

# Southwest Economy



## Economic Recovery Under Way in Major Texas Metros

Texas' major metropolitan areas account for almost 70 percent of the state's employment, so their fortunes determine the impact business cycles have on the state as a whole. When it comes to what makes their economies tick, Texas' major metros are different—a fact that partially explains why some boomed during the 1990s and others grew more moderately. These differences also determined, to some extent, each metro's fate during the recession of 2001 and, more recently, the recovery.

For instance, because of its central location, Dallas/Fort Worth serves as a trade center and distribution hub. With historic ties to oil and defense electronics, it has also become the state's telecommunications nexus. Austin's concentration of higher education and high-tech research has contributed to the city's thriving electronics manufacturing and semiconductor industries. Houston retains its strong ties to the oil and gas industry, but its port makes the metro an important player in international trade. San Antonio's economy relies on tourism and trade and is bolstered by a large military presence. Finally, El Paso's economy

*(Continued on page 2)*

## How Vulnerable Are Housing Prices?

In recent years, overall home prices have risen dramatically, by 37 percent since 1997 (26 percent when adjusted for inflation). Such increases have raised concerns that low interest rates have spawned a housing-price bubble. In such a case, previous increases in housing prices would leave them so far out of line with fundamentals that they would be vulnerable to falling.

If a national housing-price bubble has emerged, the pace of the current economic recovery could be affected in two ways. First, fears that housing prices could fall may deter families from buying new homes, which could slow home construction. Second, actual declines in housing prices could slow consumer spending by reducing housing wealth. This is important because, as emphasized by Federal Reserve Chairman Alan Greenspan, people have

*(Continued on page 11)*

**INSIDE:**  
*Is Japan's Long  
Nightmare Finally Over?*

is closely linked to that of Mexico and the maquiladora industry.

In the mid- to late 1990s, when the U.S. economy prospered, Texas performed better than the nation, in part because it had a large share of jobs in industries that were booming, especially in the high-tech sector. Along with high tech, almost every other sector of Texas' economy witnessed strong employment gains in the 1990s. Overall, Texas employment grew at an average annual rate of 3.3 percent during the decade, exceeding the nation's 2.1 percent.<sup>1</sup>

Of the major metros, Austin and Dallas/Fort Worth saw the most rapid employment gains in the 1990s; however, they also fell the hardest during the downturn. San Antonio, Houston and El Paso grew more modestly during the boom years; a smaller share of high tech sheltered them from large and sudden job losses during the recession (*Chart 1*).

Although the U.S. recovery officially began in December 2001, so far it has been mostly jobless in Texas just like the nation as a whole. While Texas indicators suggest the state's overall economy turned the corner at the beginning of 2003, job growth has remained meager (*Chart 2*). Despite this, the outlook is positive for employment growth in Texas and its metros in the coming years. A majority of economic indicators are looking up, including the Eleventh District Beige Book,<sup>2</sup> the Texas Leading Index, U.S. factory orders for computers and communications equipment, and the Mexican economy. In addition, Texas and its metros possess an attractive combination of moderate wages, plentiful labor and low taxes that makes the long-term outlook positive.<sup>3</sup>

## Dallas/Fort Worth

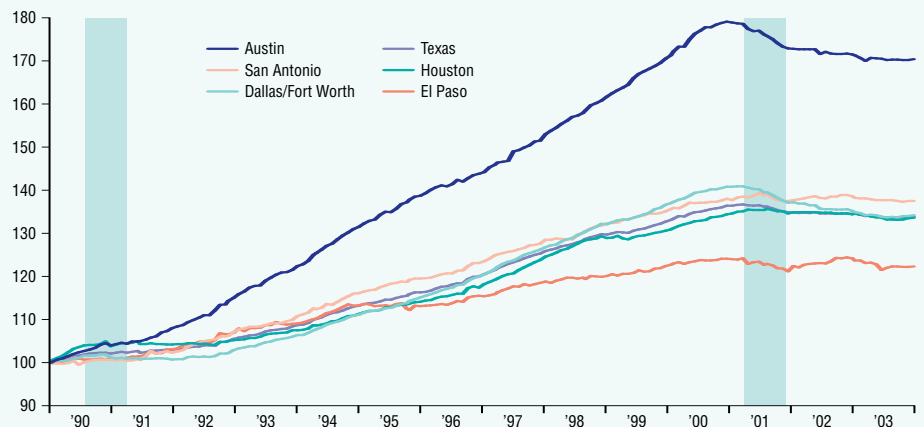
### Attributes and Important Industries.

Because of its central location within the United States and Texas, the Dallas/Fort Worth metroplex boasts a reputation as a major trade center and transportation hub. The metroplex is home to D/FW International Airport, among the world's busiest; Alliance Airport, a purely industrial airport and one of the country's largest intermodal facilities; and American Airlines, the world's largest airline. Additionally, Southwest Airlines and Burlington Northern Sante Fe Corp. are headquartered in the metroplex.

Chart 1

### Austin Outpaced All Other Major Metros in Texas

Nonfarm employment: Index, January 1990 = 100



NOTE: Shaded areas indicate recessions.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

As a result, the trade and transportation sector (which includes wholesale and retail trade; air, rail and truck transportation; warehousing; and utilities) accounts for just over 20 percent of total employment in Dallas and almost 25 percent in Fort Worth. Compared with the state's overall industrial makeup, the D/FW metro area also has a relatively large share of employment in professional and business services (which includes accounting, legal, computer systems design, engineering and tech consulting), information technology employ-

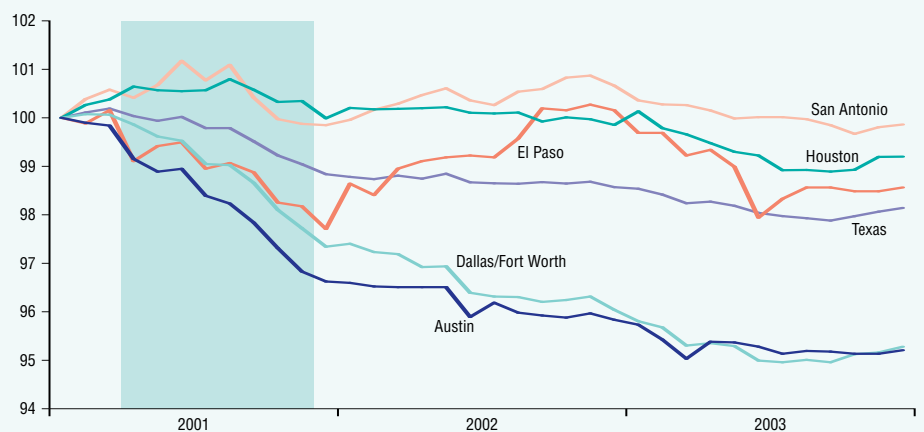
ment (mainly telecommunications) and financial activities.<sup>4</sup>

Although the first microchip was invented at Texas Instruments in the 1950s, it wasn't until the 1990s that Dallas/Fort Worth matured into one of the country's largest telecommunications centers. D/FW's historic ties to oil and defense electronics were a catalyst for high-tech growth. Metroplex firms such as Texas Instruments, Bell Helicopter and Lockheed attracted scientists and engineers as well as skilled electronics and telecom workers.

Chart 2

### Texas' Major Metros See Jobless Recovery

Nonfarm employment: Index, January 2001 = 100



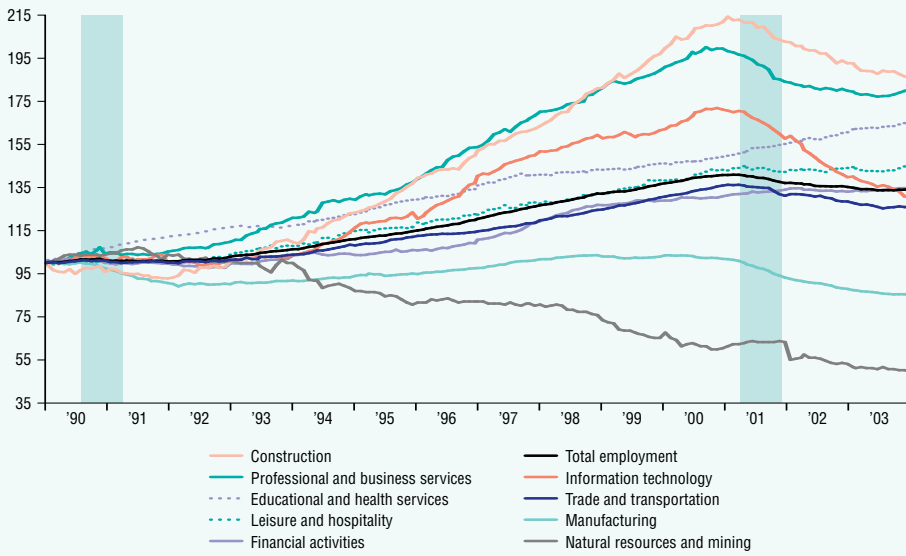
NOTE: Shaded area indicates recession.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Chart 3

### Dallas/Fort Worth: Most Sectors Grow Rapidly During the 1990s

Nonfarm employment: Index, January 1990 = 100



NOTE: Shaded areas indicate recessions.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Because high-tech companies tend to cluster to share suppliers and a skilled workforce, many of these firms picked the Telecom Corridor as the site for operations. Located in Richardson, Texas, the corridor houses operations of telecom giants such as Nortel Networks, MCI, SBC Communications, Fujitsu, Cingular Wireless, Cisco Systems and Samsung. At the peak of the high-tech boom, Dallas/Fort Worth accounted for about 45 percent of the state's information technology employment. Despite the worldwide telecom bust, that percentage still stands at 42 percent. However, IT accounts for only 3.5 percent of the metroplex's total employment.

**The 1990s.** During the 1990s, Dallas/Fort Worth was the state's second-fastest-growing major metro in terms of employment. Like first-place Austin, much of D/FW's job growth was tied to the global technology boom. Dallas/Fort Worth's low costs, central location with access to global distribution, and specialized labor force were a magnet to high-tech firms and workers from other parts of the country. In the 1990s, IT jobs increased at a 6.6 percent pace, with growth in the telecom industry spilling over into other sectors such as professional and business services and con-

struction (*Chart 3*). Construction employment increased by more than 11 percent per year, reflecting the dramatic increase in population in the '90s, and professional and business services employment

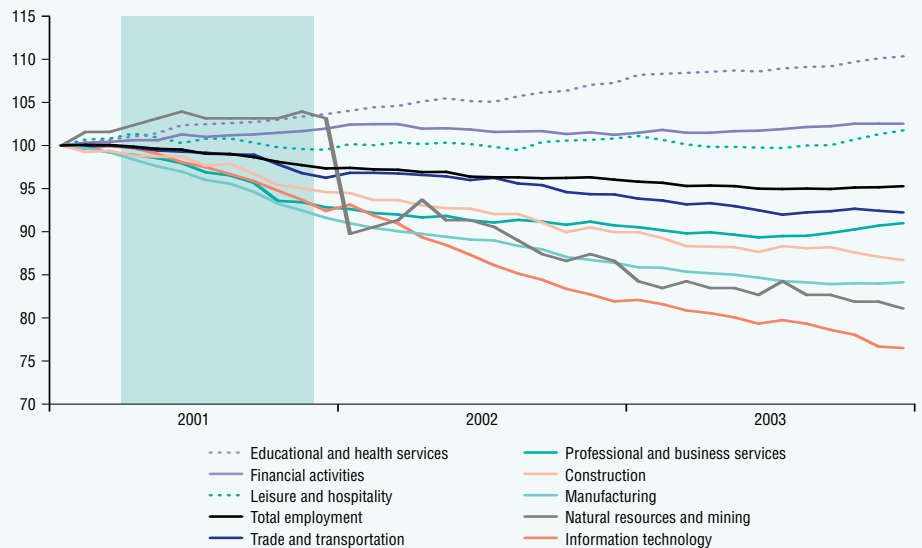
rose by 8.6 percent. Interestingly, D/FW natural resources and mining employment declined during the decade as Texas' oil and gas industry consolidated in Houston.

