activity has contributed to higher construction loan concentrations among insured institutions in some areas. Recent deterioration in the real estate sector may affect construction loan quality adversely.
- Community construction lenders active in areas dependent on construction employment face additional pressures. Construction loan concentrations among community institutions tend to be higher in areas that rely on cyclical construction employment. This reliance during a period of weakening construction activity may adversely affect the quality of other segments of the loan portfolio.

Declining Demand for Real Estate Could Signal the Potential for Credit Quality Weakening among the Region's Construction Lenders

Robust economic growth over the past several years fueled significant construction activity throughout many areas of the San Francisco Region. During this period, many insured financial institutions increased concentrations in traditionally higher-risk construction and development (C&D) loans. This elevated exposure is of concern because demand for office and industrial space in the Region began to dwindle in the first half of 2001, primarily as a result of slowing in the high-tech sector. At the same time, demand for hotel rooms, retail space, and housing was adversely affected by a downturn in the travel industry, declining consumer confidence, and rising unemployment; in some areas these factors have been exacerbated in the aftermath of the September 11, 2001, terrorist attacks.

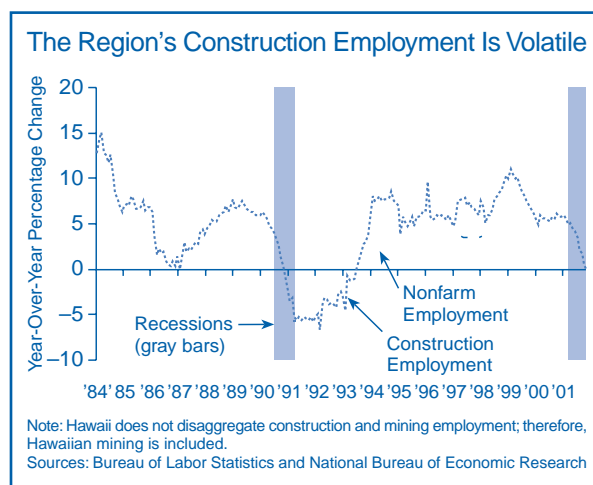
The building boom in several of the Region's markets brought with it an increased dependence on highly cyclical construction employment (see Chart 1). Community construction lenders¹ with greater exposures to C&D loans are often in areas with relatively high employment concentrations in this recession-sensitive sector. As a result, weakening in C&D loan quality could be accompanied by softening in other segments of the loan portfolio.

¹ Defined as insured institutions that report C&D loan exposures and hold less than \$1 billion in total assets.

Many Insured Institutions Have Significant Construction Lending Exposure

One of the more significant vulnerabilities associated with C&D lending is the period between financing and completion of a project, the time during which market conditions can change dramatically. One key measure of the future marketability of construction in the pipeline is the vacancy rate. This analysis looked at the increase in vacancies over the past 12 months to gauge the degree to which current real estate conditions in different markets have fallen short of year-ago assumptions. For example, the San Francisco office vacancy rate was 3 percent in September 2000; by September 2001, the rate had jumped to 15 percent. The level of current construction relative to existing stock is another indicator of future marketability and

CHART 1



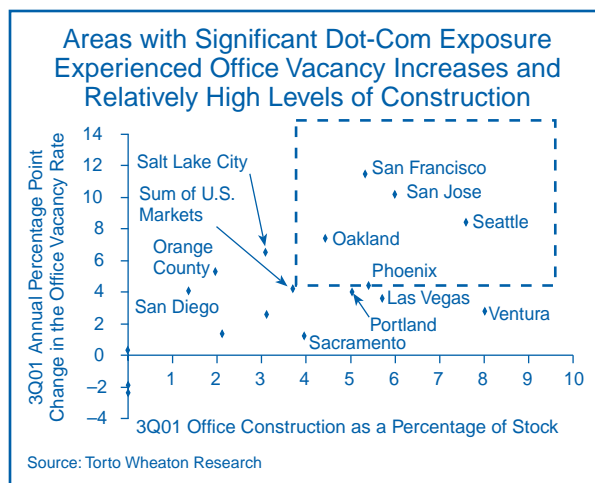
suggests the level of C&D lending exposure in each property type.

Construction lending is a significant component of loan portfolios among many of the Region's insured institutions. Therefore, this article analyzes third-quarter 2001 vacancy trends and construction volume relative to stock for each of the Region's major market sectors to ascertain where conditions may be falling short of prior assumptions.

