



# HoustonBusiness

*A Perspective on the Houston Economy*

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## Income Growth Shows Houston's Economic Strength and Maturity

*The most recent data available should relieve concerns that we are getting poorer, that Houston is a low-wage city or that our standard of living is below that of other large U.S. cities.*

**T**he focus of current economic analysis in a major metropolitan area like Houston is almost always on the labor market. Wage and salary employment and unemployment statistics are both comprehensive measures of the local economy's performance, but more important, they are timely. The measures are released at the same time, within about 30 days after the close of the month reported. Other economywide gauges, such as wages and income, are reported with a lag of many months at best. Yet other measures—like production—are not reported at all.

This article looks at Houston's recent economic performance in terms of wages, salaries and total income. As we end 2006, some of the data will sound like the product of a long time ago. However, it's the most recent available. The numbers should relieve concerns that we are getting poorer, that Houston

is a low-wage city or that our standard of living is below that of other large U.S. cities. These local income data also clearly signal strong economic progress in Houston, both for the long term and in the current commodity cycle.

### Per Capita Income and Components

The most comprehensive income measure for U.S. metropolitan areas is the personal income series from the Bureau of Economic Analysis, usually reported as local per capita income. This measure includes wages and salaries, proprietors' income, transfers to individuals, and income from dividends, interest and rent.

Table 1 shows 2005 per capita income (personal income divided by population) for Houston and 11 other metro areas that can be considered the city's peers based on either population or total personal income. By either measure in 2004, the 12-city list is the same, with New York, Los Angeles and Chicago the largest three metro areas. Based on total personal income in 2004, Dallas-Fort Worth is No. 8 and Houston No. 9, followed by Miami, Detroit and Atlanta.

On the 2005 list, we see the highest per capita income in high-wage cities like San Francisco, Washington and Boston. Houston falls in the middle of the pack, in the No. 6 spot. High-wage cities, however, also have a high cost of living. We can adjust the income data for those cost of living differences using information the Council for Community and Economic Research publishes in the form of an index. The index is based on a quarterly survey of the cost of groceries, utilities, transportation, health care, and miscellaneous goods and services in nearly 300 cities.<sup>1</sup>

It is no surprise that adjusting income for the cost of living significantly shuffles the order of cities in Table 1. Houston, Dallas, Chicago and Atlanta shoot to the top of the list, while San Francisco, Los Angeles, New York and Detroit fall to the bottom. While a low cost of living should not be confused with a high quality of life, it is clear that a dollar goes much further in Houston and Dallas than it does in cities on the bottom of the list.

Table 1 also shows which cities experienced the most rapid per capita income growth in 1999–2005. To make this comparison, we adjusted each of the metropolitan areas for inflation, using a consumer price index specific to each. The winners in this race are primarily on the Eastern Seaboard (Washington, Philadelphia, New York and Boston). Only Houston breaks into this group, landing at No. 4 thanks to real per capita income growth of 1 percent a year.

Table 2 compares the 1999–2004 performance of some major components of total personal income in Houston and all U.S. metro areas combined.<sup>2</sup> Houston comes in at a 2.9 percent annual rate, beating the U.S. metro average by a full

**Table 1**  
2005 Per Capita Income Adjusted for Cost of Living

	Per capita income (dollars)	Rank	Adjusted			
			Per capita income (dollars)	Rank	Change 1999–2005 (percent)	Rank
Atlanta	35,009	12	35,833	4	–.2	11
Boston	48,158	3	34,671	5	.9	5
Chicago	38,439	7	37,211	3	.3	9
Dallas	37,075	8	39,737	2	.3	10
Detroit	36,650	10	20,967	12	–.3	12
<b>Houston</b>	<b>39,052</b>	<b>6</b>	<b>44,529</b>	<b>1</b>	<b>1.0</b>	<b>4</b>
Los Angeles	36,917	9	23,454	10	.6	8
Miami	36,293	11	31,450	8	.6	7
New York	45,570	4	22,649	11	1.0	3
Philadelphia	40,468	5	32,220	7	1.2	2
San Francisco	51,964	1	29,728	9	.7	6
Washington	49,530	2	33,948	6	1.6	1

SOURCES: Bureau of Economic Analysis; Bureau of Labor Statistics; Council for Community and Economic Research, ACCRA Cost of Living Index, various issues; authors' calculations.

