



HoustonBusiness

A Perspective on the Houston Economy

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Houston's Midyear Outlook: Positive Growth Ahead

Factors have fallen into place for a resumption of job growth this year and for potentially strong job growth next year. But there are substantial risks to job growth if current positive trends falter.

Houston's economic patterns have largely followed the nation's for the past three years. A broad view of Houston's performance can be seen in the coincident index of economic activity. This index is based on employment, unemployment rates, real wages and real retail sales, and its movements should reflect the broad path of the local economy. Figure 1 shows the index and the slowdown that began in April 2000. Unlike the nation, which recovered from recession in late 2001 but then saw the recovery turn sluggish, Houston experienced declines that were more modest but that have lingered since early 2001.

Houston is waiting for three potentially positive factors to weigh in and spur local growth. First, prospects brightened at the beginning of 2003 with higher oil and natural gas prices and a cold winter. The rig count, which had already

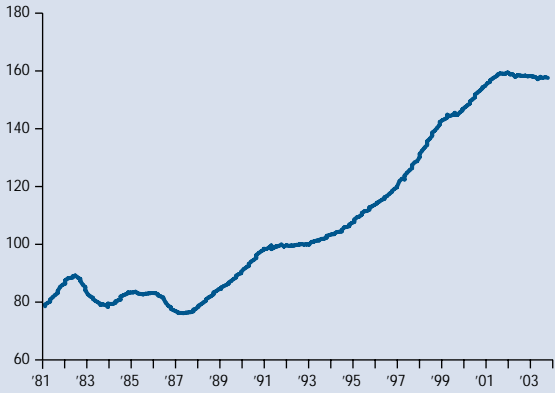
begun to increase as natural gas prices reached \$4 per thousand cubic feet and oil approached \$30 per barrel, accelerated through the winter and into 2003 (Figure 2). The rig count is currently 32 percent higher than its most recent trough, set in August 2002. Despite increased drilling activity, energy prices have remained relatively firm, and the sector has been adding jobs since February.

A second factor is the recent and dramatic weakening of the dollar relative to our trading partners. Weighted against a basket of world currencies, the dollar has declined 10 percent since last year, wiping out all of the dollar's run-up since 2000. Finally, Houston is waiting for a stronger national economy to stimulate local growth and provide further support for energy prices.

This article looks more closely at the national economy, energy markets and the trade-weighted value of the dollar and assesses their effects on local job growth for the rest of 2003 and 2004. Factors have fallen into place for a resumption of job growth this year and for potentially strong job

Figure 1
Coincident Index of Economic Activity for Houston,
1981 to Present

Index, July 1992 = 100



SOURCE: Authors' calculations.

growth next year. But there are substantial risks to job growth if current positive trends falter.

The National Economy

If you focus on real economic activity, it is difficult to argue that much has changed recently in the U.S. economy. Sluggish growth remains the norm. Real gross domestic product (GDP) growth in the first quarter of this year was at a 1.4 percent annual rate, and the most recent employment data indicate little acceleration in the economy since. Growth since the recession ended in the last quarter of 2001 has averaged only 2.6 percent.

Figure 3 shows two of the most important trends that

have dominated U.S. economic growth in recent years. One is the endurance of U.S. consumers and their willingness to push up real retail sales at a near 5 percent annual rate. The other is the double-dip behavior of the U.S. industrial sector. Although the most recent data offer hope of recovery—a 0.1 percent increase in industrial production and a purchasing managers index that has pulled back to near breakeven—it is too soon to declare that the economy has reversed course.

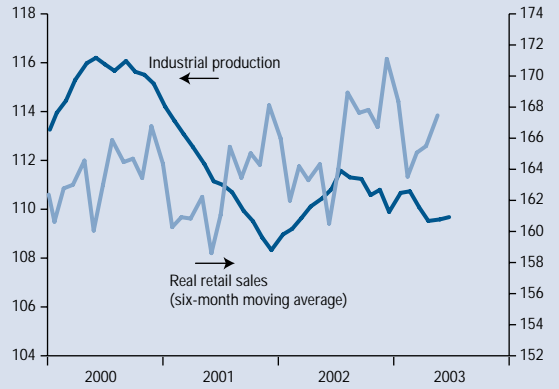
Another sharp dichotomy in the national economic data—and perhaps another way to look at the same issue—comes in the current difference between real economic activity

that remains sluggish and various financial and expectations measures that have turned positive. Real economic activity indicators such as average weekly factory hours, vendor performance, new orders and initial unemployment claims have all been flat or negative, while consumer expectations, stock prices, interest rate spreads and money growth have

Figure 3
Retail Sales Drive Economy; Industrial Production Is a Drag

Index, 1997 = 100

Billions of real dollars



SOURCES: Census Bureau; Bureau of Labor Statistics; Federal Reserve; authors' calculations.

consistently provided good news in recent months.