The Economic Downturn in High-Tech Areas Adversely Affected the Region's Office and Industrial Markets

Rapid increases in high-tech sector demand for office space in the late 1990s spurred real estate construction volumes. However, the pronounced slowdown in the high-tech sector during 2001 pushed up office vacancy rates in metropolitan statistical areas (MSAs) with high exposures to the dot-com and semiconductor manufacturing industries. Several of these high-tech-dependent markets, including **San Francisco, San Jose, Seattle, Oakland, and Phoenix**, have also experienced significant office space construction that has continued through much of 2001 (see Chart 2). These five MSAs have seen greater increases in office vacancies in suburban properties than in downtown areas, a reflection of the tendency of dot-com companies to rent cheaper upgraded warehouses near fiber optic lines on the outskirts of the central business district. Given that office space takes considerable time to develop, rapidly rising office vacancies and strong construction pipelines suggest the potential for oversupply in these markets.

CHART 2



Declining manufacturing output adversely affected demand for industrial space in several MSAs throughout the Region during the 12 months ending in September 2001. In particular, **Sacramento** not only experienced a significant increase in industrial vacancy rates during this period but also had a relatively high proportion of space under construction as of September 2001. In 2000, a number of companies relocated to Sacramento because it was seen as a more affordable alternative to the Bay Area. Subsequently, the drop in the stock market in 2001 depressed market values, and the loss of venture capital funding, particularly for dot-com firms, meant that fewer San Francisco companies were entering the Sacramento market.² Declining manufacturing employment in Sacramento and reduced in-migration from the Bay Area contributed to increasing vacancy rates that adversely affected the outlook for current construction projects in this MSA.

Although Sacramento is the only major market to experience a significant change in its industrial vacancy rate and have a large share of industrial space under construction relative to stock, vulnerabilities in the C&D sector could exist in several other markets. The economic slowdown has already produced significant increases in industrial vacancy rates in the San Jose, **Honolulu**, San Francisco, **Portland**, and Phoenix MSAs. Continued weakness in the high-tech sector and the slowing global economy could further pressure vacancy rates in these markets. Additionally, markets such as **Riverside** and **Las Vegas** are expecting significant increases in industrial space given the level of construction in the pipeline, which, if not offset with equally robust demand, could further heighten the amount of unused industrial space.

Fortunately, industrial real estate has a relatively short construction cycle. Consequently, builders typically can respond quickly to changing market conditions and avert severe supply and demand imbalances. Nevertheless, demand has shifted downward quickly in some of the Region's markets, and industrial property construction has been significant in others.

² Colliers International. July 2001. *Industrial Market Report, Sacramento* ([http://www.colliersmn.com/prod/ccgrd.nsf/City/4BAE7F02FA76D74F88256AA90066871C/\\$File/Midyear2001.pdf](http://www.colliersmn.com/prod/ccgrd.nsf/City/4BAE7F02FA76D74F88256AA90066871C/$File/Midyear2001.pdf)).

Waning Tourism Has Adversely Affected Hotel Demand

Hotel occupancy and revenue rates in the Region had been strong through 2000; however, the 2001 economic slowdown and aftermath of the terrorist attacks dampened business and leisure travel significantly. In reaction to these developments, some Las Vegas construction projects that were in the early stages have been stopped. Hotel properties require a lengthy time to develop; therefore, the adverse effects of lower occupancies and hotel revenue per available room (RevPAR) may depress the value of ongoing projects.

Third-quarter 2001 hotel occupancy rates in the San Francisco MSA dropped 10 percent from a year ago, reflecting the high-tech slowdown and the effects of the September 11 attacks. Although their declines were less dramatic than those of the San Francisco MSA, the rest of the Bay Area,³ Las Vegas, and Seattle reported steeper occupancy declines than the national average.⁴ Hotel RevPAR for the nation fell 15 percent in third-quarter 2001 compared with a year ago, and all of the Region's major markets experienced declines during this period. Markets that reported declines in RevPAR exceeding the national average include the Bay Area, Las Vegas, and Phoenix, as lower occupancies in the final days of September 2001 prompted aggressive room rate cuts.

The tourism market softened noticeably following the attacks; however, hotel construction pipelines remain relatively robust in Sacramento, **San Diego, Orange County**, and San Francisco. Overall, the San Francisco MSA may represent one of the more vulnerable areas given its depressed revenue, lower occupancy levels, and the volume of ongoing construction relative to rooms available. Luxury developments may be affected more adversely because these properties have reportedly experienced the greatest declines in occupancy and RevPAR.

Consumer Sector Pressures Have Affected Demand for Retail Development

Relatively high levels of consumer confidence and favorable employment trends prior to 2001 buoyed prospects for retail development. However, demand for

retail space during the year declined in some markets as a result of the slowing economy and the aftermath of the attacks. Net absorption of retail space was negative in the second and third quarters of 2001 in all of the Region's MSAs except **Salt Lake City**. A considerable increase in the retail space vacancy rate combined with a relatively significant volume of construction starts could challenge C&D lenders in certain high-growth retail markets, such as Las Vegas and Phoenix. Las Vegas has experienced a slowdown in visitor volumes as a result of decreased air travel,⁵ especially following the terrorist attacks. The Las Vegas economy relies heavily on the travel-sensitive hotel and lodging sector,⁶ and, as a result, the MSA's unemployment rate rose 1.7 percentage points in October 2001. The Phoenix MSA experienced job losses during the first ten months of 2001, in part because of the area's exposure to the slowing semiconductor manufacturing sector.

