



HoustonBusiness

A Perspective on the Houston Economy

FEDERAL RESERVE BANK OF DALLAS • HOUSTON BRANCH • SEPTEMBER 2004

Slow Recovery for Houston: Better Late Than Never

The job creation engine in Houston has been started but has thus far been unable to shift into high gear.

Employment growth in Houston turned the corner this year, beginning the process of reversing the past two years' job losses. Momentum in the economy—both nationally and locally—turned positive in the summer of 2003 after major combat operations began to wind down in Iraq and business investment resumed. Growth at the national level, in fact, was the last piece in Houston's economic forecast puzzle. It joined already elevated energy prices, a depreciated dollar and low interest rates to complete what had been expected to be a picture-perfect recovery for this region.

Although employment growth increased over the past year, the rate of job growth has not been consistent with what fundamentals would suggest. In past business cycles, Houston has typically reacted vigorously to a growing national economy,

reviving energy demand and a weaker dollar relative to our major trading partners. Consequently, what started out as a perfect opportunity has turned into positive but mild growth. The factors ailing Houston's return to job growth this year—uncertainty about the Middle East, tremendous productivity growth, the election cycle and a surge in energy prices—are akin to those slowing growth at the national level.

This article addresses these issues by examining the current business cycle with an eye toward the factors that are dampening growth in the U.S. and Houston economies.

Another False Start?

Since the recovery's onset in November 2001, both the national economy and Houston have experienced periods of growth followed by reemerging weakness. Figure 1 shows annualized employment growth rates for Houston and the United States. At the recession's trough, it appeared that employment growth would pick up, but by the summer of 2002 any positive trends gave way to continued job losses that lasted another full year.

Figure 1
Total Employment Growth in Houston and the United States



* Three months, annualized.

NOTE: Data are through July 2004.

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

By summer 2002, the post-9/11 environment had led to a security debate that introduced great uncertainty about terrorism and economic growth. As this debate heated up, the economy swooned and any momentum was drained. Most national production and investment indicators performed likewise, but by the following summer the U.S. economy was again poised for real recovery. Business investment returned, job growth turned positive and gross domestic product (GDP), the broadest measure of economic activity, accelerated significantly through the remainder of the year.

What is different about this latest expansion is its length and the fundamentals that back it up. Figure 2 shows the coincident indexes for the U.S. and Houston economies. It is easy to see the sideways movement prior to the summer of 2003. After then, however, the movement is in one direction—up. Other important indicators were advancing as well. The national purchasing managers indexes—for both manufacturing and nonmanufacturing—have increased 26 percent and 22 percent, respectively, since last year, and capacity utiliza-

tion has climbed from 74 percent to nearly 77 percent. U.S. GDP continued to increase at an average annual rate of nearly 4 percent during the first two quarters of 2004. For Houston, the Purchasing Managers Index has gained steadily, retail sales growth has

been solid, and other indicators, such as auto sales, home sales and rig count, have continued to rise.

Yet, this summer saw another period of weakness, where many indicators again began to swoon. Employment, which grew rapidly during the first five months of 2004, was revised downward at the national level and fell flat in Houston. In fact, many indicators softened, including industrial production and retail sales, two that had seen steady gains since last year. As the second half of 2004 commenced, however, the same factors that slowed recently were once again gaining ground. Employment turned positive in the latest reading, industrial production and retail sales picked up, and even consumer inflation took a breather from this year's earlier gains. These signals indicate that the second half will see a return to real growth.

Houston mirrors the national economy in that economic growth is moving in the right direction, just not at a pace one might expect. Regional indicators such as retail sales growth, wages and manufacturing hours are all unmistakably positive, and Beige Book respondents are optimistic going into the second half. Consequently, like the fundamentals that back a national expansion, local fundamentals are pointing to continuing regional growth rather than another period of weakness.

Slow but Steady Growth

Recovery at the national level and for Houston has taken a long time for several reasons. The first is unprecedented productivity growth. Defined as output per hour, trend productivity has increased at a rate of just over 3 percent since 1996 and nearly 4 percent since 2000, compared with the long-term average growth rate of 2 percent. Investment in technology and other efficient methods of delivering products is spurring this increase. Higher productivity generally slows employment

Figure 2
Coincident Indexes for the United States and Houston



SOURCES: Conference Board; Federal Reserve Bank of Dallas.