**Table 2**  
Major Components of Personal Income

	2004 level (billions of dollars)		Annual growth, 1999–2004 (percent)		
	U.S. metros	Houston	U.S. metros	Houston	Difference
Personal income	8,488.9	190.8	1.9	2.9	1.0
Wages and benefits	5,984.2	130.2	2.0	2.5	.5
Proprietors' income	789.7	38.0	3.4	4.7	1.3
Rents, interest and dividends	1,329.0	22.3	–.8	.9	1.6
Transfers to individuals	1,156.9	17.4	4.2	5.3	1.0

NOTE: Percentage differences may not add up due to rounding.

SOURCES: Bureau of Economic Analysis; Bureau of Labor Statistics; authors' calculations.

percentage point. Wages, salaries and employer-paid benefits—which constitute about 70 percent of personal income—grew about 0.5 percent faster in Houston than in the U.S. metros. The share of proprietors' income—the income of the self-employed—is twice as big in Houston as the U.S. metro average and grew 1.3 percent faster. Transfer payments are less important in Houston than in other metro areas, but grew at a 5.3 percent annual rate versus 4.2 percent elsewhere. Given falling interest rates and a weak stock market, it's no surprise that rents, interest and dividends performed poorly in this period, though they did better in Houston.

Table 3 looks at wages and salaries and employer-paid benefits. Again, the

comparison is to all U.S. metropolitan areas. Nominal dollar wages and benefits per Houston worker were 7 to 8 percent higher than in the typical metro area in both 1999 and 2004. Calculations in the lower part of the table show that nominal wage and employer-paid pay-

**Table 3**  
Increase in Real Wages and Benefits Per Worker, 1999–2004

	U.S. metros	Houston
Real wages per worker 1999	\$46,432	\$49,859
Real wages per worker 2004	50,153	54,245
Annual percentage increase		
Nominal wages	4.5	5.2
– Inflation	2.4	2.6
= Real wages	2.0	2.5
– Employment	.4	.8
= Real wages per worker	1.6	1.7

NOTES: Real wages are in 2004 dollars; percentage changes may not add up due to rounding.

SOURCES: Bureau of Economic Analysis; Bureau of Labor Statistics; authors' calculations.

ments per worker grew 5.2 percent annually in 1999–2004, but adjusted for inflation, they grew 2.6 percent. Houston employment during this period of jobless recovery from the recession expanded only 0.8 percent per year on average. As a result, real wages per worker rose 1.7 percent in Houston, not much different from the 1.6 percent of the U.S. metros. The city’s faster nominal wage growth is primarily attributable to faster job growth during this period, not higher hourly or annual compensation.

We can update Table 3, but only by narrowing the focus, since numbers on 2005 employer-paid benefits are unavailable. Figure 1 shows how real wages and salaries per worker have changed in the Houston metro area in recent years. They rose 1.8 percent in 2005—stronger than the turnaround year of 2004, when they went up 1.4 percent. Based on the many reports of ongoing labor shortages and a general scarcity of workers at all levels in Houston, the outlook for even higher numbers for 2006 is excellent.

### Income by Occupation

Houston’s deep roots in oil, natural gas and chemicals sometimes raise doubts about whether it’s a blue- or white-collar town, about our knowledge base compared with other cities’, and where we stand in terms of occupational mix and compensation by occupation. Table 4 shows 22 major occupational categories, along with the average pay in Houston and the typical peer city and the difference between them. The occupations are ranked from best- to worst-paid in the peer cities.

Houston pays a significant premium over the other cities in six of the seven best-paid

occupations: management, legal, computers and math, architecture and engineering, business and finance, sciences and health care practitioners. The premium is largest in engineering and science; the exception is business and finance.

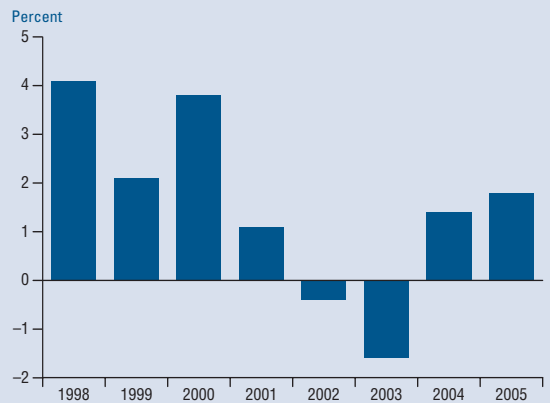
Looking at lower-paid occupations, with the notable exceptions of production and transportation, Houston pays wages below the peer-city average. The top seven categories are likely tied to a national market and Houston’s need to draw higher-than-average skills. The occupations at the bottom are probably a product of the local labor market. Although pay is below the peer-city average, a cost-of-living adjustment similar to that made for per capita income in Table 1 would move cities like Houston and Dallas to the top of the compensation list, even in these local markets.