Employment and Affordability Issues Heighten Residential Construction Concerns

Deteriorating job markets coupled with eroding housing affordability could adversely affect multifamily and single-family markets. The number of apartment vacancies has risen in some markets. For instance, demand softened in some Bay Area submarkets following a significant decline in high-tech-related employment. The Phoenix, San Diego, Sacramento, and Orange County apartment markets experienced rising vacancies in the 12 months ending September 2001 and also are expected to face relatively significant additions to apartment stocks in the 12 months ending September 2002. As a result, C&D lenders in these markets should carefully scrutinize project assumptions.

Softening employment trends and deteriorating housing affordability have adversely affected some single-family home markets. Specifically, the San Jose, San Francisco, Portland, Oakland, Las Vegas, Phoenix, Seattle, **Santa Cruz**, and **Eugene** MSAs experienced above-average increases in unemployment rates. Job losses in these markets could dampen housing demand.⁷ Additionally, in the

³ Defined in this article as the Oakland, San Francisco, and San Jose MSAs.

⁴ For real estate figures, the "average" or national number is based on the sum of metropolitan markets for which data are collected.

⁵ According to the Las Vegas Convention and Visitors Authority, 46 percent of visitors in 2000 arrived by air.

⁶ Hotel, amusement, and recreation employment in Las Vegas accounted for 24 percent of total nonagricultural employment as of October 2001.

⁷ For more information on this subject, please refer to the *In Focus* portion of this publication.

Regional Perspectives

Bay Area, Orange County, and San Diego markets, home price increases have significantly outstripped personal income growth over the past five years, a trend that might not be sustainable in the long term.⁸ The confluence of job losses and low and deteriorating affordability in the Bay Area has already contributed to declining median home prices in several submarkets. Recent anecdotal evidence suggests that higher-end homes have experienced greater pricing pressure and longer marketing periods. Insured institutions with C&D loan exposures in areas with rapidly deteriorating employment or affordability pressures could face deteriorating single-family C&D credit quality, particularly if they are financing high-end residential development.

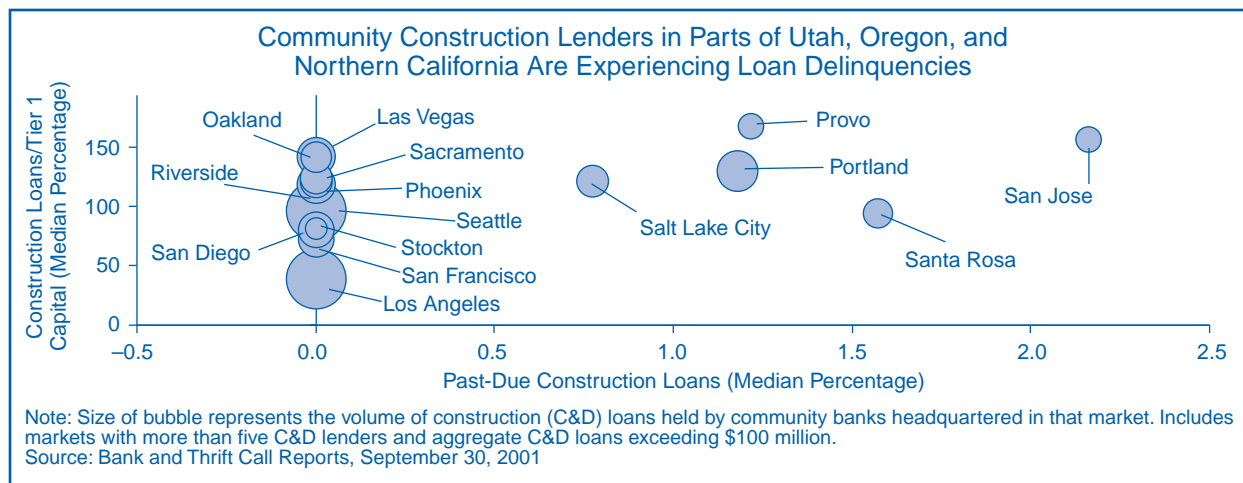
Robust Construction Activity Contributed to High C&D Loan Concentrations in Some Areas

As of September 30, 2001, C&D lending was particularly important to community C&D lenders headquartered in 15 of the Region's larger MSAs (see Table 1). Rapid changes in commercial and residential real estate market conditions could adversely affect insured institution credit quality, particularly among lenders

that specialize in construction lending in the higher-risk markets.