Table 1
Federal Reserve Economic Projections

	Percent change	
	2004	2005
Real GDP growth	4.5–4.75	3.4–5
Inflation	1.75–2	1.5–2
Unemployment rate	5.25–5.5	5–5.25

NOTE: Changes are fourth quarter to fourth quarter. The central tendency is reported here. Inflation figures are based on the personal consumption deflator.

SOURCE: Monetary Policy Report to the Congress, July 20, 2004.

growth in the short run—immediately following a recession, for instance—but as demand increases along with expansion, job gains will eventually catch up to accommodate growing profits and wages, partly driven by productivity itself.

Increased business uncertainty about security, geopolitical tensions and consumer demand is a second and equally important reason for the slow recovery since the recession's end. Business investment, a key to this recovery, has been slow to resume its pre-recession track. Finally, everyone from businesses to consumers has had to learn how to operate in this new environment of more complicated air travel, national terror alert levels and security awareness.

Another important reason for slower growth during this stage of the U.S. recovery is the aggressive interest rate cuts the Federal Reserve implemented in early 2001 and continued until the summer of 2003. As interest rates dropped, the housing market surged; new housing starts peaked at an annual rate of over 2 million in the first months of this year. Refinancing also became a large fee-income generator for the finance industry, somewhat compensating banks for lower interest rates on their loan portfolios. The housing boom's spillover into consumer goods spending also helped minimize

the effects on manufacturing job losses. The increased buying in housing and goods essentially borrowed future consumer demand, thereby reducing the surge that would normally accompany an economic recovery.

Although Houston experienced this interest rate effect along with the nation, the effect was heightened when Tropical Storm Allison destroyed roughly 75,000 vehicles in June 2001. Auto buying in Houston increased significantly following that storm, slowing growth in auto sales today because the strong but temporary surge in auto demand shifted the typical replacement cycle.

In spite of these weak periods, driven by factors that continue to slow the potential growth rate, economic fundamentals stack up overwhelmingly on the side of expansion, albeit at a slightly slower pace. Table 1 shows the Federal Open Market Committee's projections for GDP, inflation based on personal consumption expenditures prices—prices paid for consumer goods in the economy—and the U.S. unemployment rate for the remainder of this year and next year. Even with the modest retreat by economic fundamentals this summer, the projections point to stronger second-half growth. We should also see relatively mild inflation and continuing improvement in the unemployment rate, with a

return to long-term trend job growth next year.

Energy's Contribution

Robust energy demand and increased oil and natural gas prices are positives for Houston, but significant price volatility and structural shifts in the industry are muting the response during this latest cycle.

There has always been a strong relationship between energy prices, the rig count and total employment growth in Houston. The 1990s saw the link weaken between rig count and jobs. Today, it appears that the relationship between energy prices and rig count is also deteriorating to a degree. Consequently, oil and natural gas prices that have been elevated for more than two years, with oil peaking at over \$40 per barrel and natural gas at \$6.30 per thousand cubic feet early this summer, have not created the boomtown mentality that shaped Houston's reputation decades ago. This is especially true for oil-directed drilling (Figure 3).

Several factors are causing this structural shift, and a confluence of events in recent years has accelerated it. Pro-

Figure 3
Oil Prices and Oil-Directed Drilling



* West Texas Intermediate.

NOTE: Data are through July 2004.

SOURCE: Baker Hughes.

Figure 4
Oil- and Gas-Directed Drilling in the United States



* Seasonally adjusted.

NOTE: Data are through July 2004.

SOURCE: Baker Hughes.

ductivity has shaped oil and gas exploration; new seismic and drilling techniques have equated into fewer employees and rigs providing increased production at lower cost. Thus, the number of employees in the energy services sector—those actively staffing and servicing rigs—has declined from over 3.5 percent to around 3 percent of the region's total employment over the last decade. This is despite the fact that the current rig count is only about 50 rigs shy of its July 2001 peak, the highest since 1986.

Declining U.S. oil reserves and the availability of cheap imports led to a significant shift during the 1990s from oil- to natural gas-directed drilling in this country (Figure 4). In less than 10 years, rigs searching for oil declined from over 50 percent to under 20 percent of the total rig count. Today a mere 14 percent of rigs are drilling for oil.

Natural gas now faces a similar threat. Industry perception that new gas fields will be smaller, deeper and harder to reach has companies looking to new natural gas sources. Liquefied natural gas (LNG) enjoys the most support. At

current gas prices of \$5 per thousand cubic feet, this technique of cooling natural gas to a liquid state for transport offers a viable solution to shrinking domestic supplies. For Houston, this could translate into a lower total rig count and lower energy service

employment as foreign supply becomes necessary to satisfy U.S. demand, exactly as it has for oil. Oil services companies, watching this trend unfold, also have been reluctant to make their own investments in a potentially declining U.S. drilling market.