To determine if Houston is well represented in the best- and worst-compensated occupations, we computed concentration ratios for each occupation, or the percentage share of the occupation in the city, divided by the percentage share in the nation as a whole:

$$\text{Concentration ratio} = \frac{\text{percentage share of an occupation in the city}}{\text{percentage share of an occupation in the U.S.}}$$

The ratio is computed for both Houston and the 12 peer cities combined, and both ratios are compared with the national average. When the ratio is 1, the city has a share typical of places throughout the United States. When the

**Figure 1**  
Increase in Houston’s Inflation-Adjusted Wages Per Worker, 1998–2005



SOURCES: Bureau of Labor Statistics, Quarterly Census of Employment and Wages; Federal Reserve Bank of Dallas; authors’ calculations.

ratio is greater than 1, the city has more than a typical share; when it is less than 1, it has less than a typical share.

With the exception of engineers and scientists, compared with its peers, Houston is not well represented in the top seven. Generally, the city’s strengths throughout the list reflect a well-known industry mix. Its reliance on engineers is in oil and gas extraction, chemicals and refining, and aerospace. Strength in transportation is tied to transmitting energy (pipelines, for example), being a major port, and moving goods produced by a manufacturing base larger than is found in most peer cities.

Houston’s notable weakness in computers and math compared with its peers might be attributable to the proximity of Austin and Dallas, which both have a significant high-tech base. Similarly, weakness in business and finance probably reflects Dallas’ emergence in the 1990s as the state’s financial center.

Does Houston have its share of these highly compensated jobs? There is a large break (\$12,785 per year) in the list of annual compensation by peer cities after health care

**Table 4**  
**2005 Wages and Concentration Ratios for Houston and Peer Cities**

	Average wages (dollars)			Concentration of occupations		
	Houston	Peer cities	Difference	Houston	Peer cities	Difference
Management	93,190	91,263	1,927	1.08	1.17	-.08
Legal	85,460	82,914	2,546	1.18	1.41	-.22
Computers and math	69,780	65,350	4,430	.95	1.45	-.50
Architecture and engineering	72,600	63,222	9,378	1.61	1.10	.51
Business and finance	60,710	61,277	-567	.98	1.26	-.28
Life, physical and social science	67,650	58,928	8,722	1.17	1.17	0
Health care practitioners	59,610	57,812	1,798	.98	.97	.02
Arts, entertainment and media	39,750	45,027	-5,277	.74	1.24	-.50
Education, training and library	43,220	43,472	-252	.99	.96	.03
Community and social services	36,980	39,674	-2,694	.56	.88	-.32
Construction and extraction	30,570	38,303	-7,733	1.27	.89	.38
Installation, maintenance and repair	37,320	37,255	65	1.08	.90	.18
Protective services	35,270	35,617	-347	.99	1.06	-.08
Sales and related	34,560	33,774	786	.98	1.01	-.03
Office and administrative support	29,780	29,890	-110	.99	1.05	-.06
Production	32,090	28,141	3,949	.92	.78	.14
Transportation and material moving	29,240	26,569	2,671	.97	.91	.06
Health care support	20,970	24,532	-3,562	.83	.87	-.04
Personal care and services	22,030	23,731	-1,701	1.06	.99	.07
Building and grounds	17,670	22,476	-4,806	1.02	.99	.03
Farming, fishing and forestry	19,400	19,724	-324	.24	.20	.04
Food preparation and serving	16,180	18,732	-2,552	.95	.92	.03

SOURCES: Bureau of Labor Statistics, Metropolitan Area Occupational Employment and Wage Estimates, May 2005; authors' calculations.

practitioners and before arts, entertainment and media. A second break (\$3,884) occurs after sales and before office and administrative support. Using these breaks, we can categorize the top seven occupations as highly compensated and the bottom eight as the lowest paid. Compensation across the top seven averages \$68,681 per year, while for the lowest paid, the average is \$24,224. The remaining seven occupations pay \$39,017 annually.

For all 12 cities, we computed the share of highly compensated jobs in total employment. Figure 2 summarizes the results. Nationally, 19.5 percent of jobs are highly compensated; the 12 peers average 22.8 percent. Washington, Boston and San Francisco are the three metro areas that clearly stand out as having extraordinary concentrations of white-collar, or knowledge-based, workers. The average

for the other nine cities is 20.7 percent, leaving Houston (at 21 percent) typical of this group.