**Recession.** The bursting of the tech bubble, combined with fallout from the September 11, 2001, terrorist attacks, had dire consequences for Dallas/Fort Worth. Many of the 1990s job gains were tied to the telecommunications industry, which took the brunt of the worldwide tech fallout. In addition, the metroplex's high share of employment in the air transportation industry made it vulnerable to the post-9/11 drop in demand for air travel. Dallas/Fort Worth lost roughly 132,300 jobs between the end of 2000 and December 2003. About 29,500 of these jobs came from the IT sector, while 48,300 were eliminated from trade and transportation (*Chart 4*). Other sectors that had benefited from the high-tech boom also witnessed rapid employment declines during the downturn, including professional and business services and manufacturing. In fact, D/FW's manufacturing sector, which includes computer and telecom equipment makers, fell from about 16.6 percent of the metro's total employment to 11 percent between 1990 and 2003 (*Table 1*).

Chart 4

### Dallas/Fort Worth: Information Technology Has Steepest Job Loss After 2001

Nonfarm employment: Index, January 2001 = 100



NOTE: Shaded area indicates recession.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Table 1

D/FW Employment Share

	Percent	
	1990	2003
Trade and transportation	23.5	22.2
Manufacturing	16.6	11.0
Professional and business services	10.4	13.2
Educational and health services	8.8	10.3
Leisure and hospitality	8.5	9.3
Financial activities	7.9	8.0
Information technology	3.7	3.5
Construction	3.6	5.2
Natural resources and mining	1.1	.4
Other	15.9	16.9

**Recovery and Outlook.** Dallas/Fort Worth fell hard during the recession, and its recovery has been slower than most. Layoffs at IT firms continued throughout 2003, and the airlines have only recently begun to report increased traffic. Nevertheless, there are some signs of life in Dallas/Fort Worth’s employment picture. At the same time that Texas employment started moving in a positive direction, D/FW began to witness slight job gains as well. Since July 2003, D/FW has added 8,000 jobs. It appears that manufacturing and professional and business services employment have bottomed out, while jobs continue to be added at a robust pace in the educational and health services, financial activities, and leisure and hospitality sectors. Further, despite a glut of office and apartment space, construction firms are busy again, mostly due to demand for new homes.

Dallas/Fort Worth’s economy should pick up more strongly when the high-tech sector regains its footing. Currently, Beige Book contacts report increased orders for electronics and communications equipment and suggest another uptick in the second quarter. The strengths that served Dallas/Fort Worth in the rapidly growing 1990s should once again attract firms and labor to the area.

Houston

Attributes and Important Industries.

Houston is home to the second-busiest deepwater port in the United States; thus, the metro is a major player in inter-

national trade. Still, the metro’s most important ties are to oil and gas. Despite having a more diverse economy than before the 1980s oil bust, Houston remains the world’s energy capital. Oil producers, oil services and machinery companies, refineries and petrochemicals account for about half of all jobs, either directly or indirectly.<sup>5</sup>

Many of these oil- and gas-related jobs are found in industry categories other than natural resources and mining—which is mostly oil and gas extraction. As a result of this spillover, Houston has a higher than average share of jobs in manufacturing, construction, and professional and business services.<sup>6</sup> The port of Houston has built up the importance of the trade and transportation sector, accounting for just under 21 percent of the metro’s employment. Houston is also home to the Texas Medical Center—with more than 40 member institutions and 60,000 employees, one of the largest concentrations of medical facilities in the world. Educational and health services employment makes up about 11 percent of Houston’s total.

**The 1990s.** After a poor showing in the 1980s resulting from the oil bust, Houston’s economy performed quite well during the 1990s (*Chart 5*). Early in

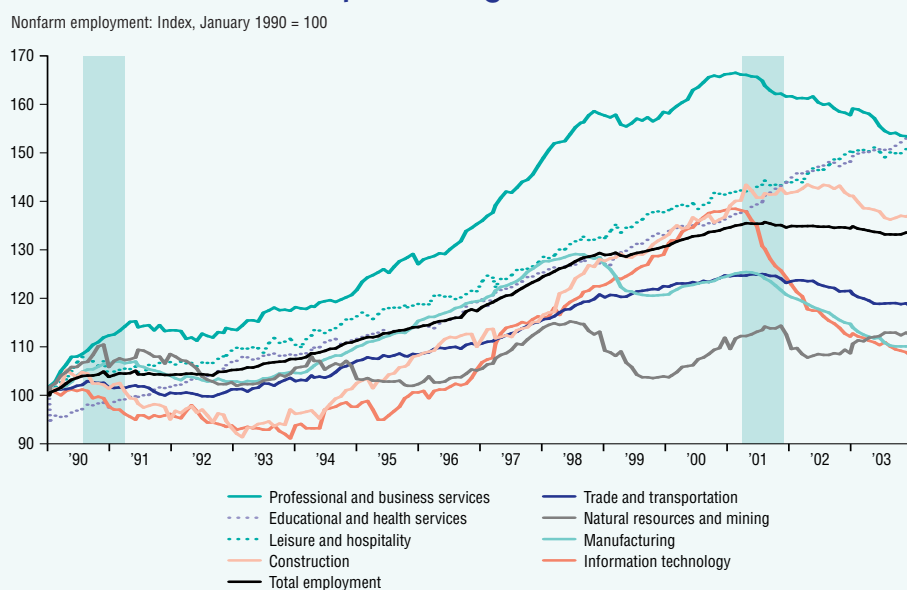
the ’90s, widespread restructuring and downsizing by some of Houston’s largest energy firms subdued overall job growth. Midway through the decade, however, a leaner and more productive energy industry helped boost Houston’s economy as energy firms rang up huge profits. The job growth spilled over into other industries, such as professional and business services, which recorded average employment growth of roughly 6 percent per year between 1996 and 2000. Moreover, the expansion of Houston’s large refining and petrochemical complex gave a boost to commercial construction, with employment in that sector also growing rapidly between 1996 and 2000.

Houston’s non-oil-related sectors of trade and transportation, educational and health services, and leisure and hospitality benefited from the robust national economy, with most major sectors recording moderate to strong employment growth. The IT sector, including a large presence by Compaq Computer (now Hewlett-Packard), expanded vigorously.

Houston’s energy industry suffered another blow in the last two years of the decade. A plunge in oil prices to \$11 per barrel, along with depressed natural gas prices, led to reduced drilling, layoffs and energy-firm consolidations. Houston

Chart 5

Houston: Most Sectors Expand During the 1990s



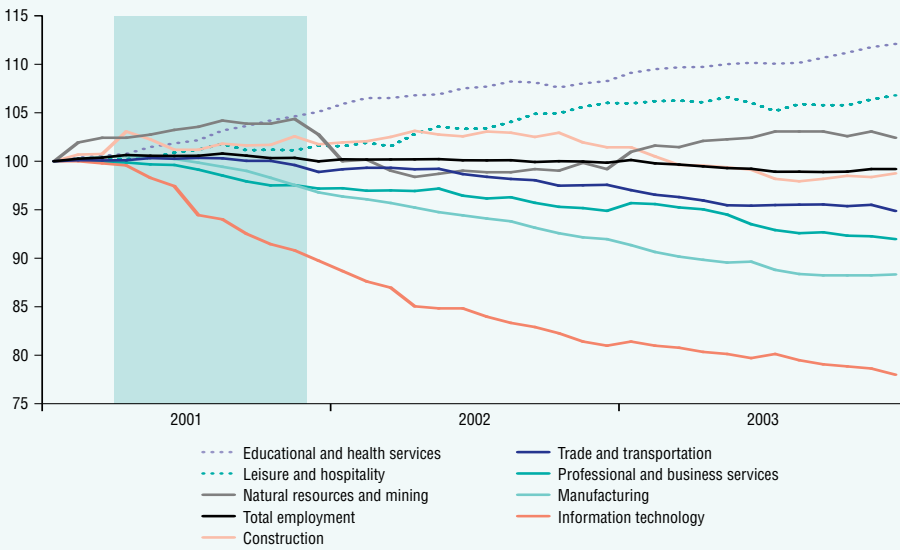
NOTE: Shaded areas indicate recessions.  
 SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.



Chart 6

### Houston: Employment Growth Is Flat During Recession

Nonfarm employment: Index, January 2001 = 100



NOTE: Shaded area indicates recession.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

absorbed the hit with minimal damage to overall employment growth; however, the brunt of the downturn in oil was felt in allied sectors. Luckily, the downturn was short-lived, and world oil markets rebounded by 2000.

**Recession.** Houston weathered the recession better than most of Texas' major metros. From December 2000 to December 2003, Houston employment edged down 0.6 percent per year, while Texas employment fell at a 1.8 percent rate. Because Houston's dependence on high tech was much less than Austin's or Dallas', the effects of the tech bust were less drastic. Growth in other industries helped support the Houston economy during the recession, including educational and health services, with 4.2 percent growth on average, and leisure and hospitality, with 2.3 percent growth (*Chart 6*). In addition, oil prices remained at relatively high levels, benefiting the metro's energy-related sectors.

Houston did not come through the recession unscathed, however. The Enron scandal and the company's eventual bankruptcy reduced energy employment in 2002, left a prominent downtown skyscraper vacant and damaged the city's morale. Moreover, a weak global economy and reduced demand for travel led to a loss of 48,200 jobs in the manufac-

turing and trade/transportation sectors. Finally, even though it plays a smaller role in Houston than other metros, IT employment declined by 10,200 jobs. Table 2 shows the declines in employment share for these sectors in Houston since 1990.

**Recovery and Outlook.** Recently Houston's economic prospects have brightened. Employment began picking up in October 2003 and has outpaced state employment growth since. Additionally, higher oil and natural gas prices, an elevated rig count and a

Table 2

#### Houston Employment Share

	Percent	
	1990	2003
Trade and transportation	23.0	20.9
Professional and business services	12.8	13.7
Manufacturing	11.0	8.9
Educational and health services	9.3	11.3
Leisure and hospitality	7.7	8.6
Construction	7.1	7.5
Natural resources and mining	3.8	3.0
Information technology	2.0	1.7
Other	23.3	24.4

strengthening global economy should spur Houston's employment growth in the coming year.<sup>7</sup>

### San Antonio

#### Attributes and Important Industries.

San Antonio is best known for its tourism industry. The Alamo, River Walk and SeaWorld Texas, along with numerous other attractions, make San Antonio the state's most popular tourist destination and explain the metro's large leisure/hospitality and trade/transportation sectors. Because of a large military presence, government is also a big part of San Antonio's economy, accounting for 18.7 percent of total employment despite downsizing and the closing of Kelly Air Force Base. Other military installations in San Antonio—including Fort Sam Houston, Lackland Air Force Base's 37th Training Wing, and Randolph and Brooks Air Force bases—are some of the metro's largest employers. In addition, the educational and health services industry is important to San Antonio's economy; the metro is home to the University of Texas Health Science Center and numerous other health care organizations, many of which serve South Texas.

**The 1990s.** During the 1990s, the traditional industries that support the San Antonio economy fared well. The leisure and hospitality sector added jobs at a 4.1 percent annual rate, while educational and health services employment rose at 5 percent. Trade and transportation, one of San Antonio's largest sectors, added jobs at a healthy 3.3 percent (*Chart 7*), partly because of increased trade with Mexico and a boost in retail sales by Mexican shoppers. The government sector rose more modestly (1 percent per year on average) due to the impending shutdown of Kelly Air Force Base, which eliminated 17,000 jobs from the mid-1990s through 2001.