Several other factors have accelerated these long-term changes. Energy company consolidation is the first. Mega-mergers that combine not only balance sheets but also drilling philosophies have made the industry less reactive to price changes. Further, bigger companies, with greater overhead costs, generally need larger producing fields to meet return-on-investment requirements. Consequently, the major oil companies have announced decisions to spend exploration dollars in foreign regions rather than in heavily explored domestic fields. A similar philosophy is evolving among larger independent producers, who have traditionally picked up the developed fields of major companies as they pull out. For example, drilling in the shallow Gulf of Mexico seems to be winding down after many years of changing hands, and activity in the North Sea is just begin-

ning the transition away from major company ownership.

Capital spending this year is also not increasing much because of uncertainty about the future direction of energy prices. Oil's price has moved from an average of just under \$30 per barrel in 2000 to nearly \$50 just a few weeks ago—well above what industry participants believe reasonable. Natural gas—the main driving force of the domestic rig count—has also seen recent highs near \$7 per thousand cubic feet, although these prices have since softened to the \$5.25 range. This discipline in the industry has actually led to a capital investment rate that is slightly below the average depreciation rate, even with fundamentals dictating continued high prices. However, past price swings, geopolitical uncertainty, the looming elections and financial market speculation have made the industry less willing to take on new exploration projects. With domestic investment unattractive and foreign investment often perceived as subject to unacceptable political risk, virtually every major oil company is using current high cash flows to buy back their own stock instead of investing in exploration.

For Houston, long-term energy industry consolidation probably means more white collar workers and office jobs. Recent examples include CITCO Petroleum Corp.'s relocation to Houston from Oklahoma and Chevron Texaco Corp.'s reorganization into new office space, which included employment transfers from out of state. At the same time, however, a slow degradation of the domestic rig count means a restructuring and shrinking of the energy service sector. Added to short-term instability

Table 2
Employment Growth in Houston

Scenario	Percent job growth		Total new jobs	
	2004	2005	2004	2005
1 (20 percent improvement)	2.0	4.0	41,000	86,000
2 (maintain current levels)	1.7	3.4	35,000	73,000
3 (20 percent weakening)	1.3	2.7	27,500	57,500

NOTE: Changes are fourth quarter to fourth quarter.

SOURCE: Author's calculations.

in energy-producing regions and political uncertainty, energy's impact on Houston is more mixed than would otherwise be the case.

Looking Forward

By examining the forces that most impact growth in Houston, it is possible to determine the most likely path of future employment gains. We constructed a model using the U.S. unemployment rate, the domestic rig count and the trade-weighted value of the dollar to predict this path.

The first possible outcome describes the upper bound of possibilities: a 20 percent improvement in all major variables that drive the forecast. In this scenario, the U.S. economy continues to strengthen and the national unemployment rate continues to fall, even beyond what might be currently expected. Energy markets would also improve, driving the rig count to new highs. The dollar would weaken further, stimulating export demand and manufacturing employment growth.

The second scenario represents the median set of assumptions, where all variables remain at their current levels. The third scenario assumes a 20 percent weakening of all explanatory variables. This is the lower bound; the U.S. economy would see higher unemployment rates, the rig count would falter and the dollar would strengthen against our major trading partners.

Table 2 shows the outcomes of the three scenarios. The first provides job growth rates near 2 percent, or 41,000 net new jobs, in the metro area for all of 2004. This would represent a return to levels of employment gains seen at the beginning of the year rather than during the summer slowdown. If these factors stayed in place through 2005, job growth could exceed 4 percent by the end of next year.

Scenario 2, representing the status quo, would see little change in momentum. The model projects 1.7 percent growth, or 35,000 net new jobs, this year and nearly 3.4 percent growth next year.

Scenario 3 predicts 1.3 percent growth this year and more than twice that in 2005. Even this lower-bound scenario predicts a return to at least long-term trend growth for this region by the end of next year. This is because momentum has built up in the economy at this stage in the recovery. Consequently, even dampening forces going forward will only affect employment growth in the longer term, rather than today.

On the other hand, these forecasts are lower than those made earlier this year, primarily because of the economy's summer swoon. It would also be reasonable to assume that job growth may underperform the most recent forecast because of further strong productivity growth and continued uncertainty, two factors this model does not consider.