Median C&D loan-to-Tier 1 capital ratios were particularly high among community construction lenders based in the **Provo**, San Jose, Las Vegas, Oakland, Portland, Sacramento, Salt Lake City, Riverside, and Phoenix MSAs. As noted in Chart 3, at least half of the community construction lenders in some of these markets reported delinquencies in their C&D loan portfolios. Although at a relatively low level, median construction loan delinquency ratios were higher among community construction lenders headquartered in the San Jose, **Santa Rosa**, Provo, Portland, and Salt Lake City MSAs compared with the Region's other large MSAs. Additionally, at least one-quarter of community C&D lenders in the Portland, San Jose, and San Francisco MSAs reported third-quarter 2001 past-due C&D loan ratios exceeding 5 percent. Delinquencies in C&D portfolios are of particular concern because lenders typically fund or defer interest payments that the borrower will make over the term of the construction loan (e.g., through "interest reserves"). Thus, if a C&D borrower is past due, it could be the result of unforeseen building delays or difficulties with project sale or leasing.

CHART 3



⁸ For more information, see "Regional Perspectives," San Francisco Region, *Regional Outlook*, Fourth Quarter 2001 (<http://www.fdic.gov/bank/analytical/regional/ro20013q/sf/s3q2001.pdf>).

Regional Perspectives

TABLE 1

COMMUNITY CONSTRUCTION LENDERS IN SOME MARKETS REPORTED HIGH CONCENTRATIONS IN TRADITIONALLY HIGHER-RISK CONSTRUCTION LOANS ¹						
METROPOLITAN STATISTICAL AREA (MSA)	ASSETS OF CCLs ¹ (\$ BILLIONS)	NUMBER OF CCLs ¹	PERCENTAGE OF COMMUNITY INSTITUTIONS WITH C&D LOAN EXPOSURES	MEDIAN C&D LOANS/TIER 1 CAPITAL RATIO AMONG CCLs ¹ (%)	PERCENTAGE OF CCLs ¹ WITH PAST-DUE C&D LOANS >5%	COMMERCIAL ² AND SINGLE-FAMILY ³ PROPERTY TYPES WITH SIGNS OF DETERIORATION ⁴
LAS VEGAS	4.3	23	91	147	14	RETAIL & S.F.
LOS ANGELES	18.3	80	81	40	15	
OAKLAND	3.4	14	86	146	0	OFFICE & S.F.
PHOENIX	4.7	32	81	122	19	OFF., RET., APT., & S.F.
PORTLAND	3.4	15	93	134	36	RETAIL & S.F.
PROVO ⁴	1.1	7	86	173	17	
RIVERSIDE	2.8	20	100	124	10	
SACRAMENTO	2.7	10	90	128	0	INDUSTRIAL & APT.
SALT LAKE CITY	5.3	30	47	126	14	
SAN DIEGO	4.3	26	81	83	14	APARTMENT
SAN FRANCISCO	6.7	26	77	75	25	OFF., HOT., & S.F.
SAN JOSE	2.1	7	86	162	33	OFFICE & S.F.
SANTA ROSA ⁴	2.7	7	100	97	14	S.F.
SEATTLE	6.8	31	100	99	3	OFFICE & S.F.
STOCKTON ⁴	1.8	8	100	84	13	

¹ COMMUNITY CONSTRUCTION LENDERS (CCLs) ARE DEFINED AS INSURED INSTITUTIONS WITH LESS THAN \$1 BILLION IN TOTAL ASSETS AND ANY CONSTRUCTION AND DEVELOPMENT (C&D) LOAN EXPOSURE. THIS TABLE INCLUDES ONLY MSAs IN THE REGION WITH FIVE OR MORE CCLs AND AGGREGATE C&D LOANS OF \$100 MILLION OR MORE.

² IDENTIFIES COMMERCIAL PROPERTY TYPES BY MARKET WITH AN ANNUAL PERCENTAGE POINT CHANGE GREATER THAN THE SUM-OF-MARKETS (U.S. AVERAGE) FOR THIRD-QUARTER 2001 AND HIGHER CONSTRUCTION STARTS-TO-STOCK WHEN COMPARED WITH THE SUM-OF-MARKETS FOR THIRD-QUARTER 2001. THE INDUSTRIAL AVAILABILITY INDEX WAS USED AS A PROXY FOR THE INDUSTRIAL VACANCY RATE. THE HOTEL VACANCY RATE WAS DEFINED AS 1-OCCUPANCY RATE. FORECASTED APARTMENT COMPLETIONS FOR THE FOUR QUARTERS ENDING SEPTEMBER 2002 WERE USED AS A PROXY FOR CONSTRUCTION STARTS. IN ADDITION, ORANGE COUNTY'S APARTMENT PROPERTY TYPE WAS IDENTIFIED, BUT THIS MSA DID NOT MEET THE CRITERIA IN FOOTNOTE 1. COMMERCIAL PROPERTY TYPES INCLUDED ARE OFFICE, INDUSTRIAL, HOTEL, RETAIL, AND APARTMENT REAL ESTATE.