Two factors probably explain the difference in news from the real economic and financial arenas: robust productivity growth and a strong dollar. Productivity growth simultaneously increases profits, raises stock prices and improves the general business outlook while restraining weekly hours worked and boosting initial claims for unemployment compensation. Productivity also has allowed real wages to grow, underpinning retail consumption. The strong dollar spurs imports, discourages exports and produces a disproportionate negative impact on domestic goods sectors.

Resumption of stronger U.S. growth, then, depends on two things: corporate balance sheets and business confidence rising to the point where we see robust business investment, and a continued decline in the trade-weighted value of the dollar, which has fallen steadily throughout 2003 (Figure 4).

Table 1 shows estimates of U.S. economic growth in 2003 and 2004 from the Federal Reserve's latest Monetary Policy Report to the Congress. The figures are an average of estimates submitted by members of the Board of Governors and

Figure 2
Houston Mining Employment and Drilling Activity
in the United States

Thousands of employees

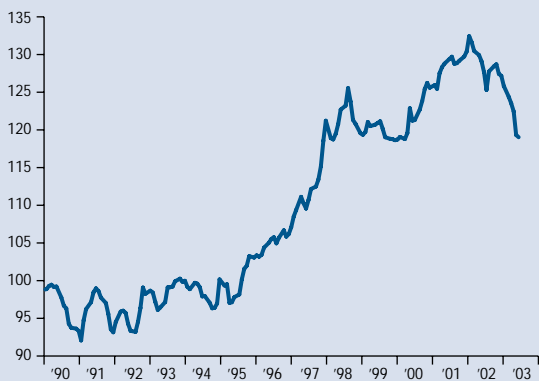
Number of rigs



SOURCES: Bureau of Labor Statistics; Baker Hughes, Inc.; seasonally adjusted by authors.

Figure 4
Trade-Weighted Value of the Dollar, 1990 to Present

Index, 1995 = 100



SOURCE: Federal Reserve Bank of Atlanta; seasonally adjusted by authors.

Reserve Bank presidents, and they are quite optimistic. They agree with assessments of many other analysts who view recent financial data, especially the rebounds in corporate earnings and the stock market, as a signal that strong growth is ready to return in the second half of 2003. The Fed figures show real GDP growth at 2.5 to 2.75 percent in 2003. With probable GDP growth near 1.5 percent for the first half of the year, this implies a rate of 3.5 percent or better in the second half, possibly accelerating to more than 4 percent in 2004. Given the long pause in growth since early 2001, even this optimistic estimate would leave significant slack in the economy, keeping the door open to continued low inflation and low interest rates.

Upstream Energy

In April 2001, drilling began to decline in the United States

from a seasonally adjusted peak of 1,272 working rigs (see Figure 2). By August 2002, 16 months later, the number of rigs had fallen to 807, a 37 percent decline. The setback lasted two months longer than the previous rig count drop in 1998–99, but it was milder; the 1998–99 downturn reached 48.3 percent from peak to trough.

When the rig count began its latest descent in April 2001, natural gas prices were in the range of \$4–\$5 per thousand cubic feet, \$3 for much of the following summer, \$2 by fall and briefly under \$2 in October. Still, for all of 2002, daily spot prices at the Henry Hub averaged a healthy \$3.36.

Drilling activity in recent years has reacted more to gas storage data, perhaps as a predictor of gas prices, than to the gas price itself. Figure 5, for example, shows storage levels during 2000–01 compared with their average levels over the previous five years. The price surged to double digits during extraordinarily cold winter weather, and by late March and early April 2001, inventory was 33 percent below average. Refill of this storage, however, was extremely rapid, and by late July 2001 inventories were back on track and equal to the five-year average. By October and the beginning of the heating season, storage was 8 percent

above normal. This was when the price briefly fell under \$2.