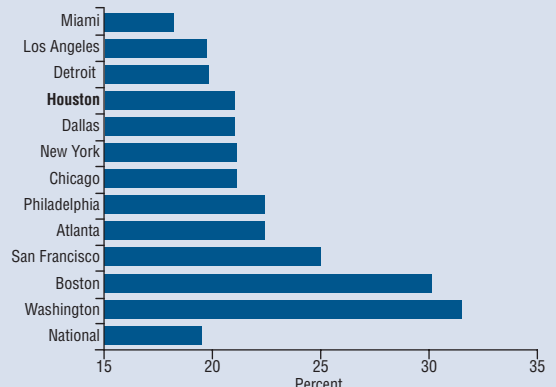
The share of jobs in the lowest-paid occupations is summarized in Figure 3. For these jobs, the national average is 49.7 percent and the 12-peer-city average is 47.1 percent, with Washington, Boston and San Francisco again standing out from the pack. The average for the remaining nine cities is 48.8 percent, with Houston coming in at 47.7 percent. It is hard to make a case for Houston as a low-wage city when places like Dallas, Chicago, Los Angeles and Atlanta have a larger share of low-wage workers.

To determine trends, calculations similar to those in Figures 2 and 3 were carried out for 1999, allowing us to com-

pare 1999 to 2005. The difference between the two years in the share of jobs in high- and low-pay occupations for each city and the nation is shown in Figure 4. Those differences are generally small in both compensation groups.

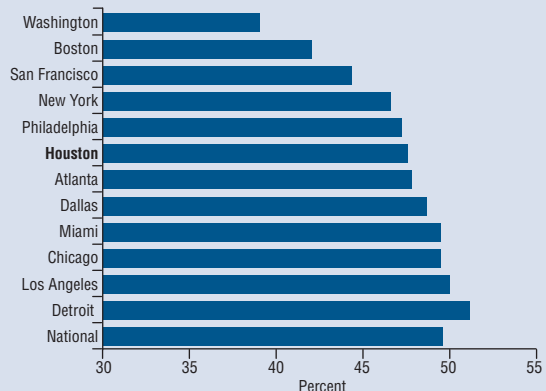
The national average saw no change in the share of highly compensated workers, but the share of workers in low-pay occupations fell by 1.1

**Figure 2**  
**Percentage of Metro-Area Jobs in the Seven Highest-Paid Occupations**



SOURCES: Bureau of Labor Statistics, Metropolitan Area Occupational Employment and Wage Estimates, May 2005; authors' calculations.

**Figure 3**  
**Percentage of Metro-Area Jobs in the Eight**  
**Lowest-Paid Occupations**



SOURCES: Bureau of Labor Statistics, Metropolitan Area Occupational Employment and Wage Estimates, May 2005; authors' calculations.

percent. Jobs in midlevel occupations were the net recipient. For the 12 peer cities, the average change from 1999 to 2005 was a 0.9 percent drop in the share of jobs in well-paid occupations and a 1.2 percent decline in the lowest paid.

Again, the jobs in occupations with pay in the middle were the recipient, a trend shared by seven of the 12 cities. Atlanta, Boston and Washington all showed a rising share of well-compensated occupations and a declining share at the bottom of the scale. Only Houston and Los Angeles showed a decline among the jobs in the best-paid occupations and a rising share

of jobs in the poorly paid.

### Conclusions

Houston income data arrive with a significant lag, but what's been released so far confirms a pattern of accelerating growth already seen in the employment statistics.<sup>3</sup> Job growth in 2002–03 was virtually nonexistent, but it began to pick up in 2004. Final numbers

for both 2005 and 2006 will put it near 4 percent, and the Beige Book and other reports have focused on a shortage of workers.

Preliminary 2005 reports were of engineering and technical skills in short supply, but workers are now difficult to find at all levels and in all industries. Total wages appear to have initially followed the path of employment, with little or no increase in hourly or annual pay. However, the limited data through 2005 show workers drawing higher wages, a trend that has probably strengthened in 2006.

Houston's per capita income and wage levels are typical of the country's top dozen cities. There are large differences in income and wages across these cities, but there are also large differences in the cost of living. A dollar spent by a middle management employee in Houston goes much further than in most peer cities, so when per capita income is adjusted for the cost of living, Houston rises to the top of

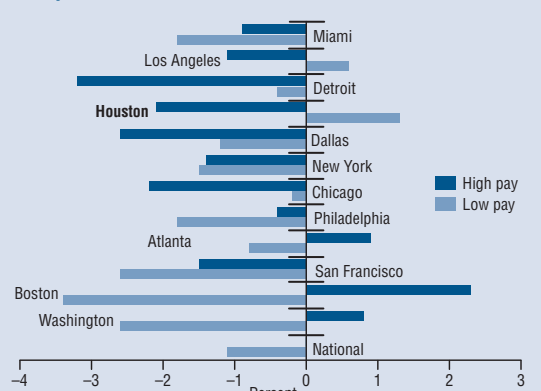
the list. Although a low cost of living does not guarantee a high quality of life, high salaries in cities like New York, Washington and San Francisco provide less purchasing power than might be apparent.