Conclusion

The job-creation engine in Houston has been started but has thus far been unable to shift into high gear. However, in time this region will return to trend growth rates.

Although we can expect the Houston economy to advance steadily, there are risks to the forecast. Strong productivity gains and continued uncertainty have been the main culprits thus far in restraining momentum. Uncertainty has not disappeared with the approaching elections and continued fighting in Iraq, and high energy prices—still good for Houston—could yet take a toll on the U.S. economy. Globally, production capacity is also barely meeting growing energy needs, leaving the United States vulnerable to price spikes due to supply outages or strong economic growth. Finally, the duration of this price cycle is exceptionally long and is becoming a factor in economic decisionmaking.

—Timothy K. Hopper

Hopper is a senior economist at the Houston Branch of the Federal Reserve Bank of Dallas.

The Houston economy continues to move ahead, despite some signs of a slower expansion over the summer. Retail and auto sales have lagged, and job growth has been below expectations. Autumn improvement is widely expected. Perhaps the best news in this Beige Book survey is that plans are beginning to move forward for petrochemical expansion on the Gulf Coast.

Retail and Auto Sales

Houston retailers continued to report soft sales, ahead of last year but generally behind this year's projections. All retail categories were off, but especially big-ticket items. Several respondents mentioned the possibility that high gasoline prices were taking a toll on consumers.

Auto sales remained 7 percent behind last year through July. The forced purchases following Tropical Storm Allison disrupted the normal replacement cycle, and sales have been depressed since peaking in November 2001.

Real Estate

The weak pockets of Houston real estate remain in the multifamily and office sectors. Apartments are still waiting for help from more robust job growth. Overall occupancy ticked up slightly in the second quarter, and the depressed class A units showed notable improvement. Rental rates remain flat, but more product is in the pipeline.

The downtown office market got good news in the second quarter from the CITGO

headquarters relocation and Chevron Texaco's purchase of the new Enron headquarters building. Downtown lease rates, near six-year lows, ticked up slightly. Lease rates across the city remain unchanged.

Oil and Natural Gas Prices

Crude prices have stolen the headlines in recent weeks, rising steadily from \$41 per barrel in mid-July to \$48 in the third week of August. Price has since fallen back to near \$43. Strong demand from China and the United States is seen as an important driver of the price increases, along with a "fear premium" caused by fighting in Iraq, the bankruptcy of Russian producer Yukos, recall elections in Venezuela and tropical storms.

While crude continued to rise, other energy prices moderated. Gasoline prices peaked in mid-July at the wholesale and retail levels and then declined. Gasoline demand moderated in the second half of the summer in response to higher prices, refined product imports surged and gasoline inventories moved off the bottom of the five-year range. Natural gas prices trended downward from near \$6 per thousand cubic feet in mid-July to near \$5 in late August. Mild summer weather and ample inventories were responsible. Heating oil prices rose seasonally, but the inventory of distillates has now returned to its five-year average.

Refiner margins were hurt by the combination of rising crude prices and falling gasoline prices. Refinery capacity utilization in Louisiana and Texas averaged 98 percent in late July and August.

Oil and Gas Services

Drilling activity continues to improve slowly in response to higher oil and gas prices. It is now within 50 rigs of the 2001 peak, the highest level since the 1986 oil bust. The North Sea and Gulf of Mexico—normally high-revenue areas—continue to disappoint service companies. It is hoped that as the 2001 peak is approached again, capacity shortages could emerge in some lines of business and help service-company pricing.

Petrochemicals

Chemical demand remains very strong for most products, and price increases are widespread. Nitrogen, polypropylene, PET bottle resin and caustic soda are among the chemicals showing recent demand-driven price increases. Sharply higher benzene prices—double last year's on contract basis—provided cost-push increases for ABS, styrene, polystyrene, phenol, cumene and other products. Industry suppliers report high capacity utilization and—for the first time in several years—strong interest in chemical and plastic capacity expansion on the Gulf Coast.



For more information or copies of this publication, contact Bill Gilmer at (713) 652-1546 or bill.gilmer@dal.frb.org, or write Bill Gilmer, Houston Branch, Federal Reserve Bank of Dallas, P.O. Box 2578, Houston, TX 77252. This publication is also available on the Internet at www.dallased.org.

The views expressed are those of the authors and do not necessarily reflect the positions of the Federal Reserve Bank of Dallas or the Federal Reserve System.