For the current cycle, storage more than price again seems to drive drilling decisions. Despite high natural gas prices in 2002, drilling was slow to pick up. Prices moved back over \$3 per thousand cubic feet in March and only briefly fell under \$3 through the summer. Drilling did not bottom out and begin to turn, however, until the price firmed near \$4 in the second half. Despite excellent cash flows, producers refused to be convinced that high prices would persist, probably because high gas inventories were flashing a strong caution signal: Before projects are completed, the price could collapse. Caution by producers has been a hallmark of this drilling cycle, measured not just by the number of projects undertaken but also by producers' unwillingness to undertake risky or expensive projects.

All warning signals disappeared briefly last winter, however, when storage fell 50 percent below the five-year average in March and April and spot prices briefly moved over \$10 per thousand cubic feet in February. So far this year, spot prices have averaged \$5.91, and the domestic rig count

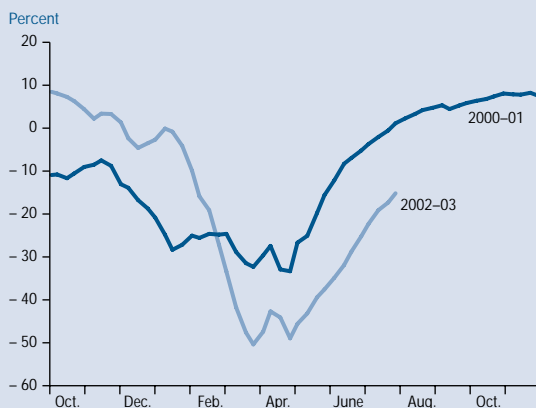
Table 1
Federal Reserve Economic Projections

	Percent	
	2003	2004
Real GDP growth	2.5–2.75	3.75–4.75
Inflation	1.25–1.50	1.0–1.50
Unemployment rate	6.0–6.25	6.0–6.25

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

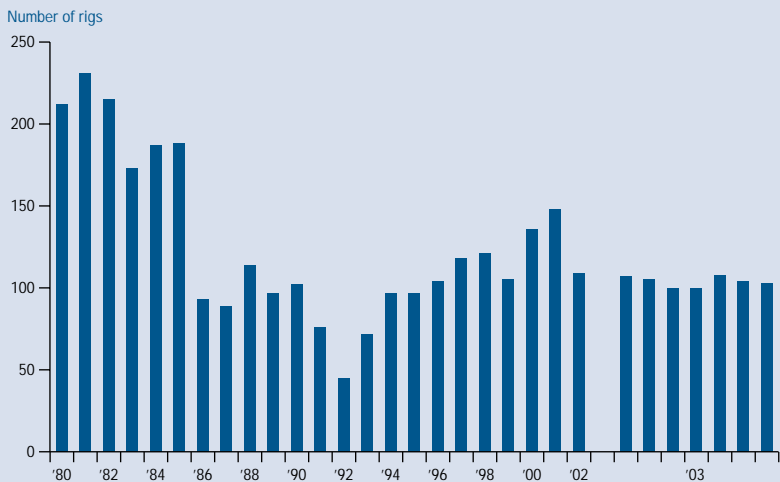
SOURCE: Monetary Policy Report to the Congress, July 15–16, 2003.

Figure 5
Deficit or Surplus of Natural Gas
(Relative to 5-year average, October to October)



SOURCES: Energy Information Administration; authors' calculations.

Figure 6
Drilling Activity in Gulf of Mexico, 1980 to Present



SOURCE: Baker Hughes, Inc.

continued to surge through May. Signs of producer caution have persisted, however, as the number of rigs working in the Gulf of Mexico has remained below 110. Gulf operations provide a good example of the complex and risky ventures operators have continued to avoid (*Figure 6*). In 2001, Gulf drilling averaged 148 rigs. This year's count has yet to rise from 2002 lows.

The last two months have seen a flattening out and pause in the number of active U.S. rigs. Allowing for seasonal factors, there has actually been a small decline in drilling. This pullback coincides with a sudden and unexpected rapid refill of natural gas inventories. April figures showed gas storage 50 percent below the five-year average; by early July, inventories were only 15 percent below the norm. Cool weather in the Northeast and Midwest resulted in a series of record injections into gas storage. Although the gas price has remained at extremely profitable levels near \$5 per thousand cubic feet, suddenly the storage indicator light is again flashing yellow. Producers quickly applied the brakes in fear that this could be 2000–01 all over again.

