



Texas Transitions to Service Economy

By D'Ann Petersen

For Texas as well as the U.S., the increasing importance of services reflects a long-term evolution, driven by the capacity of free enterprise economies to reinvent themselves.

Texas has joined the nation in shifting its economy into services. Decade by decade, the state's service sector has expanded its share of employment and production in an economy traditionally known for cotton, cattle, crude oil and construction cranes.

While agriculture and goods industries remain vital to the state's economic health, the service sector today accounts for roughly 80 percent of jobs and 63 percent of output (*Chart 1*).¹ Texas matches the U.S. in the share of employment in services. The state's share of output in services is less than the nation's 70 percent because of Texas' importance as an energy producer and growing role in manufacturing.²

Measured by employment or output, services are expanding faster in Texas than in the U.S. (*Chart 2*). The sector has emerged as the state's leading engine of job creation. Since 1990, it has added more than 2.4 million jobs on net and more than doubled the pace of employment growth in goods-producing industries.

For Texas as well as the U.S., the increasing importance of services reflects a long-term evolution, driven by the capacity of free enterprise economies to reinvent themselves. Agriculture's dominance faded with the rise of manufacturing, and today the factory era has given way to services. The transition shows the ability of businesses and workers to adapt to ever-changing circumstances, including rapid technological progress and an increasingly competitive world economy.

Sizing Up Services

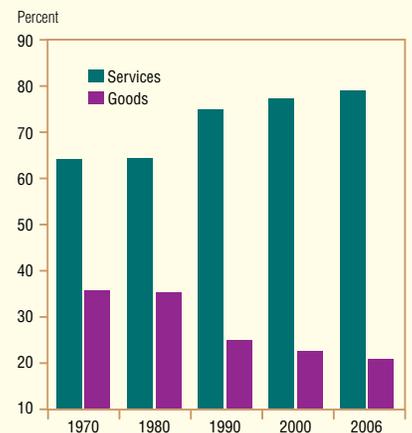
Truckers making deliveries, technicians maintaining Internet sites, brokers selling insurance, architects designing shopping centers, managers running businesses, nurses caring for patients, waiters serving diners—all these and many others are service jobs.

To make sense of this sprawling sector, government agencies aggregate services into groups of related businesses. In 2003,

they adopted the North American Industry Classification System (NAICS) to replace the Standard Industrial Classification (SIC). An important reason for the transition to NAICS was rapid growth in service industries that weren't well defined under SIC codes. The NAICS information category, for example,

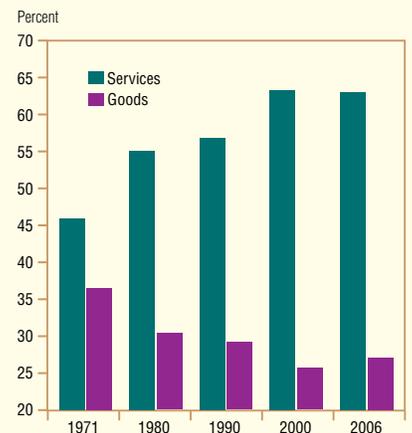
Chart 1
Services Lead Texas Jobs, Output

Employment Share



SOURCES: Federal Reserve Bank of Dallas; Texas Workforce Commission.

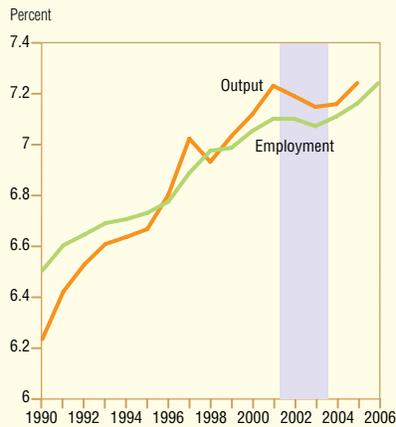
Output Share



SOURCES: Federal Reserve Bank of Dallas; Bureau of Economic Analysis.

*From 1990 through 2006—
a period that includes
vigorous expansion,
recession and recovery—
each of Texas' major service
categories outperformed its
U.S. counterpart in
job growth.*

Chart 2
Texas Takes Larger Role
in U.S. Service Sector



NOTE: Shaded area represents economic downturn in Texas.
SOURCES: Federal Reserve Bank of Dallas; Texas Workforce Commission; Bureau of Economic Analysis.

includes communications, publishing and the online services that have emerged in the information-based economy.³

Under NAICS, the service sector's diverse members are grouped into seven private-industry categories and government. Texas' share of employment in each of them is at or below the nation's—with one notable exception. The state has 24.3 percent of its total employment in trade, transportation and utilities, compared with 22.9 percent for the U.S. as a whole (*Table 1*).