Finally, Houston's occupation profile matches the city's strong role in extractive and manufacturing industries, with an especially large number of engineers and scientists, transportation employees and factory workers. Houston pays a premium for highly skilled workers, perhaps because it demands a higher level of skills than its peers. The city pays significantly less, however, for low-paid workers. But again, when adjusted for the cost of living, these wages improve dramatically compared with other large cities. Houston's mix in terms of the number of jobs found in high- and low-wage occupations is typical of that of the largest cities in the country.

—Robert W. Gilmer  
 Charles L. James

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**Figure 4**  
**Change in the Share of Jobs in High- and Low-Pay**  
**Occupations, 1999–2005**



SOURCES: Bureau of Labor Statistics, Metropolitan Area Occupational Employment and Wage Estimates, May 2005; authors' calculations.

### Notes

- <sup>1</sup> The index can be criticized for having varied participation by urban area from quarter to quarter, surveying a relatively short list of items that primarily reflect a middle-management standard of living, and excluding state and local taxes.
- <sup>2</sup> The major components shown in Table 2 do not add up to local-area personal income. Benefits employers paid to government pension funds must be subtracted, plus an adjustment made for commuters who earn their income in one area and live in another. Table 2 does not cover 2005 because although data are available for total personal income, a breakdown by major components is available only through 2004.
- <sup>3</sup> "Oil Exploration Booms—Is Houston Next?" by Robert W. Gilmer, *Houston Business*, March 2006.

**T**he Houston economy continues to boom. Seasonally adjusted unemployment has fallen to 4.7 percent, the lowest rate since 2001. Allowing for known data revisions to come, Houston has created 99,000 wage and salary jobs in the past 12 months. While there are dark clouds in the distance—most notably, a slowing U.S. economy and rising natural gas inventories—the immediate problem in key local industries remains labor shortages, backlogs and long lead times.

### Retail and Auto Sales

Retail sales turned weak in recent weeks, with most retailers failing to meet their October or early November plans. Year-ago comparisons would be misleading because of consumer buying after the hurricanes. But recent strong months had led retailers to plan on solid increases for October. Now, the results of the past few weeks have raised concerns about the coming holidays.

September auto sales were very healthy, up 14 percent from a year earlier.

### Real Estate

Strong job growth is supporting most of Houston's real estate markets. Existing-home sales were up 18 percent in September from a year earlier, with the median price rising 3.1 percent. New-home sales were up 6 percent. The office market has made dramatic absorption and occupancy gains in recent months, led by Class A and central business district space. Industrial real estate remains strong, but the

retail market has softened. The post-Katrina apartment market continues to move in reverse, with falling occupancy and lower rents over the past six months.

### Energy Prices and Drilling

The price of West Texas Intermediate is near \$60 per barrel and has moved in a narrow range between \$57 and \$61 in recent weeks. Natural gas fell under \$6 per thousand cubic feet in late August, under \$5 in mid-September and briefly under \$4 in late September. Price has steadily strengthened and been in the \$6–\$8 range since mid-October. This apparent strength defies the fundamentals of over 3.4 trillion cubic feet of gas in storage, when the Energy Department estimates maximum storage of 3.6 trillion cubic feet.

In response to possible weak natural gas prices, domestic drilling has flattened at high levels over the past three months. Unconventional gas in the Rockies and Canadian drilling in Alberta have been most affected so far. A few smaller land-based rigs have come offline, and day-rates continue to rise—just more slowly than before. International activity continued to grow significantly, with every continent adding rigs in recent months.

### Refining

Gulf Coast refineries have returned from maintenance and are now operating at high levels. The return was delayed in some cases by labor and construction shortages or relatively weak margins that offered less incentive to hurry back into production. Refining margins have been \$8–\$10 per barrel, strong by historical standards but half to one-third the margins enjoyed over the summer.

### Petrochemicals

Petrochemicals were mixed. Ethylene production has been affected by a series of planned and unplanned outages that have supported prices and kept profit margins high. Expectations are for lower prices in the future as outages end, the price of natural gas falls and the demand for downstream plastics shrinks.

Demand for butadiene, in contrast, is very strong. Price is high, helped by strong demand for natural rubber, and margins are excellent. Isobutylene, used in the production of many consumer products, weakened in October, but returned strongly and is pushing capacity limits in November.



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