
Regional Outlook

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DIVISION OF INSURANCE

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Regional Perspectives

◆ *Rapid Growth of the High-Tech Sector during the 1990s Contributed Significantly to Strong Employment and Economic Growth in the Region's Leading High-Tech MSAs*—Five Dallas Region metropolitan statistical areas (MSAs) are among the top 25 high-tech centers in the nation, outperforming the United States in almost every economic category during the 1990s. However, recent high-tech stock price volatility suggests that this sector, like other sectors of the economy, is vulnerable to economic fluctuations. The nature and health of individual high-tech industries within a metropolitan area play a significant role in the relative vulnerability of a particular MSA to a national or high-tech recession. *See page 3.*

◆ *Small Banks and Thrifts in High-Tech Metropolitan Areas Have Reported Rapid Loan and Deposit Growth; However, These Institutions Also Have Experienced Increased Competition from Large Banks*—This increased competition may contribute to lower returns on assets and declining levels of profitability. Overall, these trends may heighten the vulnerability of small insured institutions in these high-tech MSAs to a slowdown in the high-tech sector or in the national economy. *See page 11.*

◆ *Profitability of the Region's Banks during First Quarter 2000 Lagged That of U.S. Banks; Securities Losses at One Large Bank Holding Company Contributed to the Decline in Earnings.* *See page 13.*

By the Dallas Region Staff

In Focus This Quarter

◆ *Ranking Metropolitan Areas at Risk for Commercial Real Estate Overbuilding*—Commercial real estate construction has boomed in a number of U.S. metropolitan markets during recent years amid falling vacancy rates and growing demand for new space. Insured depository institutions have reasserted their role as primary sources of capital for this construction boom, particularly in the wake of the 1998 financial markets crisis that left some important market-based lenders on the sidelines. Recent data for some metropolitan areas show that on-balance-sheet exposures of FDIC-insured institutions are by some measures higher now than at the peak of the last commercial real estate cycle during the late 1980s. This article reassesses major U.S. metropolitan real estate markets in search of possible signs of overbuilding that could drive up vacancy rates and drive down rents in the near term. This review points to an underlying trend of markets experiencing more vigorous construction activity across multiple property types. *See page 15.*

By Thomas A. Murray, Senior Financial Analyst

◆ *Dallas Region Markets Most Vulnerable to Overbuilding*—On the basis of the preceding information, the following three markets are considered to be most at risk for broad-based overbuilding: Dallas, Denver, and Fort Worth. *See page 22.*

By Dallas Region Staff

◆ *Rising Home Values and New Lending Programs Are Reshaping the Outlook for Residential Real Estate*—Rising home prices and high levels of activity in the single-family housing market have been supported by excellent economic conditions and generally low interest rates. However, as interest rates have begun to rise, housing market activity has slowed. Historically, residential real estate has been one of the best-performing asset classes at insured institutions. Concerns have recently arisen, however, that new, higher-risk lending lines of business could adversely affect the future credit quality of residential real estate portfolios. *See page 26.*

By Alan Deaton, Financial Economist

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Regional Perspectives

- **Rapid growth of the high-tech sector during the 1990s contributed greatly to strong employment and economic growth in the Region's leading high-tech centers.**
- **Small banks and thrifts located in high-tech metropolitan areas have reported rapid growth in loans and deposits as well as increased competition from large banks.**
- **The Region's profitability for first quarter 2000 lagged the U.S. average; securities losses at one large bank holding company in the Region contributed to the decline in earnings.**

Growing Reliance on the High-Tech Sector Could Pose Risks to Banks in MSAs with Large Concentrations of High-Tech Industries

Overview: The rapid expansion of high-tech industries¹ during the 1990s was a major driver of economic growth in the Dallas Region.² In recent months, however, the volatility of technology stock prices, typified by wide swings in the NASDAQ, suggests that the high-tech sector, like other sectors of the economy, is susceptible to business fluctuations. More important for purposes of this article is how a downturn in the high-tech sector could affect local economies and insured financial institutions in areas with large concentrations of high-tech industries.

Since the 1990–91 recession, output growth in the high-tech sector has grown at four times the real U.S. gross domestic product (GDP) growth.³ Chart 1 (next page) compares real output growth of the U.S. economy with that of the information technology (IT) subsector, an important component of the high-tech sector.⁴ In the past ten years, IT's share of total U.S. output tripled as a result of double-digit growth in this sector. Many econ-

omists attribute the U.S. economy's recent strong growth, increased productivity, and low inflation to diffusion of technology throughout the economy.⁵ A study conducted by the *U.S. Conference of Mayors* and *The National Association of Counties* earlier this year supports this argument. The following quote from this study addresses the link between growth in the high-tech sector and gains in productivity:

Although it is still too early to identify all of the factors responsible for rising productivity, it is likely that investments in high-tech capital goods, especially information technology such as computers and telecommunications equipment, are boosting the rate at which workers are able to increase their production of goods and services. Investment in high-tech equipment, especially technologies used to increase the exchange of information (e.g., the Internet, computers, and wireless telephones), are reducing the costs of economic transactions, and, as a result, are boosting productivity and GDP growth. Furthermore, because many information technologies reduce transaction costs, increasing high-tech investment may be restraining price inflation.⁶

At the same time, however, technology stocks' roller-coaster ride in April 2000 underscores a major concern: Could a high-tech recession result in a downturn in the economies of states with high concentrations of high-tech industries? This question is more difficult to answer than it appears. High-tech industries tend to be

¹ The definition of a high-tech industry varies considerably depending upon the source. This article uses the *Milken Institute* definition ("America's High-Tech Economy," July 1999, p. 34), Santa Monica, California. This definition includes the following 14 SIC categories: computers & office equipment; aircraft & parts; guided missile, space vehicles & parts; engineering & architectural services; search & navigation equipment; electronic components & accessories; measuring & controlling devices; communications equipment; telecommunication services; motion pictures; computer & data processing services; drugs; medical equipment, instruments & supplies; and research & testing services.

² The Federal Reserve Bank of Dallas; January/February 2000, "The Unsinkable Texas Economy." *The Southwest Economy*. State of Colorado. December 1999. "Focus Colorado: Economic & Revenue Forecast, 1999–2005." Colorado Legislative Council Staff Report.

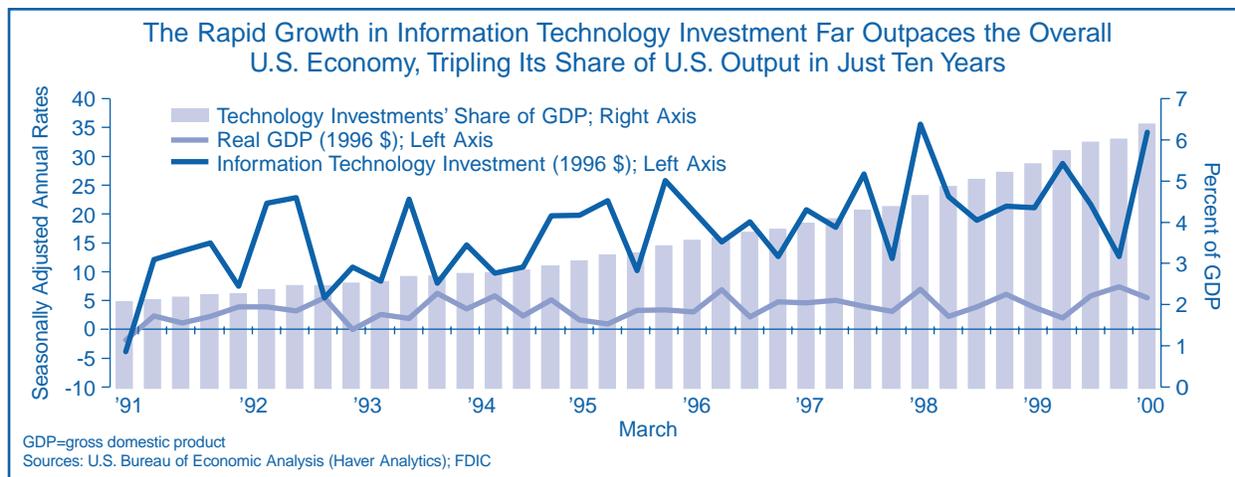
³ "America's High-Tech Economy," p. 2.

⁴ Defined here as information processing equipment and software.

⁵ Federal Reserve Bank of Dallas, "The New Paradigm," 1999 Annual Report.

⁶ May 2000. "U.S. Metro Economies: The Engines of America's Growth." Washington, D.C. U.S. Conference of Mayors and the National Association of Counties, pp. 4–5.

CHART 1



clustered in a few major metropolitan areas in the Region. As a result, business fluctuations in high tech are more likely to be felt locally than statewide. In addition, high tech covers a wide range of industries in the manufacturing and services sectors, so the degree of vulnerability to a downturn in the high-tech sector will vary depending on the types of industries located in a particular metropolitan statistical area (MSA).

The degree of vulnerability that MSAs with large concentrations of high-tech industries possess can be traced to the cyclicity inherent in high-tech manufacturing and service industries and their close ties to capital markets as a funding source. A study by the *Milken Institute* entitled “America’s High-Tech Economy” concluded, on the basis of a simulation of a mild U.S. recession, that high-tech manufacturing industries are likely to experience a substantially more severe decline in output than the overall economy. The same simulation found that although high-tech service industries would continue to expand during an economic downturn, they would do so at a substantially slower pace. This situation could be attributed to the fact that much of high-tech production and services is tied to capital investment spending, which historically has been more sensitive to changes in the overall economy than the household sector. Such spending is typically the first item in capital budgets to be targeted for cost reductions when the economy enters a downturn. In addition, many high-tech firms, particularly small start-ups, depend heavily on capital market funding for day-to-day operations and future expansion. The stock market, venture capital, and initial public offerings (IPOs) are critical sources of

funding for many high-tech companies. A major correction in the stock market or increased volatility because of a contagion effect at home or abroad could dry up available capital to many of these firms, particularly Internet dot-coms and e-commerce companies.

Another characteristic of the high-tech sector that will affect an MSA’s vulnerability is the fact that high tech is neither a true nor a monolithic industry, such as the oil and gas industry. Rather, it is a blend of many industries that share common characteristics (e.g., high levels of research and development spending, a high percentage of scientists and engineers); each industry experiences its own cycle. For example, after peaking in late 1997, the semiconductor industry plunged into a protracted downturn brought on by the “Asian financial crisis and severe overcapacity in many parts of the chip market constraining new capital investment.”⁷ At the same time, however, the market for communications equipment was booming, spurred by the explosion in Internet usage, wireless communications, and cable services.

Thus, the single greatest threat to any particular MSA may not be its large concentration of high-tech industries, but rather the lack of diversification among those industries and the MSA’s other major non-high-tech industries. Consequently, an MSA could be affected adversely by a downturn in either those few industries or in the national economy.

⁷ Standard & Poor’s Industry Surveys. February 3, 2000. “Semiconductor Equipment.”

What Constitutes a High-Tech Center?

The Dallas Region employed more than 600,000 high-tech workers with a total payroll of \$36 billion in 1998, and exported over \$32 billion of high-tech goods in 1999.⁸ Numbers such as these illustrate the significance of the high-tech sector for the Region's economy and prompt a closer look at this sector. This article focuses on five MSAs that have been identified by the Milken Institute study as the leading high-tech centers in the Dallas Region: **Dallas, Albuquerque, Denver, Austin, and Houston**. The Milken Institute ranked these MSAs among the top 25 high-tech cen-

ters in the nation based on concentrations and relative growth rates of high-tech industries. Table 1 compares these MSAs by high-tech output and employment. Generally, the Region's high-tech centers have location quotients (a measure of concentration relative to the nation)⁹ above 1, produce more than 1 percent of the nation's high-tech output (while usually accounting for more than 10 percent of an MSA's total output), and account for a significant portion of the area's total employment. Table 2 shows that these five high-tech MSAs outperformed the United States according to almost every economic indicator going back five and ten years.

TABLE 1

| THE DALLAS REGION IS HOME TO FIVE OF THE TOP 25 HIGH-TECH CENTERS IN THE NATION | | | | | | | |
|---|-------------|-------------------|----------------------------|-----------------------------|--------------------------------|----------------------|---------------------------------|
| RANK | MSA | LOCATION QUOTIENT | OUTPUT (BILLIONS, 1992 \$) | PERCENT OF MSA TOTAL OUTPUT | PERCENT OF U.S. INDUSTRY TOTAL | HIGH-TECH EMPLOYMENT | PERCENT OF MSA TOTAL EMPLOYMENT |
| 2 | DALLAS | 1.92 | 25.21 | 17.49 | 3.67 | 210,180 | 11.4 |
| 7 | ALBUQUERQUE | 3.55 | 9.62 | 32.30 | 1.40 | 35,730 | 10.6 |
| 19 | DENVER | 1.39 | 8.93 | 12.66 | 1.30 | 90,550 | 8.3 |
| 21 | AUSTIN | 1.56 | 7.83 | 14.16 | 1.14 | 74,190 | 12.6 |
| 23 | HOUSTON | 0.90 | 12.62 | 8.00 | 1.84 | 123,000 | 6.3 |

MSA=METROPOLITAN STATISTICAL AREA
SOURCES: THE MILKEN INSTITUTE; REGIONAL FINANCIAL ASSOCIATES

TABLE 2

| HIGH-TECHNOLOGY MSAs IN THE DALLAS REGION OUTPERFORM THE U.S. IN ALMOST EVERY ECONOMIC MEASUREMENT | | | | | | | | | | | | |
|--|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-------------|----------|---------------|----------|
| AVERAGE ANNUAL GROWTH RATES | AUSTIN | | DALLAS | | HOUSTON | | DENVER | | ALBUQUERQUE | | UNITED STATES | |
| | FIVE-YEAR | TEN-YEAR | FIVE-YEAR | TEN-YEAR | FIVE-YEAR | TEN-YEAR | FIVE-YEAR | TEN-YEAR | FIVE-YEAR | TEN-YEAR | FIVE-YEAR | TEN-YEAR |
| GROSS METRO PRODUCT ¹ | 11.4 | 9.3 | 7.4 | 5.6 | 5.5 | 4.5 | 7.7 | 5.1 | 6.3 | 9.1 | 3.8 | 3.0 |
| EMPLOYMENT ² | 5.5 | 5.4 | 4.5 | 3.3 | 3.5 | 2.9 | 3.8 | 3.3 | 2.3 | 2.9 | 2.4 | 1.8 |
| POPULATION ³ | 3.5 | 3.3 | 2.5 | 2.2 | 1.9 | 2.1 | 2.0 | 2.1 | 1.0 | 1.5 | 0.9 | 1.0 |
| PERSONAL INCOME ⁴ | 9.8 | 9.1 | 8.8 | 7.4 | 7.6 | 7.5 | 7.9 | 7.5 | 5.8 | 6.7 | 5.8 | 5.4 |
| SINGLE FAMILY PERMITS ⁵ | 14.9 | 22.3 | 7.9 | 10.1 | 11.2 | 10.5 | 6.6 | 17.0 | 1.2 | 13.6 | 4.1 | 2.7 |
| HOME PRICES APPRECIATION ⁶ | 4.4 | 5.5 | 4.1 | 2.8 | 3.9 | 3.4 | 7.3 | 6.8 | 2.8 | 3.8 | 4.6 | 3.6 |
| AVERAGE ANNUAL RATES | | | | | | | | | | | | |
| UNEMPLOYMENT ⁷ | 2.8 | 3.4 | 3.7 | 4.8 | 4.9 | 5.6 | 3.2 | 3.9 | 4.4 | 5.0 | 4.9 | 5.8 |
| BANKRUPTCY RATE ⁸ | 3.6 | 3.6 | 3.8 | 3.6 | 2.6 | 2.5 | 4.7 | 4.8 | 4.2 | 3.7 | 4.5 | 4.0 |

SOURCES: ¹ECONOMY.COM INC.—AVERAGE GROWTH RATE IN REAL DOLLARS AND U.S. FIGURE GDP: BUREAU OF ECONOMIC ANALYSIS; ²BUREAU OF LABOR STATISTICS (HAVER ANALYTICS); ³CENSUS (HAVER ANALYTICS); ⁴BUREAU OF ECONOMIC ANALYSIS (HAVER ANALYTICS)—DATA SERIES 1990-1997; ⁵CENSUS (HAVER ANALYTICS); ⁶FREDDIE MAC; ⁷BUREAU OF LABOR STATISTICS (HAVER ANALYTICS); ⁸ADMINISTRATIVE OFFICE OF U.S. DISTRICT COURTS & CENSUS

⁸ American Electronics Association. May 2000. "Cyberstates v4.0." Santa Clara, California.