What happens ahead? Many consulting firms, investment researchers and oil company analysts believe there is a fundamental shortage of natural gas reserves and production capacity in the United States and that recent high prices simply reflect too little investment in domestic exploration in recent years. Even if this is true, a mild summer could mask this shortage and bring lower prices, just as the extraordinarily cold winter of 2002–03 may have exaggerated it. Three months remains to close the 15 percent storage deficit before the heating season begins on Oct. 1, and continued rapid refill of storage could easily take a significant bite out of the domestic rig count. Alternatively, an August heat wave, pushing up air-conditioning loads in the Northeast and Midwest, would signal more increases in drilling activity. Either way, a significant piece of the Houston economy now depends on this summer's weather.

Downstream Manufacturing

Many Gulf Coast industries are built on the premise that natural gas is a surplus commodity that sells at a substantial discount relative to oil. Important industries like metha-

nol, ammonia and the olefins depend on cheap natural gas feedstocks. These industries face severe financial distress when natural gas priced at \$5 or more per thousand cubic feet now sells at an energy-equivalent premium to oil at \$30 per barrel. Many facilities are cutting back sharply on production, some are closing temporarily, and others are announcing or accelerating permanent closures.

Global competitors to the Texas and Louisiana petrochemical industry generally rely on oil to produce petrochemicals, and historically cheap gas has provided an important cost advantage to U.S. plants. Now oil has the advantage, and one of the most important Texas export industries finds itself at a significant competitive disadvantage vis-à-vis the rest of the world. Olefin plants along the Gulf Coast are currently operating at minimal levels, hurt by a lack of export markets and weak demand at home.

This is not the first time feedstock prices have risen this high, a fact that has led to widespread speculation that the days of cheap, surplus natural gas in the United States may be over. If this is true, it represents a fundamental threat to much of the Gulf Coast's industrial base. While the announced closures so far have been confined to older facilities, no one is currently betting on the future of the industry, and investment has fallen to very low levels.

This is seen in the low number of hydrocarbon-processing projects announced on the Gulf Coast since the recession began in 2001 (*Figure 7*). The few new projects are largely confined to more profitable refining, with little or no interest in petrochemical expansion. Excess capacity, no prof-

its and now extraordinary feedstock costs have halted investment in these plants, removing an important source of heavy construction activity from the Texas and Louisiana economies. The possibility of permanently higher natural gas prices could end this construction for good.

Looking Forward

A simple model of the Houston economy provides insight into the prospects for employment growth. It examines the forces that most influence this region's economy: the U.S. economy, energy markets and the value of the dollar.

Table 2 shows the outcome of three possible scenarios. The first assumes that growth in energy markets and the U.S. economy and weakness in the dollar continue at current rates. The second, more optimistic scenario assumes that the rig count increases, the dollar weakens substantially more and the U.S. economy strengthens beyond its current pace. The third, more pessimistic scenario assumes that the rig count reverses, the U.S. economy slows and the dollar regains strength.

The first scenario provides an annual growth rate of just over 1 percent, or 22,000 net new jobs in the metro area, for all of 2003. This translates into

a strong second half that must overcome the weakness Houston experienced in the first half, including about 2,000 net lost jobs year-to-date. The second scenario represents all the pieces falling into place for Houston. It produces even more growth for the current year and predicts more than 25,000 net new jobs, enough to regain all of the employment lost since April 2000. The final scenario represents a return to the stagnant growth seen since mid-2001, when the national economy was in recession. Should this occur, Houston would likely still see positive growth, but closer to 0.5 percent, or 12,000 new jobs, for the current year.

The main differences in the model's projections do not appear in 2003 but rather in 2004. The reason lies in what has already occurred so far this year with the expanded rig count and falling dollar. The first scenario predicts a return to more normal growth rates, near 2 percent, beginning next year; this amounts to about 41,000 new jobs. The more optimistic second scenario predicts that by the end of 2004, Houston would enter a period of growth approaching that seen during much of the 1990s, closer to 2.5 percent, or 49,000 new jobs by year-end. The more pessimistic third scenario, on the other hand, would return Houston to 2001 growth rates and further stagnation.