³ IDENTIFIES SINGLE-FAMILY (S.F.) RESIDENTIAL PROPERTY FOR THE MSAs SELECTED IN THIS TABLE (BASED ON FOOTNOTE 1) THAT FOR OCTOBER 2001 HAD AN UNEMPLOYMENT RATE ANNUAL INCREASE LARGER THAN THE 1.5 PERCENTAGE POINTS REPORTED FOR THE NATION.

⁴ NO COMMERCIAL REAL ESTATE DATA ARE AVAILABLE FOR PROVO, SANTA ROSA, OR STOCKTON.

SOURCES: BANK AND THRIFT CALL REPORTS (9/30/2001), TORTO WHEATON RESEARCH (OFFICE AND INDUSTRIAL PROPERTY DATA), PROPERTY AND PORTFOLIO RESEARCH (HOTEL, RETAIL, AND APARTMENT PROPERTY DATA), AND BUREAU OF LABOR STATISTICS

Regional Perspectives

Lenders Active in Areas Dependent on Construction Employment Face Additional Challenges

The current real estate slowdown could adversely affect more than just C&D credit quality. Historically, construction sector employment has been highly cyclical. For example, during the 1990 to 1991 downturn, construction employment in the Region declined 7 percent. Although the construction employment expansion buoyed job growth in several markets through 2000, job growth in this sector has begun to slow and has turned negative in several markets (see Chart 4). As the economy continues to weaken, the construction sector could again be disproportionately vulnerable to further job cuts.

Median C&D loan concentration levels tend to be greatest in markets with relatively high levels of construction employment (see Chart 5). Thus, insured institutions active in the Las Vegas, Riverside, Phoenix, Salt Lake City, and Santa Rosa markets could be particularly vulnerable given the heavy construction lending activity and the reliance of these markets on construction employment. Softening real estate markets and slowing demand for construction sector employment are typically a function of broader economic weakness. As a result, some weakening in asset quality and earnings among insured institutions in these MSAs could appear in other loan portfolio segments.

By the San Francisco Region Staff

CHART 4

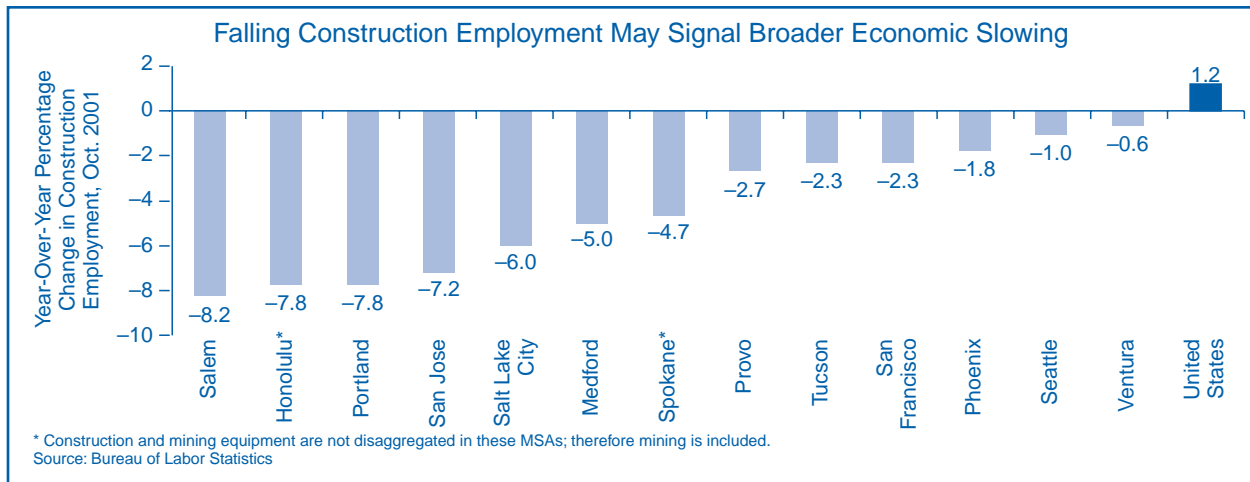
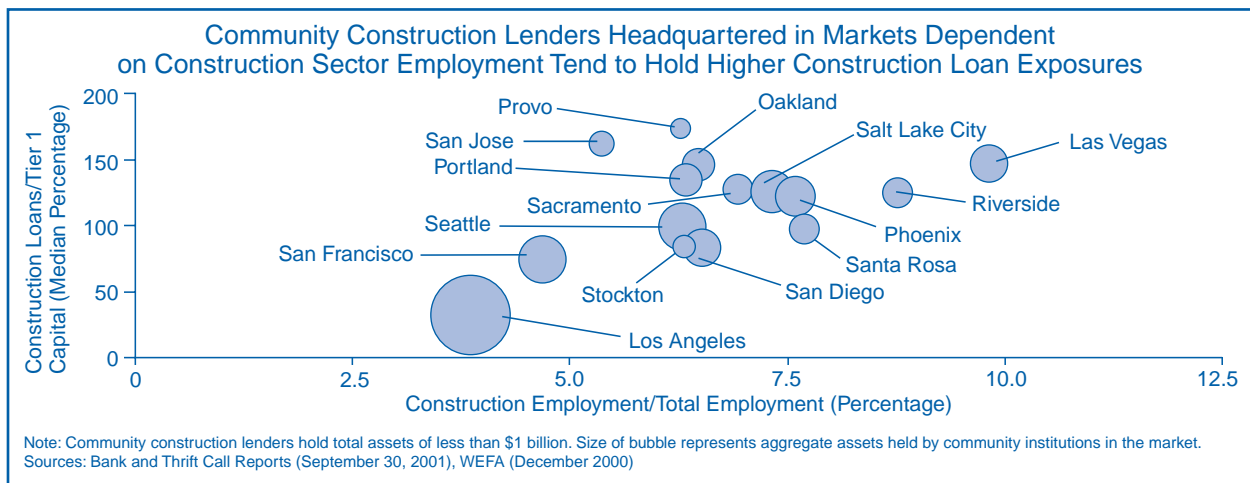


