

Federal Reserve Bank of Dallas

September 1985

## Texas Manufacturing Affected More by Dollar Than by Oil Prices

Texas manufacturing has been significantly affected by declining oil prices. What is less widely appreciated, however, is the impact of the exchange rate on the manufacturing sector. In recent years, Texas manufacturing seems to have suffered more from the strong dollar than from weak energy prices. In fact, a dollar depreciation would stimulate Texas manufacturing production more than would an equivalent rise in oil prices.

### Feast or Famine for Texas Manufacturing

During the 1970s, movements in both oil prices and the exchange rate encouraged Texas manufacturing. Oil prices rose sharply, by 290 percent in 1973 and 130 percent in 1979, while the value of the dollar fell by 18 percent (see Chart 1). As an important supplier of oil field machinery, drill pipe, and other energy-related goods, Texas manufacturing benefited from higher oil prices. At the same time, the decline in the value of the dollar made U.S. goods more attractive to world consumers, further stimulating manufacturing production.

In contrast, the recent declines in oil prices and a stronger dollar have slowed the rate of growth in Texas manufacturing. From early 1981 through the first quarter of 1985, oil prices fell 32 percent while the trade-weighted dollar rose 56 percent. As a result, manufacturing growth slowed from 8.1 percent annually in the 1970s to 3.7 percent in the period since 1980.

### Relative Importance of Oil Prices and the Dollar

Quarterly data were used to assess the effect of oil prices and exchange rates on Texas manufacturing. Based on these results, Chart 2 illustrates hypothetical values of manufacturing output assuming that the price of oil and the value of the dollar remained at their early 1981 levels. The analysis suggests manufacturing output in the second quarter of 1985 would have been 7 percent higher had the price of

oil remained at its 1981 peak. But, had the dollar not appreciated, the output would have been 14 percent higher.

The strong dollar thus appears to have contributed more to the recent slowdown in Texas manufacturing than has the decline in oil prices. This occurred partly because the value of the dollar changed by a larger percentage than did the price of oil. Nevertheless, the exchange rate would have had a greater effect even if the relative

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## Regional Disparities in Texas Nonresidential Construction

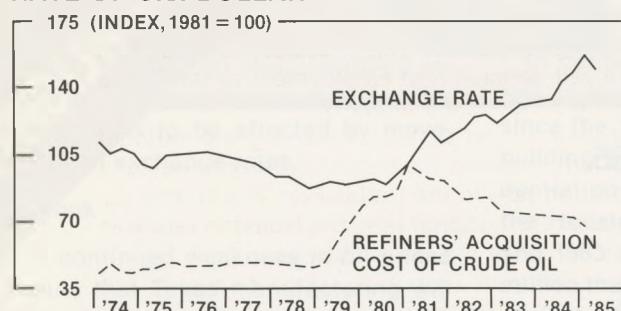
Last year was a banner year for private nonresidential construction in the United States and in most of Texas. For such construction the constant-dollar value of building permits grew at a rate of 18.1 percent nationwide and 17.7 percent in Texas. The value in the Houston area, however, dropped 27.7 percent. The disparity between Houston and the rest of the state began in late 1982, when growth in the energy-dependent Houston economy slowed sharply. This disparity will probably be reduced some next year as private nonresidential construction remains at or slightly above its current low level in Houston while slowing elsewhere in the state.

### Nonresidential Construction in Houston

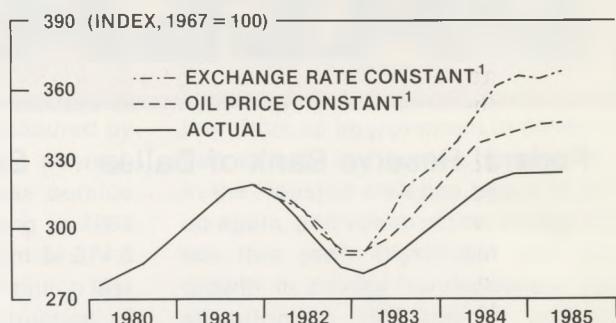
The sharp drop in private nonresidential construction in Houston

resulted mainly from an unanticipated severe slowdown in economic growth in the area and the unusually rapid growth in construction before that slowdown. Private nonresidential construction, as measured by the constant-dollar value of building permits, jumped more than 49 percent in 1981 and remained high in 1982. But beginning in late 1982 the Houston economy experienced a sharp turnaround. One result was a large excess supply of buildings. Houston's economy has continued to be sluggish, and most major sectors of nonresidential construction have fallen dramatically (Chart 3). The exception has been construction of stores, which showed gains during the general decline. Permit data for the first six months of this year show further decreases in total