This category owes its importance to Texas' strategic location on the Mexican border and in the center of the U.S. These attributes have spurred expansion of transportation networks, which have attracted firms in such industries as retail and wholesale trade, airlines, trucking, pipelines, rail and cargo transportation, and warehousing—all of which add to employment in this large sector.

Among the major transportation firms headquartered in Texas are Southwest Airlines, American Airlines, Continental Airlines and Burlington Northern Santa Fe Corp. The Port of Houston is the country's second-busiest deepwater facility, and Dallas/Fort Worth International Airport ranks sixth in the world for passenger traffic and 27th in the world for cargo volume. Houston's Bush Intercontinental Airport is the nation's ninth busiest in passenger traffic. Fort Worth's Alliance Airport, a purely industrial airport, is one of the country's largest intermodal facilities.

Job Engines

From 1990 through 2006—a period that includes vigorous expansion, recession and recovery—each of Texas' major service categories outperformed its U.S. counterpart in job growth (*Chart 3*).

Three industries stand out, not only doing better than the U.S. but growing faster than the state average of 2.7 percent.

Professional and business services lead expansion. The state's second-largest service category, with almost 15 percent of Texas jobs, is the top performer in job growth. Professional and business services include many knowledge-based positions in law, accounting, architecture, engineering, software design, management and consulting. The industry has added 655,900 jobs since 1990—an average annual pace of 5.7 percent, more than a percentage point faster than the nation.

Professional and business services have played an important role in the state's current expansion. Since the recovery began in July 2003, the industry has added over 228,000 jobs on net—more than any other—accounting for roughly 28 percent of the state's private job gains. Employment has risen sharply for many professional services related to energy and construction, including architectural and engineering services and management, professional and scientific consulting. Employment in computer systems design has also been rising at a fast clip, likely the result of firms outsourcing software development.

Growing population boosts education and health services. The second-fastest-growing service category includes private university and education workers, training center employees, doctors, nurses, medical technicians and social workers. It has added 571,900 jobs since 1990.⁴ Health care dominates the category, with about 1.1 million jobs, or 88 percent of the total and roughly 12 percent of Texas private employment.

Health care demand is rising nationwide as the population ages and new technology changes the delivery of medical services. In Texas, the rapidly growing population is another driver for health care employment. The second-most-populous state, Texas has been adding residents twice as fast as the nation, in part because of migration. Along the Texas-Mexico border, health care-related jobs have been multiplying as many Mexicans cross the Rio Grande to meet their medical needs.

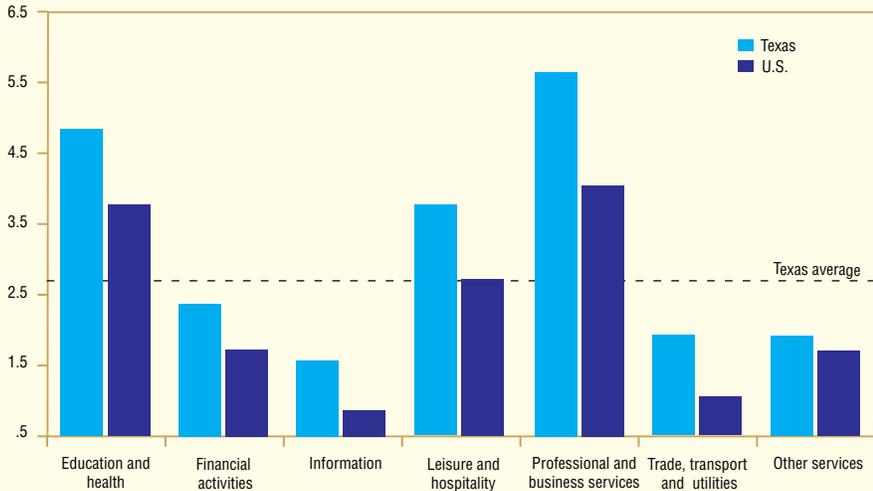
Table 1
Breaking Down Service
Industry Employment
(Share of total employment, percent)

	Texas	U.S.
Education and health services	14.6	15.7
Financial activities	7.5	7.3
Information	2.6	2.7
Leisure and hospitality	11.4	11.6
Professional and business services	14.9	15.5
Trade, transportation and utilities	24.3	22.9
Other services	4.1	4.7

NOTE: Private employment, December 2006.
SOURCES: Federal Reserve Bank of Dallas; Texas Workforce Commission.