⁹ A location quotient is the ratio of the share of an industry's output to a particular region divided by the share of that industry's total output to the nation. Thus, a hypothetical location quotient of 1.50 for industry A in region B means that region B has a 50 percent greater concentration of industry A's output than the nation.

CHART 2

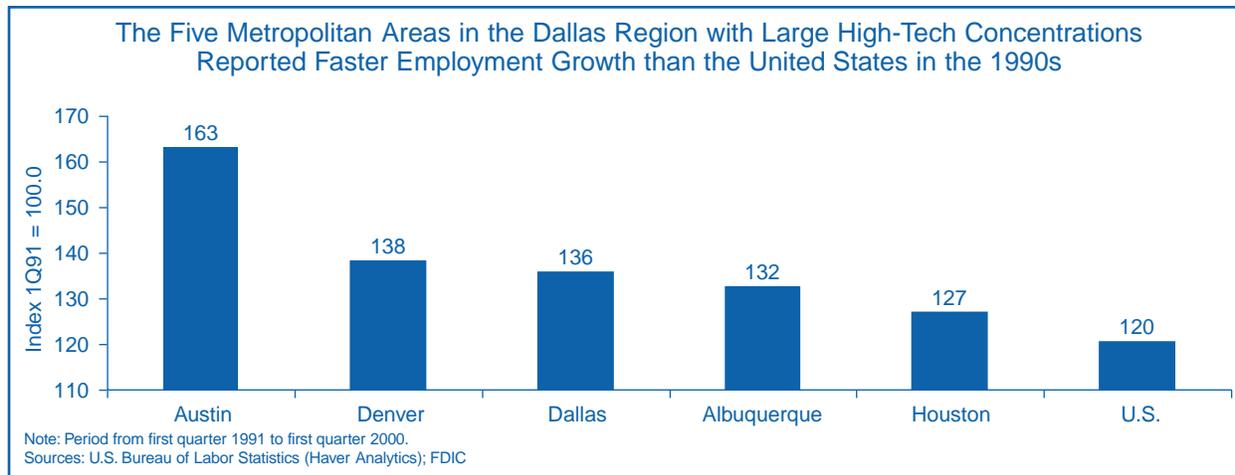
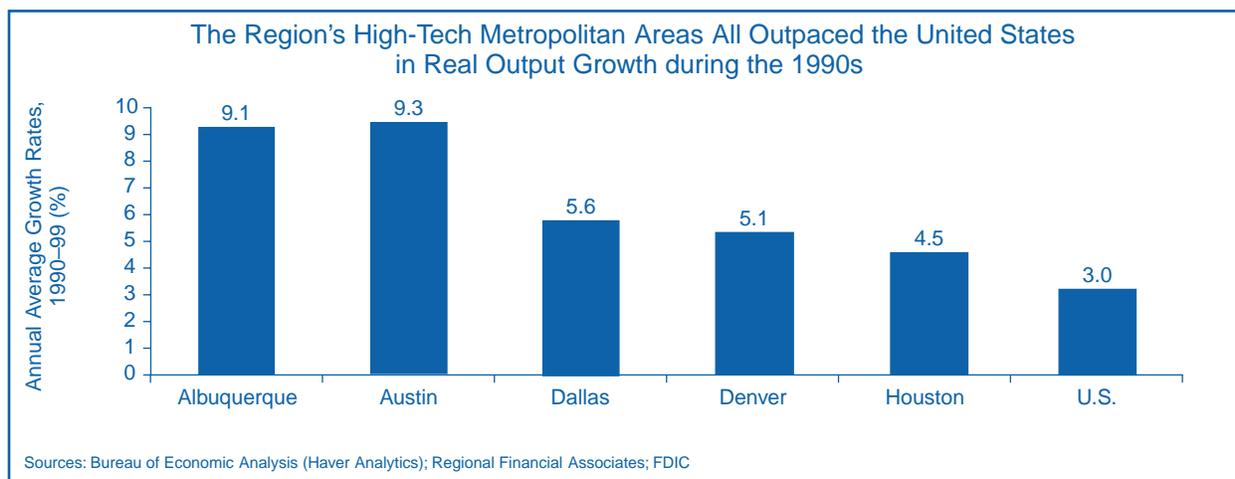


Chart 2 compares employment growth for these five MSAs with that of the United States since the 1991 recession trough. Employment growth in all five MSAs outpaced growth nationwide for the ten-year period ending first quarter 2000. Chart 3 shows annual average growth rates in real output for the five MSAs and United States over the course of the 1990s. Once again, not only did all five MSAs outpace the United States, but the growth rates ranged from greater than 50 percent, in the case of Houston, to greater than *three times* in both Albuquerque and Austin. Emphasizing the link between the high-tech sector and gains in productivity, the Milken Institute study concluded that the relative growth and concentration of high-tech industries could explain almost two-thirds of the growth differential in output among metropolitan areas during the 1990s.¹⁰

With these general trends in mind, we now look at the relative vulnerability of these five high-tech centers to a U.S. or high-tech recession.

Albuquerque is perhaps the most vulnerable of the five metropolitan areas to an industry downturn because of its large concentration of IT industries. According to *Economy.com, Inc.*, about 15 percent of Albuquerque's employment is in IT industries, with more than a fifth of IT employment concentrated in engineering and testing services.¹¹ Many of Albuquerque's high-tech industries are related to national defense (Albuquerque is home to Sandia National Laboratories and Kirtland Air Force Base) and the semiconductor industry (Intel and Philips Semiconductors are two of the MSA's largest private sector employers). **New Mexico** ranked

CHART 3



¹⁰"America's High-Tech Economy," p. 5.

¹¹ December 1999. *Economy.com, Inc. Précis: Metro Edition*. Albuquerque, NM.

third in the nation in per capita research and development spending in 1997, largely because of the federal government's huge presence in and around Albuquerque.¹²

According to the Milken Institute study, Albuquerque's rapid growth in high-tech output is "almost entirely attributable to Intel's investments in electronic components and accessories production," accounting for only 10.6 percent of nonfarm employment yet approximately one-third of the area's gross metropolitan product. According to Economy.com, Inc., electronic equipment manufacturing accounts for 33 percent and 90 percent of manufacturing employment and output, respectively, in this MSA.

Albuquerque is also highly dependent on the volume of foreign trade and currency exchange rates, which is another key factor in assessing the MSA's potential vulnerability to a high-tech downturn. In 1999, approximately 92 percent of New Mexico's merchandise exports were high-tech in nature, according to the *American Electronics Association's (AEA) Cyberstates* report the highest percentage for any state in the nation. The vast majority of these exports originate in Albuquerque and are destined primarily for Asian countries.¹³

Albuquerque's lack of diversification in the high-tech sector and heavy reliance on a cyclically sensitive high-tech manufacturing industry and export sector increase its vulnerability in the event of a national or high-tech recession. The area also is exposed highly to global demand for semiconductor chips and, as a result, is dependent on the health of several Asian economies. Despite these vulnerabilities, the high-tech sector continues to grow, as evidenced by Intel's recent decision to expand its Rio Rancho facility, a \$2 billion plan expected to generate 2,000 construction jobs and 500 to 1,000 permanent jobs. The facility is scheduled for completion in 2001 and could result in another brief spurt of economic activity for the area.¹⁴ Nevertheless, a high-tech downturn could result in a broader recession in the Albuquerque MSA's overall economy.

¹² "Cyberstates, v4.0," p. C-11.

¹³ "Exporter Location Series," U.S. Census Bureau, prepared by the Office of Trade and Economic Analysis, International Trade Administration, U.S. Department of Commerce.

¹⁴ Intel's website, www.intel.com/intel/community/nm/index.htm.

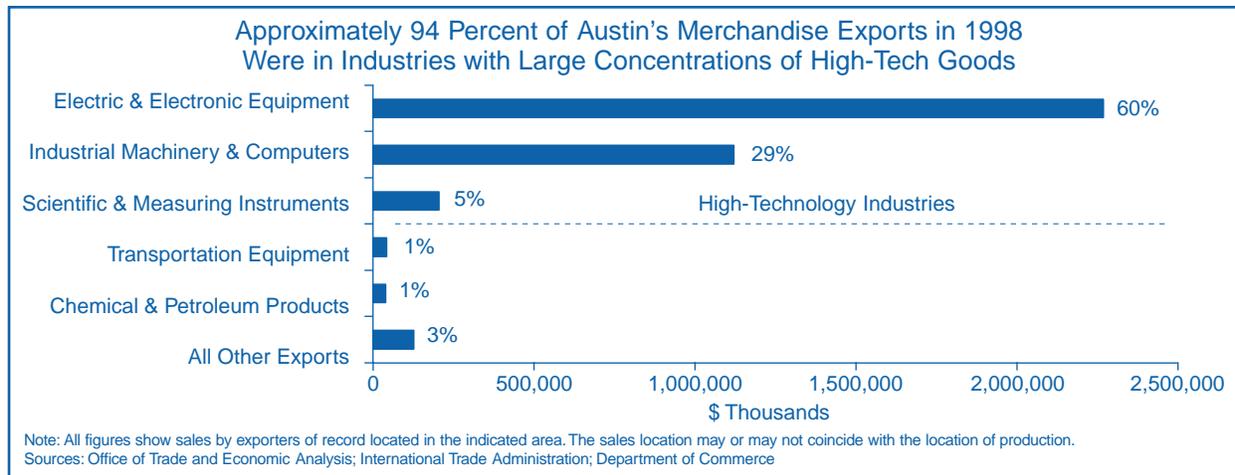
Austin also has a large concentration of high-tech industries, although it is perhaps not as vulnerable as the Albuquerque MSA is to a downturn in either the high-tech sector or the U.S. economy. Austin's overall employment grew more rapidly than that of the other four MSAs in the 1990s; this growth was attributed largely to tremendous growth in computers and electronics production. In recent years, the rapid growth of e-commerce and dot-com firms also has fueled Austin's economy. Venture capital has stimulated much of this growth. Economy.com, Inc. estimates that since 1995, "investment in Austin's software and information industries has been three times greater than similar investments in Dallas and five times greater than similar investments in Houston, strengthening the metro area's competitive advantage in the Internet economy." According to a survey conducted by *PricewaterhouseCoopers*, more than \$800 million in venture capital flowed into Austin in 1999, three times more than the year before.¹⁵ As stated previously, venture capital is one form of financing that is vital to the start-up of many high-tech companies.

According to the Milken Institute study, Austin's share of high-tech employment—12.6 percent or nearly 75,000 workers (1998)—is the highest of the five MSAs. While impressive, these figures understate the extent to which high tech is driving the Austin economy. *Angelou Economic Advisors Inc.*, a consulting firm that follows the Austin economy, estimates Austin's technology employment closer to 125,000 (1999), or 20 percent of total employment. In addition to the 14 standard industrial classification (SIC) industries included in the Milken Institute definition, Angelou Economic Advisors adds employment from software development, e-commerce, and Internet services—all major industries in Austin's high-tech economy. Clearly, the employment share represented by the high-tech sector in Austin is significant. On the basis of employment projections by Angelou Economic Advisors, Austin is expected to add 65,000 jobs by year-end 2001, of which 24,600 will be in the high-tech sector.

Foreign trade is also a critical component of Austin's high-tech industries. In 1998, the MSA exported \$3.8

¹⁵ March 19, 2000. "Dallas, Austin, Vie for Texas High-Tech Title." *Dallas Morning News*, p. 1A.

CHART 4



billion in merchandise, of which nearly \$3.6 billion was concentrated in three sectors traditionally dominated by high-tech industries: electric and electronic equipment; industrial machinery and computers; and scientific and measuring instruments (see Chart 4). About half of Austin's exports are shipped to Asia, with another 40 percent destined for Canada and Europe. Surprisingly, only 4 percent of its total exports go to Mexico. Like Albuquerque's, Austin's high-tech industries have a stake in a growing global economy, particularly the continued recovery in Asia.

Austin's economy appears vulnerable to a downturn in the high-tech sector on several fronts. Venture capital can dry up rather quickly, as evidenced by the events of this past spring when tech stocks fell precipitously.¹⁶ A lack of venture capital funding could adversely affect start-up companies in the Austin area, many of which are small and depend on venture capital for growth and day-to-day operations. The stock market and IPO market are also critical components of Austin's high-tech economy. Market capitalization of Austin's top 25 companies increased a remarkable 1,841 percent between 1995 and 1999.¹⁷ As a result, a sustained correction in the stock market could hurt the area's Internet and software industries. Already, newspapers are running stories about layoffs and cash-strapped dot-coms,¹⁸ and

¹⁶ May 25, 2000. "Reality Bites Hard as String of Dot-Coms Sees Funding Dry Up—Venture Capitalists Get Tougher on E-Losers; Operative Term Is Triage—Hanging by a Green Thread." *Wall Street Journal*, p. A1.

¹⁷ January 13, 2000. "2000-2001 Economic & Technology Forecast." Austin, Texas. Angelou Economic Advisors Inc.