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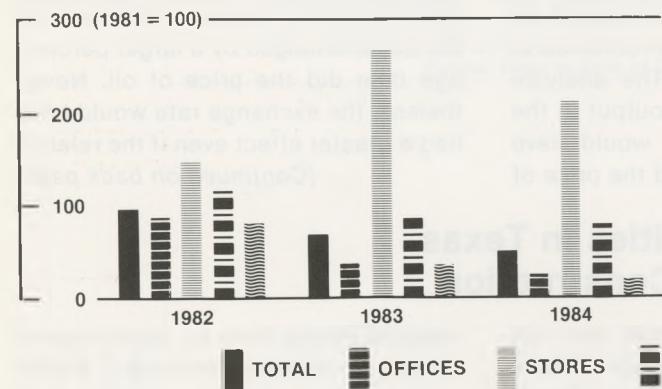
**Chart 1****REFINERS' ACQUISITION COST OF CRUDE OIL AND TRADE-WEIGHTED EXCHANGE RATE OF U.S. DOLLAR<sup>1</sup>**

1. Both variables adjusted for inflation.

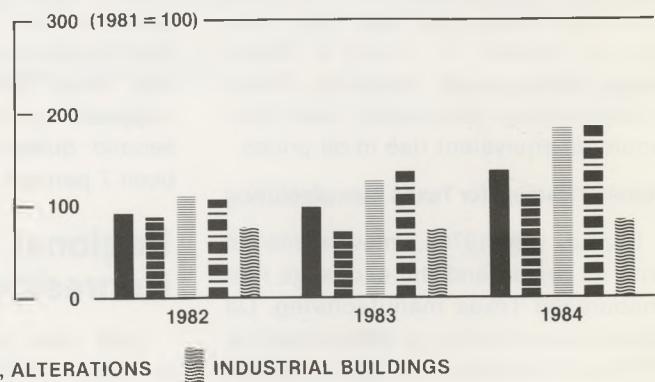
SOURCES: Board of Governors, Federal Reserve System.  
U.S. Department of Energy.**Chart 2****TEXAS MANUFACTURING PRODUCTION ACTUAL AND SIMULATED VALUES**

1. Simulated values calculated assuming the indicated variable had remained constant at its 1981 value.

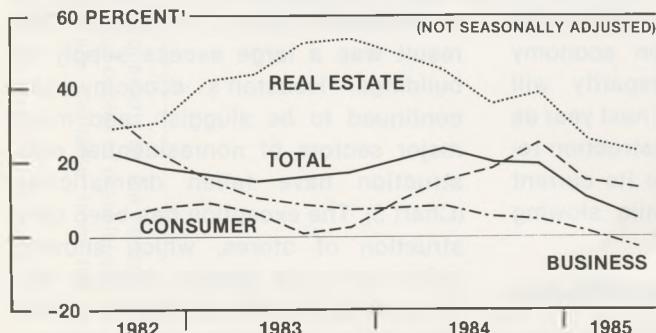
SOURCE: Federal Reserve Bank of Dallas.

**INDEXES OF REAL VALUE OF PRIVATE NONRESIDENTIAL CONSTRUCTION AUTHORIZED BY BUILDING PERMITS****Chart 3****HOUSTON AREA**

NOTE: Values based on a U.S. implicit price deflator for new private nonresidential building construction put in place. Houston area consists of Brazoria, Fort Bend, Harris, Liberty, Montgomery, and Waller Counties.