Chart 3 Texas Service Industries Outpacing U.S. Counterparts

Average annual growth, 1990–2006 (percent)



SOURCES: Federal Reserve Bank of Dallas; Texas Workforce Commission.

A key factor in the category's growth has been the rise of ambulatory care—more commonly known as outpatient services. Managed care and new medical technologies helped reduce the average hospital stay nationally from 7.6 days in 1980 to 5.6 days in 2004.⁵ Visits to outpatient facilities have climbed.

In Texas, employment in ambulatory care has increased a vibrant 8 percent a year on average since 1990, and the segment now makes up more than 50 percent of total health care jobs. Employment has also been steadily increasing at hospitals and nursing homes. As the Texas population grows and ages along with the baby boom generation, demand will continue for workers in these service areas.

Leisure and hospitality service employment increases. Texas boasts a wide range of attractions—the Alamo, Galveston and Padre islands, Space Center Houston, Big Bend National Park, the Fort Worth Stockyards, the State Capitol and the rolling Hill Country, to name just a few. Add in business travel and entertainment, and it makes for a healthy industry.

The leisure and hospitality category—which includes hotels, eating and drinking establishments, and recreation services—makes up 11.4 percent of Texas' economy and employs about as many workers as the state's factories.

Most leisure and hospitality industries have been adding jobs at a steady pace

each year. Since 1990, job growth has averaged 3.8 percent, outpacing the nation's 2.7 percent. The lion's share of leisure and hospitality employment is concentrated in food-service and drinking establishments, which make up almost 80 percent of the total. This segment continues to add workers at a moderate pace, though job growth has slowed from the 1990s' pace.

The hotel industry makes up 10 percent of leisure and hospitality employment. While lodging employment dropped after the September 11 terrorist attacks, jobs have rebounded the past few years as demand picked up. Texas hotel construction is also on the rise, with the 2006 value of new construction contracts up 24 percent from a year earlier.

Weathering Downturns

Shifting the employment base from goods to services changes the way economies perform when hard times hit. Employment usually holds up better in services than in goods when economies slip into recession.

The high-tech and dot-com busts sent the country into recession in 2001, but Texas felt the impact longer than many areas, partly because of its large number of high-tech jobs. The 9/11 aftershocks that hurt the travel industry added to the tech crunch, prolonging Texas' recession through June 2003.

Overall, the Texas service sector

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Chart 4
Services Employment Buoy Texas During Recession

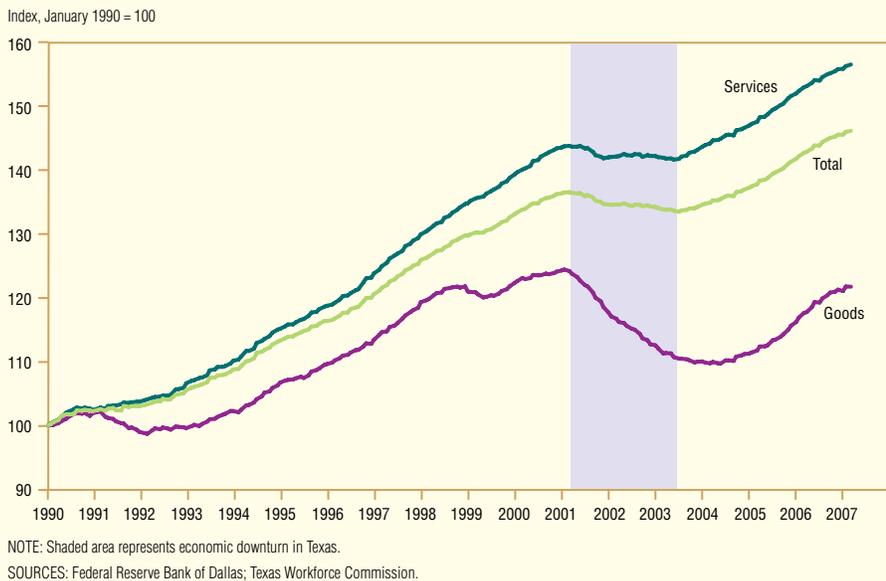
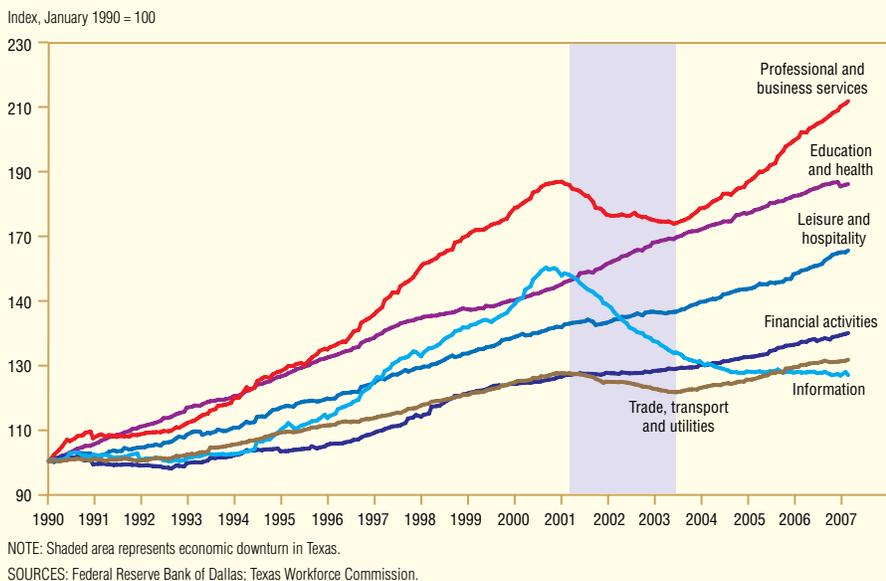