¹⁸ May 23, 2000. "Another Texas Dot.com Announces Layoffs." *Dallas Morning News*, p. 1D.

reports of Austin losing its "sense of computer-and-Internet invincibility" are becoming more common.¹⁹

Austin, like Albuquerque, has a large concentration of computer- and semiconductor-related industries that are highly cyclical and sensitive to fluctuations in the overall economy. Moreover, because high-tech workers tend to be highly compensated (see Chart 5), ripple effects of layoffs and production cutbacks in these industries would manifest themselves in consumer spending, residential and commercial real estate markets, and, consequently, the banking industry. Indeed, the rapid growth of bonuses and stock options among high-tech workers have helped fuel Austin's strong housing market, causing home prices to soar and raising concerns about the potential for speculation in the single-family housing market. Despite the presence of one of the best-regarded high-tech-oriented universities in the country—University of Texas, Austin—and a large and stable state government sector, a downturn in Austin's high-tech sector would likely result in a rapid deceleration in its overall employment and economic growth.

Denver's fast-growing IT industries contributed to its stellar performance throughout much of the 1990s. Denver's high-tech employment is concentrated largely in telephone communication services and computer and data processing, both major high-tech service industries. According to the *AEA*, Colorado reported the highest concentration of high-tech workers in the nation in 1998: 84 high-tech workers per 1,000 private sector

¹⁹ May 31, 2000. "Silicon Chills: Austin Is Coming Down Off Its High Tech as Nasdaq Takes Roller Coaster Ride." *Dallas Morning News*, p. 1D.

employees. Denver's high-tech industries employ more than 90,000 workers, or about 8 percent of nonfarm employment (1998), producing \$8.9 billion in output in 1992 dollars, nearly 13 percent of the MSA's total output.²⁰ Leading high-tech employers include Qwest Communications International, Inc., Lucent Technologies, Lockheed Martin Aeronautics, AT&T, EchoStar Communications, Tele-Communications, and IBM.

As in most high-tech centers, global trade plays a key role in the Denver economy; high-tech goods represented three-fifths of Colorado's total exports in 1999. In 1998 Denver's merchandise exports totaled \$1.8 billion, the majority of which were shipped to Europe. The metro area's top three exports are computer equipment and industrial/commercial machinery; electronic and electrical equipment; and measuring, analyzing, and controlling instrumentation goods.

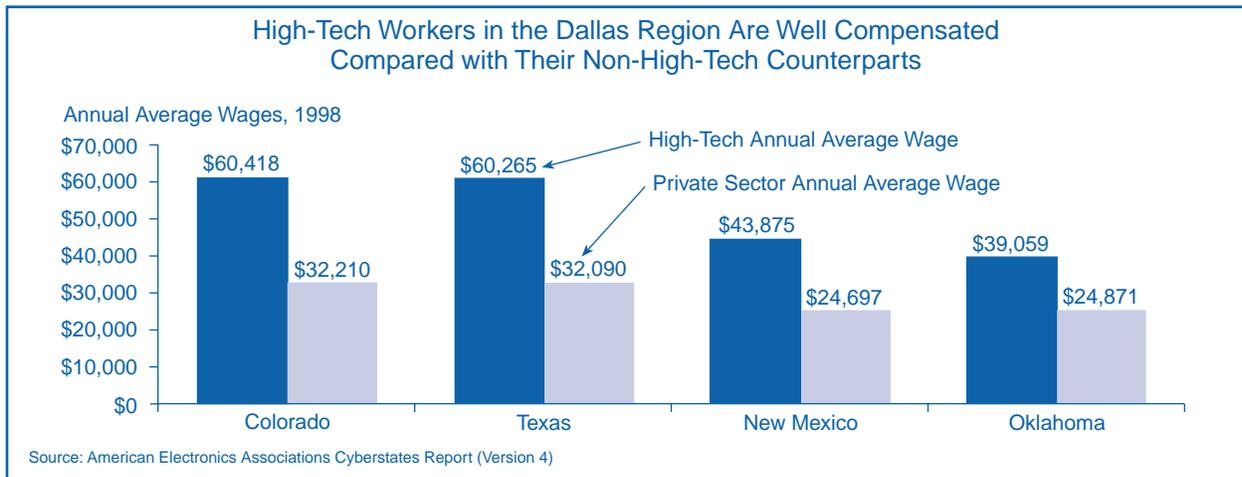
Denver's vulnerability to a high-tech downturn is similar to Austin's in several respects. Many of Denver's small high-tech companies are extremely sensitive to swings in the stock market and private capital funding sources. *PricewaterhouseCoopers* ranked Colorado fifth in the nation in venture capital investment, \$1.3 billion in 1999, much of which was funneled to Denver-area companies. Denver is also home to a thriving financial services industry (e.g., investment firms, mutual fund companies), which is closely linked to

financial market conditions, increasing the vulnerability of the Denver MSA. Denver's finance, insurance, and real estate (FIRE) sector accounted for 8.1 percent of the MSA's total employment in 1998, compared with 6.6 percent and 5.8 percent, respectively, for Colorado and the United States.²¹ Thus, the Denver economy would be more susceptible to a protracted recession from a high-tech downturn accompanied by a prolonged bear market, because of its heavy reliance on FIRE and the high-tech sector.

In addition, a stock market decline would have implications for the broader Denver economy as a result of a negative wealth effect. Denver residents have the highest per capita income of the five metropolitan areas, 22 percent above the national average as of 1997. A significant portion of this income is derived from stock options, bonuses, and capital gains, income sources that are driving consumer spending in the Denver economy.²² A recent study by *The Nelson A. Rockefeller Institute of Government* determined that "capital gains are about 74 percent more important to Colorado's state finances than they are to the average state."

Since 1995, Denver has outpaced the United States in retail sales growth on an annualized basis, 8 percent versus 6 percent, respectively. Moreover, both a burgeoning high-tech sector and a booming stock market

CHART 5

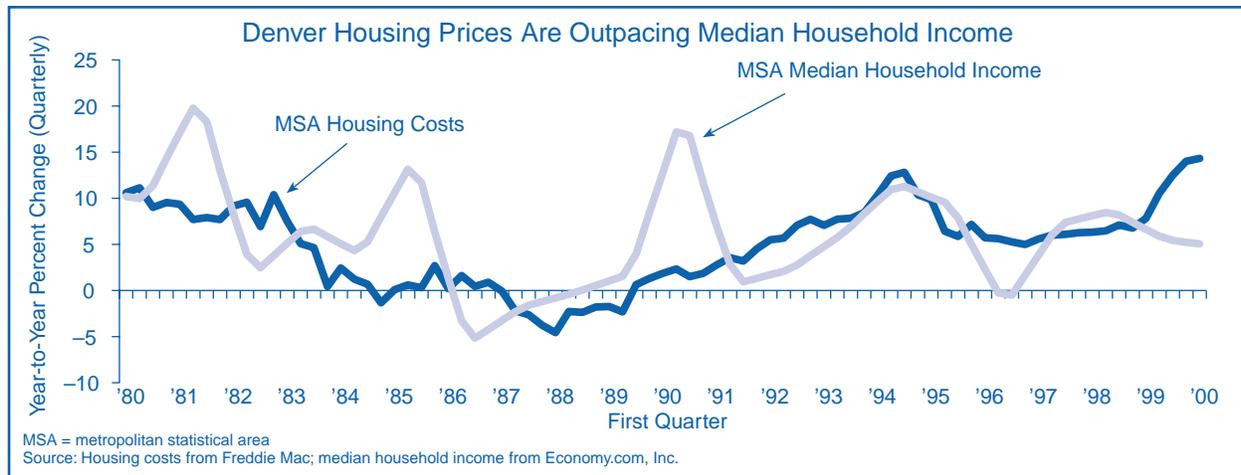


²⁰ "America's High-Tech Economy," Table 3.3, p. 56.

²¹ Economy.com, Inc. December 1999. *Precis: Metro Edition*. Denver, CO.

²² Denver's wage and salary earnings per job were 11 percent higher than the U.S. average in 1997; per capita dividends, interest, and rent were 19 percent above the U.S. average (U.S. Bureau of Economic Analysis).

CHART 6



have led to strong gains in Denver’s real estate values. Since first quarter 1995, Denver home prices have grown at a compounded average annual rate of 7.9 percent, compared with 5.2 percent for the nation.²³ According to a recent *U.S. Housing and Urban Development* study, “hot high-tech markets are among the highest-cost housing markets.”²⁴ The rapid appreciation of home prices in the Denver MSA is cause for concern, as the gap between median housing prices and median household incomes has widened in recent quarters (see Chart 6). Thus, in the event of a high-tech or stock-market-induced recession, the Denver economy would have to contend with a negative wealth effect that is likely to affect this MSA more than other metropolitan areas.

Houston, traditionally known as a major energy, medical, and space center, is also home to a rapidly growing high-tech sector, particularly in the areas of personal computer production and engineering and architectural services. Although Houston has the second largest high-tech employment in the Region (123,000 in 1998), the relative concentration of high-tech output is quite low compared with the other four MSAs. This can be attributed to the fact that Houston’s economy continues to be dominated by the oil and gas industry. Moreover, the Milken Institute’s decision to include engineering and architectural services in its definition of high-tech captures a large segment of professionals engaged in the oil and gas industry. However, Houston accounted for

over \$12.6 billion (1992 dollars) in high-tech output in 1998, more than any MSA in the Region except Dallas. The combination of a low concentration of high-tech industries, and high levels of high-tech output and employment are the result of Houston’s huge economy, ranked seventh in the nation with a gross metropolitan product of \$142 billion in 1998.²⁵ Leading high-tech employers are Compaq Computers, SBC Communications, and the Lockheed Martin Corporation.

Although Houston’s future will become increasingly reliant on high-tech industries, its economy today remains tied to the volatile energy industry. Houston’s energy industry continues to dominate the manufacturing sector (refining and petrochemicals), engineering and management services, and exports (oil, chemicals, and petroleum products). Consequently, a prolonged downturn in the national economy or in oil prices is likely to have a greater negative effect on Houston’s economy than a high-tech recession. Nevertheless, the Milken Institute simulation did identify a significant degree of cyclicality in two industries in which Houston holds a large concentration: computer production and engineering and architectural services. One cannot rule out the significant effect that a high-tech recession might have on these two industries, even if the result does not drag down Houston’s overall economy.

Dallas was ranked second to Northern California’s Silicon Valley in terms of high-tech sector output, according to the Milken Institute study. Dallas surpassed

²³ Federal Home Loan Mortgage Corporation (FHLMC), <http://www.freddiemac.com/finance/cmhipi/release.htm>.

²⁴ U.S. Department of Housing and Urban Development. June 2000. “The State of the Cities 2000.” Washington, DC, p. viii.

²⁵ U.S. Conference of Mayors and the National Association of Counties, 1998; Standard & Poor’s Data Resources, Incorporated (DRI).

the other four MSAs in the Region in high-tech output (over \$25 billion in 1992 dollars) and employment (about 210,000 jobs) in 1998. Dallas holds an above-average concentration (location quotients greater than one) in seven of the 14 high-tech industry categories examined by the Milken Institute, making it the most diversified high-tech base in the Region. At the core of Dallas's high-tech industries are computer and semiconductor production, a growing telecommunications equipment industry, and telephone communication services. Although Dallas accounts for only 1.2 percent of the U.S. population and 1.5 percent of U.S. employment, its share of U.S. high-tech output is 3.7 percent.

High-tech output accounts for over 17 percent of the MSA's total output. Ironically, 17 percent of Texas's output was tied directly to the oil and gas industry in 1980, several years before Texas suffered a series of debilitating recessions started by a collapse in oil prices. Nevertheless, the high-tech concentration represents a more diverse industry base. This increased diversity makes the probability of a high-tech recession alone pulling down the Dallas economy somewhat remote. However, a U.S. recession could result in a sharper and more protracted recession for the Dallas metropolitan area because of the increased sensitivity of high-tech output to declines in national output.

Implications for Insured Institutions in High-Tech Markets

What are the implications of significant growth in the high-tech sector for banks located in these MSAs? To answer this question, we looked at loan growth rates, summary of deposit data trends, and insured institution profitability for each of the five high-tech MSAs.

Loan Growth

Two hundred forty-one banks and thrifts, each with less than \$1 billion in assets, were headquartered in the five high-tech MSAs as of December 31, 1999. This section focuses on community banks because loan growth at

these institutions is more likely to be related to economic activity in the individual MSA. These insured institutions, with combined assets of \$35 billion, sustained rapid asset and loan growth during the preceding five-year period, as shown by Table 3. Not only did banks and thrifts in these MSAs exceed the national averages for these loan categories, but in some cases they did so significantly. These data indicate that robust activity in the high-tech sector is contributing to substantial loan growth for smaller banks. In addition, smaller banks' portfolios are shifting into higher levels of construction and commercial real estate loans, traditionally higher-risk forms of lending. This rapid loan

TABLE 3

| INSTITUTIONS UNDER \$1 BILLION IN HIGH-TECH MSAs EXPERIENCED RAPID LOAN GROWTH DURING PAST FIVE YEARS | | | | | | |
|---|--------|-------------|--------|--------|--------|---------|
| GROWTH RATE 1994 THROUGH 1999 | U.S. | ALBUQUERQUE | AUSTIN | DALLAS | DENVER | HOUSTON |
| NUMBER OF BANKS AS OF DECEMBER 31, 1999 | 10,220 | 11 | 26 | 84 | 55 | 65 |
| TOTAL LOANS (%) | 42 | 243 | 106 | 115 | 130 | 135 |
| REAL ESTATE LOANS (%) | 36 | 250 | 105 | 122 | 137 | 169 |
| COMMERCIAL REAL ESTATE LOANS (%) | 40 | 206 | 160 | 152 | 167 | 207 |
| REAL ESTATE CONSTRUCTION LOANS (%) | 95 | 163 | 182 | 266 | 269 | 286 |
| COMMERCIAL AND INDUSTRIAL LOANS (%) | 67 | 236 | 177 | 153 | 157 | 141 |
| ASSETS (%) | 37 | 364 | 69 | 75 | 113 | 37 |

NOTE: DATA ARE FOR ALL BANKS AND THRIFTS WITH ASSETS LESS THAN \$1 BILLION HEADQUARTERED IN THEIR RESPECTIVE METROPOLITAN STATISTICAL AREAS (MSAs) AT DECEMBER 31, 1999. GROWTH RATES ARE MERGER ADJUSTED.
SOURCE: BANK AND THRIFT CALL REPORTS

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growth and greater exposure to historically riskier areas of lending could elevate the overall credit risk profile of these institutions, particularly in the event of a high-tech downturn or a slowing of the economy.