Conclusion

It is apparent that job growth will

return to Houston. A realistic look at the three key driving factors for Houston, however, shows significant risks to a quick return to normal or even faster job growth. Natural gas storage levels are approaching their five-year average, which could signal cooling in the energy sector. Timing the coming upturn in the U.S. economy has stumped the experts time and again, including this business cycle. Productivity has increased in the industrial sector, which translates into slower job growth. Finally, the dollar has strengthened somewhat against its trading partners in recent weeks. Even if the dollar's value simply stays at current levels, the weakening trend of the past year has been broken, at least for the time being.

A best guess for job growth in Houston the rest of this year probably falls somewhere between the low and middle scenarios—less than 1 percent, perhaps near 18,000 jobs. Next year's prospects could be much better if the U.S. economy finally picks up, moving Houston's job growth above 2 percent to about 45,000 jobs.

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Table 2
Employment Growth in Houston

	Percent		Total new jobs (in thousands)	
	2003	2004	2003	2004
Scenario 1	1.04	1.95	22	41
Scenario 2	1.2	2.3	26	49
Scenario 3	.56	.43	12	9

NOTE: Changes are fourth quarter to fourth quarter.

SOURCE: Authors' calculations.

Figure 7
New Hydrocarbon Processing Announcements in Texas and Louisiana, 1986 to Present



SOURCE: *Hydrocarbon Processing*.

Houston's coincident index of economic activity shows the local economy continuing to tread water through May, with no significant gains or losses. The cumulative declines in the local economy since early 2001 are still less than 2 percent. Advances in drilling, a falling dollar and an improving U.S. economy would give Houston some positive impetus in the second half of this year—if all three remain on a positive track.

Retail and Auto Sales

It has been a difficult year for retailers, whose sales have trailed expectations by 5 percent or more. Early July seemed to bring improved sales, although promotions remain necessary to drive traffic through the stores. Inventories are now well under control, and costs have been brought into line with job reductions in some cases.

Auto sales have also faced a difficult environment in Houston. Sales have lagged throughout 2003 despite numerous manufacturer and dealer incentives. Sales were off 7 percent in June compared with a year earlier and are down 7 percent for the first half of 2003.

Real Estate

Recent local real estate trends show few surprises. Both new and existing home sales were up strongly in May. Weakness continues in the apartment market, with occupancy rates dragged down by a weak job market and renters drawn by low interest rates to the single-family market. The office

market is still looking for a bottom, although the rate of decline has slowed. Weakness remains concentrated in the central business district and Galleria areas.

Oil and Natural Gas

Crude prices remained in a narrow range in recent weeks—near \$30 for West Texas Intermediate—and the price of gasoline and heating oil largely followed the price of crude. Supporting oil prices have been low inventories for both crude and gasoline, the start of the summer driving season and substitution of oil for expensive natural gas by industrial users.

Natural gas prices weakened in recent weeks, falling from over \$6 per thousand cubic feet to near \$5. Storage injections proceeded at record levels, trimming the gas storage deficit from 50 percent of the five-year average in March to only 15 percent by early July. Cool weather and reduced air-conditioning loads in the Northeast speeded the inventory refill.

Drillers seemed to take note of the storage data, because the rapid climb in the domestic rig count slowed sharply. Exploration did not start to increase last year until every signal was flashing green, and now this one caution light seems to have slowed the advance. International activity remains strong. Canada, hesitant to get started

this year after the annual thaw, has roared back in recent weeks.

Refining and Chemicals

Refiners saw margins weaken in recent weeks, probably marking the end of the period of very good profits spurred by last winter's extreme cold. Profits remained good—comparable with last summer's—but down sharply from this spring's earnings. Capacity utilization on the Gulf Coast also fell back from recent months' highs, partly because of several refinery outages.

Pain continues in the petrochemical industry. High natural gas prices have forced gas-intensive users of methanol, ammonia and olefins to cut back. Weak domestic and export demand has further reduced production. The Gulf Coast's bellwether olefin industry is operating at minimal levels, and the outlook is generally bleak. Prices are falling for ethylene and propylene as well as for plastics such as polyethylene, polypropylene, bottle resins, polyvinyl chloride and polystyrene.



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