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Houston Business

A Perspective on the Houston Economy

Houston and the National Business Cycle

There is a growing role for the national economy in helping shape Houston's large financial and business service sectors, precisely those sectors where important white-collar job growth has occurred. However, Houston's traditional oil base has also come to play a much larger role in these same sectors—presumably the result of headquarters consolidation and international construction.

The Houston economy has been transformed by the past decade of boom, bust and recovery. Before the oil bust of the 1980s, the city seemed impervious to national economic conditions, as oil markets and a boomtown mentality kept it on a course apart from the national business cycle. Now, post-bust, it is often said that Houston is integrated into the national economy, and the nation's business cycle is a potent and growing force in the city.

However, a careful look at Houston employment trends since 1975—with emphasis on the period since early 1987, when Houston's economic recovery began—shows that oil exploration and associated forms of goods production remain the most powerful influence on Houston job markets. The national economy played a significant role in several of Houston's key service sectors throughout the 1975–93 period, and this role *has* grown in recent years in several important financial and business service sectors. However, in Houston the national economy is still a subordinate force to the oil markets.

WHITE-COLLAR JOB GROWTH

The broadest trends in Houston's job growth since 1987 have mirrored the nation's in important ways. Oil exploration and durable goods manufacturing played a very small role as Houston replaced the 212,000 jobs lost in the oil downturn (and added 50,300 seasonally adjusted jobs in addition to those). The locus of job growth moved to the service sector, with the strongest growth in white-collar professional, engineering and business service jobs. Such growth in producer services was typical of much of urban America in the 1980s.

What brought this job growth to Houston? A closer look at the factors involved make a national model seem an inadequate explanation. The Houston economy is comprised of four growth poles: upstream oil operations, downstream oil refining and petrochemicals, medical services, and manned space flight. All contributed to the white-collar, professional employment trends that drove Houston's recovery. Space station contracts fell into place at the Johnson Space Center, adding a huge new program to existing and ongoing shuttle operations. The Texas Medical Center contributed thousands of new jobs after 1987, along with $1.4 billion in new construction contracts between 1986 and 1992.

As upstream oil sectors shrank, many oil companies consolidated their headquarters operations into Houston, bringing growing ranks of corporate management and research personnel to the city. This consolidation became a powerful lever in the creation of white-collar jobs in accounting, professional and other business services required to support a growing corporate complex.

Finally, as oil and natural gas prices fell in the 1980s, Houston's downstream sectors recovered. This was especially true for basic petrochemicals. Limited production capacity, a global expansion and a sharp drop in oil and gas feedstock prices combined to generate a global boom in chemical plant construction. The Texas Gulf Coast was a major beneficiary of this construction, but more importantly, much of the expertise required to build these facilities around the world is found in Houston. International construction companies with a local base—including M.W. Kellogg, Fluor Daniel, Brown and Root and CRSS—were badly hurt as petrodollars dried up in the early 1980s; chemical plant construction and a global economic expansion restored them to health and brought Houston thousands of new engineering jobs.

MORE LIKE THE NATION?

Medical services, the space station, upstream consolidation and downstream expansion all contributed to the new pattern of job growth seen in Houston in the late 1980s. Did it bring diversification? Yes, with a shift to medical services and manned space exploration and with a better balance between Houston's upstream and downstream oil sectors. Did it make us more like the country as a whole? For each of these growth poles, the role of the national business cycle in renewed job growth is tangential at best, since this growth evolved from unique and traditional Houston institutions.

The statistical results in Table 1 and Table 2 show the powerful and continuing influence oil prices, the rig count and overall local goods production have on Houston employment. Table 2 does show a growing role for the national economy in helping shape Houston's large financial and business service sectors, precisely those sectors where much of Houston's important white-collar job growth has occurred. However, Houston's traditional oil and manufacturing base has also come to play a much larger role than it had in these same finance and service sectors—presumably the result of the headquarters consolidation and international construction. Oil and manufacturing clearly remain kings in the Houston economy.

The next issue of *Houston Business* will use the statistical results of Table 1 and Table 2 to divide responsibility for Houston's recent slow growth between the national recession and record-low drilling rates.

Table 1

Factors Driving the Goods Sectors of the Houston Economy: Before and After 1987, 1975–93

	Elasticity of Houston Employment with Respect to			Does either of these factors affect local jobs more since 1987?	
	U.S. unemployment rate	Oil sector	Exchange rate	U.S. unemployment rate	Oil sector
GOODS	–.050	.391*	–1.072*	No	Less*
Upstream oil	–.051	.617*	–1.051*	No	Less*
Mining	.209*	.413*	–.903*	No	Less*
Machinery	–.268*	.584*	–2.266*	No	Less*
Downstream oil	.127*	.091*	–.770 *	No	No
Refining	.342*	.117*	–.677*	No	No
Chemicals	–.025	.098*	–.791*	No	No
Other manufacturing	–.154*	.235*	–1.232 *	No	No

* Indicates the variable is statistically significant at a high level.

SOURCE: Calculation of author. Details of how these estimates were made can be found in R.W. Gilmer's "Oil Prices and Manufacturing Growth: Their Contribution to Houston's Economic Recovery," Federal Reserve Bank of Dallas *Economic Review*, March 1990, pp. 13–22.

Table 2

Factors Driving the Construction and Service Sectors of the Houston Economy: Before and After 1987, 1975–93

	Elasticity of Houston Employment with Respect to		Does either of these factors affect local jobs more since 1987?	
	U.S. unemployment rate	Local goods employment	U.S. unemployment rate	Local goods sector
Construction	–.092	1.054*	No	No
Service sector	–.049*	.310*	No	No
TCPU †	–.101*	.538*	No	No
Retail	–.055	.632*	No	No
Wholesale	–.135*	.225*	No	No
FIRE ††, personal, and business services	.013	.224*	Yes*	Yes*

* Indicates the variable is statistically significant at a high level.

