



HoustonBusiness

A Perspective on the Houston Economy

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Houston's Growth on Track in 2005

This article examines Houston's economic performance to midyear. The sound footing of Houston's economy makes it unlikely that even two hurricanes can alter its course significantly.

Houston's economy grew rapidly through the first half of 2005, and momentum imparted by national expansion, a strong global economy and the energy sector points to continued growth ahead. Hurricanes Katrina and Rita threw Houston something of a curveball in late August and early September, briefly disrupting the Gulf Coast economy, local activity and the oil sector.

The October issue of *Houston Business* will look closely at the hurricanes and their economic impact, but here we examine Houston's performance to midyear. The sound footing of Houston's economy makes it unlikely that even two hurri-

canes can alter its course significantly.

Solid Growth in 2005

No series of gross product data are published for Houston or other U.S. metropolitan areas, and other large aggregates, such as total personal income, are published only with a lag of a year or more. The measures that are available, however, attest to solid recent economic performance in Houston. For example, the Dallas Fed publishes a series of indexes designed to capture the underlying strength and direction of the business cycles of nine Texas metropolitan areas. The indexes are based on nonfarm employment, the unemployment rate, real retail sales and real wages, with the series weighted optimally and summed to represent the local business cycle.

Table 1 shows the percentage growth, stated in annual

Table 1
Business Cycle Indexes Show Steady Growth for Houston
(Percentage change in annual rates)

	Houston	Austin	Dallas	Fort Worth	San Antonio
June–August 2005	3.2	4.4	0.8	2.0	2.3
March–August 2005	3.4	4.8	1.0	2.2	2.2
September 2004–August 2005	3.1	4.8	1.3	2.6	2.1

SOURCE: Federal Reserve Bank of Dallas, www.dallasfed.org/data/index.html.

rates, of Houston and other Texas Triangle metro economies over the three-, six- and 12-month periods ending in August 2005. Houston's growth is on a steady pace above 3 percent, surpassed only by Austin among the Triangle cities. Like the other metro areas, Austin is bouncing back from a significant decline in economic activity—a decline Houston did not share.

Another indication of Houston's strength can be seen by comparing the U.S. and Houston versions of the Purchasing Managers Index. The published indexes are not comparable; they use a different number of series and different weights, and the U.S. series is seasonally adjusted. Table 2 shows the results of making these series comparable, using the same series and weights as the U.S. index but without seasonally adjusting either series. The results show that for the 12 months ending in August, the U.S. index exceeded 50 by a significant margin, indicating strong expansion in manufacturing. Houston's index, however, topped the nation's by a wide margin, averaging 63.6. The difference has widened further in recent months.

The Houston unemployment rate also shows a likely acceleration in economic growth over the past year (*Figure 1*). In August 2004, Houston's rate was 0.6 percentage points above the nation's (6.2 percent versus 5.4 percent). But by August 2005, Houston had closed the gap to only 0.2 points. Both

rates have fallen sharply over the past year, to 5.1 percent and 4.9 percent, respectively.

If there is a disappointing aspect to Houston's economic performance, it is nonfarm employment growth. For example, if we were to reconstruct Table 1 with employment growth rates, we would find that Houston (with 1.1 percent job growth over the 12-month period through August) has lagged the state and every metro area shown except Dallas. Houston has been growing at a rate that would yield about 30,000 new jobs this year, below the annual average of 36,000 new jobs created since 1991 (*Figure 2*).

However, this is not a typical year for Houston; the U.S. and global economies are growing strongly, and an oil boom is under way. During the years 1996–98, when comparable conditions led up to the Asian financial crisis, Houston gained nearly 248,000 jobs—enough to start a new medium-sized metro area. The current slow local job growth is likely a result of similar trends in the U.S. economy and the concentration of high-productivity industries such as mining and manufacturing in Houston. It is not an indication of slack economic conditions in the city.