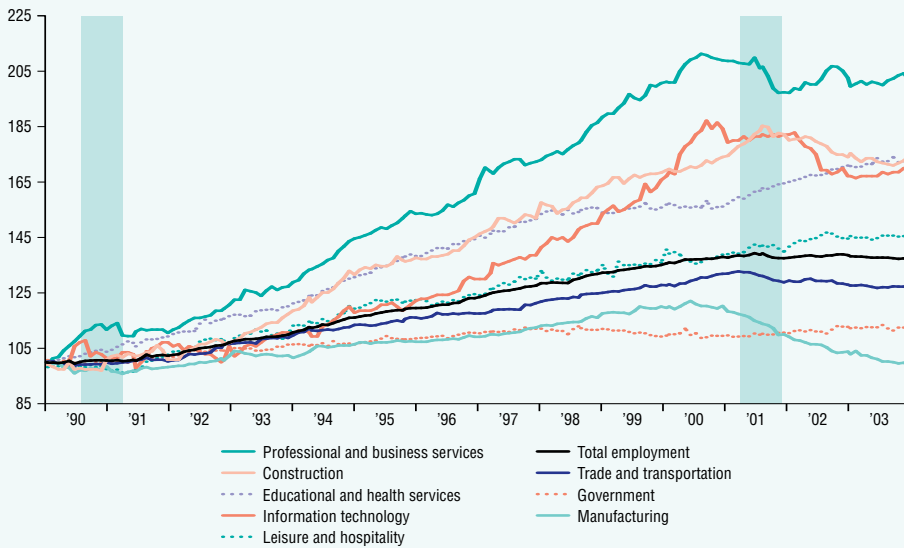
Growth in the traditional sectors of San Antonio's economy spilled over into other sectors, namely professional and business services and construction. While San Antonio also experienced strong growth in IT during the 1990s, the share of high-tech employment remained significantly lower than in Dallas/Fort Worth (*Table 3*).

**Recession.** Because of its traditional industry mix, San Antonio resisted major

Chart 7

### San Antonio: Most 1990 Job Growth Came from Smaller Sectors

Nonfarm employment: Index, January 1990 = 100



NOTE: Shaded areas indicate recessions.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Table 3

### San Antonio Employment Share

	Percent	
	1990	2003
Government	22.6	18.7
Trade and transportation	19.1	17.9
Educational and health services	11.1	13.4
Leisure and hospitality	10.3	11.1
Professional and business services	9.1	11.9
Manufacturing	8.3	6.1
Construction	4.2	5.6
Information technology	2.7	3.3
Other	12.6	12.0

healthy outlook, especially as the Texas and U.S. economies pick up steam.

### Austin

#### Attributes and Important Industries.

Austin is the state capital and home to the main campus of the University of Texas, the largest university in the country. Thus, Austin has a high proportion of government-sector jobs. Although manufacturing's importance has declined since the high-tech bust, Austin relied heavily on high-tech manufacturing for

employment losses during the recession, with job growth remaining flat from 2001 through December 2003 (Chart 8). The expansion of some of San Antonio's key sectors during the state's downturn mitigated job losses in other sectors. Between 2001 and 2003, educational and health services employment increased by about 3.7 percent per year, while leisure and hospitality jobs rose modestly despite the national slowdown brought on by 9/11. Still, rapid declines in manufacturing, military downsizing, and the contraction of trade and transportation suppressed overall employment growth.

**Recovery and Outlook.** Although San Antonio did not experience a major setback during the recession, as did other Texas major metros, its rebound has been mild as well (down 0.8 percent in 2003). Continued weakness in trade and transportation is a concern; yet improvements in this industry at the state level are encouraging. This sector should benefit from positive spillovers of a stronger Mexican economy through international trade and retail sales to Mexican shoppers. Fortunately, manufacturing does present a more promising future in San Antonio than in some other major metros, given the recent groundbreaking for Toyota's new \$800 million

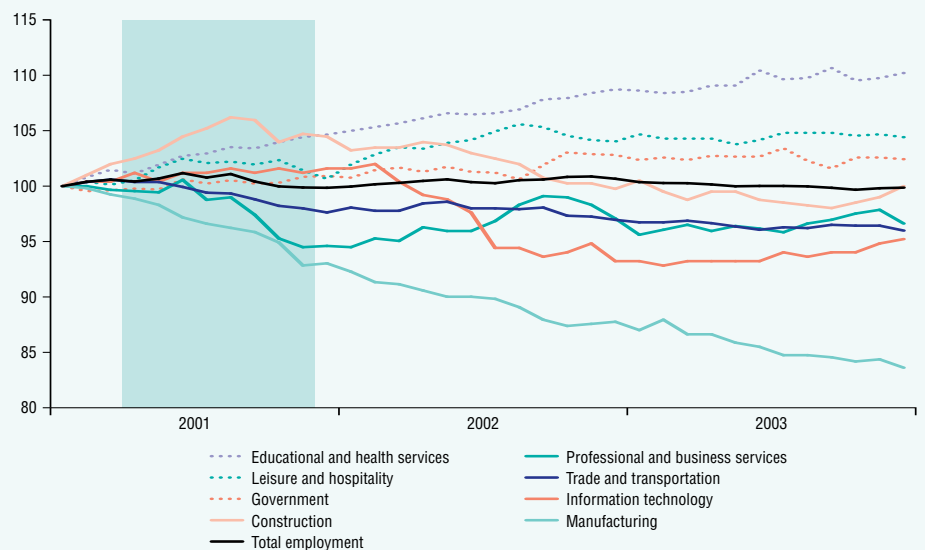
plant. Additionally, an increased focus on health care and biotech should maintain solid job growth in the educational and health services sector.

In general, current conditions in most of San Antonio's sectors suggest a

Chart 8

### San Antonio: Job Growth Is Stagnant During Recession and Recovery

Nonfarm employment: Index, January 2001 = 100



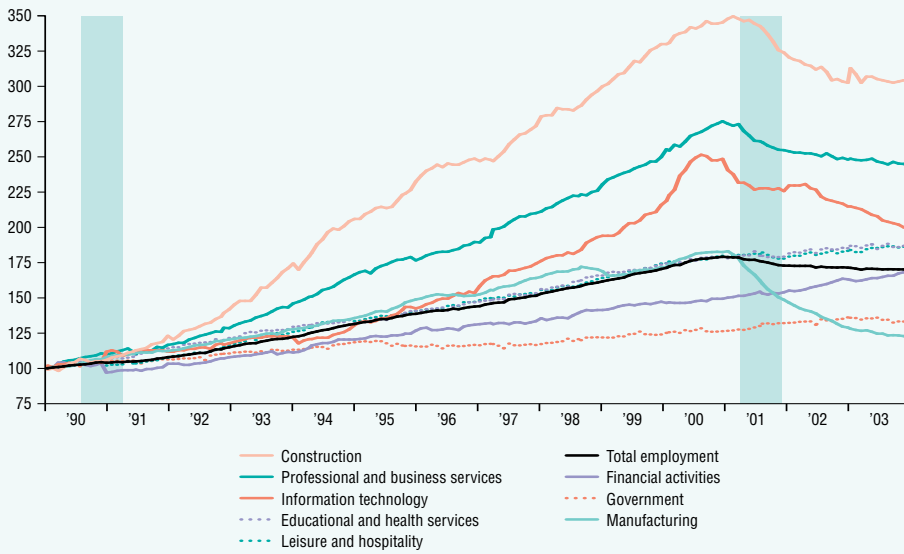
NOTE: Shaded area indicates recession.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Chart 9

### Austin: Job Growth Booms in Most Sectors During the 1990s

Nonfarm employment: Index, January 1990 = 100



NOTE: Shaded areas indicate recessions.  
 SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

its expansion during the '90s. Computer giant Dell and chip maker Advanced Micro Devices make Austin their home, along with major operations of tech manufacturing giants Motorola and IBM Corp. Austin claims roughly 30 percent of the state's high-tech jobs.

**The 1990s.** Austin was one of the country's fastest-growing metros during the 1990s, with job growth rising 7 percent per year (*Chart 9*). Austin attracted firms and workers alike with its natural amenities, relatively low costs of living compared with other high-tech areas, and ties to university-sponsored high-tech research. The Austin unemployment rate fell from about 5 percent in 1990 to less than 2 percent in December 2000; the rapidly increasing working-age population couldn't keep up with the tremendous labor demand fueled by the tech boom. Computer and parts, semiconductor and electronic components manufacturers made up a large portion of Austin's manufacturing sector, which added jobs at an average annual pace of 7.2 percent during the decade. IT employment increased by almost 14 percent a year in the 1990s. Professional and business services jobs, such as programming, systems design, software development and technical consulting, rose 14.9 per-

cent per year. The high-tech boom directly affected most other sectors of Austin's economy as well. For instance, construction jobs climbed by an astonishing 23 percent per year as companies expanded, high-tech manufacturers built

Table 4

### Austin Employment Share

	Percent	
	1990	2003
Government	28.5	22.3
Manufacturing	12.3	8.7
Professional and business services	9.6	13.0
Educational and health services	9.4	10.1
Leisure and hospitality	9.0	9.9
Financial activities	6.2	6.2
Construction	3.1	5.5
Information technology	2.6	3.1
Other	19.3	21.2

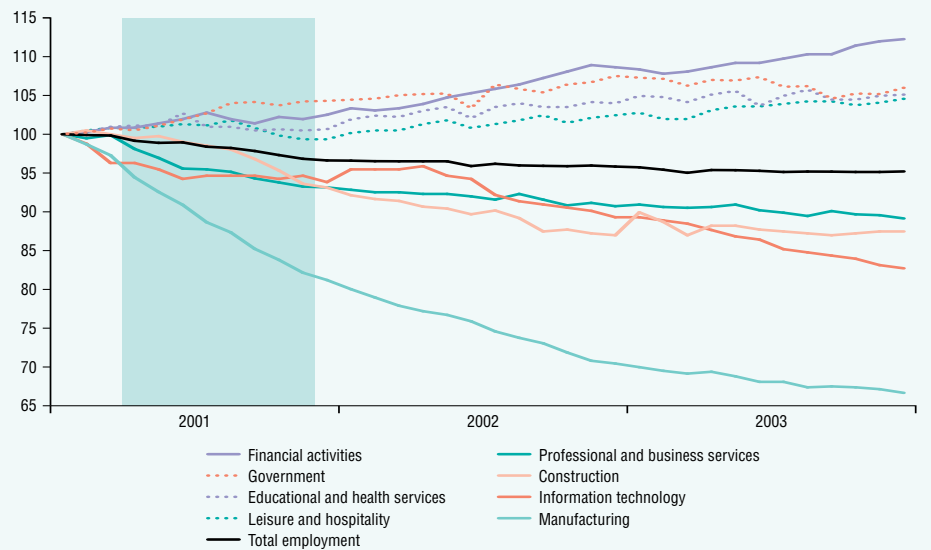
plants and record numbers of people moved to the metro.