† TCPU = Transportation, Communication and Public Utilities.

†† FIRE = Finance, Insurance and Real Estate.

SOURCE: Calculation of author.

THE NATIONAL ECONOMY IN HOUSTON: SOME TOOLS

The tools needed to compare the national business cycle and the oil sector as determinants of Houston's job growth are given in Table 1 and Table 2. The bottom line is that oil exploration and production of other goods remain the most powerful influences on local job markets. The national business cycle has been a significant factor in creating service-sector jobs since 1975, and its role has grown in recent years. However, it remains a far less important producer of job growth than oil exploration and manufacturing.

Both tables contain estimates of coefficients relating Houston job growth to its possible determinants, such as oil prices, the rig count, the national economy and the real exchange rate of the dollar. Dependent variables in both tables are wage and salary employment in Houston. Data are seasonally adjusted quarterly observations from 1975 to early 1993.

For the Houston mining and manufacturing sectors listed, it is assumed that job growth depends on the national economy (represented by the U.S. unemployment rate), the oil sector (as indicated by the refiner-acquisition cost of oil for downstream operations and the Baker Hughes rig count for other sectors), and the real exchange rate of the dollar. For construction and services in Table 2, it is assumed the determinants of job growth are local employment in goods sectors (goods are mining and manufacturing) and the national economy (the unemployment rate, again). Both tables show the elasticity of Houston employment with respect to the determining variables; an elasticity is the percent change in local employment resulting from a 1-percent change in the independent variables.

Table 1 contains the results for Houston goods employment. It shows that the oil sector and the exchange rate exert a powerful and continuing influence on every sector. Oil's economic influence has diminished since 1987 but remains potent. The national economy enters these calculations with the expected negative sign and with statistical significance for only two sectors—machinery and other manufacturing—and there is no indication that its role increased significantly after 1987.

Similar methods were used to examine the construction and service sectors. Goods employment was the most powerful and consistent determinant of employment in these sectors, although the national economy was a significant determinant in several sectors. The important financial, personal and business service sectors, which encompass half the private service jobs, show signs that the U.S. economy has become more important in these sectors' job creation. At the same time, goods sectors have developed new linkages with these same financial and business sectors, and oil and manufacturing have become better able to generate jobs in these key service sectors.

Apart from the usual seasonal pickup in hiring, both the April and May employment reports for Houston showed scattered losses and general weakness in all sectors. Stronger results were expected because oil and natural gas prices are higher than they were earlier this year, and the national economic recovery continues. Beige Book respondents indicate that a number of the Clinton administration's budget proposals have had a chilling effect on local economic activity. The administration's recent favorable decision on the space station and the apparent demise of the Btu tax, however, should begin to lift some of the uncertainty. Meanwhile, the Houston economy remains very weak.

RETAIL AND AUTO SALES

Retail sales improved in May from the previous month and are running slightly ahead of last year. Summer sales are under way, and inventories are clearing out well. Other Texas cities have shown much more recent improvement than Houston, according to local retailers with stores in these other locales.

Auto and truck sales were weak in May for the second consecutive month. The very strong start to 1993, however, left sales 1 percent ahead of the 1992 pace for the first five months of the year. May sales were down 4 percent from May 1992, with light trucks showing continued strength but autos dropping 8 percent.

LUMBER AND PAPER

Lumber prices continue to decline from recent record levels, and the demand for lumber has eased in recent weeks. Demand for paper—including shipments of corrugated boxes—remains strong, but shipments have slowed slightly in recent weeks.

REAL ESTATE AND CONSTRUCTION

Both rents and occupancy are flat in Houston office markets. The downtown submarket remains very weak, with declining rents and a growing list of nonprice concessions to tenants. Apartment and retail markets are flat to slightly improved.

Sales of new houses were weak in May, as a buildup in inventory led builders to cut back sharply on starts. Sales of existing homes were the slowest for any May since 1989, and the inventory of existing homes on the market is the largest since May 1988. Traffic slowed for both new and existing homes.

Commercial construction is running at a pace only two-thirds its year-ago level. The market for large projects has shrunk to public and medical buildings, and a number of these are on hold pending various Clinton administration policy decisions.

UPSTREAM OIL

Crude oil prices have steadily weakened in recent weeks, with West Texas Intermediate slipping under $19 per barrel. Natural gas prices remain very favorable, despite the end of the heating season and some switching to fuel oil by large utilities. The NYMEX contract for August delivery of gas remains near $2.20 per MM Btu's.

Drilling continues to improve slowly but steadily. Respondents forecast significant improvements during the second half of 1993, largely due to higher natural gas prices. Continued improvement in the gas-rich Gulf of Mexico is said to foreshadow a more general upturn in gas drilling.

DOWNSTREAM ENERGY

Downstream operations continue to struggle. Chemical operations see modest and continuing improvements in the domestic market, but these have not offset deterioration in export markets. This weak growth exacerbates a continuing overcapacity problem for most commodity chemicals. Margins are weak enough that some products that require high-cost feedstocks are being dropped from production.

Refiners' margins, which began to improve in March and April in anticipation of the summer driving season, have weakened again as a buildup of gasoline inventories drove prices down.

For more information, call Bill Gilmer at (713) 652-1546.
For a copy of this publication, write to
Bill Gilmer • Houston Branch • Federal Reserve Bank of Dallas
P.O. Box 2578 • Houston, Texas 77252