Strong U.S. and Global Expansion

The U.S. economy returned to strong production growth in early 2003. Following a brief, mild recession in 2001, the national economy struggled

Figure 1
Houston Unemployment Rate Falls Toward U.S. Level in 2005



SOURCES: Bureau of Labor Statistics; Texas Workforce Commission.

to get back on track through 2002. The dearth of investment in 2001–02 was the product of overinvestment in high tech in the late 1990s, recession, and a series of economic shocks from terror attacks, financial scandals and the invasion of Iraq. Manufacturing was particularly weak, held back by the lack of investment and a strong dollar that hurt exports.

As 2003 arrived, however, manufacturing picked up sharply as investment rebounded and a falling dollar helped boost exports. Since the first quarter of 2003, the U.S. gross domestic product has grown at an average annual rate of 3.8 percent, identical to GDP growth during the tech boom's golden years of 1994–2000.

GDP grew 3.3 percent in the second quarter of this year, led by a housing boom, strong business investment and increasing personal consumption. Business inventories were pulled down during the quarter—subtracting from growth in current output but adding to growth in the quarters ahead.

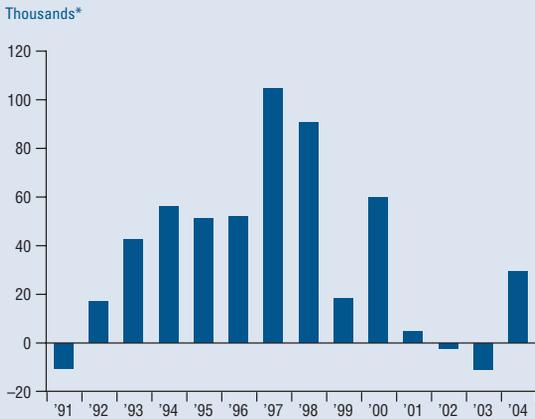
Before Katrina and Rita, the consensus forecast was for growth in excess of 3 percent over each of the next few quarters. The forecast remains the

Table 2
Purchasing Managers Index Shows Strong Expansion for Houston

	U.S.	Houston	Difference
June–August 2005	55.5	65.7	10.2
March–August 2005	55.8	65.4	9.6
September 2004–August 2005	55.9	63.6	7.7

SOURCES: Institute of Supply Management; National Association of Purchasing Management—Houston; author's calculations.

Figure 2
New Jobs Created in Houston, 1991–2004



* Measured December to December.
SOURCE: Texas Workforce Commission.

same, although the hurricanes may reduce output from the third quarter and parts of the fourth, with a flood of insurance money and reconstruction adding growth back in later months and quarters. Given the U.S. economy's size, underlying strength and resilience, the outlook remains bright for the remainder of this year and beyond.

Job growth has come back much more slowly than output. Figure 3 shows that on average, the U.S. economy created 241,000 new jobs every month from 1994 to 2000. In 2001, a recession year, the country lost 148,300 jobs per month. Even as GDP growth picked up after 2003 to the rates of the late 1990s, job growth remained subpar through August of this year.

Where is the job growth? Growth of productivity, or output per hour, has accelerated sharply since early 2001. Because

$$\begin{aligned} \% \text{ growth of output} \\ = \% \text{ growth of productivity} \\ + \% \text{ growth of hours worked,} \end{aligned}$$

for any given rate of production or output in the nonfarm business sector, stronger productivity growth puts down-

ward pressure on hours worked, and thus on jobs.

Table 3 summarizes national data from first quarter 1994 through second quarter 2005. For the entire period, output grows at 3.8 percent, productivity at 2.6 percent and hours worked at 1.2 percent. Dividing this period into pre- and post-recession segments (breaking the data between fourth quarter 2000 and first quarter 2001), we see weaker output growth after early 2001 (2.9 percent versus 4.4 percent) and much stronger productivity growth (3.3 percent versus 2.1 percent). The result is that hours worked grew at annual rates of 2.2 percent from 1994 to 2000 but experienced net downward pressure thereafter. Over the 10 quarters ending June 2005, growth in nonfarm business output was slightly better than in 1994–2000, but productivity growth accelerated yet again, leaving room for hours worked to grow only 1 percent.