**Recession.** The technology bust hit Austin hard (*Chart 10*). The manufacturing sector lost almost 28,000 jobs from the end of 2000 through December 2003, shrinking in importance from 12.3 percent of total employment to 8.7 percent of total employment to 8.7 percent (*Table 4*). Construction ground to a halt as migration to Austin ceased and firms began cutting employees. While telecommunication services played a lesser role in Austin's economy than in Dallas/Fort Worth's, Austin was the dot.com

Chart 10

### Austin: Tech Bust Stymies Employment Growth Since 2001

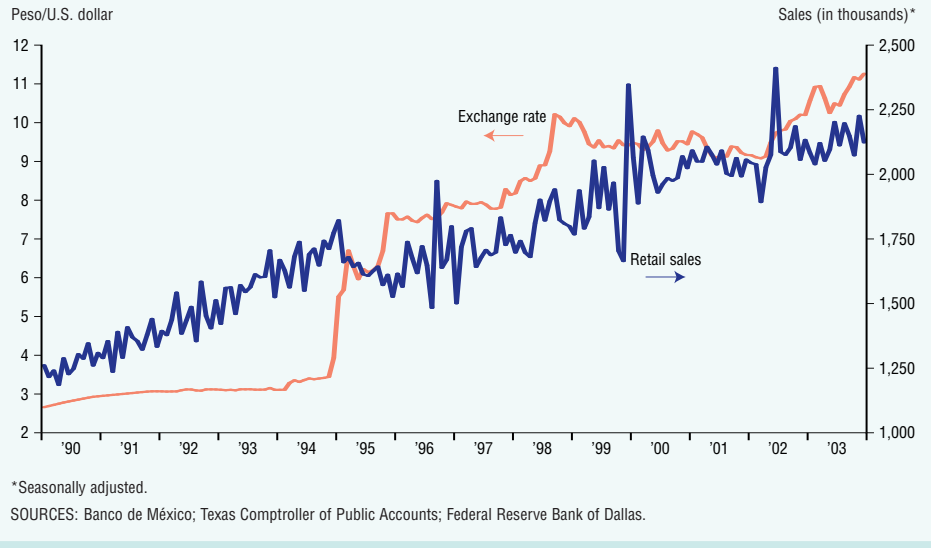
Nonfarm employment: Index, January 2001 = 100



NOTE: Shaded area indicates recession.  
 SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Chart 11

**El Paso Retail Sales Depend on Value of Peso**



*El Paso's poor economic performance since 1990 has largely been a product of its transition from producing goods to providing services.*

center of Texas, and layoffs still occurred in the IT sector (5,000) and professional and business services sector (10,900).

**Recovery and Outlook.** Several growing industries helped stem some of Austin's high-tech-related job losses during the recession, including educational and health services, leisure and hospitality, and government. In fact, along with the smaller sector of financial activities, these industries are currently leading the metro toward the beginnings of a recovery. While the recent uptick in Texas employment eluded Austin for most of 2003, the city's economy appears to have turned the corner at year's end. After dropping off in 2001 and 2002, construction jobs are rising again, as low interest rates boost demand for new housing. Further, it appears the tech sector is starting to stabilize, with job declines in professional and business services and manufacturing showing signs of bottoming out. Finally, reports of a rebound in worldwide semiconductor demand and rising computer orders bode well for Austin's technology firms. In fact, Advanced Micro Devices reported in February that it was leasing additional office space in Austin and planning to add more engineers this year, the company's first Austin expansion in two years.

**El Paso**

**Attributes and Important Industries.**

Location plays an important role in a city's economic structure and corresponding

business cycles. So it is with the border city of El Paso. El Paso's economy is affected by economic fluctuations in Mexico, which in turn are driven largely by industrial production in the United States. The growth of the maquiladora industry in neighboring Ciudad Juárez, as well as passage of the North American Free Trade Agreement, played a significant role in shaping El Paso's economy. Traditionally, El Paso's economic base has been highly dependent on a few industries, namely manufacturing and trade and transportation. More recently, El Paso's industry mix has diversified and is now more in line with the national and Texas economies.

**The 1990s.** In El Paso, the trade and transportation sector accounts for 21.7 percent of total employment. El Paso's retailers depend heavily on Mexican consumers who shop for better deals on the U.S. side. The link was apparent in 1995, when retail sales in El Paso took a sharp downturn as the Mexican peso crisis traversed the border (*Chart 11*). Because Mexican shoppers account for a sizable portion of El Paso's local retail sales,<sup>8</sup> the peso devaluation caused a retail sales slump. Partly because of this, the trade and transportation sector grew only modestly during the 1990s, at 1.7 percent per year (*Chart 12*).

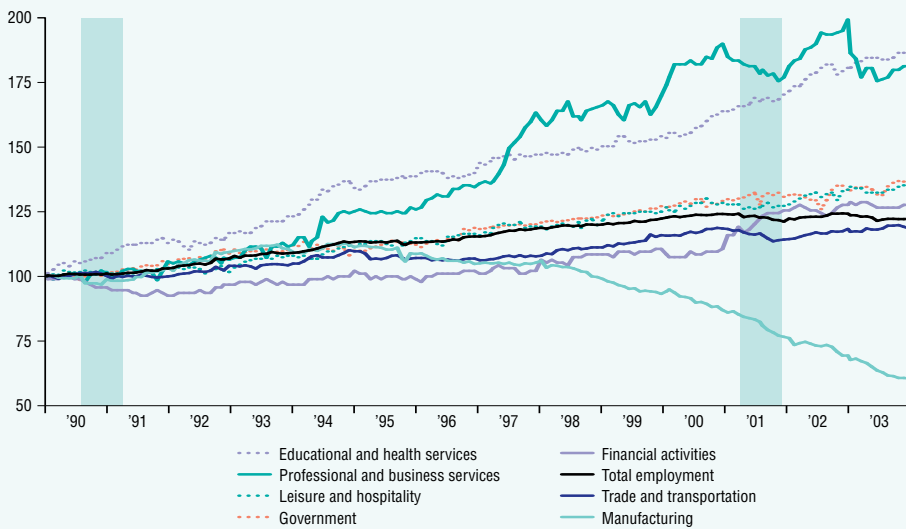
After NAFTA's implementation in 1994, the Mexican maquiladora industry flourished. This was particularly true in



Chart 12

### El Paso: Job Losses in Manufacturing Keep Employment Growth Slow

Nonfarm employment: Index, January 1990 = 100



NOTE: Shaded areas indicate recessions.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Ciudad Juárez, which leads all other Mexican cities in concentration of maquiladora employment. The impact on El Paso's economy was mixed. While growth in maquiladora employment in Ciudad Juárez boosted El Paso's service-sector employment (most notably professional and business services, educational and health services, and government), Mexico absorbed much of El Paso's manufacturing jobs—especially in apparel and textiles—as plants relocated a few miles south to take advantage of lower production costs. As a result, manufacturing employment fell at a 3.6 percent annual pace from 1994 through 2000. Overall, El Paso's employment grew 1.6 percent yearly—low compared with other Texas border cities—during the maquiladora boom from December 1994 through 2000.

**Recession.** When the national recession began in 2001, the maquiladora industry further distressed El Paso's economy (Chart 13). As Ciudad Juárez lost nearly 20 percent of its maquiladora jobs and 9/11 shut down the border for several days, El Paso started to feel the repercussions of the manufacturing-led recession. Trade and transportation in El Paso also bore the burden of decreased crossings from Mexico because of tightened security measures imposed after 9/11. Employment

growth in the sector has essentially remained flat. Aside from 9/11, the setback in this sector is largely a consequence of the maquiladora industry decline.

Although difficult, the recession moved El Paso toward a more service-oriented economy, and the metro's new economic mix should provide the basis

Table 5

### El Paso Employment Share

	Percent	
	1990	2003
Trade and transportation	22.4	21.7
Government	21.2	24.0
Manufacturing	19.2	9.9
Leisure and hospitality	8.6	9.5
Educational and health services	7.9	11.4
Professional and business services	6.8	9.9
Financial activities	4.3	4.7
Other	9.6	8.9

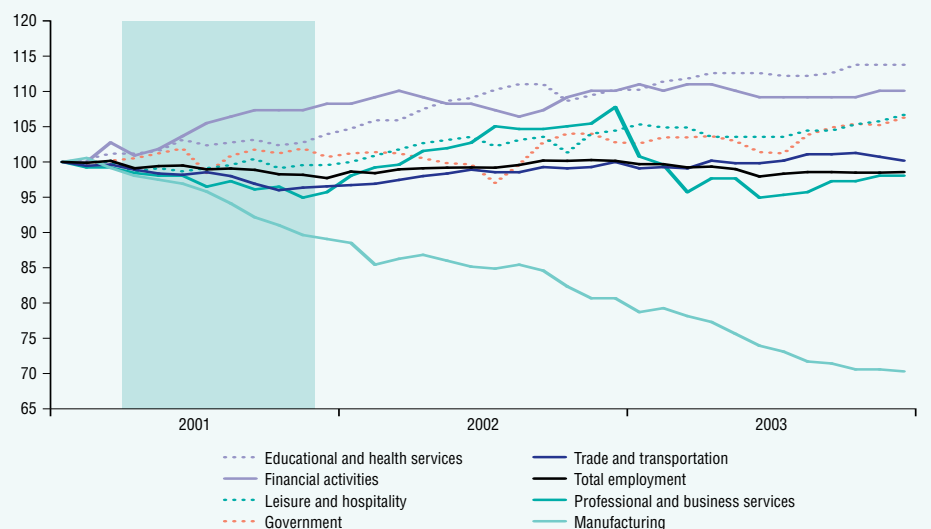
for recovery. Throughout the recession and weak recovery, government employment buoyed the local economy because of increased border enforcement after 9/11. Also helping minimize overall job losses was rapid job growth in educational and health services, leisure and hospitality, and financial activities.

**Recovery and Outlook.** While recovery has eluded El Paso's economy for the most part, current conditions should provide a much-needed boost in the coming year. El Paso's poor economic performance since 1990 has largely been a product of its transition from producing goods to providing services. Manufactur-

Chart 13

### El Paso: Employment Growth Is Weak Since 2001

Nonfarm employment: Index, January 2001 = 100



NOTE: Shaded area indicates recession.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

ing, which accounted for about 19.2 percent of El Paso's total employment in 1990, accounts for just half that today, near the state average of 9 percent (Table 5). In addition, the shift in manufacturing from a stand-alone industry to more of an intermediate goods supplier for the maquiladoras provides a more promising future for this sector.

Given the peso's strength against the dollar in recent years, economic support from Mexican consumers should continue. Moreover, recent economic improvements at the state and national levels have strengthened both the Mexican economy and the maquiladora industry, which in turn should provide a boost to neighboring El Paso. Although there are no safeguards against events such as 9/11, developments in more efficient border processing over time should increase border crossings.

El Paso's economy should benefit from its more diversified economic base and the strengthening of its surrounding economies. Most promising is a more skilled labor force as a result of a more service-oriented economy and greater access to higher education.

## Summary

Texas' five major metropolitan areas fared differently during the boom of the 1990s and the recession that began in 2001. Austin and Dallas/Fort Worth, the metros that benefited most from the national high-tech expansion, fell the hardest during the downturn. While San Antonio, Houston and El Paso, with lower concentrations of high-tech employment, did not grow as rapidly in the '90s, they performed better during the recession.

As the recovery takes hold, Texas should benefit as the national and global economies gain steam. Texas' economy is more closely tied to that of the United States than it once was, with oil and gas accounting for about 7 percent of the economy today, versus about 20 percent in 1981. Additionally, while the high-tech sector was important in Texas' recent boom and bust—at 3.1 percent of total state employment, slightly higher than the national average of 2.6 percent—it does not dominate the overall economy.

Although Texas' recovery so far has been mostly jobless, just like that of the nation, there are signs of a recent

strengthening that should spur employment growth in the coming year. The Eleventh District Beige Book notes an acceleration in economic activity in 2004, and the Texas Leading Index has been rising since mid-2003. Worldwide semiconductor and computer orders are up, and growth in Texas venture capital spending has once again moved into positive territory, which will benefit the region's high-tech sectors. The recovery of Mexico's economy is boosting retail sales along the border, and high oil and natural gas prices should lift employment growth in Texas' energy-related sectors.