Chart 5
Job Growth Uneven Among Texas Service Industries



weathered the storm, recording an annual employment decline only in 2001, when 67,100 jobs were lost (Chart 4). Texas' goods-producing sector lost over 188,000 jobs during the downturn, more than a quarter of them in high-tech manufacturing.

Consistent gains in education and health care, leisure and hospitality, and financial services buoyed Texas employment

during the recession. These industries prospered in part because of relatively strong population growth and a healthy housing market, spurred by low mortgage rates (Chart 5).

Not all service industries sailed through the recession. Hardest hit was the information sector, with its high percentage of telecommunications service positions. Texas

telecom firms shed slightly more than 29,000 jobs during the downturn. Productivity growth has since returned to this industry, yet new jobs remain elusive. Professional and business services also saw jobs decline considerably. Computer systems design, an industry that includes such companies as Plano-based EDS, lost about 18,000 jobs during the recession, accounting for almost 30 percent of the category's decline.

The trade, transportation and utilities industry was hurt by the post-9/11 drop in demand for air travel. Texas airline transportation employment fell by 12,200 during the downturn and continued to edge down through 2005, rebounding slightly in 2006. Other segments of trade, transportation and utilities, such as retail and wholesale trade, contracted during the downturn as consumer demand weakened across the U.S.

Once the Texas recovery began in mid-2003, employment growth swung back quickly in services while jobs continued to fall in goods-producing industries. In late 2004, however, goods joined services on an upward track, helping fuel the state's robust economic growth of the past few years.

Going Global

U.S. business cycles and trends will continue to shape Texas' future, but so will the state's ability to capitalize on a core reality of the 21st century—the increasing integration of the world economy.

High-valued-added services are among America's prime assets in global competition. Texas and its major cities fare well in recent studies that rank states and metropolitan areas on how well their economies stack up in the globalized, knowledge-based economy.

The Progressive Policy Institute (PPI), a Washington think tank, places Texas 14th in its state ranking. PPI's metro index lists Austin second, Dallas-Fort Worth 12th and Houston 14th out of 261 markets.⁶

Texas metros also fare relatively well in the Regional Globalization Index (RGI) compiled by Moody's Economy.com, Inc. Among 379 metro areas, Dallas (9), Austin (25) and Houston (30) rank in the top 30, and 12 of the state's 26 metros make the top 100.⁷

Texas and its metros have characteristics that boost them in the rankings. These include high shares of employment in services that are knowledge-based and in demand by cross-border businesses; relatively high concentrations of export-oriented

industries; dynamic economies in terms of job churn; strong port activity; and populations with high shares of foreign born.

Although Texas performs well in many index measures, it ranks relatively low in a couple of key components. The state is a poor 43rd in PPI's workforce education category, a weighted measure of years of schooling. Census Bureau data show 78.2 percent of Texans age 25 and older had at least a high school diploma in 2005, well below the national average of 85.2 percent.⁸ The Texas figure in part reflects border metros' high percentage of foreign born without high school diplomas.