Deposit Data Trends

In June of each year, the FDIC collects Summary of Deposit (SOD) data from insured institutions. While Call Report information attributes deposit and loan data to a bank's headquarters location only, SOD data reflect the deposits held by each office (branch) of a multi-office insured institution. Thus, SOD data for an MSA include deposit data for all offices of insured institutions located in a particular MSA, regardless of headquarters location. These data can be used to analyze total deposit growth in an MSA or the market share of locally headquartered institutions versus out-of-area institutions.

We analyzed data for the period June 30, 1994, through June 30, 1999. During this five-year period, deposits nationwide by grew 20 percent (see Table 4). With the exception of Albuquerque, insured institutions in all high-tech MSAs in the Dallas Region met or exceeded the national deposit growth rate.

In looking at market share, we split SOD data into three institution groupings: large local banks with \$1 billion or more in assets; small local banks with less than \$1 billion in assets; and institutions with headquarters out of area. During the period under review, the deposit market share for small banks and thrifts located in these high-tech MSAs did not exhibit a clear trend. As shown in Table 5, market share for small insured financial

institutions in the Albuquerque and Dallas MSAs grew slightly, while market share for those in the Denver MSA fell. Small institutions in the Austin and Houston MSAs showed the greatest change, declining 10 percentage points or more during this period. Large banks headquartered in these MSAs experienced the greatest decline in market share, primarily as a result of mergers and acquisitions.

Banks headquartered outside these high-tech MSAs now hold a higher percentage of deposits than ever before. A review of the market share data indicates that most of these out-of-area institutions are large banks. These trends have implications for the risk exposure of insured institutions doing business in these high-tech MSAs. Generally, the loan portfolios of larger institutions tend to be more geographically diversified than

TABLE 4

| MOST DALLAS REGION HIGH-TECH MSAs EXPERIENCED RAPID DEPOSIT GROWTH OVER THE PAST FIVE YEARS | |
|---|---|
| MSA | PERCENTAGE OF DEPOSIT INCREASES FROM JUNE 1994 TO JUNE 1999 |
| ALBUQUERQUE | 8.5 |
| AUSTIN-SAN MARCOS | 32.9 |
| DALLAS | 20.1 |
| DENVER | 25.8 |
| HOUSTON | 32.3 |
| ALL U.S. MSAs | 20.2 |

MSA=METROPOLITAN STATISTICAL AREA
SOURCE: FDIC SUMMARY OF DEPOSITS

TABLE 5

| MARKET SHARE OF BANKS HEADQUARTERED OUTSIDE HIGH-TECH MSAs INCREASED SUBSTANTIALLY | | | | | | |
|--|-------------------------|--------|------------------------|--------|---------------------|--------|
| LOCAL INSTITUTIONS' PERCENTAGE OF SOD MARKET SHARE | BANKS UNDER \$1 BILLION | | BANKS OVER \$1 BILLION | | BANKS NOT HQ IN MSA | |
| | JUN-94 | JUN-99 | JUN-94 | JUN-99 | JUN-94 | JUN-99 |
| ALBUQUERQUE | 12 | 17 | 68 | 46 | 20 | 37 |
| AUSTIN | 26 | 13 | 67 | 3 | 7 | 84 |
| DALLAS | 18 | 20 | 78 | 31 | 4 | 49 |
| DENVER | 32 | 30 | 52 | 30 | 16 | 40 |
| HOUSTON | 25 | 15 | 68 | 46 | 7 | 39 |

MSA=METROPOLITAN STATISTICAL AREA; SOD=SUMMARY OF DEPOSIT; HQ=HEADQUARTERED
SOURCE: SUMMARY OF DEPOSIT DATA

Banking Overview

Dallas Region banks and thrifts reported net operating income of \$1.07 billion for a combined ROA of 1.03 percent for first quarter 2000, down from 1.11 percent a year ago. The Region's ROA lagged the nation's 1.31 percent ROA. Securities losses at four large institutions contributed to this profitability decline; however, the number of banks reporting securities losses continued to grow, as shown by Table 6. Dallas Region insured financial institutions tend to hold a higher percentage of securities-to-assets and a higher proportion of longer-term securities than institutions in other FDIC Regions, thus making many Dallas Region institutions more sensitive to interest rate changes.²⁶ Excluding the four large banks, the Region

would have earned an adjusted ROA of 1.23 percent, more in line with the rest of the country.

In addition to an overall decline in profitability, the Dallas Region's allowance for loan and lease loss (ALLL)-to-noncurrent loans ratio is significantly below the national average.²⁷ The ALLL-to-gross loans ratio is the lowest of the eight FDIC Regions and lower than levels reported since March 1985. Benefiting from a relatively low charge-off rate, the ALLL-to-charge-off ratio remains strong, averaging 220 percent as of March 31, 2000, compared with 116 percent for the nation. However, should the economy weaken, the Region's banks may need to build reserves, which could further constrain profitability.

TABLE 6

| RISING INTEREST RATES INCREASE THE NUMBER OF DALLAS REGION BANKS AND THRIFTS REPORTING SECURITIES LOSSES | | | | | |
|--|------------|------------|----------|----------|----------|
| | 1Q00 | 4Q99 | 3Q99 | 2Q99 | 1Q99 |
| NUMBER OF BANKS | 163 | 155 | 105 | 83 | 43 |
| DOLLAR AMOUNT OF LOSSES (\$ MILLIONS) | \$ 276,410 | \$ 114,410 | \$ 9,613 | \$ 2,880 | \$ 4,988 |
| SOURCE: BANK AND THRIFT CALL REPORTS | | | | | |

²⁶ *Dallas Regional Outlook*, second quarter 2000, "Dallas Region Insured Financial Institutions Benefit from Low Cost of Funds, but Face Challenges in Rising Interest Rate Environment."

²⁷ The Dallas Region's loan loss reserve-to-noncurrent loans ratio was 138.8 percent at March 31, 2000, compared with a national ratio of 166.8 percent.

those of small, locally based institutions. Large institutions also tend to have greater access to other sources of income, which might help diversify an institution's earnings stream during periods of economic stress. Overall, these characteristics may mitigate some of the risk to larger institutions associated with a downturn in the high-tech sector of the economy or an economic shock to a particular MSA or employer.

Smaller institutions are facing increased competition as a result of the growing presence of these large institutions. As large banks gain market share, competitive pressure may increase on small institutions' balance sheets. Larger banks' economies of scale enable them to charge lower interest rates and fees, offer higher deposit rates, or offer additional services (e.g., Internet banking and ATM locations). As large, out-of-area institutions become more prominent in high-tech

MSAs, small banks and thrifts are experiencing increased competition, which has implications for profitability levels.

Profitability

Only small institutions in the Denver and Dallas MSAs reported returns on assets (ROAs) at year-end 1999 above that of the Region and at or above the regional average for the previous five-year period. It is interesting to note that small banks and thrifts in the Dallas and Denver MSAs also retained the highest deposit (SOD data) market share among the five high-tech MSAs. In contrast, small institutions that lost market share exhibited lower profitability, suggesting that increased competition from large institutions is pressuring the earnings of small banks and thrifts.

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In conclusion, there appears to be a close connection between the robust economic activity within the Region's high-tech MSAs and insured institutions' balance sheet growth. Insured financial institutions (with assets less than \$1 billion) headquartered in these MSAs showed substantial loan growth rates over the past five years. Loan portfolios at these institutions also placed greater emphasis on historically higher-risk forms of lending such as construction and development and commercial real estate. SOD data also show that

larger out-of-area banks are capturing greater market share, likely applying increased competitive pressure on smaller institutions. This increased competition may lead to lower ROAs and declining levels of profitability among these institutions. Overall, these trends may increase the vulnerability of small banks and thrifts in these high-tech MSAs to a slowdown in the high-tech sector or a downturn in the national economy.

Dallas Region Staff

Ranking Metropolitan Areas at Risk for Commercial Real Estate Overbuilding

- In analyses conducted in 1998 and 1999, nine metropolitan areas were identified as at risk for overbuilding; this analysis notes more vigorous building occurring across multiple property types and identifies 13 markets, including eight of the previous nine, as at risk for overbuilding.
- Construction activity has accelerated during the current economic expansion with cyclically high levels of supply and demand.
- Capital markets scaled back their investments in commercial real estate in 1998 and 1999, while FDIC-insured institutions increased their construction and development lending by more than 20 percent each year.

The banking industry and the FDIC learned during the late 1980s that once commercial real estate (CRE) markets become overbuilt, losses can mount quickly. During the 1980s and early 1990s, losses on CRE loans were responsible for hundreds of bank and thrift failures and billions of dollars in insurance losses for the FDIC. Since then, commercial vacancy rates have improved dramatically in a number of major U.S. metropolitan markets. In turn, CRE charge-offs reported by FDIC-insured institutions have fallen to very low levels—less than 0.05 percent of average loans in both 1998 and 1999.

Two recent studies published by the FDIC evaluate the risk of overbuilding in major U.S. metropolitan areas.¹ These studies identified nine cities—**Atlanta, Charlotte, Dallas, Las Vegas, Nashville, Orlando, Phoenix, Portland** (Oregon), and **Salt Lake City**—as markets at risk for rising commercial vacancy rates. This article revisits the FDIC’s previous analysis of CRE markets. Using a more restrictive definition of at-risk markets, we find that eight of the previously identified nine markets remain on the list, joined by five additional markets: **Denver, Fort Worth, Jacksonville, Sacramento, and Seattle.**² In general, more markets are experiencing increased levels of construc-

tion activity across multiple CRE property sectors than was the case just two years ago.

Like the two earlier studies, this analysis does not predict an imminent rise in vacancies and losses in the at-risk markets. Instead, as before, the goal is to raise awareness about substantial growth in real estate development and the corresponding increases in risk exposure to financial institutions.

Previous Real Estate Cycles Are Well Documented

Many analysts view the late 1980s U.S. experience as the very definition of adverse conditions in CRE markets. The factors that brought about these adverse conditions are well documented.³ During the early and mid-1980s, CRE construction boomed. Total office space completed in 54 major U.S. markets tracked by *Torto Wheaton Research* exceeded 100 million square feet per year every year from 1982 through 1987. Insured banks and thrifts were prime sources of credit for this building boom. Total outstanding construction and development (C&D) loans on the balance sheets of insured institutions grew by 52 percent, or \$52.5 billion dollars, in 1985 alone, followed by three successive years of growth in outstanding C&D loans. A key factor behind this surge in lending was intense competition among lenders. In response to the heightened competition, many lenders loosened their underwriting standards, often extending credit on speculative projects on terms that did not protect them from downside risk. Examples of aggressive lending practices from this period included more collateral-based lending, higher loan-to-value limits, reliance on overly optimistic appraisals, and inattention to secondary repayment sources.

¹ See “Ranking the Risk of Overbuilding in Commercial Real Estate Markets,” *Bank Trends*, October 1998, and “Commercial Development Still Hot in Many Major Markets, but Slower Growth May Be Ahead,” *Regional Outlook*, First Quarter 1999.

² The one metropolitan area identified in the prior analyses as at risk for overbuilding that did not fall into the same category using the stricter criteria in this analysis is Nashville. Nevertheless, Nashville still ranks high in terms of construction activity at fifth highest in the U.S. for retail and twelfth highest for office construction activity.

³ See, for example, Freund et al. 1997. *History of the Eighties: Lessons for the Future*, Chapters 9 and 10. FDIC.

Poorly underwritten credit and massive increases in construction resulted in overbuilding in a number of large U.S. metropolitan markets. Nationwide, the office vacancy rate for competitively leased space peaked at over 19 percent in 1991.⁴ In the Southwest and New England, where the cycle of overlending and overbuilding was most pronounced, metro real estate markets were in even worse shape. Office vacancies in Dallas peaked at over 27 percent in 1988, while office vacancies in Boston reached over 17 percent in 1990. As vacancies rose and rents fell, lenders in the Southwest, Northeast, and elsewhere increasingly found themselves in possession of nonperforming loans and impaired real estate assets. The result was a sharp increase in the number of failed banks in the Southwest and Northeast.⁵

Following the CRE debacle of the late 1980s and early 1990s, commercial construction and lending volumes slowed. C&D loan growth at FDIC-insured institutions declined every year from 1989 through 1994, while a similar drop in private construction expenditures lasted through 1993.



Factors Contributing to Cycle of Overbuilding in CRE

One reason that CRE markets are prone to periodic bouts of overbuilding is the business cycle itself, which saps demand for new space when business activity turns downward. But another important contributing factor is the lag time in the development process as new construction moves from inception to completion. Heavy demand at the start of a project may wane or vanish before completion occurs. In general, the time lag associated with CRE development is longest for hotel and office projects and becomes shorter for retail, multifamily, and industrial properties, respectively. The associated degrees of lending risk mostly follow the same pattern. In general, less risk is associated with industrial buildings and multifamily projects, which typically take less than one year to build.

⁴ The U.S. vacancy rate is calculated as an aggregate of selected major markets tracked by Torto Wheaton Research.

⁵ As further detailed in the *History of the Eighties*, combined assets of failed banks in the Northeast and Southwest comprised over 70 percent of assets of all banks failing between 1980 and 1994.

To the extent that commercial construction projects involve a lag between inception and completion, net additions to supply can be anticipated in advance. Much progress has been made during this real estate cycle toward increased availability of information on CRE markets, particularly in regard to supply characteristics. Market transparency has been promoted in part by a heightened level of public ownership of CRE properties and the corresponding higher degree of disclosure by the owned entities, such as real estate investment trusts (REITs) and commercial mortgage-backed securities (CMBSs).

Changes in demand are harder to predict. A current example may be the high level of demand generated by Internet start-up companies that rely heavily on financing provided by venture capital funds and initial public stock offerings. Because many of these start-ups depend so heavily on cash inflows from investors as opposed to operating revenues, their viability as tenants and their continued demand for high volumes of office space may depend more on capital market conditions than on their own business performance. While demand may appear strong under robust business conditions, it is prone to decline rather suddenly in the event of an economic downturn. Given these attributes of CRE markets, the process of gauging the success for lease-up of a proposed project involves not only looking at new supplies of competitive space coming onto the market, but also evaluating how vulnerable the market is to a downturn in demand for space.

Recent Developments

Following a lull in commercial construction activity that resulted from adverse market conditions in the early 1990s, construction activity has gradually accelerated during the current economic expansion. The increased pace of construction occurred first in industrial and retail markets, where growth in net new completions of space picked up starting in 1993. The pace of multifamily construction accelerated in 1995, followed by increasing levels of office and hotel construction in 1997. Regionally, commercial construction activity recovered first in the Southeast and Northwest, where the effects of the previous overbuilding had been the least pronounced. Only later did the pace of construction increase in California, the Southwest, and the Northeast. As the U.S. economic expansion endures into its tenth year, construction activity continues to pick up steam across most property types. In the 54 major met-

ropolitan areas tracked by *Torto Wheaton Research*, total annual office space completions rose from just over 3 million square feet in 1994 to 78.7 million square feet in 1999.