While their different economic structures ensure that Texas' metros will continue to recover at varied paces, all will benefit from unique attributes that have served them well in the past. In addition, Texas has an attractive combination of low costs and favorable government policies that will continue to attract workers and firms to the state in the long run.

—D'Ann Petersen  
Priscilla Caputo

*Petersen is an associate economist and Caputo an economic analyst in the Research Department of the Federal Reserve Bank of Dallas.*

## Notes

The authors would like to thank Stephen P. A. Brown, Pia Orrenius and Richard Alm for helpful comments and suggestions.

- <sup>1</sup> All growth rates are average annualized rates unless otherwise noted.
- <sup>2</sup> The Beige Book is a survey of firms in each Federal Reserve District. For more information on the Beige Book or to obtain a copy, visit [www.dallasfed.org](http://www.dallasfed.org). For information on how well the Beige Book predicts economic activity, see Nathan Balke and D'Ann Petersen, "How Well Does the Beige Book Reflect Economic Activity? Evaluating Qualitative Information Quantitatively," *Journal of Money, Credit and Banking* 34, February 2002, pp. 114–36.
- <sup>3</sup> For more information about what makes Texas metros attractive to labor and firms, see Stephen P. A. Brown and Lori L. Taylor, "What Wages and Property Values Say About Texas Cities," Federal Reserve Bank of Dallas *Southwest Economy*, Issue 2, March/April 2003, pp. 1–4.
- <sup>4</sup> The North American Industry Classification System (NAICS) classifies major industrial sectors into 11 super sectors. These are natural resources and mining; construction; manufacturing; information; trade, transportation and utilities; financial activities; professional and business services; educational and health services; leisure and hospitality; other services; and government. In this article, the authors chose to refer to the trade, transportation and utilities sector as "trade and transportation" due to space considerations. The authors also refer to the information sector as "information technology" because most industries in this category are technology-related.

Some of the larger super sectors contain many industries. For example, the trade, transportation and utilities super sector includes all types of wholesale trade; retail trade; transportation by air, rail and

truck; warehousing; and utilities. The professional and business services super sector includes scientific and technology services, legal services, accounting, architect services, computer systems design, management of companies and temporary services, among others. For more information, see Bureau of the Census at [www.census.gov/epcd/www.naics.html](http://www.census.gov/epcd/www.naics.html) or Bureau of Labor Statistics at [www.bls.gov/bls/naics.html](http://www.bls.gov/bls/naics.html).

- <sup>5</sup> See Bill Gilmer, "The Simple Economics of the Texas Triangle," Federal Reserve Bank of Dallas *Houston Business*, January 2004.
- <sup>6</sup> Many other jobs besides those in the natural resources and mining sector are tied to the energy industry. For example, energy firm management is included in the professional and business services sector, as are engineers, scientists and oil field services. Petrochemical production, refining and energy equipment manufacturing show up in the manufacturing sector. Finally, petrochemical plant construction is included in the construction industry. In sum, energy jobs are dispersed throughout Houston's economy.
- <sup>7</sup> See Timothy K. Hopper, "Houston's Job Growth Will Strengthen in 2004," Federal Reserve Bank of Dallas *Houston Business*, March 2004.
- <sup>8</sup> See Jesus Cañas, Robert W. Gilmer and Keith Phillips, "Composite Index: A New Measure of El Paso's Economy," Federal Reserve Bank of Dallas *Business Frontier*, Issue 1, 2003.

# How Vulnerable Are Housing Prices?

(Continued from front page)

increasingly tapped housing wealth to fuel consumer spending in recent years, helping offset the drag from past stock market losses.<sup>1</sup>

This article reviews evidence on the possibility that housing prices could fall, first discussing key considerations about housing prices and then turning to the vulnerability of national, regional and metro housing prices. Throughout, housing prices are measured by indexes that control for quality changes by tracking prices from repeat home sales in different broad areas. Consequently, the article does not comment on home prices in particular neighborhoods, nor does it shed light on differences in home prices within various parts of the country (for example, upper-end versus middle-range or low-end priced homes).

Still, we can glean some information about how vulnerable housing prices are to declines nationally and in particular regions and cities. One key finding is that although there is little risk of a national bubble, prices in some areas are vulnerable if local economic conditions deteriorate.

## Key Considerations

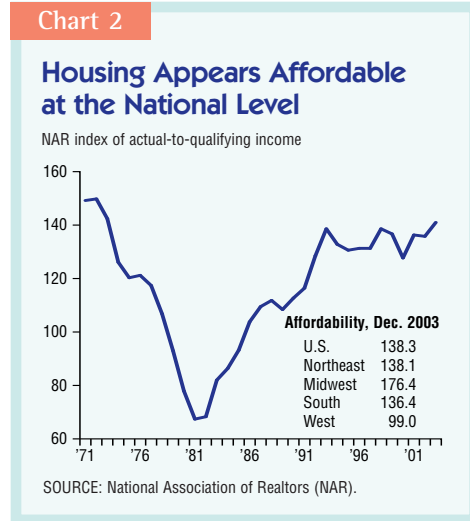
Several considerations are important in assessing whether housing prices are vulnerable to sizable declines. First, household income and other aspects of affordability matter, as do the relative returns on housing as an investment. Second, unlike stock prices—which tend to fall quickly when stock-price bubbles collapse—home prices are apt to rise more quickly than they fall. Slow home-price declines can occur because the high costs and hassles of moving cause families to delay selling their homes, particularly if they lack the liquidity to sell at a loss in a down market.<sup>2</sup> Third, rather than characterizing houses as over- or underpriced, it is more useful to gauge the susceptibility of housing prices to negative economic developments. Finally, because housing prices and economic growth can diverge across the United States, we need to distinguish between national and regional vulnerabilities to price declines.

## How Vulnerable Are National Prices?

In looking at U.S. housing prices, it is reassuring that the magnitude of the weakness during and following the 2001 recession was smaller than that of prior recessions in terms of unemployment and real disposable income growth. For example, the unemployment rate did not rise above that of the 1990–91 recession or its aftermath.

Based on the ratio of home prices to consumer prices, housing prices seem high (*Chart 1*). However, their vulnerability to negative economic developments appears low when assessing them relative to income and even lower when looking at housing affordability, which also reflects mortgage interest rates.

Indeed, housing is affordable across the United States, according to the National Association of Realtors' index. This index measures actual median income relative to the income needed to qualify to buy a median-priced home with 20 percent down at the average prevailing mortgage rate. For example, in December 2003 median income was 138.3 percent of that needed to qualify (*Chart 2*). Affordability is high in all regions except



the West. Together, the mild recession and high affordability imply little risk to overall U.S. home prices.

Nevertheless, risks do exist. First, mortgage interest rates could rise further from their June 2003 lows, cutting affordability. Fortunately, even if rates rose a full point (from 5.4 percent in June—and from 5.82 percent in December—to 6.4 percent), affordability would still be high. For example, using this higher mortgage rate and holding median home prices and median family income constant from December 2003, affordability would be 130.2, versus 141.6 in June 2003 and 138.3 in December 2003.

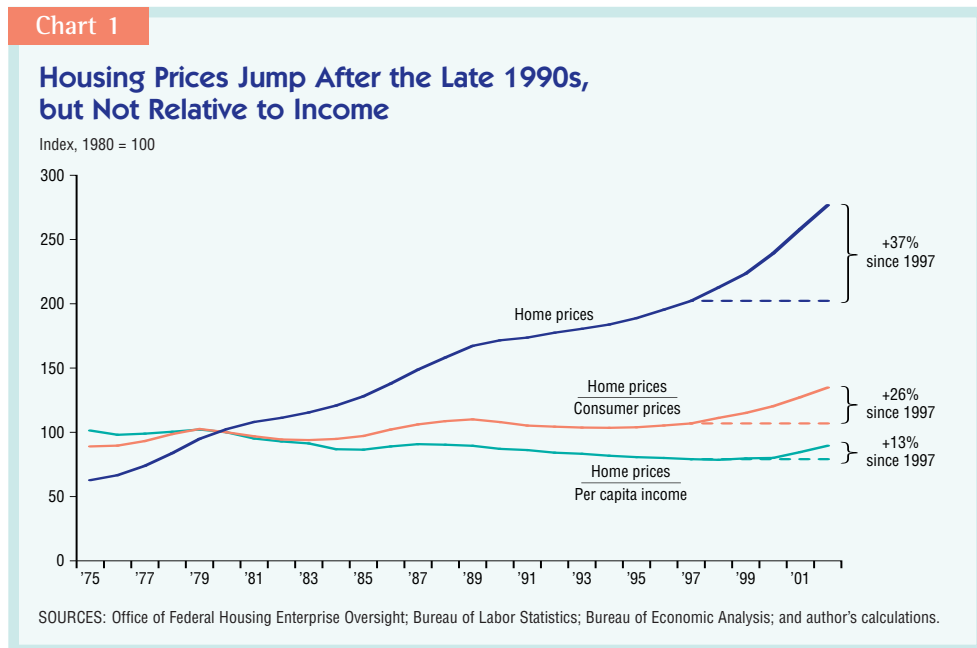


Chart 3

### Census Regions and Divisions of the United States



SOURCE: U.S. Department of Commerce Economics and Statistics Administration, Census Bureau.

*In the last several years, housing prices in the New England, Pacific and Middle Atlantic subregions have risen faster than the U.S. average, creating price gaps almost as wide as those of the late 1980s.*

A second risk is that much of the strength in real estate markets has occurred in the starter-home segment, which may not show much further growth. Particularly troubling is that many first-time buyers use FHA-insured loans, whose foreclosure rates have risen to high levels. This decline in loan quality may prompt some tightening of credit standards, which could slow the starter segment. Perhaps the largest risk is that national averages mask regional differences. In particular, home prices in the Northeast and the Pacific states seem high.

To some extent, the recent widening of the gaps between home prices in these regions and the nation reflected faster income growth in the Pacific states and Northeast since the mid-1990s. Consequently, home prices in these areas appear less vulnerable to decline after taking income into account.<sup>3</sup>

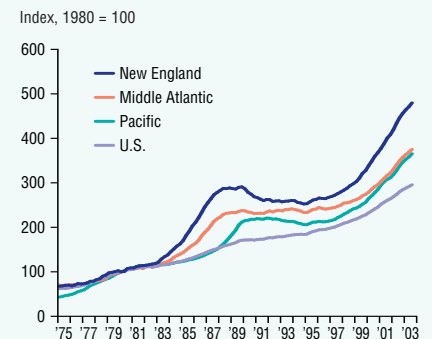
For this reason, this article assesses the vulnerability of regional home prices mainly using the ratio of home prices to

### How Vulnerable Are Regional Prices?

In the last several years, housing prices in the New England, Pacific and Middle Atlantic subregions have risen faster than the U.S. average, creating price gaps almost as wide as those of the late 1980s (*Charts 3 and 4*). Much of the gap may be sustainable if there has been a long-run increase in the demand to live near the ocean. In this regard, note how the price gaps only partially closed during the bicoastal housing bust of the early 1990s. Also, zoning restrictions and other factors limit the supply of new building lots in many Northeast and

Chart 4

### Is a Bicoastal Housing-Price Bubble Reemerging?



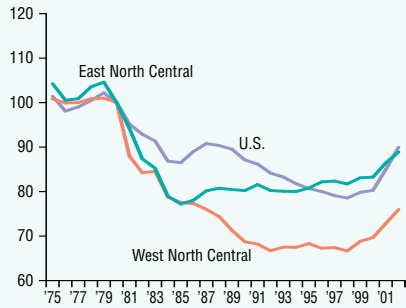
SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; and author's calculations.