CHART 5



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

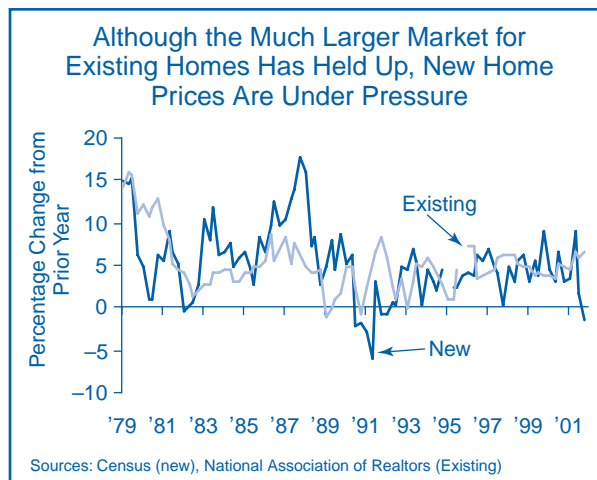
Despite three quarters of recession, most housing indicators remained quite healthy this past year relative to trends seen in past recessions. For example, new and existing home sales both set records during the year, while new home construction failed to decline, an occurrence not seen in the past six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

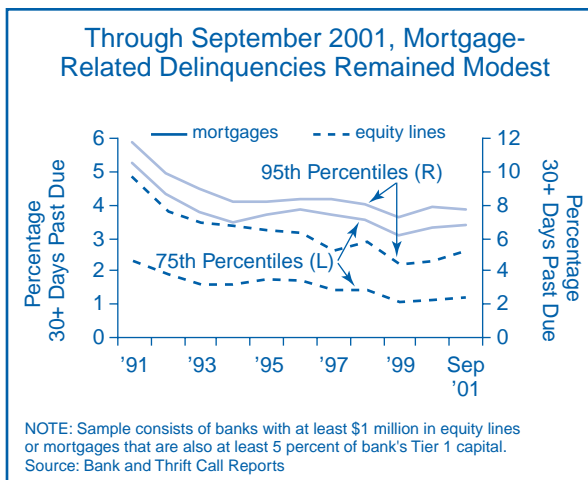
One sign of potential weakness appeared late in 2001 in the modest year-over-year decline in median prices of new single-family homes (see Chart 1). Because existing home sales outnumber new home sales roughly fivefold, price trends in the latter are generally not predictive of prices for the much larger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