Houston's weak

Table 3
U.S. Productivity Growth Keeps Labor Demand Slack
(Average percentage change in period)

	Output	Productivity	Hours
1994Q1–2005Q2	3.8	2.6	1.2
1994Q1–2000Q4	4.4	2.1	2.2
2001Q1–2005Q2	2.9	3.3	–.4
2003Q1–2005Q2	4.6	3.6	1.0

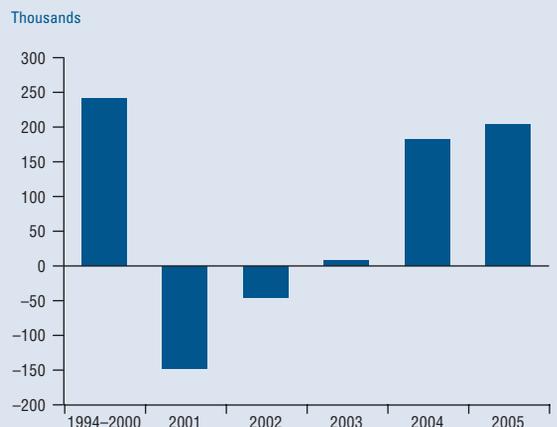
NOTE: Numbers may not add due to rounding.

SOURCE: Bureau of Labor Statistics.

job growth is an extension of this national trend. As noted elsewhere, it may even be more of a problem for Houston, because the city's basic, or export, industries are subject to higher than average productivity gains.¹ While productivity in the economy as a whole grew 2.2 percent during 1990–2002, it grew 3.6 percent in oil and gas extraction and 3.9 percent in manufacturing. This intensifies the downward pressure on local jobs.

The global economy is important to Houston because it is a port city, home to the state's international community and a hub for trade. The International Monetary Fund's recently released *World Economic Outlook* forecasts global GDP growth of 4.3 percent for both 2005 and 2006, well

Figure 3
U.S. Jobs Created or Lost Monthly, 1994–2005



SOURCE: Bureau of Labor Statistics.

above the 20-year average of 3.4 percent.²

The outlook has the United States and Asia leading the way, with China growing 9 percent in 2005 and 8.2 percent in 2006 and India 7.1 percent and 6.3 percent, respectively. Both the euro area and Japan disappoint with projected growth rates of 2 percent or less. IMF growth projections for the United States are 3.5 percent in 2005 and 3.3 percent in 2006.

U.S. and Houston exports have benefited from the 15.3 percent decline in the dollar that began in February 2002. The dollar appreciated by 37.3 percent between early 1995 and February 2002, gaining strength as it became a safe haven during the 1997 Asian financial crisis and again as world growth slowed in 2001. The decline in the dollar's value against other currencies makes U.S. firms more competitive: Domestic goods are less expensive abroad, and foreign goods are more expensive in U.S. markets.

Energy Markets Gain Speed in 2004–05

Historically high energy prices have been a factor in the

U.S. economy since fall 2003, when crude prices pushed past \$30 per barrel and natural gas past \$4 per thousand cubic feet (Mcf). In late summer, even before the hurricanes, crude prices were near \$70 per barrel and natural gas \$10 per Mcf.

Oil producers' response to these high prices in 2003 and 2004 was measured, reflecting distrust of OPEC-driven price levels and unwillingness to throw dollars after limited prospects at home or in dangerous places abroad. For example, in 1999–2001, it had taken producers only 110 weeks to push drilling from a trough of 488 working rigs to a peak of 1,293.

In this latest cycle, it took producers 152 weeks to return to this peak, even though the trough was higher, at 750 rigs (*Figure 4*). Instead of funding capital projects, many companies announced programs to buy back their own stock with surplus earnings from the extraordinary oil and gas revenue.