National private expenditures on hotel and retail construction for 1999 exceeded all prior years on both a current-dollar and an inflation-adjusted dollar basis. Similarly, national private construction expenditures on office space in 1999 were at an all-time high on a current-dollar basis. On an inflation-adjusted dollar basis, office construction expenditures in 1999 were still not as high as they were during the mid-1980s.

A new characteristic of the CRE industry in the current expansion has been the marked increase in capital availability through the financial markets. Annual issuance of CMBSs has grown from negligible amounts in 1990 to over \$67 billion in 1999. Financing made available through REITs has been the other link to the capital markets. REIT market capitalization increased from approximately \$10 billion in 1994 to nearly \$145 billion in 1999.

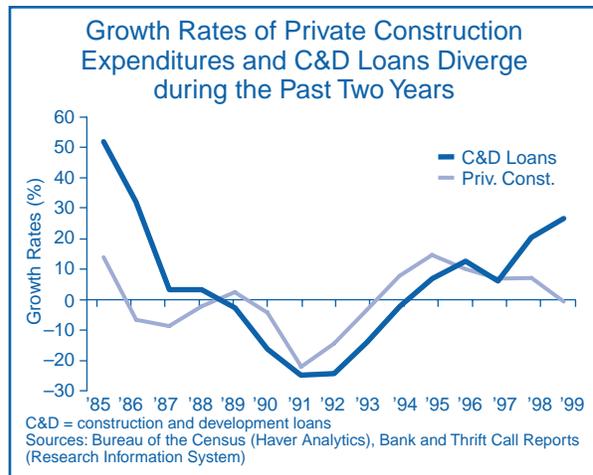
While the availability of market-based sources of capital has helped to facilitate growth in construction during this expansion, the financial market turmoil of late 1998 cast a cloud over the CMBS market that has yet to lift fully. Significant events in the global capital markets in 1997 and 1998, including the Asian economic crisis and the Russian government bond default, significantly curtailed the ability of major CMBS issuers to go to the market for financing. Significant liquidity problems resulted for a number of commercial mortgage firms. Nomura, Lehman Brothers, CS First Boston, and others incurred losses, while Criimi Mae, Inc., was forced to declare bankruptcy.

As the capital markets pulled back from CRE investments, insured banks and thrifts stepped in to fill the void. Chart 1 shows that the total volume of C&D loans on the balance sheets of FDIC-insured institutions rose by more than 20 percent per year in both 1998 and 1999, even as growth in U.S. private construction expenditures slowed to a crawl.⁶

In terms of overall construction market activity, the current situation appears to be one of cyclically high

⁶ U.S. private construction expenditures, as calculated by the Bureau of the Census, include multifamily (two or more units), industrial, office, hotel, and retail space.

CHART 1



levels of supply and demand. Because significant growth in net new space is forecast for many markets and property types during 2000 and 2001, a drop in demand for space could impair absorption rates and lead to higher vacancies and lower rents. Most analysts feel that future trends in real estate demand will be closely linked to national and regional economic conditions.

Identification of Markets at Risk for Overbuilding

Previous FDIC studies have identified CRE markets at risk for broad-based overbuilding on the basis of comparative rankings in the rates of growth in commercial space. In a 1998 study, U.S. metropolitan areas were ranked according to 1997 new construction activity as a percentage of existing stock for the five main property types: office, industrial, retail, multifamily, and hotel.^{7,8} In that study, any metro area that appeared in the top 15 for *any two* of the commercial property types was labeled “at risk.” Nine cities were identified as being at risk for overbuilding: **Atlanta, Charlotte, Dallas, Las Vegas, Nashville, Orlando, Phoenix, Portland (Oregon), and Salt Lake City.**

⁷ Federal Deposit Insurance Corporation. October 1998. Ranking the Risk of Overbuilding in Commercial Real Estate Markets, *Bank Trends*.

⁸ Construction activity is measured in square feet and includes projects completed during the year, plus projects still under construction as of year-end. This figure is then divided by the total stock of space to obtain a construction activity percentage for use in comparative rankings.

This study updates the previous results using year-end 1999 data.⁹ In doing so, it applies more restrictive criteria to identify at-risk metropolitan real estate markets. As before, the metro areas are ranked according to new construction as a percentage of existing stock in each of the five main commercial property types. However, in this analysis, to be considered at risk, a metro area must rank in the *top ten* for any two of the property types. Despite the fact that it was harder for individual markets to qualify as being at risk, all but one of the previously identified nine markets remain on the at-risk list. Moreover, they are joined by five additional metropolitan areas: **Denver, Fort Worth, Jacksonville, Sacramento, and Seattle**. It is evident that more metropolitan areas are emerging with vigorous CRE construction and development across multiple property sectors.

Most Active Construction Markets

Charts 2 through 6 represent the property sectors of office, industrial, retail, multifamily, and hotel. They also list, for each property sector, the metropolitan areas having the highest levels of construction activity, relative to existing stock, for the year ending December 31, 1999. The overall national construction activity rate is also shown for comparative purposes for each of the property sectors. Each metropolitan area is ranked from the highest to lowest for levels of construction activity.

As shown in these charts, **Las Vegas, Orlando, and Phoenix** are standouts, with each placing among the top ten metropolitan areas in the country for construction activity in at least four of the five different property sectors. **Las Vegas** is among the top ten in construction activity for all five property sectors except for hotel construction, where it ranks twenty-sixth.¹⁰ **Las Vegas** ranks first in retail construction and second in industrial construction. **Orlando** is first in both office and multifamily construction. **Phoenix** is among the top ten for each of the five property sectors except hotel construction, where it ranks sixteenth.

⁹ For the five property sectors reviewed in this report, data sources were **Torto Wheaton Research** for office and industrial and **F.W. Dodge** for retail, multifamily, and hotel. Torto Wheaton Research's data for office and industrial encompass 54 and 53 metropolitan statistical areas (MSAs), respectively. F.W. Dodge's data for retail, multifamily, and hotel encompass 58 MSAs.

¹⁰ Las Vegas has the most hotel rooms in the country, with slightly fewer than 124,000 rooms as of year-end 1999. During 1999, Las Vegas experienced the greatest addition of rooms (in absolute numbers) of any market. With over 13,000 new rooms added during 1999, Las Vegas had nearly twice the level of the next highest metropolitan area, which was Orlando, with an additional 7,000 rooms.

CHART 2

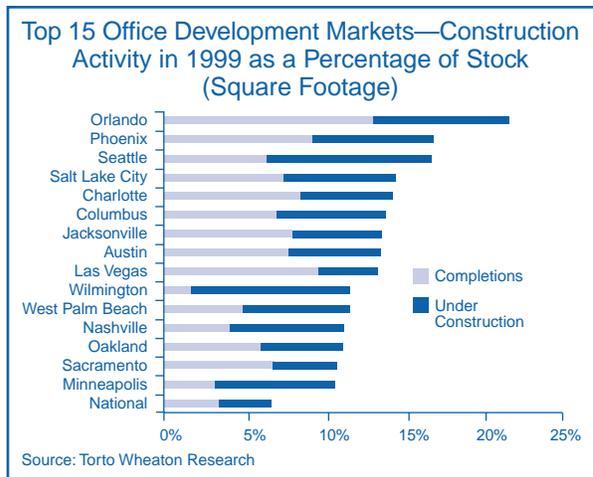


CHART 3

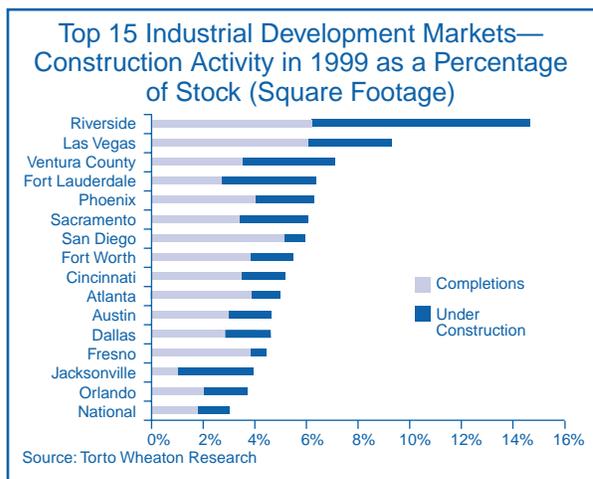


CHART 4



Other markets deserve notice for their high or moderately high levels of construction activity in one or more property sectors. **Columbus, Ohio**, ranks sixth in the nation for its high level of office construction and twelfth for both multifamily and hotel construction. **Greenville** is tenth in the nation for hotel construction and twelfth for retail. **West Palm Beach** is ninth for retail and eleventh for office. **Austin** is eighth for office, eleventh for both multifamily and industrial, and thirteenth for hotel.

C&D Loan Concentrations

Concentrations of C&D loans at community banks in the at-risk markets are generally higher now than they were at the peak of the last cycle in the 1980s.¹¹ As shown in Chart 7, the median ratio of C&D loans to total assets as of March 31, 2000, was higher than the median ratio as of December 31, 1988, in ten of the thirteen at-risk markets.¹² The median C&D loan concentration is currently higher than the national average in all 13 at-risk markets.¹³

At present, overall loan performance remains very good for the C&D portfolios of insured institutions. Reported delinquent and nonaccrual C&D loans remain at nominal levels as a percentage of total loans, although the ratio for both measures increased marginally during the first quarter of 2000.

Construction Employment Concentrations

The percentage of a metropolitan area's workforce employed in construction is an indicator of the sensitivity of the local economy to construction. Six of the 13 metropolitan areas at risk for overbuilding are found among the top 12 most concentrated construction employment markets (see Chart 8, next page).¹⁴ In addition, all of the 13 have construction concentration levels exceeding the national average. With slightly under 10 percent of its nonfarm workforce employed in construction, **Las Vegas** has the highest construction-

¹¹ Community banks are FDIC-insured institutions with assets less than \$1 billion.

¹² For community banks that have C&D loans.

¹³ Since 1992, the aggregate C&D-to-asset ratio for the nation's community banks has been higher than the C&D-to-asset ratio for institutions larger than \$1 billion. This is a reversal of the condition from 1984 through 1991 when the aggregate C&D-to-asset ratio for institutions larger than \$1 billion exceeded the C&D-to-asset ratio for community banks.

¹⁴ Construction concentrations are the percentage of construction employees relative to the nonfarm workforce.

CHART 5

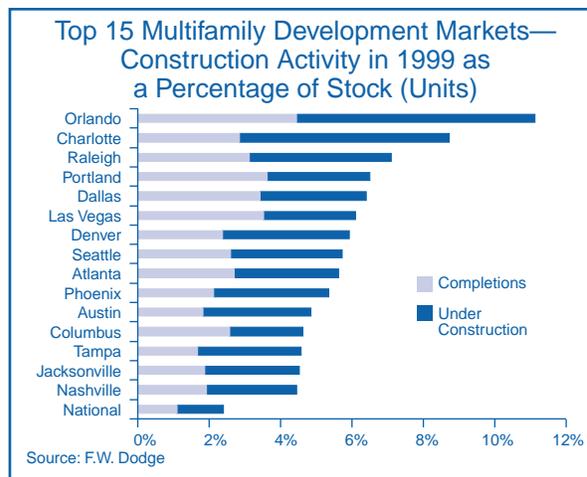
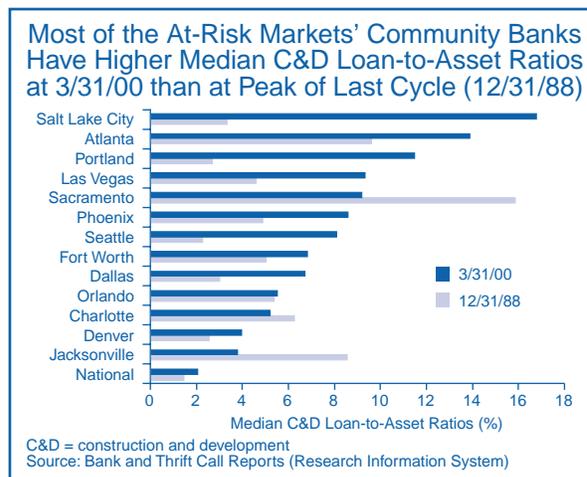


CHART 6



CHART 7



concentrated workforce of all metropolitan areas in the United States and is slightly over twice the national rate of 4.8 percent.

High Construction Activity and High Vacancy Levels

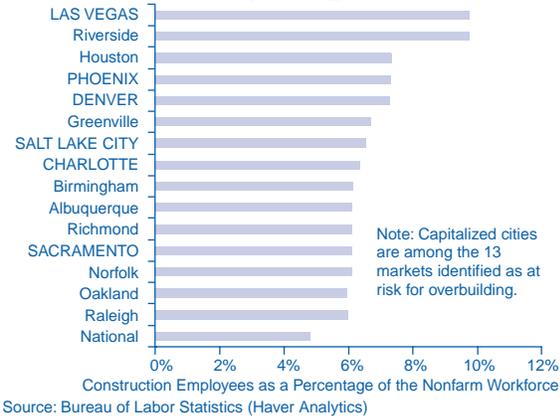
Newly constructed, speculative space competes directly for tenants against already-built and vacant space. To assess at-risk markets fully, it is useful to compare the levels of construction activity for each metropolitan area's property sector against its associated vacancy levels.¹⁵

Charts 9 through 13 show, by property sector, each city's level of construction activity plotted against the corresponding vacancy rate. It is axiomatic that a metropolitan area with high vacancies and high construction is cause for concern for builders and lenders alike.

It follows for metropolitan areas with high construction and high vacancy that newly arriving CRE projects will face significant competitive pressures in obtaining tenants. Consequentially, barring any preleasing or any fundamental upward shifts in demand, rental concessions may be needed to obtain tenants, and property values may be depressed.

CHART 8

Many of the 13 At-Risk Markets Are among the Nation's Metropolitan Statistical Areas Having the Highest Construction Employment Levels as of First Quarter 2000



¹⁵ The data vendors do not provide category breakdowns for construction activity into speculative versus nonspeculative (preleased) properties.