SOURCES: U.S. Department of Commerce, Bureau of the Census.  
Federal Reserve Bank of Dallas.**Chart 4****TEXAS OUTSIDE HOUSTON AREA****LOANS—LARGE WEEKLY REPORTERS**

Eleventh Federal Reserve District

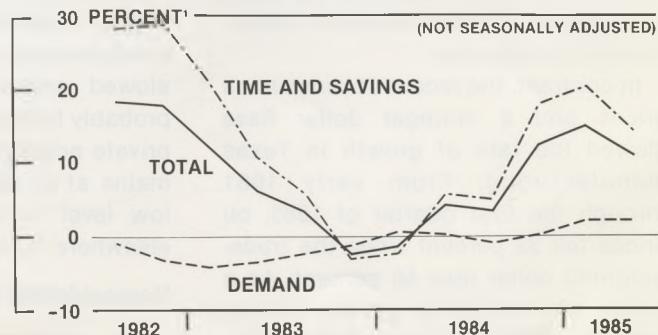


1. Percent change from same quarter in previous year.

SOURCE: Federal Reserve Bank of Dallas.

**DEPOSITS—LARGE WEEKLY REPORTERS**

Eleventh Federal Reserve District



1. Percent change from same quarter in previous year.

SOURCE: Federal Reserve Bank of Dallas.

## DISTRICT BRIEFS

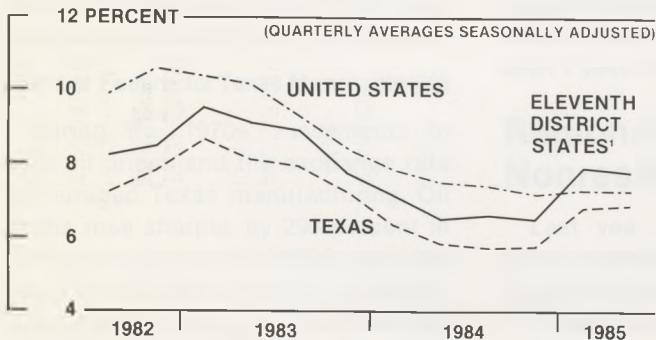
Economic activity remains weak in the Eleventh District. The combination of a depressed energy sector and sluggish manufacturing is keeping District economic growth below the nation's.

- As a result of slow economic growth, unemployment rates are rising in the District states as a whole. After converging for several months, the Texas rate finally matched the national rate in July and exceeded it in August.
- Total nonagricultural employment in Texas continues to grow more slowly than in the United States as a whole. The Texas growth rate for June was negligible because a decline in manufacturing employment offset a gain in the number of service-producing workers.
- Construction remains the District's strongest sector. With the exception of June, the value of nonresidential construction contracts has been above its year-earlier level all year. Though still below its 1984 peak, residential contract value has turned up in response to lower interest rates.
- Expectations of declining oil prices continue to batter the energy industry even though spot market prices have been stable for most of 1985. The number of active drilling rigs in Texas, despite recent stabilization, remains

more than 20 percent below year-earlier levels. Drilling outside the United States, however, has buoyed demand and employment in the Texas oil field machinery industry.

- Inflation in the District, following the national pattern, remains moderate. Although the June inflation rate in the Dallas-Fort Worth area exceeded the national rate, the Houston rate was below that of the United States.
- Stronger loan growth at large banks in the District may indicate a turnaround in economic growth. After several months of decline, business lending at these institutions in July increased modestly from its year-earlier level. Real estate lending also maintained strong year-over-year growth.
- Lower crop and livestock prices probably will lead to lower incomes for farmers and ranchers in Texas. These prices have fallen by 10 percent to 20 percent from a year earlier. Expected higher production will not be enough to offset these drops.

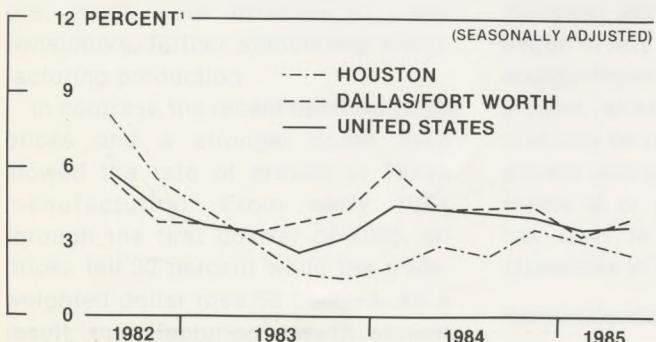
### UNEMPLOYMENT RATE



1. Louisiana, New Mexico, and Texas.

SOURCES: Texas Employment Commission.  
U.S. Department of Labor, Bureau of Labor Statistics.  
Federal Reserve Bank of Dallas.