Texas also trails other states in its share of employees at foreign companies, an indicator of foreign direct investment. Texas ranks 22nd in the PPI state index, with 4.5 percent of employment in foreign-owned firms, compared with No. 1 Hawaii's 8.3 percent. Most Texas metros fall into the bottom half of the list in RGI's similar measure. However, the fact that Texas and its major metros rank relatively high in many other global index categories should help attract foreign-based firms to the state.

Plus or Minus for Texas?

The transition from goods to services often raises concerns about a possible decline in living standards if low-wage, low-skilled service jobs replace higher-paying jobs in the goods sector. Fortunately, this isn't the case for Texas. While labor churn creates hardships for some workers who lose their jobs, the service sector's overall expansion has coincided with rising prosperity in the state.

As services have taken a larger share of Texas' economy, productivity has grown in both the goods and service sectors, creating more job opportunities and leading to higher per capita income. Goods and services industries alike have benefited from the increased efficiency that comes from service firms' advances in business communications, financial innovations, and distribution and transportation networks.⁹

The inherently intangible nature of services makes them difficult to measure. In banking, for example, payment handling and safekeeping of funds and valuables are hard to summarize as "banking output."

Despite measurement issues, output per worker indicates that service sector productivity has been rising in both Texas and the U.S. for the past decade (*Chart 6*).

The expansion of industries rich in

knowledge-based occupations has played a key role in pushing up Texas' productivity in services.

Since 1990, half of the state's service employment growth has been in the professional and business services and education and health industries. Many of these jobs require above-average education.

According to the Census Bureau, 68.3 percent of U.S. professional service workers age 25 to 64 had at least a bachelor's degree in 2006, compared with 33.2 percent of all workers in the age group. Workers with bachelor's degrees or greater held 39 percent of all service jobs, compared with 7 percent of general production occupations, including electrical equipment handlers, machinists, welders and print machine operators.

Knowledge-based service jobs tend to pay well. In Texas, average hourly wages in 2005 were \$77.23 for internal medicine doctors, \$44.81 for geological engineers, \$39.53 for computer software engineers and \$26.35 for registered nurses, according to the Bureau of Labor Statistics.¹⁰

Of course, not all service jobs offer above-average pay. Industries such as retail sales, food preparation and household services pay relatively low wages. But low-wage positions are an important starting point for many of the state's younger, less experienced and less educated workers, including teens and some immigrants.

Overall, the transition from goods to

services has benefited the Texas economy. The key to prospering as the economic base shifts lies in developing higher-end, knowledge-based services that offer better pay, greater productivity and global reach.

Texas has been able to do that over the past decade and a half. For the Texas economy to continue to expand its high-value-added service sector, however, it is essential that the state's education system continue to make progress on improving student achievement.

Petersen is an associate economist in the Research Department of the Federal Reserve Bank of Dallas.

Notes

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¹ In this article, the service sector refers to the private service-producing sector, which excludes government.

² For an explanation of the importance of manufacturing to the Texas economy, see "Made in Texas: The Natural Selection of Manufacturing," by Fiona Sigalla and Danielle DiMartino, Federal Reserve Bank of Dallas *Southwest Economy*, January/February 2007.

³ For a look at how NAICS differs from SIC and an explanation of how NAICS groups industries, see "Goodbye SIC, Hello NAICS: A Fresh Slate for Houston Jobs Data," by Robert W. Gilmer, *Houston Business*, March 2003.

⁴ While education is very important to the state's economy—making up about 9 percent of total state employment—public schoolteachers are included in local and state government payrolls and are not counted in this sector.

⁵ *Hospital Statistics*, Health Forum, Chicago: American Hospital Association, 2006 and prior years.

⁶ State New Economy Index and Metro New Economy Index, Progressive Policy Institute Technology Project, June 2002 and April 2001, respectively.

⁷ Regional Globalization Index, by Andrew Gledhill, *Regional Financial Review*, Moody's Economy.com, Inc., November 2006.

⁸ U.S. Census Bureau, Current Population Survey 2006, Annual Social and Economic Supplement, March 15, 2007.

⁹ *Productivity in the U.S. Services Sector*, by Jack E. Triplett and Barry P. Bosworth, Washington: Brookings Institution Press, 2004.

¹⁰ See www.bls.gov/data for occupational employment statistics, 2005 data.