CHART 9

Many of the 13 At-Risk Markets Report High Office Construction Activity and High Office Vacancy Rates

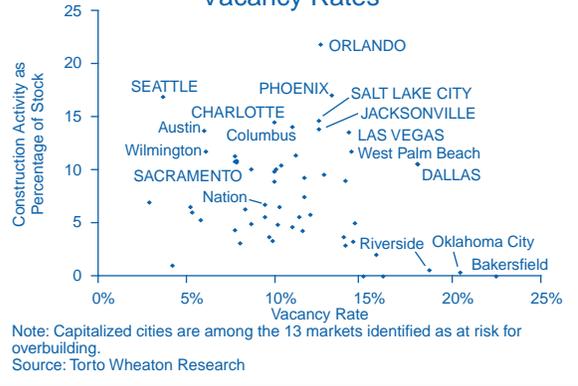


CHART 10

Many of the 13 At-Risk Markets Report High Industrial Construction Activity and High Industrial Vacancy Rates

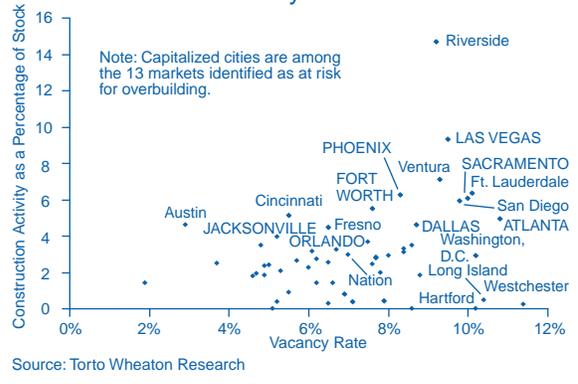
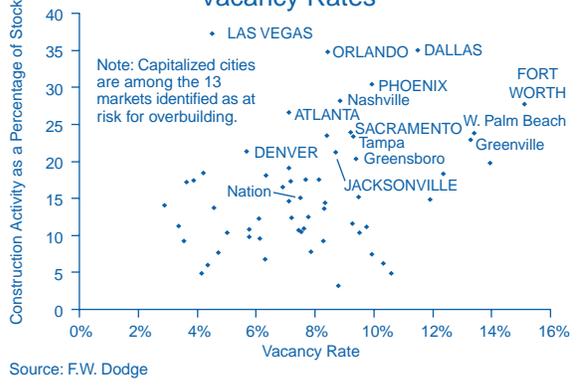


CHART 11

Many of the 13 At-Risk Markets Report High Retail Construction Activity and High Retail Vacancy Rates



What Market Analysts Are Saying

Views of industry analysts provide additional perspective on the risks pertaining to each of the five property sectors and the individual metropolitan areas.

Office

Newly constructed nationwide office supply will outpace demand in 2000 and beyond, according to **Torto Wheaton Research**.¹⁶ Some 65 million square feet of space is scheduled for completion in 2000. However, net absorption is projected to be only 58 million square feet in 2000, resulting in an excess supply of 7 million square feet. Torto Wheaton Research predicts that office completions will outpace absorptions for all projected year-ends through 2005, and corresponding vacancy rates will climb to slightly more than 14 percent at year-end 2005.

Overall office fundamentals are in equilibrium, according to **Donaldson Lufkin & Jenrette (DLJ)**, thanks to preleasing and sufficient demand.¹⁷ Still, DLJ identifies a number of markets as being at greater risk for excess new supply. DLJ's markets to watch for possible overbuilding are Charlotte, Fort Lauderdale, Minneapolis, and Sacramento. More than 9 percent in new supply is projected for Sacramento over the next 18 months, with only a 3 percent increase in demand. DLJ identifies the Sacramento suburbs as the major center of construction activity and notes with concern the existing 13 percent suburban vacancy rate for this metropolitan area.

Overall office construction levels will peak this year, according to the **Urban Land Institute (ULI)**.¹⁸ Increases in suburban office vacancy rates to nearly 11 percent by the end of 2000 are projected, with downtown rates falling to slightly over 8 percent. ULI notes the possibility of a rash of space returns by Internet companies and others in the technology sector as a significant going-forward risk.

Many analysts caution about the ability of new office construction to be absorbed in certain markets where labor supplies remain tight. In recent **Wall Street Journal** articles, Dallas and Seattle are reported to be actively recruiting high-tech engineers through immigrants from India and China to fill in the gaps in their tight labor-market pool for high-technology jobs.^{19, 20}

¹⁶ Torto Wheaton Research. Spring 2000. *Office Outlook*.

¹⁷ Thierry Perrein, Donaldson, Lufkin & Jenrette. April 2000. *DLJ REIT Corporate Handbook*, "Cautious Optimism."

¹⁸ Urban Land Institute. *ULI 2000 Real Estate Forecast*.

¹⁹ Templin, Neal. June 7, 2000. Economic Focus: Houston, Dallas Are Draw for Immigrants. *The Wall Street Journal*.

²⁰ Barnes, Brooks. June 7, 2000. Economic Focus: Seattle Enjoys Influx of Foreign Workers. *The Wall Street Journal*.

In a recent office market report by **Moody's Investors Service**, three metropolitan areas (Jacksonville, Nashville, and Phoenix) are coded as "red"—indicating danger for high supply and declining demand factors.²¹ Charlotte is coded as "yellow," and its office demand is projected to grow by only 5 percent this year, while supply will increase by over 11 percent.

Multifamily

Recent mortgage rate increases will slow purchases of single-family homes, thereby increasing the demand for multifamily properties, according to a recent article by **PaineWebber**.²² Nevertheless, concerns are raised for oversupply conditions for multifamily construction in Atlanta, Dallas, Houston, and Las Vegas—cities characterized as "low barrier-to-entry markets."

Markets appearing weak to **DLJ** for the multifamily property sector include Charlotte, Denver, Jacksonville, Orlando, Portland, Raleigh, Salt Lake City, and Seattle.²³

Industrial

Atlanta and Dallas are weaker for the industrial property sector, according to **DLJ**, because of significant new supply levels.²⁴ A 7 percent supply growth is projected for Phoenix in 2000, with only a 4 percent increase in demand.

Retail

For retail properties, **DLJ** believes a number of markets have excess supply; the standouts are Austin, Las Vegas, Orlando, Phoenix, and Sacramento.²⁵

Hotel

Analysts point to specific concerns for a "glut" of limited-service hotels in certain markets and note many hotel developers taking advantage of low barriers to entry for hotel construction. In response, many developers argue that "product differentiation" within different hotel sectors justifies further development.

Growth in expenditures on hotel construction has been above 7 percent for each of the past several years, while room revenues grew at a more moderate pace, according to **PaineWebber**.²⁶ The poor growth in room revenue is attributed to supply exceeding demand.

²¹ Gordon, Sally. June 2, 2000. Moody's Investors Service, *Special Report—CMBS: Red-Yellow-Green Update, Second Quarter 2000, Quarterly Assessment of U.S. Property Markets*.

²² PaineWebber. June 6, 2000. *Real Estate Investment Trust—Initiating Coverage on the REIT Industry*.

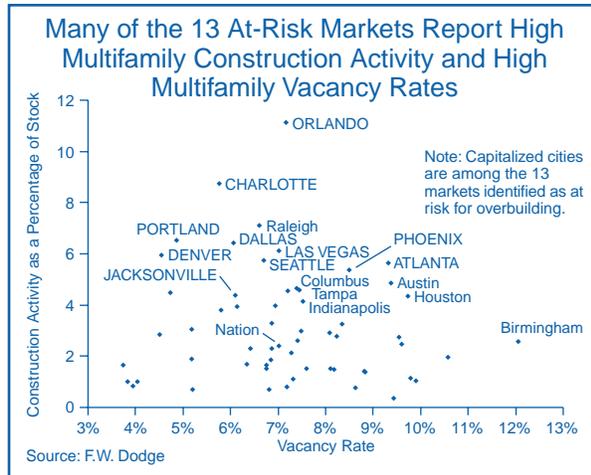
²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

²⁶ PaineWebber. June 1, 2000. *Industry Outlook Lodging, U.S. Hotel Construction Update—First Quarter 2000*.

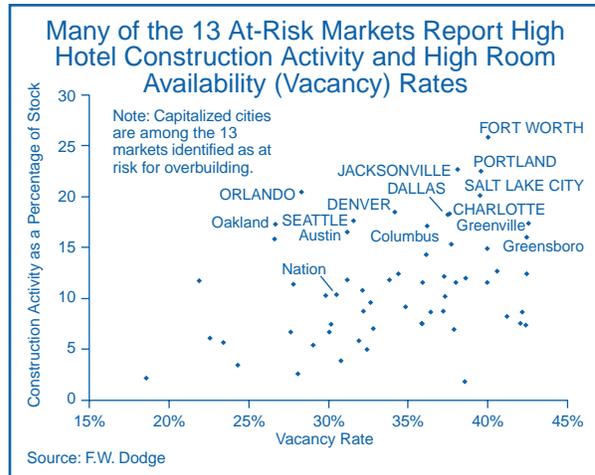
CHART 12



As shown in the referenced charts, multiple cities are experiencing high volumes of construction activity concurrent with high vacancy rates. Seven of the 13 at-risk cities show up in the upper-right quadrants, exhibiting both high rates of construction and vacancy: **Atlanta** for industrial and multifamily; **Dallas** for office and retail; **Fort Worth** for retail and hotel; **Jacksonville** for office and hotel; **Las Vegas** for office and industrial; **Orlando** for office and multifamily; and **Salt Lake City** for office and hotel.

Other metropolitan areas beyond these 13 are precariously situated at the furthestmost positions on the charts for high vacancy and high construction levels: **Austin** and **Houston** for multifamily; **Greensboro** for hotel; **Greenville** for retail and hotel; and **West Palm Beach** for office and retail.

CHART 13



Conclusion

Since 1997, responding to a void left by the departure of other capital market lenders, community banks have stepped up their CRE lending activity. At the same time, more metropolitan areas are emerging with vigorous CRE construction and development across multiple property sectors. In the 1998 and 1999 FDIC analyses, nine metropolitan areas were identified as being at risk for overbuilding across multiple property types. In the present analysis, 13 metropolitan areas, including eight of the nine from the prior analyses, receive this designation. Given strong levels of CRE completions, these metropolitan areas are particularly sensitive to any decline in real estate demand that could result from a slowdown in the national or regional economy.

On the basis of the preceding information, the following three markets are considered to be most at risk for broad-based overbuilding: Dallas, Denver, and Fort Worth. (See page 23.)

Thomas A. Murray, Senior Financial Analyst

Dallas Region Markets Most Vulnerable to Overbuilding

Dallas

The Dallas metropolitan statistical area (MSA) is active in all commercial property sectors and ranks in the top ten most-active construction markets in four sectors and twelfth in the industrial sector. Dallas has high vacancy rates in the office sector and moderately high rates in the industrial, retail, and hotel sectors. Office vacancy rates increased from 14.4 percent to 18 percent from year-end 1998 to 1999 (see chart). Rents increased over the period but followed a continued three-year declining growth trend. As of year-end 1999, downtown Dallas had a 29 percent office vacancy rate; its suburban rate was 9.2 percent.

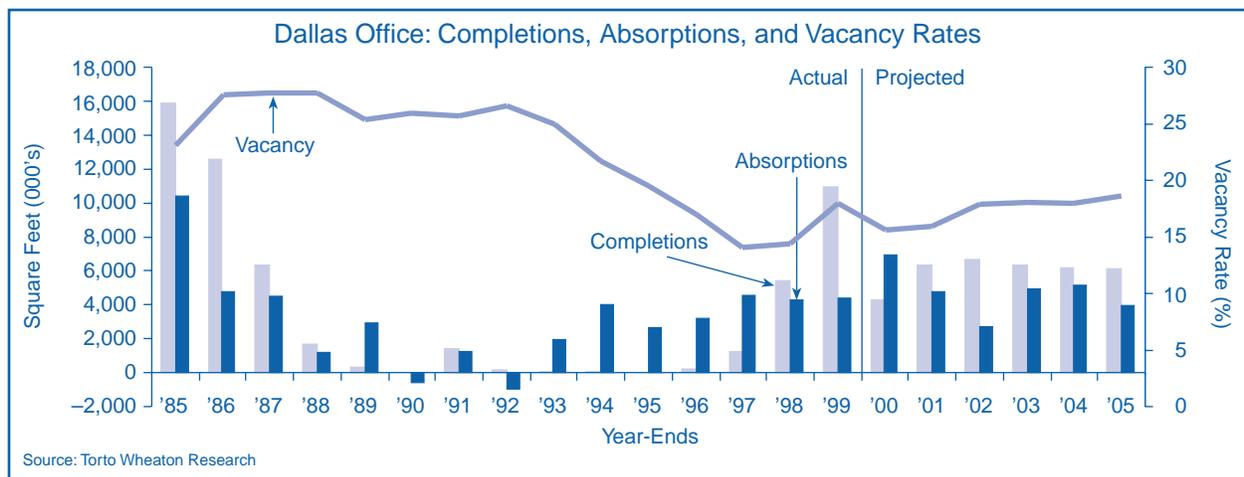
In 1999, Dallas posted its lowest employment growth rate since 1994. Net in-migration in 1999 has also slowed from the previous year. The Dallas MSA boasts

an unemployment rate of 3.1 percent, lower than the national rate of 4.2 percent.

Although the Dallas MSA ranks fifth in overall apartment construction, current demand is strong. A number of factors support high levels of demand for apartments. Most notably, rising interest rates made home purchases less attractive for some renters, and employment growth in Dallas regained the momentum that it had lost in the second half of 1999.

Of the 81 community banks in the Dallas MSA at March 31, 2000, over half have CRE portfolios in excess of 100 percent of Tier 1 capital. Reported asset quality for institutions in the Dallas MSA remains strong.

Dallas Region Staff



Denver

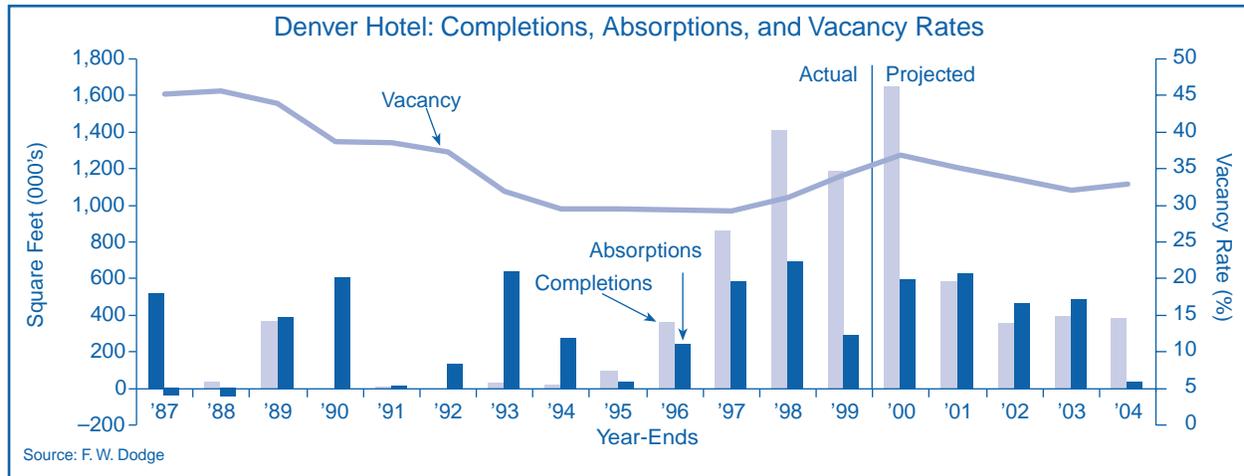
The Denver metropolitan statistical area (MSA) ranks in the top ten most active for construction for the retail, hotel (see chart), and multifamily sectors. Denver has relatively moderate vacancy levels for each property sector. Analysts have raised concern about the rapidly growing construction in the Denver MSA. The past two years' double-digit growth parallels the growth level last achieved in Denver in the early 1980s, which was followed by a prolonged downturn in its real estate market.