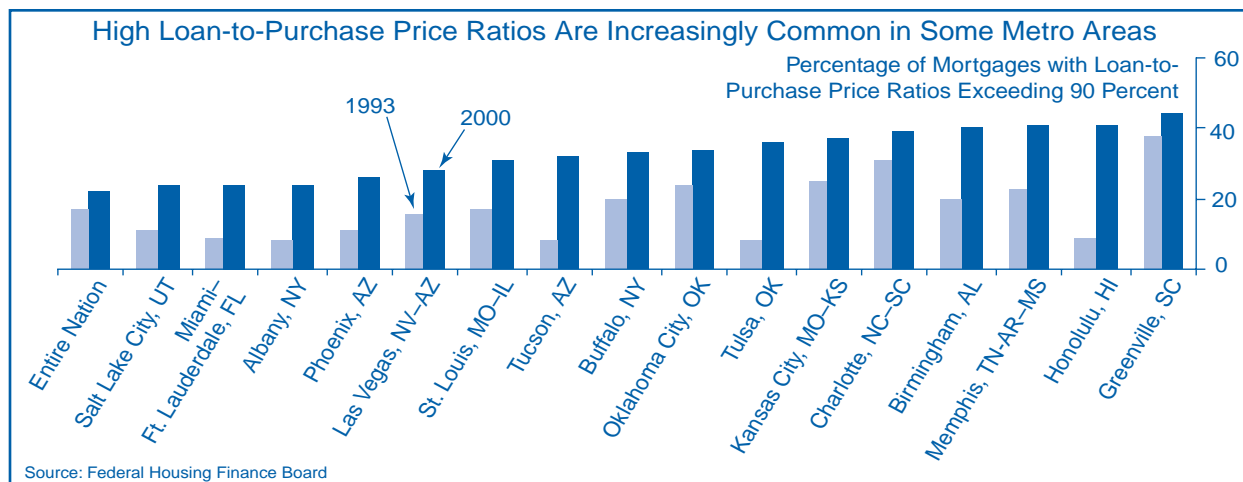
Although history suggests that residential mortgage defaults will be relatively low even in a recession, changes in the mortgage market since the 1990–1991 recession could affect mortgage performance during the present downturn. Many underwriting changes over the past decade have been driven in part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

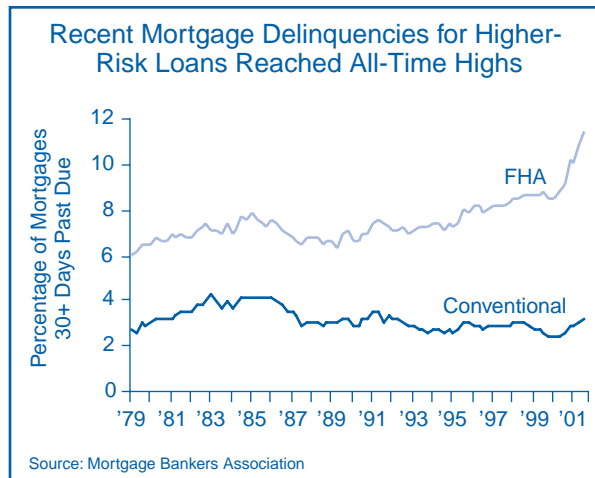
Subprime mortgage loan performance appears to have deteriorated notably during 2001. One source of support for this observation comes from delinquency trends on Federal Housing Agency (FHA)-insured mortgages, which are often granted to first-time homebuyers with troubled credit histories and borrowers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

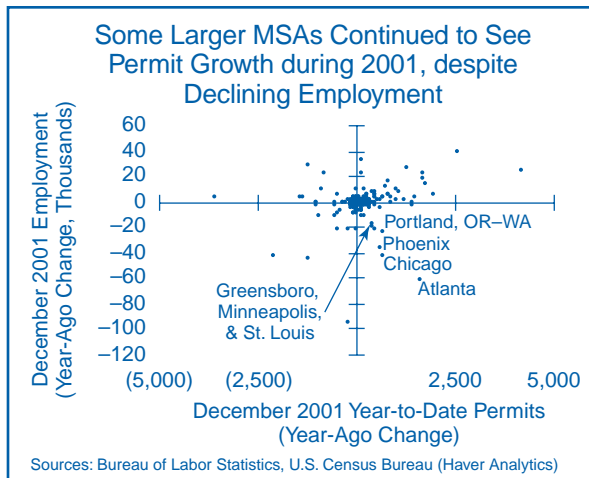
To measure the cyclical aspect of the relationship between a market's supply and demand, some analysts rely heavily on the concept of employment-driven demand.¹⁶ Such analysis involves tracking a demand/supply ratio based on employment growth and permit issuance. Areas where permitting activity continues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