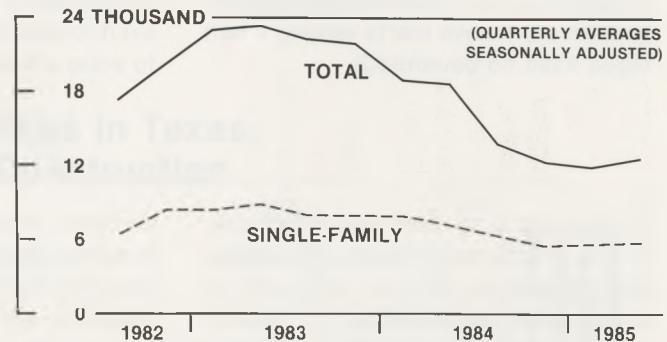
### CONSUMER PRICE INDEX



1. Percent change from same quarter in previous year.

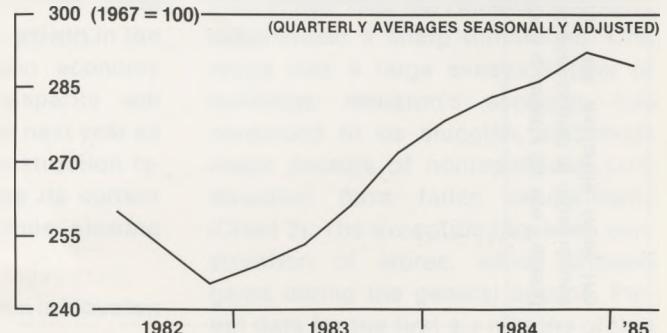
SOURCES: U.S. Department of Labor, Bureau of Labor Statistics.  
Federal Reserve Bank of Dallas.

### HOUSING PERMITS: TEXAS



SOURCES: U.S. Department of Commerce, Bureau of the Census.  
Federal Reserve Bank of Dallas.

### TEXAS INDUSTRIAL PRODUCTION INDEX



SOURCE: Federal Reserve Bank of Dallas.

## Manufacturing (cont.)

changes in oil prices and the dollar had been comparable. Many Texas manufacturing industries—apparel and electronics, for example—are only remotely affected by changes in oil prices. Virtually all manufacturing industries, however, face enough foreign competition to be affected by movements in exchange rates.

### Outlook

A continued weakness in oil prices means that Texas manufacturing will get little help from the world oil market in the near future. The dollar, on the other hand, having fallen 13 percent since February and with a further depreciation likely, should stimulate the manufacturing sector. Those industries tied to energy exploration and production may remain depressed. But Texas manufacturing as a whole should begin to benefit in 1986.

—William T. Long III  
and John K. Hill

## Disparities (cont.)

private nonresidential construction in the Houston area.

### Nonresidential Construction Elsewhere in Texas

In contrast, building activity in the rest of the state has remained strong since the 1981 boom. As measured by building permit data, private nonresidential construction in Texas outside the Houston area was strong in 1982 and 1983 and increased from \$4,374.8 million that year to \$6,264.7 million last year. A slowdown in construction of office and industrial buildings was primarily responsible for the slight lull during 1982 and 1983 (Chart 4). The growth in construction activity in 1984 was shared by all major sectors. Permit data for the first six months of 1985 indicate that total private nonresidential construction in the state as a whole may be leveling off, with the current-dollar value only about 1.5 percent above a year earlier.

### Outlook

The disparity between Houston and the rest of the state in private nonresidential construction should be reduced some in 1986. This balancing of growth is likely to come from a slowdown in the rest of Texas rather than from an improvement in construction activity in Houston. Employment in the Houston area has begun to pick up again, and construction should flatten this year. Significant near-term growth in private nonresidential construction in Houston is unlikely, though, given the current oversupply of buildings. Outside the Houston area, private nonresidential construction should level off this year and drop in 1986 as falling rents and rising vacancy rates check the construction boom. In view of the variety of industries in Texas, it is unlikely that this drop will be as sharp as that experienced in Houston in recent years.

—Jeffery W. Gunther

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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.

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