Employment growth in Denver has outpaced the national average since 1991. In 1991, for the second year in a row, Denver posted 3.8 percent growth in total employment, mainly because of the growing telecommunica-

tions and construction industries. The boom in Denver employment has been made possible in part by increasing net in-migration levels. Continued employment expansion has pushed 1999 unemployment to a rate of 2.4 percent, with forecasts suggesting a lower rate of 2.1 percent for 2000, creating labor shortages especially in retail businesses.

Of the 54 community banks headquartered in the Denver MSA at March 31, 2000, 36 have CRE portfolios in excess of 100 percent of Tier 1 capital. CRE loans grew 150 percent between December 31, 1995, and March 31, 2000. Reported asset quality for institutions in the Denver MSA remains strong.

Dallas Region Staff



Fort Worth

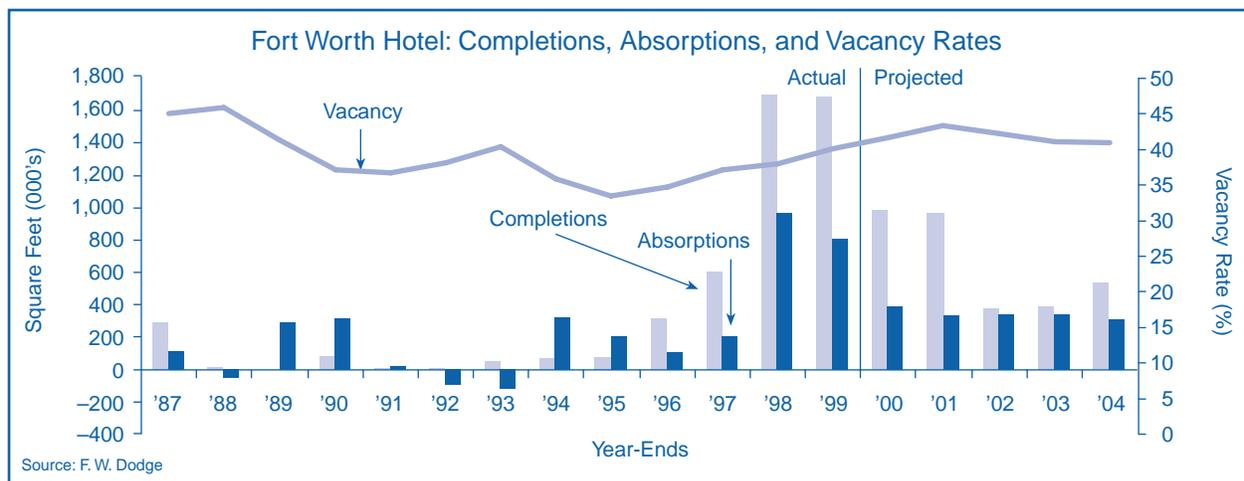
The Fort Worth metropolitan statistical area (MSA) ranks among the ten most active markets in construction for industrial, retail, and hotel properties. Employment growth in Fort Worth has outperformed the national average since 1993. The robust job market and a favorable cost of living continue to draw high in-migration levels. For year-end 1999, Fort Worth was first in the country for construction activity for new hotels as measured by new rooms as a percentage of existing stock.

Fort Worth has made a significant effort to develop a stock of entertainment and tourist attractions, while manufacturing and distribution remain the economy's

strongest drivers. Fort Worth's 1999 employment growth was the ninth highest of the country's metropolitan areas. Hotel occupancy rates have fallen steadily in this MSA since 1995 because of an abundance of limited-service and extended-stay hotels (see chart). A 1,500-room Opryland-Grapevine Hotel is scheduled to open in 2002.

Of the 38 community banks located in the Fort Worth MSA at March 31, 2000, 33 have CRE portfolios in excess of 100 percent of Tier 1 capital. Reported asset quality for institutions in the Fort Worth MSA remains strong.

Dallas Region Staff



Rising Home Values and New Lending Programs Are Reshaping the Outlook for Residential Real Estate

- **Home prices have risen rapidly in several major U.S. metropolitan areas.**
- **The credit quality of residential real estate loan portfolios traditionally has been solid.**
- **New lending programs such as subprime and high loan-to-value lending could change the historical loss experience associated with residential real estate.**

Introduction

The median price of an existing single-family home has been rising rapidly in several U.S. metropolitan areas. After a prolonged period of stagnant or slowly rising resale prices in many of these markets throughout most of the 1990s, prices have rebounded strongly, reaching double-digit rates of growth in some areas. Not surprisingly, these markets have also experienced relatively robust job growth, particularly in high-tech sectors that have been the catalyst for growth in the New Economy.¹

However, as existing home prices in some markets have been rising rapidly, new building activity has recently begun to slow because of rising interest rates. After reaching a 19 percent year-over-year growth rate in the fourth quarter of 1998, single-family housing starts declined by 2.8 percent in the second quarter of 2000. Similarly, year-over-year growth in single-family housing permits declined by 8.4 percent in the second quarter of 2000. Higher home mortgage rates, along with the prospect for more moderate job growth, have dampened market activity.

Single-family mortgages have traditionally been associated with low loss rates compared with other, higher-risk lending lines at insured institutions. However, the real estate market is still susceptible to boom and bust cycles, which could pose a risk to institutions with exposures to residential real estate. This risk would be heightened by the formation of asset price bubbles in local markets. Furthermore, as the competition among

mortgage lenders becomes more intense, insured institutions are increasingly participating in new, higher-risk types of mortgage lending, such as high loan-to-value (LTV) lending and subprime lending. These new lending practices—still largely untested in a recession—raise some concerns about the future credit quality of residential loan portfolios.

Home Prices in Some Local Markets Are Soaring

Home prices have been soaring recently in a number of large U.S. metropolitan markets. Rapid price increases in some of these areas have come on the heels of a period of slow or stagnant growth (see Chart 1). Table 1 (next page) identifies the top 20 metropolitan markets based on the median price of an existing single-family home. Many of the areas identified in the table are also places where home prices are increasing most rapidly. Healthy job growth, tight labor market conditions, and a tight supply of available homes have contributed to price increases in these areas.

Some of the same metropolitan areas that are experiencing significant home price appreciation are also highly dependent on the high-tech sector. The shaded areas in Table 1 highlight the metro markets that not only have the highest median home prices in the nation but also have a concentration of high-tech employees in the workforce greater than 5 percent. Explosive growth

¹ For a discussion on what is meant by the term “New Economy,” see “Banking Risk in the New Economy,” *Regional Outlook*, second quarter 2000; <http://www.fdic.gov/bank/analytical/regional/ro20002q/na/t2q2000.pdf>.

CHART 1

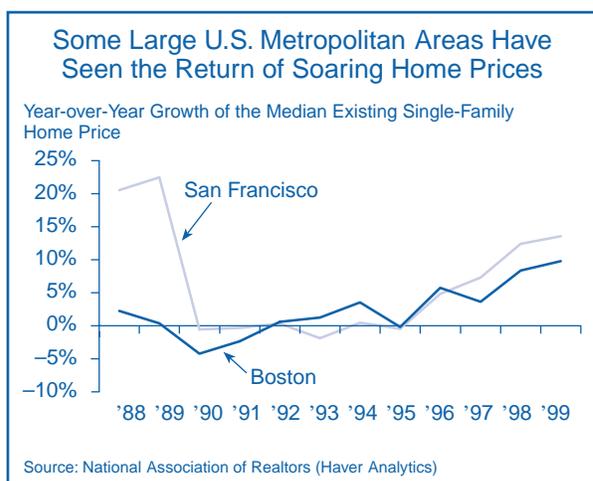


TABLE 1

| OF THE 20 U.S. CITIES WITH THE MOST EXPENSIVE HOUSING, MORE THAN HALF HAVE A CONCENTRATION IN HIGH-TECH EMPLOYMENT | | |
|--|---|-------------------------------------|
| THE SHADED AREAS INDICATE MARKETS WHERE HIGH-TECH EMPLOYEES CONSTITUTE AT LEAST 5 PERCENT OF THE TOTAL PAYROLL EMPLOYMENT (SEE NOTE). | | |
| METROPOLITAN STATISTICAL AREA RANKING BY MEDIAN HOME PRICE | MEDIAN PRICE OF AN EXISTING SINGLE-FAMILY HOME MARCH 2000 | PERCENT CHANGE FROM ONE YEAR AGO |
| 1 SAN FRANCISCO, CA | \$418,600 | 25.0% |
| 2 ORANGE COUNTY, CA | \$300,800 | 10.3% |
| 3 HONOLULU, HI | \$289,000 | -2.0% |
| 4 BOSTON, MA* | \$255,000 | 8.4% |
| 5 SAN DIEGO, CA | \$251,400 | 16.1% |
| 6 BERGEN-PASSAIC, NJ | \$250,200 | 9.8% |
| 7 NEWARK, NJ | \$229,500 | 18.8% |
| 8 SEATTLE, WA | \$226,100 | 8.3% |
| 9 NEW YORK, NY | \$221,500 | 14.3% |
| 10 NASSAU-SUFFOLK, NY | \$209,200 | 12.8% |
| 11 LOS ANGELES, CA | \$202,900 | 5.6% |
| 12 MIDDLESEX, NJ | \$198,500 | 8.6% |
| 13 MONMOUTH-OCEAN, NJ | \$186,200 | 19.4% |
| 14 DENVER, CO | \$181,500 | 12.9% |
| 15 WASHINGTON, DC-MD-VA | \$177,500 | 5.6% |
| 16 PORTLAND, OR | \$166,700 | 0.8% |
| 17 CHICAGO, IL | \$166,700 | 0.4% |
| 18 LAKE COUNTY, IL | \$162,600 | -2.2% |
| 19 AURORA-ELGIN, IL | \$158,200 | 7.5% |
| 20 RALEIGH-DURHAM, NC | \$156,300 | -4.2% |
| NATION | \$133,533 | 2.7% |

* RANKING BASED ON THE LATEST DATA AVAILABLE (THIRD QUARTER 1999).
 NOTE: HIGH-TECH, AS DEFINED BY DISMAL SCIENCES, INC., INCLUDES INDUSTRIES SUCH AS PHARMACEUTICALS, COMPUTERS,
 ELECTRONIC COMPONENTS, COMMUNICATIONS EQUIPMENT, AND COMMUNICATIONS SERVICES.
 SOURCES: NATIONAL ASSOCIATION OF REALTORS (HAVER ANALYTICS); DISMAL SCIENCES, INC.

in technology industries during this expansion has created new job opportunities in many metropolitan areas where high-tech companies and employment tend to be concentrated. The influx of highly skilled, and often highly compensated, high-tech workers into these areas has boosted the demand for both new and existing homes, pushing up home prices. For example, in San Francisco, where high-tech employees now comprise 7.1 percent of the total workforce, home prices rose by 22 percent in calendar year 1999 and are expected to rise another 14 percent in 2000.²

² July 21, 2000. Your Money Matters: Turning Down the Heat on Home Prices—Forecasters Find More Evidence That the Market Is Cooling; San Francisco Still Rocks. *The Wall Street Journal*.

Soaring home prices in these metro areas have created the possibility of speculative price bubbles that could cause problems for mortgage lenders. If a decline in high-tech employment or company earnings were to cause a deterioration in home values in these markets, the credit quality of mortgage portfolios at insured institutions could be jeopardized.

Favorable Economic Conditions Have Sustained Consumer Spending Patterns

As the current U.S. expansion entered its 113th month in July 2000, consumer spending continued along a path of rapid growth. In the second quarter of 2000, person-

al consumption expenditures increased by 8 percent over the previous year. Nearly ideal conditions for consumers have contributed to high levels of spending. The unemployment rate remains near the record low of 3.9 percent set in April 2000, and consumer confidence remains near the record high set in January 2000. Moreover, consumer buying power has been boosted by real wage gains, generally low interest rates, and stock market earnings.

One of the only negative aspects for consumers has been the recent rise in interest rates, which has increased the cost of borrowing. From the end of 1998 to June 2000, both the bank prime lending rate and the average mortgage contract rate for purchase of a previously occupied home rose by more than 100 basis points. However, the flexibility offered by adjustable-rate mortgages (ARMs) has helped consumers shield themselves from the full effects of interest rate increases. As of the second quarter of 2000, the share of ARMs as a percentage of all loans closed had risen from 10 percent in the fourth quarter of 1998 to 30 percent (see Chart 2).

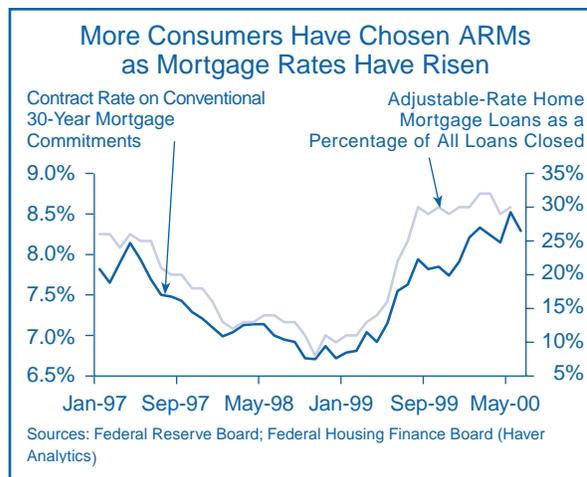
Nonetheless, as interest rates have risen, overall activity in the single-family housing market has slowed noticeably. After reaching an annualized rate of 1.4 million units in December 1999, monthly starts of single-family homes have declined by more than 15 percent to 1.2 million units in June 2000. Similarly, the annualized rate of single-family permits issued in June 2000 was down 14 percent from January 2000 levels. The *National Association of Realtors (NAR)* reports that, despite current high levels of activity, deteriorating affordability conditions are expected to slow the resale housing market over the course of the year.³ In June 2000, NAR's composite Housing Affordability Index fell to its lowest point since September 1996. To the extent that any decline in economic conditions would produce a less favorable environment for consumers, the housing market would likely slow even further.

Overall Credit Quality of Residential Mortgages Has Been Solid

Historical losses from residential real estate exposures at insured institutions are well documented. In the 1980s, areas such as Texas, California, and New Eng-

³ National Association of Realtors Press Release. August 1, 2000. Housing Affordability Drops to Eight-Year Low, NAR Reports.