Chart 5

### Housing Prices Lag Income in the Midwest

Constant quality home prices/income, 1980 = 100

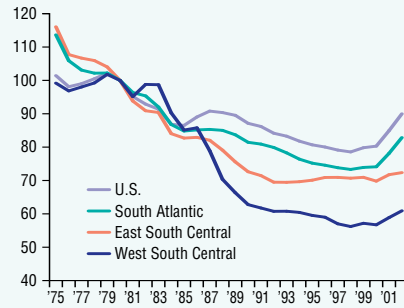


SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; and author's calculations.

Chart 6

### Housing Prices Lag Income in the South

Constant quality home prices/income, 1980 = 100



SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; and author's calculations.

personal income.<sup>4</sup> While the ratio varies by area, the similarity of mortgage rates across the United States means that housing affordability is lower in areas where the price-to-income ratio is above the U.S. average. Differences across the four major census regions and nine subregions are notable.

Over the past two decades, Midwest housing prices have generally lagged income, following the U.S. pattern (*Chart 5*). The price-to-income ratio in the East North Central subregion has generally followed that of the United States, while the ratio in the West North Central subregion has lagged the national average.

In the South, the home-price-to-income ratio in all three subregions has lagged the U.S. average (*Chart 6*). The ratio in the South Atlantic area has kept closer to the national average, perhaps reflecting a relative increase in demand for living near ocean beaches and migration down the eastern seaboard. Prices relative to income in the East South Central area have lagged the United States' more notably than they have in the South Atlantic. The ratio in the West South Central areas trails by even more; it fell the most relative to the national ratio during the oil bust of the late 1980s. Within the area (*Chart 7*), Dallas has closely tracked the regional ratio, with Houston slightly lagging. More volatile and tech-dependent Austin outperformed the subregion during the high-tech boom of the late 1990s.

Turning to the West, the housing-

price-to-income ratio in the Mountain subregion has kept pace with the United States (*Chart 8*), perhaps reflecting a larger supply of buildable land that prevents existing home prices from rising as much as in the Pacific states. By contrast, prices in the Pacific subregion have risen considerably faster than the national average, with the relative gap roughly as large as that in the high-priced years of the late 1980s.

Note how quickly the gap between Pacific and U.S. prices grew in the late 1980s and how slowly it closed in the first half of the 1990s. The sluggish down-

ward adjustment may reflect that people who bought at the top are slow to sell out at a loss.<sup>5</sup> For example, during the bicoastal housing-price bust of the early 1990s, home prices fell some in the Pacific states (and Northeast). However, most of the adjustment toward more normal ratios of prices to income arose mainly from income increases, as housing prices remained stagnant to slightly down in those regions. Homes in the Pacific area may appear overpriced, but much of the gap between Pacific and U.S. price-to-income ratios may be sustainable if there has been a long-run increase in the demand to live near the ocean. In this regard, note how the fall in the Pacific ratio during the early 1990s only partially eliminated the gap with the national average (*Chart 8*).

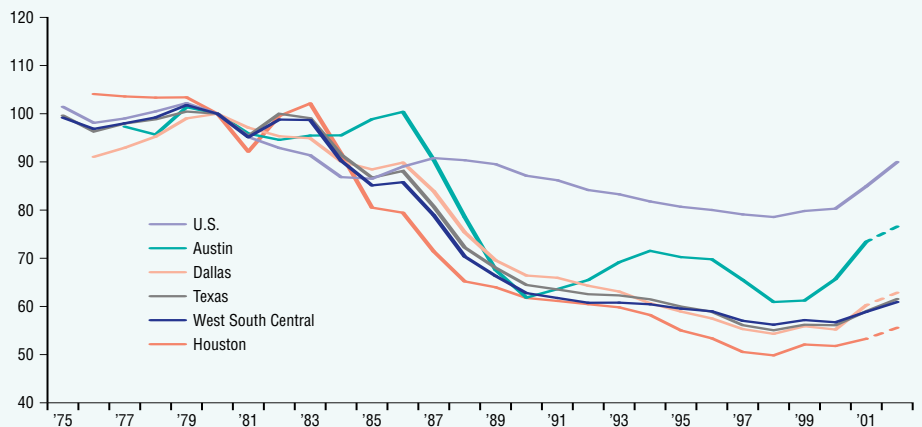
The pattern of a wider gap between Pacific and U.S. price ratios during the late 1980s followed by a narrowing gap during the early 1990s and a relative rise in the late 1990s also characterized the ratio of New England home prices to income (*Chart 9*). Middle Atlantic prices showed a similar—though more muted—pattern up through the mid-1990s but have not risen as much relative to the U.S. average as has the New England price-to-income ratio in recent years.

Even subregional averages can mask important trends. For example, the ratio in Massachusetts has risen relative to

Chart 7

### Housing Prices Lag Income in the Southwest

Constant quality home prices/income, 1980 = 100



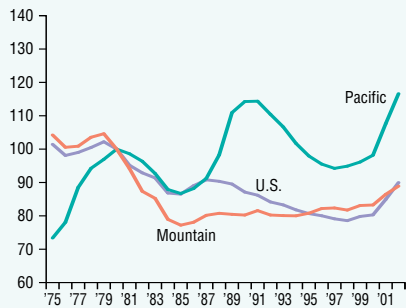
NOTE: Dashed sections of city ratios are based on estimated income data.

SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; and author's calculations.

Chart 8

### Housing Prices Rise Relative to Income in the Pacific Subregion

Constant quality home prices/income, 1980 = 100



SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; and author's calculations.

most of New England, while New York state's ratio has outstripped the average for the Middle Atlantic area, where more moderate increases in home-price-to-income ratios for Pennsylvania have held down the regionwide increases. Even within states, prices appear more vulnerable in certain cities, such as Boston and New York City.

Nevertheless, home prices may stay high relative to income and not decline until the labor market in an area begins to slow. For example, the ratio of home prices to income in the Northeast was high in the mid- to late 1980s (*Chart 9*); it fell back toward the national ratio only

after the region's unusually low unemployment rate began to rise in 1988. And in the Pacific subregion, the price-to-income ratio rose relative to the United States' in the late 1980s (*Chart 8*) and did not fall back until the regional unemployment rate rose above the national rate in the early 1990s.

In reviewing the magnitude of shocks across regions, it is noteworthy that unemployment rates have moved more closely in recent years and have been dominated by the national unemployment cycle (*Chart 10*). This is in contrast to the mid-1980s through mid-1990s, when a more bicoastal pattern was apparent. In particular, the Northeast's unemployment rate had plunged well below the U.S. average by 1988, only to subsequently rise above the national average. And in the West, unemployment, which had tracked the nation's through the late 1980s, rose above the U.S. average in the early 1990s because of a combination of high costs (which induced production and employment to locate elsewhere) and defense cutbacks.

### How Vulnerable Are Metro Housing Prices?

The more national cycle in unemployment poses less risk to home prices in the Pacific and Northeast areas than did the experience of the early 1990s. However, the situation warrants monitoring, because job growth across major

cities has recently been weaker in high-cost, high-tech and manufacturing-oriented cities. Indeed, high-cost cities such as Boston, New York and San Francisco (*Chart 11*) have seen large percentage declines in payrolls over the past three years. Job losses have also been high in the manufacturing-oriented cities of the Midwest and in high-tech cities other than the San Francisco Bay area and Boston, such as Dallas and Denver.

Other cities have fared better, notably low-cost cities without high exposure to the high-tech sector, such as Atlanta and Phoenix. In addition, some high-cost cities, such as Washington, D.C., and San Diego, have experienced above-average job growth in the past three years. Nevertheless, both benefited from home prices not being as high in the 1990s as other high-cost cities within their respective regions (for example, New York and San Francisco).

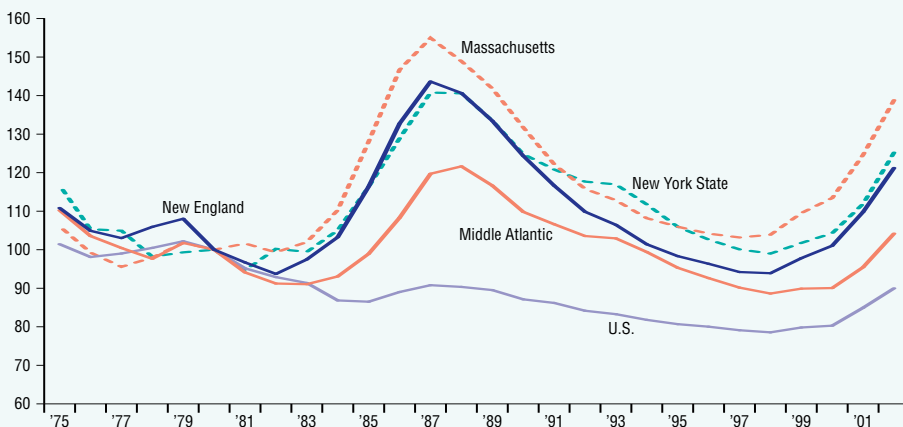
Another cause for concern about San Francisco, Boston and New York is that housing affordability is very low in all three cities. Affordability readings below 100 indicate that families earning the median income in these cities cannot qualify for a standard mortgage on a median-priced home (*Chart 12*).<sup>6</sup> Still, evidence suggests that high-cost areas can thrive if they can attract highly skilled people and adapt to changing economic conditions.<sup>7</sup> While Dallas has taken a disproportionate share of job losses and seen its unemployment rate rise above the national average, its home prices are not that out of line with income. This low vulnerability has limited the risks to Dallas home prices posed by higher unemployment.

Another concern for high-cost areas is that income tax receipts have fallen disproportionately more in high-tech or high-cost states, owing to greater job losses and the greater impact of stock prices on taxable income in these areas.<sup>8</sup> The nine states that suffered the largest percentage declines in income tax receipts between 2001 and 2002 (adjusted for tax law changes) were all either in the high-cost areas of the Northeast or California or had an above-average presence of high-tech industries. The budget restraint imposed by state revenue declines will further slow near-term growth in these areas.

Chart 9

### Housing Prices Rise Relative to Income in the Northeast

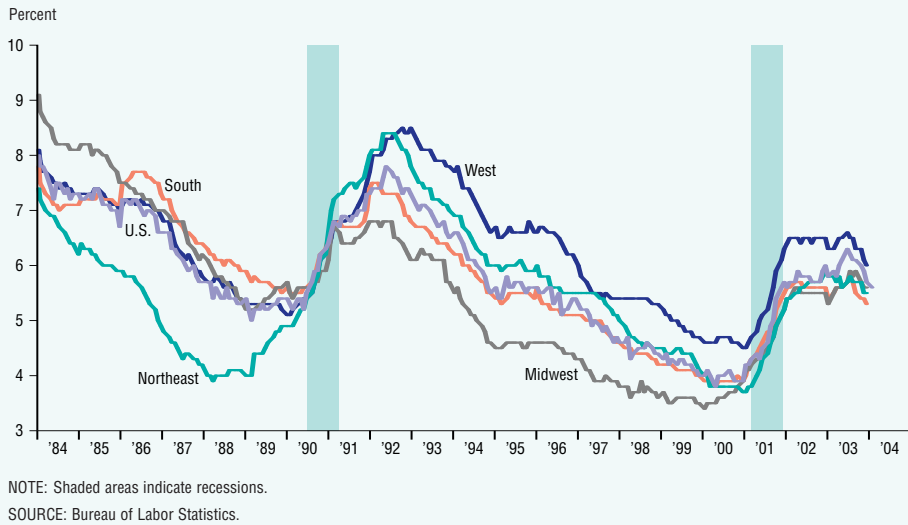
Constant quality home prices/income, 1980 = 100



SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; and author's calculations.