Attitudes gradually changed, however, as it became apparent that OPEC was no longer the key factor in setting oil prices. High prices were being driven by limited reserves in the face

of extremely strong demand, coming largely from the United States and China. Reserves had not been adequately developed for decades, primarily on the assumption that OPEC held an ample surplus to meet any surge in demand. As OPEC's surplus was swallowed up, drilling accelerated sharply. It took 44 weeks for the domestic rig

count to move from 1,100 to 1,200 and 37 weeks to go from 1,200 to 1,300. Then early this year, the rig count jumped to 1,400 in 17 weeks. Until the hurricanes struck, the count was on track to hit 1,500 rigs in 15 weeks or less. Domestic drilling has not been this strong since January 1986. International drilling is at its highest level since March 1991.

Oil service and machinery companies were slow to share in high commodity prices. Operators' unwillingness to drill translated into excess capacity in oil services, and the market has tightened only in the past 18 months or so. The service companies themselves were initially reluctant to expand capacity, resulting in high prices, fat margins and long lead times. Service companies are now adding rigs and other capital equipment, as well as manufacturing capacity. Skill-intensive services remain a bottleneck in the industry, and engineers and other experienced oilfield workers now command a premium.

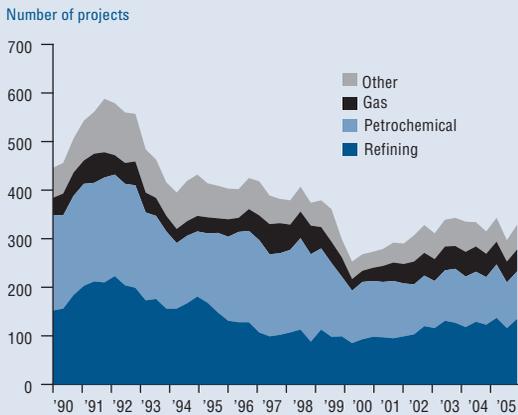
Downstream industries have earned good profits as well. Limited refinery capacity and strong demand for oil products have resulted in stellar profits for the refinery industry over the past two years. Petrochemical producers have made good profits despite the high price of natural gas. Lofty oil prices have kept natural gas-based plastics and rubber producers competitive, and extremely strong demand for their products has allowed them to quickly pass through the price of natural gas every time it has ratcheted upward. When Asian demand slowed briefly in early 2005, the flow of many plastic products quickly backed up into the United States, and inventories built up rapidly. In the second half, strong Asian demand re-

Figure 4
Rig Count Slowly Returns to Highest Level Since 1986



SOURCE: Baker Hughes.

Figure 5
Active Hydrocarbon-Processing Construction Projects
on the Gulf Coast



SOURCE: *Hydrocarbon Processing*, various issues.

sumed, and domestic inventories quickly returned to normal levels.

If there is a disappointing aspect to downstream performance, it is the lack of announced new petrochemical construction projects. Figure 5 shows the number of hydrocarbon processing plants and projects under construction on the Texas and Louisiana Gulf Coast from June 1990 to June 2005. Comparing current levels of activity to the nadir of early 2000, we see 50 more refining projects, 10 fewer petrochemical projects, 21 more gas projects and 15 more miscellaneous projects.

Overall, however, construction remains low compared with most of the 1990s. Refining projects should continue to grow with the industry's profitability and pending legislation to facilitate construction of new-field refineries. Gas projects will grow with the ongoing development of liquefied natural gas terminals in the United States. However, the large slice of petrochemical projects seen in the 1990s will probably never return, at least as long as natural gas feedstock remains at its current elevated price. Only one major U.S. petrochemical

project has been announced so far in this profit cycle.