CHART 2



land experienced strong economic growth, rapid residential development, and sharp home price appreciation that created asset price inflation. Coastal California markets, in particular, experienced double-digit growth rates that propelled the median home price in California to more than double the national average.⁴

Regional recessions in many of these areas took a toll on residential real estate markets. Home values either stagnated or declined precipitously, and the foreclosure rate on residential real estate began to rise rapidly. Nevertheless, very few bank failures can be attributed solely to losses on residential mortgages. Loss rates on residential loans have traditionally been low compared with other loan categories.

The credit quality of conventional single-family mortgage portfolios has generally been good throughout this economic expansion. The percentage of conventional loans past due during this expansion has averaged 2.8 percent, compared with 3.5 percent during the last expansion from 1982 to 1990.⁵ Moreover, past-due conventional loans fell for the sixth consecutive quarter in the first quarter of 2000 to 2.3 percent (see Chart 3, next page). Foreclosures started, while slightly higher on average than the previous expansion, remain at a healthy level well below 1 percent of loans (see Chart 4, next page).

⁴ Federal Deposit Insurance Corporation, Division of Research and Statistics. 1997. *History of the Eighties: Lessons for the Future. Vol. 1, An Examination of the Banking Crises of the 1980s and Early 1990s.* <http://www.fdic.gov/bank/historical/history/contents.html>.

⁵ "Past due" refers to loans that are 30 or more days past due.

By contrast, Veterans Administration (VA) and Federal Housing Administration (FHA) loans have performed less well during this expansion. These loan types are both designed to aid less creditworthy borrowers in securing a home loan. VA and FHA loans, which include a portion of the higher-risk high-LTV and sub-prime loans, have historically experienced higher past-due and foreclosure rates than other classes of mortgage loans (see Charts 3 and 4).

The overall performance of 1–4 family residential mortgages at insured institutions has been solid. As of March 2000, delinquent 1–4 family loans remained well under 1 percent of total 1–4 family loans, and the percentage of charge-offs was nearly zero. Charge-offs may have reached the bottom of the credit cycle in 1998, however, after peaking at a record high in 1993 (see Chart 5).

CHART 3

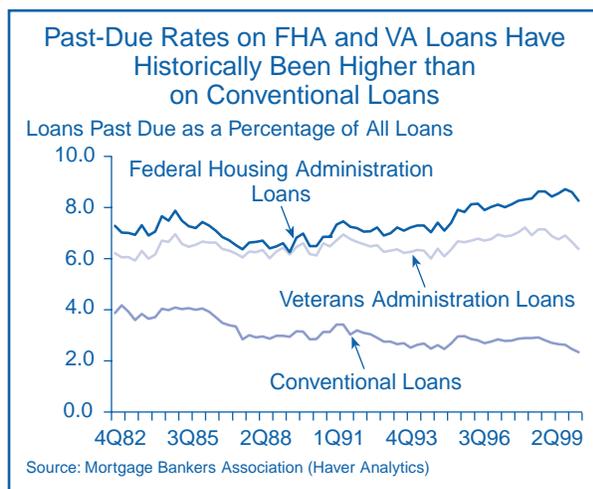
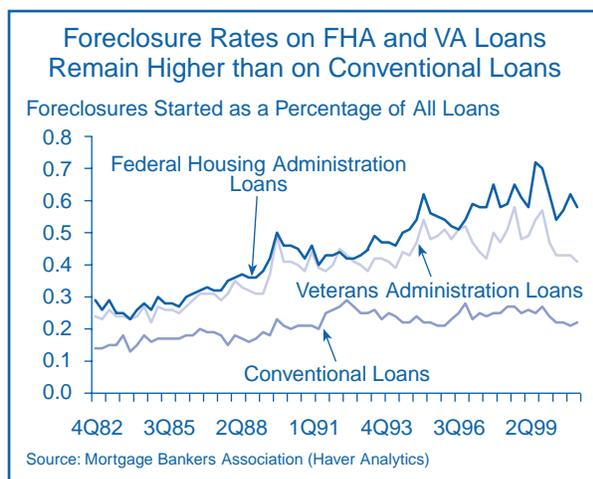


CHART 4

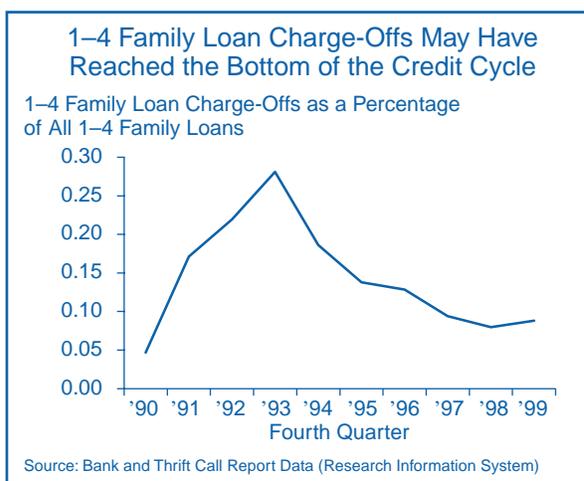


A trend toward higher charge-off rates might be cause for concern at a time when conditions in the consumer sector seem to be excellent. Moreover, as with regional problems that surfaced in the late 1980s and early 1990s, the aggregate data may still mask evolving sub-market residential real estate problems associated with local economic and business conditions or new, higher-risk lending lines of business.

Concerns have arisen recently about the future of residential loan credit quality and consumer credit quality in general. The **Board of Governors of the Federal Reserve System** warned that, although the consumer sector seems healthy by most measurable standards, “[consumer] delinquency rates may be held down, to some extent, by the surge in new loan originations in recent quarters because newly originated loans are less likely to be delinquent than seasoned ones.”⁶ Consumer credit outstanding grew by nearly 8 percent in the second quarter of 2000, the highest growth rate in the past three years. At the same time, 1–4 family loans at insured institutions expanded by 11 percent from March 1999 to March 2000, the highest year-over-year growth rate since 1997.

High growth rates are not the only concern regarding the future credit quality of residential loan portfolios. Rising interest rates have raised the cost of borrowing for consumers at a time when consumer credit has been expanding rapidly. Mortgage debt service payments as a percentage of disposable personal income rose to nearly 6 percent in the first quarter of 2000, continuing an

CHART 5



⁶ Board of Governors of the Federal Reserve System. July 20, 2000. Monetary Policy Report to the Congress. p. 7.

upward trend since mid-1994. This level was last reached in 1991, when the economy was emerging from an economic recession and some local residential markets were in turmoil. Further increases in interest rates would push mortgage debt service payments higher, which could impair the ability of mortgage holders to service both mortgage debt and other consumer debt. Moreover, other consumer loans would likely enter delinquency before mortgage loans, as consumers are more likely to pay their mortgages before other consumer debt.

New Residential Lending Programs May Heighten the Risk Exposure of Insured Institutions

Recent trends in high-LTV and subprime lending have heightened the risk exposure of insured institutions. Intense competitive pressure in the banking industry has narrowed the margins of traditional lending lines, inducing banks to seek more profitable lines of business. Both high-LTV and subprime lending offer wider margins, but at the price of increased risk to the lender.

High-LTV loans represent greater risk to lending institutions when collateral values decline. If a home loan is underwritten on the basis of an inflated home value, there is a greater possibility of default if the value of the home declines. Furthermore, a decline in the value of the home could reduce the possibility of recovering the loan in the event of default and foreclosure.

The share of high-LTV loan originations is growing.⁷ The percentage of loans with an LTV ratio greater than 90 percent has risen from around 5 percent to more than 20 percent over the past ten years.⁸ Table 2 identifies the metropolitan areas where more than 30 percent of the conventional home loans underwritten in 1999 carried an LTV ratio greater than 90 percent. Given that the historical cycles of boom and bust in residential real estate have often been geographically isolated, both regional and national trends in high-LTV lending should be carefully monitored.

Subprime lending is a term commonly used to refer to loans that are extended to borrowers who are perceived as less creditworthy.⁹ As insured institutions have increased their involvement, the subprime lending market has presented banks with new growth opportunities and new risks. Subprime loans represent a small but growing share of total mortgage originations (see Chart 6, next page). To be sure, higher pricing on subprime loans promises wider margins and higher revenues for lenders, but the credit risk associated with less-than-prime borrowers requires ongoing oversight and management to prevent credit losses from eroding margins. Some financial institutions that have either grown subprime portfolios or acquired subprime affiliates are now scaling back their involvement in subprime

TABLE 2

| POCKETS OF RISK MAY BE FORMING WHERE THE LTV IS HIGHEST | |
|--|---|
| METROPOLITAN STATISTICAL AREA (MSA) OR CONSOLIDATED MSA RANKED BY PERCENTAGE OF LOANS WITH LTV GREATER THAN 90 PERCENT | PERCENTAGE OF LOANS WITH LTV OVER 90 PERCENT 1999 |
| 1 GREENVILLE-SPARTANBURG-ANDERSON, SC | 50% |
| 2 HONOLULU, HI | 42% |
| 3 MEMPHIS, TN | 38% |
| 4 CHARLOTTE-GASTONIA-ROCK HILL, NC-SC | 37% |
| 5 BIRMINGHAM, AL | 35% |
| 6 HOUSTON-GALVESTON-BRAZORIA, TX | 35% |
| 7 ATLANTA, GA | 32% |
| 8 JACKSONVILLE, FL | 32% |
| 9 NASHVILLE, TN | 32% |
| 10 OKLAHOMA CITY, OK | 32% |
| 11 TULSA, OK | 32% |
| 12 GREENSBORO-WINSTON-SALEM-HIGH POINT, NC | 31% |
| 13 KANSAS CITY, MO-KS | 30% |
| 14 LAS VEGAS, NV-AZ | 30% |

LTV = LOAN-TO-VALUE
SOURCE: FEDERAL HOUSING FINANCE BOARD

⁷ See also Diane Ellis. "High Loan-to-Value Lending: A New Frontier in Home Equity Lending." *Regional Outlook*, first quarter 1999; <http://www.fdic.gov/bank/analytical/regional/ro19991q/na/t1q1999.pdf>.

⁸ Federal Housing Finance Board.

⁹ See also Kathy R. Kalsner and Debra L. Novak. "Subprime Lending: A Time for Caution." *Regional Outlook*, third quarter 1997; <http://www.fdic.gov/bank/analytical/regional/ro19973q/pdf/roa1997.pdf>.

lending activities to limit projected losses.¹⁰ In some cases, excessive losses related to the business of underwriting subprime loans have contributed to the failure of insured institutions.

A recent report from *Inside Mortgage Finance* states that subprime portfolios are showing evidence of weakness.¹¹ According to this report, the serious delinquency rate in the overall subprime market rose from 6.5 percent in 1998 to 6.9 percent in 1999.¹² Furthermore, the percentage of A-rated borrowers in the subprime market fell from 59 percent to 53 percent during the same period. The implication is that both subprime and prime mortgages originated this year could likely underperform relative to prior years, adversely affecting credit quality at insured institutions.

The potential for higher future losses related to subprime lending is of particular concern. The delinquency rate on subprime mortgages has traditionally been much higher than that of prime mortgages. As of December 1999, seriously delinquent prime mortgage loans comprised only 0.5 percent of total mortgage loans, compared with 3.2 percent of the best-rated subprime loans. Subprime mortgage loan seasoning analysis shows that 1999 vintage subprime loans have so far outperformed both 1997 and 1998 vintage loans (see Chart 7). However, there is a concern that adverse

changes in economic conditions and the health of the consumer sector could cause the foreclosure rate on subprime mortgage loans to increase more steeply than in prior years.

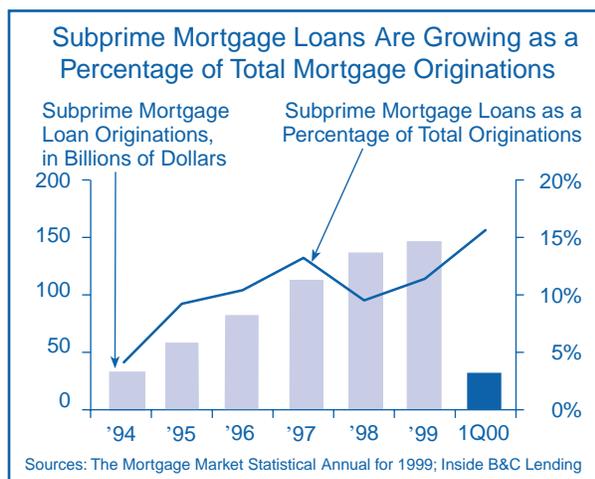
Conclusion

Rising home prices in some U.S. metropolitan areas may be a warning sign that asset price bubbles may be forming in some areas. A number of these areas also contain concentrations of employment in the high-tech sector, placing them at higher risk in the event of a downturn in that sector. Mortgage lenders in these areas should carefully monitor developments that could adversely affect home prices and collateral values. Nationally, single-family housing market activity appears to be slowing after a period of rapid growth supported by a long economic expansion and generally favorable interest rates.

Historically, mortgage loans at insured institutions have been one of the best-performing asset classes. As 1–4 family loan charge-offs have approached zero, it appears as if the credit cycle may have bottomed out, implying that loss rates may be rising. Moreover, as insured institutions increase involvement with subprime and high-LTV lending, the potential for higher future losses on residential real estate also increases. It will be important to keep an eye on developments in the economy and the consumer sector that could affect the future credit quality of residential real estate at insured institutions.

Alan Deaton, Financial Economist

CHART 6

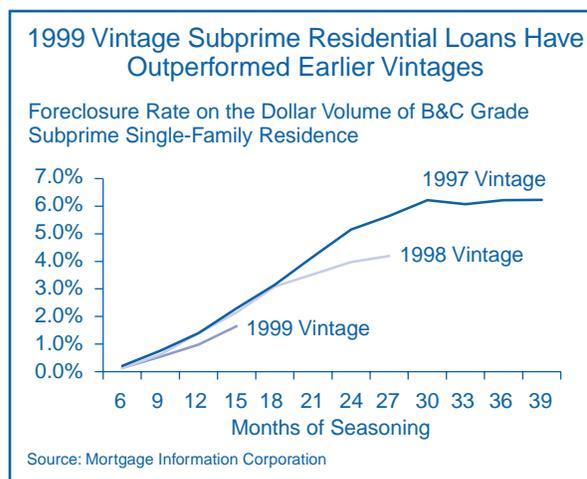


¹⁰ Subprime Mortgage Market Faces More Challenges in Second Half of Turbulent 2000. *Inside Mortgage Finance*. July 7, 2000.

¹¹ Mortgage Delinquency Rates Decline in Early 2000 But Industry Braces for Shift in the Wind. *Inside Mortgage Finance*. July 14, 2000.

¹² Seriously delinquent loans are defined as loans at least 90 days delinquent or in foreclosure.

CHART 7



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