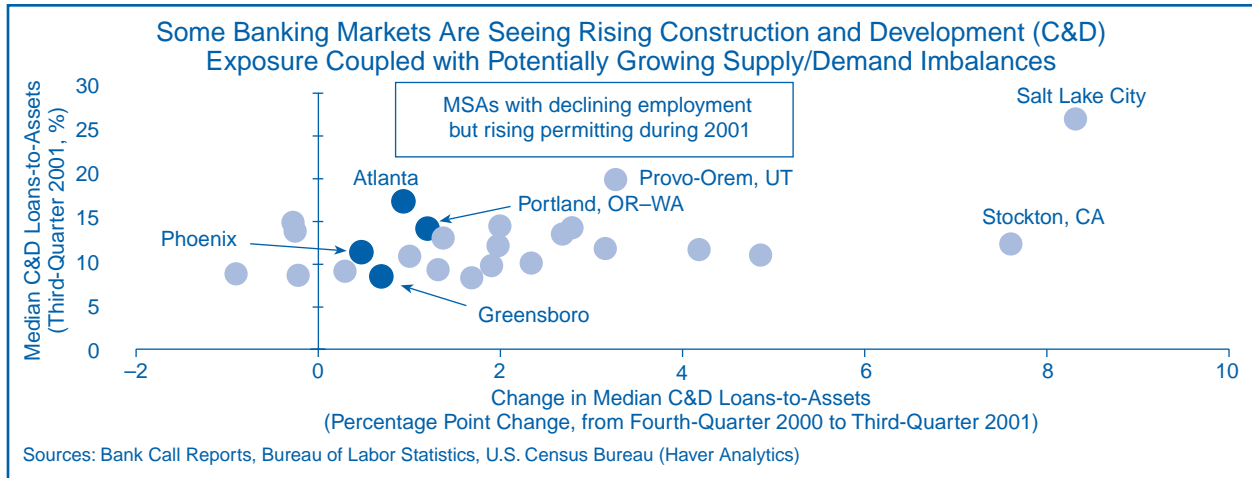
Cyclical Risks May Be Developing with Respect to Home Prices

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



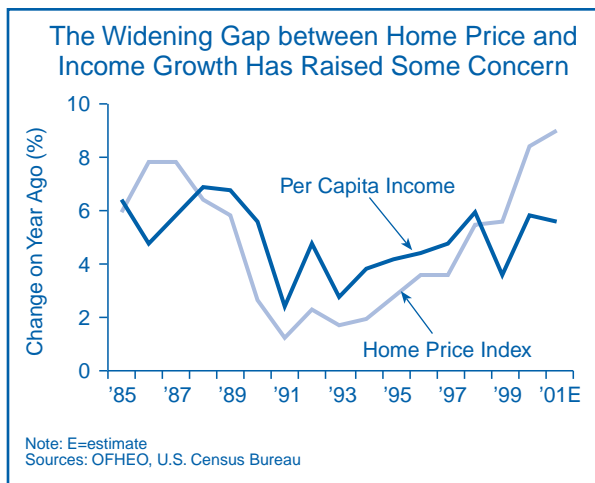
the past several years and the technology stock-fed speculative “bubble” in equity prices that persisted through early 2000. The subsequent bursting of this bubble and the resulting economic distress have raised concerns of a sequel featuring housing prices.

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

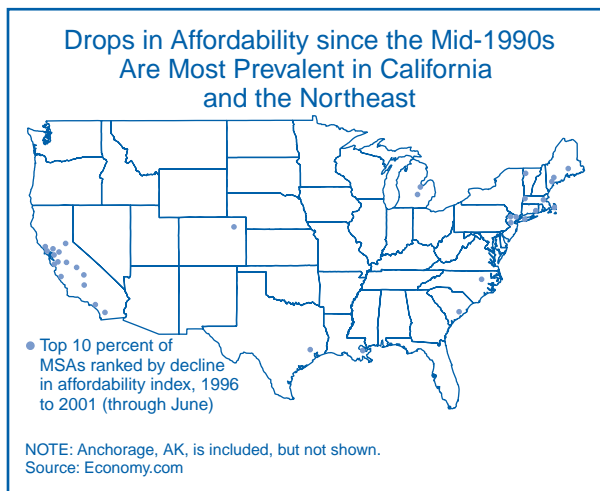
negative episodes during the past few decades in various metropolitan markets. At the national level, existing-home price growth historically has followed trends in population-adjusted personal income growth,²¹ and some have pointed to a growing imbalance between the two as a sign that home prices may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

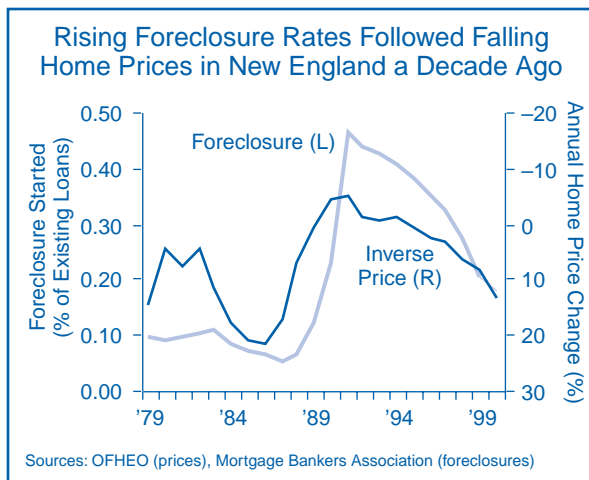
Map 1 shows markets that have seen the most significant reductions in affordability (sharp price gains) during the past several years. Not surprisingly, many of them—namely larger cities in California and the Northeast—are those that historically have seen the biggest swings in prices and a penchant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