On Course

Until the late-summer disruption of two major hurricanes, the Houston economy was performing well. The basic data show the city's economy surging ahead over the past year, supported by a growing U.S. economy, global expansion and a rapidly expanding energy

sector. Disappointing Houston employment growth since 2002, whether compared with other Texas metro economies or local history, results from rapid productivity growth. This trend also shapes U.S. employment but is more powerful in Houston because of the city's dependence on high-productivity industries like mining and manufacturing. It does not indicate weakness in the local economy.

Although the hurricanes may add and subtract growth in various ways, even the combined storms were probably not powerful enough to move the local economy far off course.

—Robert W. Gilmer

Gilmer is a vice president at the Federal Reserve Bank of Dallas.

Notes

¹ "Upstream Petroleum Employment in the Current Drilling Cycle," by Robert W. Gilmer and Jonathan L. Story, Federal Reserve Bank of Dallas *Houston Business*, April 2005.

² *World Economic Outlook: Building Institutions*, International Monetary Fund, September 2005, www.imf.org/external/pubs/ft/weo/2005/02.

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On the eve of Hurricane Katrina, the Houston economy showed broad-based strength. The local Purchasing Managers Index, the rig count and a falling unemployment rate all indicated the basics were in place. Housing, retail sales, oil and gas exploration, chemicals and refining remained on a positive track.

Retail and Auto Sales

Houston retailers report sales are generally meeting expectations, but some customers are beginning to feel the effect of high gasoline prices. High-end retailers report oil money is providing job security and the wherewithal to spend for many clients. Meanwhile, discounters and specialty stores say high gasoline prices are diverting spending power to the fuel pump.

Houston auto sales continue to push strongly ahead. Early this year, the local auto market shook off several years of slow sales, and current employee pricing and other incentives are adding to that momentum.

Real Estate

The local housing market remained hot through July, with sales of existing homes up 6.6 percent from July of last year and new-home sales up 30 percent. The inventory of completed speculative homes is up 9.3 percent from last year.

Absorption and occupancy were up in the second quarter for Houston-area apartments, driven primarily by the Class A market. Occupancy gains were

more modest in the office market but were also driven by Class A space. Retail continues to follow new-home construction to the suburbs. Retail absorption and occupancy were both down in the second quarter.

Crude Oil and Product Prices

Crude oil rose to near \$66 per barrel in August, based on a series of unplanned outages in the refinery system and uncertainty following the death of Saudi Arabia's King Fahd. Domestic demand for crude has been strong, bumping along at five-year-high levels. Domestic crude inventories have fallen seasonally but were at five-year highs for late August.

Gasoline and the driving season were the chief factors affecting oil markets in recent weeks, but that should give way to heating oil after Labor Day. Wholesale gasoline prices briefly shot up from \$1.48 to over \$2 because of refinery outages. These outages also pulled gasoline inventories down sharply but left heating oil inventories in good shape and near five-year highs.

Natural Gas

Natural gas was near \$7 per thousand cubic feet on July 1 but rose to nearly \$10 by late August. A major heat wave across the central U.S. and Northeast created an above-normal need for cooling, and the heat wave continued

into late August. Natural gas inventories were pulled down from May levels that were 14 percent above last year's, to levels now slightly below 2004's. Tropical storms in the Gulf of Mexico pushed natural gas prices to almost \$10 as the month ended.

Petrochemicals

Chemical demand has strengthened in recent weeks. Weakness in ethylene and propylene in June and July disappeared with the return of Asian demand, and a series of plant outages in ethylene helped erase any overhang of inventory. Ethylene and propylene prices were both recovering by early August. The recent surge in oil and natural gas prices has left the chemical industry again facing the uncertain task of raising prices and restoring margins.

Oil Services and Machinery

The domestic rig count surged past 1,400 working rigs, and the Texas rig count moved above 600. Oilfield activity continues to grow, equipment and labor are in short supply, and pricing is very good for the service companies. The manufacturing end of the industry is less skill dependent and easier to expand than many services, but even here backlogs are growing quickly. The industry reports capital expansion in a number of areas, such as new rigs, oil tool inventories and pressure pumping.



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