Chart 10

### Unemployment Movements Around the 2001 Recession Are More National, Less Regional



*Overall, there is little risk of a national housing-price bubble. But in some cities in the Northeast and Pacific states, prices are vulnerable if the local economies weaken appreciably.*

### Conclusion

Overall, there is little risk of a national housing-price bubble. But in some cities in the Northeast and Pacific states, prices are vulnerable *if* the local economies weaken appreciably. Fortunately, the national unemployment rate is lower and increases in regional unemployment have been less bicoastal than in the early 1990s, when a recession depressed housing prices in both the Northeast and California. Still, the situa-

tion bears watching, particularly because high-cost and high-tech areas have experienced relatively weaker job growth than the nation in the past few years, and states in those areas have seen the biggest declines in state income tax receipts.

Given the economic importance of the Pacific and Northeast regions, there is some risk to how quickly the U.S. economy will recover should a downturn emerge in those areas. But even in

Chart 11

### Jobs Are Weakest in High-Cost, High-Tech and Manufacturing-Oriented Cities

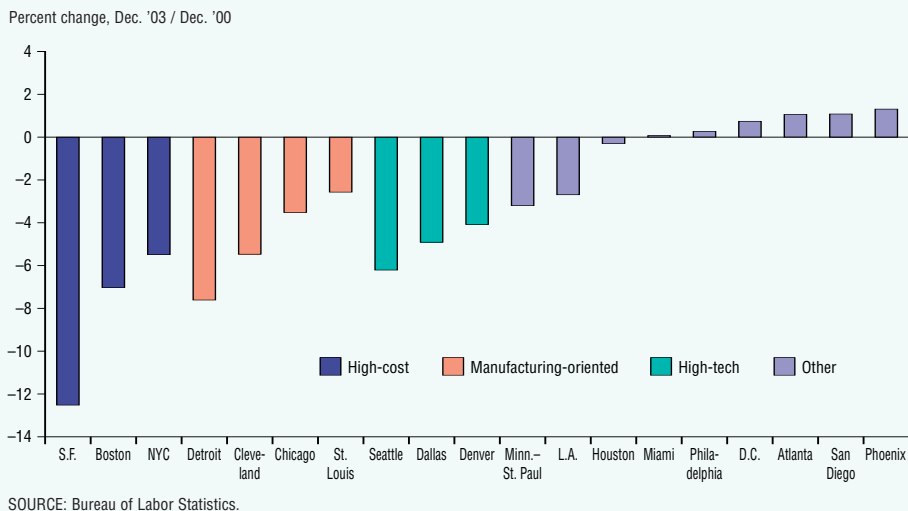
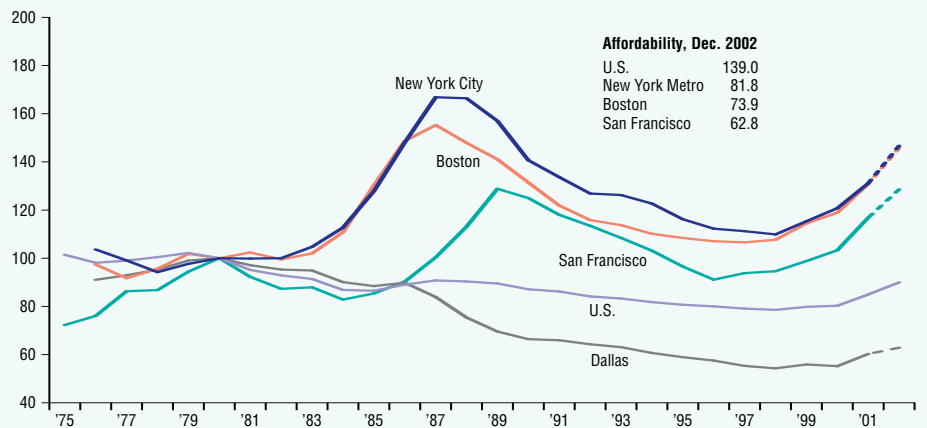


Chart 12

### Housing Prices Rise Relative to Income in Boston, New York City and San Francisco

Constant quality home prices/income, 1980 = 100



NOTE: Dashed sections of city ratios are based on estimated income data.

SOURCES: Office of Federal Housing Enterprise Oversight; Bureau of Economic Analysis; National Association of Realtors; and author's calculations.

*Looking ahead, housing will probably provide less of a boost to overall economic growth than in the 1990s. Fortunately, if this occurs, other factors will probably step up to boost economic growth.*

that unlikely event, it is reassuring that home construction has been strongest in the South and Midwest, where housing prices have not risen out of line with income.

Looking ahead, housing will probably provide less of a boost to overall economic growth than in the 1990s, particularly because housing construction is likely to moderate and home equity withdrawals will probably slow or level off, thereby contributing less to consumption growth. Fortunately, if this occurs, other factors will probably step up to boost economic growth.

—John V. Duca

*Duca is a vice president and senior economist in the Research Department of the Federal Reserve Bank of Dallas.*

### Notes

The author would like to thank Mark Guzman, Evan Koenig and Tom Siems for comments and suggestions.

<sup>1</sup> See "Monetary Policy Report to the Congress," Board of Governors of the Federal Reserve System, July 2003; Glenn Canner, Karen Dynan and Wayne Passmore, "Mortgage Refinancing in 2001 and Early 2002," *Federal Reserve Bulletin* 88, December 2002, pp. 469–81; and John V. Duca, "How Vulnerable Is the Recovery to a Fall in Housing Prices?" "In Depth," Federal Reserve Bank of Dallas, October 2003, [www.dallasfed.org/research/indepth/2003/id0310.pdf](http://www.dallasfed.org/research/indepth/2003/id0310.pdf).

<sup>2</sup> See Olivier Blanchard and Lawrence Katz, "Regional Evolutions," *Brookings Papers on Economic Activity* 1992, no. 1, pp. 1–75; and David Genesove and Chris Mayer, "Loss Aversion and Seller Behavior: Evidence from the Housing Market," *Quarterly Journal of Economics* 116, November 2001, pp. 1233–60.

<sup>3</sup> One qualification is that if living costs rise enough in an area, the costs of conducting business there could rise, spurring companies and workers to relocate to less expensive areas. In that event, home prices might matter in addition to the home-price-to-income ratios.

<sup>4</sup> See "How Vulnerable Is the Recovery to a Fall in Housing Prices?" about reasons for using home-price-to-income ratios. Note that total personal income, rather than disposable (after-tax) income, is used throughout because more recent data on after-tax income estimates for regions and cities are not yet available.

<sup>5</sup> See Karl E. Case and Robert J. Shiller, "Is There a Bubble in the Housing Market?" *Brookings Papers on Economic Activity* 2003, no. 2, pp. 299–342.

<sup>6</sup> The December 2002 data shown were previously published in an article and were based on income data that were subsequently revised. Revisions are unlikely to affect the qualitative interpretation in the text.

<sup>7</sup> For example, see Edward L. Glaeser and Albert Saiz, "The Rise of the Skilled City," NBER Working Paper no. 10191, December 2003, National Bureau of Economic Research, Cambridge, Mass. Also see Edward L. Glaeser, "Reinventing Boston: 1640–2003," NBER Working Paper no. 10166, December 2003.

<sup>8</sup> See Nicholas W. Jenny, "The Personal Income Tax: Once a Strong Source of State Revenue Growth Is Now a Source of Budget Problems," *The Rockefeller Institute State Fiscal News*, April 2003, [www.rockinst.org/publications/fiscal\\_studies/SFN%203-3.pdf](http://www.rockinst.org/publications/fiscal_studies/SFN%203-3.pdf).



## Is Japan's Long Nightmare Finally Over?

**A**fter a decade of stagnation, the Japanese economy has finally commenced marked growth. In the fourth quarter of 2003, Japan delivered an astonishing 6.4 percent real annualized GDP growth, the fourth expansionary quarter in a row. The unemployment rate has dropped to 5 percent, and heavily battered private consumption is warming up. Reflecting overflowing optimism, particularly among large manufacturing corporations, the Nikkei index has surged more than 40 percent since bottoming out in April 2003.

The superficial explanation for this recovery is that fixed investment and exports have turned the economy around (*Chart 1*). The underlying reasons are somewhat more complex.

### Factors Contributing to the Recovery

The Japanese government's monetary and fiscal policies appear not to have been the chief contributors to this economic jump start. Although the Bank

of Japan has been pursuing expansionary monetary policy to stimulate the economy, financial intermediaries have not responded with substantial increases in loans. Nervousness among these inter-

mediaries has held the nation's money multiplier at extremely low levels for years (*Chart 2*).

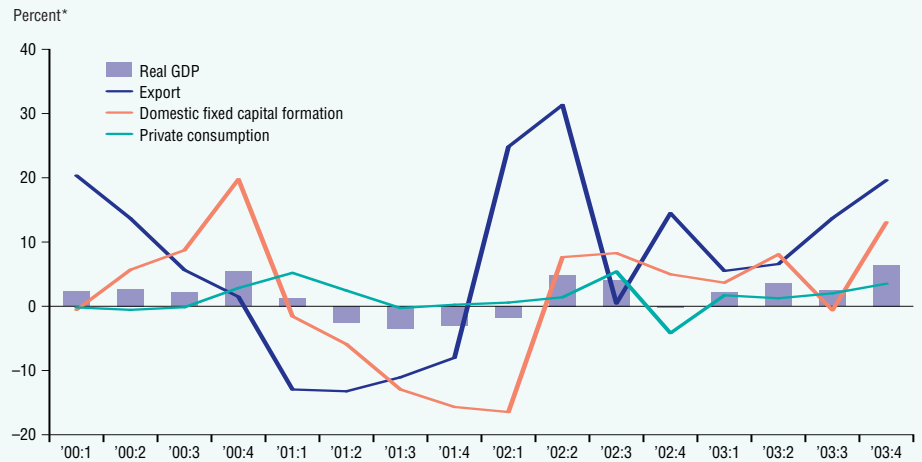
On the fiscal side, Japan's government is no longer drawing up grand spending packages. A record-high government debt-to-GDP ratio of more than 130 percent in 2003—and not much to show for it—has turned policymakers into fiscal conservatives.

Instead of government pump priming, the key to recovery has been the enhanced flexibility of the real economy. What is most encouraging is that after Japan's long period of stagnation, the labor market has finally become more flexible. As an example, the ratio of temporary to regular employees reached a record high of 26 percent in 2003 as the share of workers in lifetime jobs declined (*Chart 3*). Corporate profitability has also picked up as companies allocate resources more efficiently (*Chart 4*).

In spite of the Japanese yen's recent appreciation against the U.S. dollar and the Chinese yuan (which is pegged to the dollar), heavy exports have bolstered Japanese growth (*Chart 5*). Here, the

Chart 1

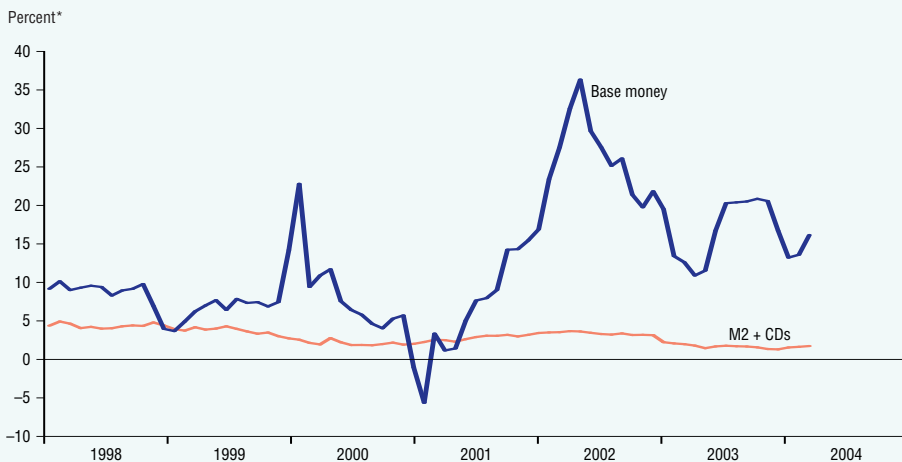
### Japanese Recovery Is Propelled Mainly by Investment and Exports



\* Quarter-over-quarter, annualized.  
SOURCE: Japanese Cabinet Office.

Chart 2

### Japanese Monetary Expansion Has Only Limited Effect



\* Year-over-year.  
SOURCE: Bank of Japan.

brightest spot is China. Data on Japan–China trade are somewhat confusing because Japan and China use different methods to calculate trade that flows through Hong Kong but is destined for each other. According to the Japanese Ministry of Finance, Japanese exports to China alone increased 24 percent year over year in 2003. Using Chinese customs statistics, the increase was even greater, at 39 percent.

The evolving business environment over the past decade has also forced Japanese companies to become more global through overseas investment. Again China stands out. Even though Japanese companies have only recently started making sizable investments in their neighbor to the west, Japan was China's third largest foreign investor for 2003.

Domestic labor market flexibility, coupled with globalization, has enabled Japanese companies to ride the wave of the positive technological shock in digital electronics, where these companies' comparative advantage lies.

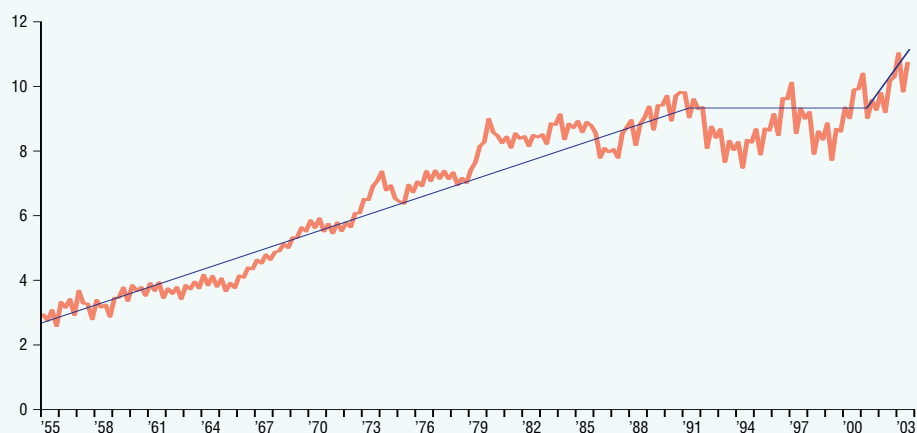
### Deflation Remains an Obstacle

Although the real sector has bounced back and the deflationary pressure has abated, the perilous fight against deflation is not over yet. The latest Consumer Price Index inflation numbers were either above or very close to zero, but most other inflation measures remain negative. For example, the fourth quarter 2003 GDP deflator was down 2.7 percent compared with a year earlier.

Chart 4

### Company Efficiency Is Up Again After a Long Stall

Quarterly sales per employee in manufacturing (millions of yen)\*



\* Sales are adjusted with GDP deflator.  
SOURCE: Japanese Ministry of Finance.

The major concern is that the financial sector cannot function properly until deflation worries disappear. The Bank of Japan and the Japanese Ministry of Finance are determined to continue injecting money into the system to deal deflation a final blow. To achieve this, they have picked the foreign exchange market as the major channel, resulting in a fast buildup of foreign reserves. The foreign exchange market intervention also serves to maintain Japan's export competitiveness, which is still a crucial part of any sustainable recovery. In February 2004, Japanese foreign reserves

reached \$777 billion, up \$36 billion from the prior month.

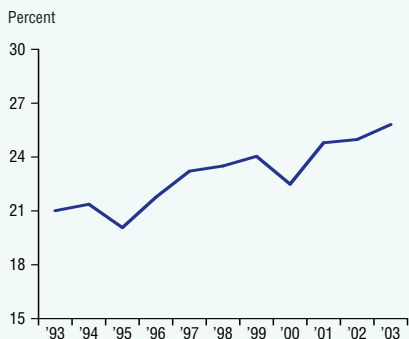
### Conclusion

The Japanese economy's recent performance and, more important, the reasons behind it are giving the strongest signal in a decade of a solid rebound. Domestic flexibility, globalization and, particularly, the China factor all point to a sustainable economic recovery. The long nightmare may indeed be over.

—Jahyeong Koo  
Dong Fu

Chart 3

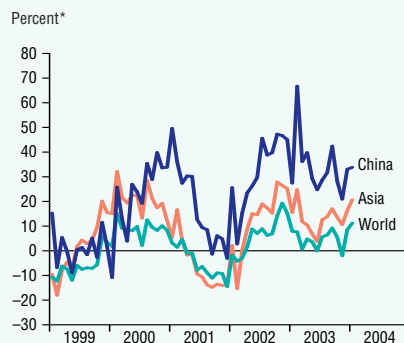
### Ratio of Temporary to Regular Employees Is Up\*



\* Temporary employees are those who work less than 35 hours a week.  
SOURCE: Japanese Ministry of Health, Labor and Welfare.

Chart 5

### Japanese Export Growth to China Tops All Others



\* Year-over-year.  
SOURCE: Japanese Ministry of Finance.

Koo is an economist and Fu is an assistant economist in the Research Department of the Federal Reserve Bank of Dallas.

# Regional Update

Texas employment edged up in January 2004. Total employment gained 3,400 jobs, while private employment increased by 1,900. The government and educational and health services sectors continued to add jobs in January, just as they did throughout most of 2003. Construction employment improved for the third consecutive month, indicating a positive trend. Information employment also turned up slightly in January. While a one-month increase in this sector's job growth does not necessarily signal a trend, it certainly is a positive change after 34 months of job losses.

Not all sectors experienced job growth during the month. Job losses continued in manufacturing for the 38th straight month. While natural resources and mining employment fell in January 2004, there is some hope for improvement. High

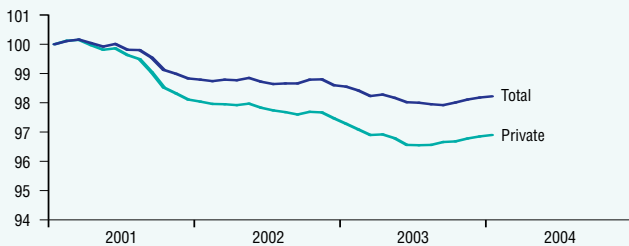
energy prices have boosted drilling activity in Texas, suggesting that additional jobs are coming in the months ahead.

Consistent with the overall improvement in employment, the Texas unemployment rate dropped to 6.3 percent in January, the lowest in 17 months. However, new monthly unemployment claims rose in January for the third straight month. Average weekly hours worked were down over the same period. While these two indicators contributed negatively to the Texas Leading Index, the overall change in the index was positive. As a whole, the Texas Leading Index registered a net growth of 1.18 percent during the months of November through January, signaling continuing growth in Texas.

—Anna L. Berman

## Texas Employment

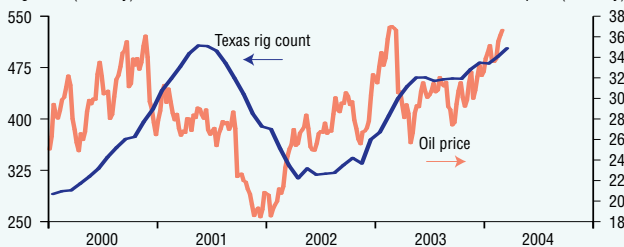
Index, January 2001 = 100



## Energy Prices and Texas Rig Count

Rig count (monthly)\*

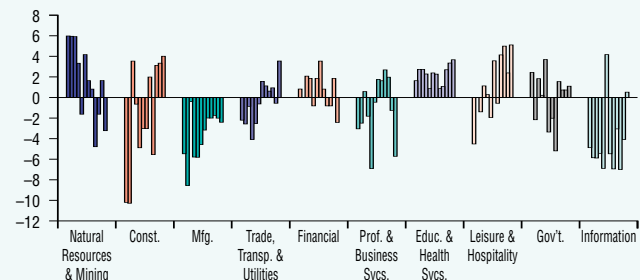
Nominal price (\$ weekly)



\*Seasonally adjusted.

## Texas Industry Employment

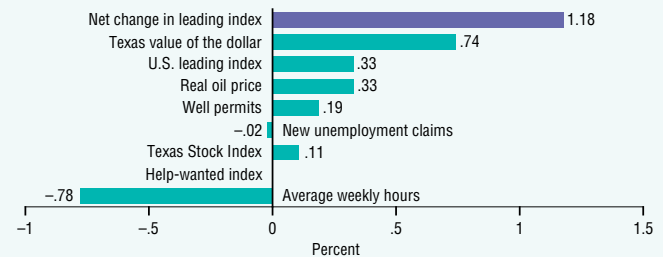
Percent\*



\*Month-over-month, seasonally adjusted, annualized rate, through January 2004.

## Net Contributions of Components to Change in Leading Index

November 2003–January 2004



\*Help-wanted index was not available for January 2004 and was not included in the calculation.

## Regional Economic Indicators

### TEXAS EMPLOYMENT\*

	Texas Leading Index		Private service-producing					TOTAL NONFARM EMPLOYMENT*		
	TIPI† total		Mining	Construction	Manufacturing	Government	Texas	Louisiana	New Mexico	
1/04	117.5	127.2	144.5	550.1	885.7	1,646.5	6,144.1	9,372.7	1,910.4	780.6
12/03	117.9	127.3	144.8	548.3	887.5	1,645.0	6,141.8	9,369.3	1,900.7	782.4
11/03	117.0	127.1	144.7	546.8	889.0	1,644.0	6,135.6	9,361.9	1,904.7	779.8
10/03	116.1	127.8	145.0	545.4	890.3	1,643.0	6,127.6	9,353.0	1,905.9	778.1
9/03	114.7	127.8	145.4	548.0	891.8	1,640.9	6,116.4	9,344.4	1,900.0	776.3
8/03	114.4	127.4	145.3	547.1	893.3	1,648.2	6,113.2	9,349.0	1,894.7	776.7
7/03	114.7	127.5	145.1	548.5	895.7	1,651.0	6,111.0	9,353.2	1,894.3	775.7
6/03	113.8	127.2	144.4	549.9	899.2	1,655.7	6,108.2	9,359.5	1,903.7	773.2
5/03	114.1	127.6	144.6	552.2	903.7	1,650.7	6,120.2	9,373.5	1,905.5	773.2
4/03	112.7	127.5	144.3	552.5	908.2	1,650.4	6,124.3	9,381.7	1,904.2	772.7
3/03	111.9	127.1	143.5	550.9	908.5	1,647.9	6,125.6	9,378.5	1,905.0	771.8
2/03	112.3	126.8	142.9	555.9	915.3	1,650.9	6,128.6	9,395.6	1,908.6	772.3

\* In thousands. † Texas Industrial Production Index.

For more information on employment data, see "Reassessing Texas Employment Growth" (*Southwest Economy*, July/August 1993). For TIPI, see "The Texas Industrial Production Index" (Dallas Fed *Economic Review*, November 1989). For the Texas Leading Index and its components, see "The Texas Index of Leading Indicators: A Revision and Further Evaluation" (Dallas Fed *Economic Review*, July 1990). Online economic data and articles are available on the Dallas Fed's Internet web site, [www.dallasfed.org](http://www.dallasfed.org).



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