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DISTRICT HIGHLIGHTS

Federal Reserve Bank of Dallas December 1987

New Stock Index May Help Forecast Texas Industrial Production

In December 1986, the Texas Comptroller of Public Accounts began publishing the "Texas 77" stock index, derived from stock prices for 77 Texas-based companies. Since national stock market indexes have proved to be leading indicators of the U.S. economy, the Texas 77 index likewise may prove an effective indicator of the Texas economy. Supporting this hypothesis are results of statistical tests, based on data since January 1980, which show that the inflation-adjusted Texas 77 was significant as a leading indicator of Texas industrial production.

Stock Prices Considered Leading Indicators

Previous studies have shown that sustained movements in stock prices predict movements in the real economy. When investors anticipate a slowdown in the economy, and thereby corporate profits, they sell stocks, which then drives stock prices down. In this way, stock prices can act as a market forecast of the economy. Although on a month-to-month basis the stock market can be highly volatile, a sustained three- or four-month decline in the stock market is a good sign that the real economy may begin to decline on average at about eight months after the initial fall.

Texas 77 Leads Texas Industrial Production

One measure of monthly real output in Texas is the Texas Industrial Production Index (TIPI). In Chart 1, movements in the real Texas 77 seem to lead movements in the TIPI. To evaluate more carefully the Texas 77-TIPI relationship, one-month-ahead forecasts of the TIPI were generated using its own past values. Forecasts were then generated using past values of the TIPI, along with significant lags of the Texas 77. Results show that including the Texas 77 lags significantly improved the in-sample forecasts of TIPI. When lagged 4-11 months, percentage changes in the real Texas 77 were significantly and positively correlated to percentage changes in the TIPI. These results indicate that the Texas 77 is a useful leading indicator of the Texas economy.

For comparison, forecasts also were generated using past values of the TIPI along with lags of the real Standard and Poor's 500. As seen in Chart 2, movements in the Texas 77 essentially matched those of the S&P 500 until 1984 when it started increasing faster than the Texas 77. The results of the forecasts show that the Texas 77 provided better forecasts of movements in TIPI than did the S&P 500.

(Continued on back page)

Construction Downturn Slows Texas Economy

Construction-related job losses have contributed significantly to the Texas recession. Since June 1985, roughly 80,000 construction jobs have been lost in the state. If spillover effects on manufacturing, retail trade, services, and other sectors are also considered, a total of over 200,000 Texas jobs either have been or will be lost as a result of the decline in construction employment. Existing inventories of unoccupied space are high, and absorption is expected to remain low over the next few years. Thus, construction activity is unlikely to rebound significantly for the rest of this decade.

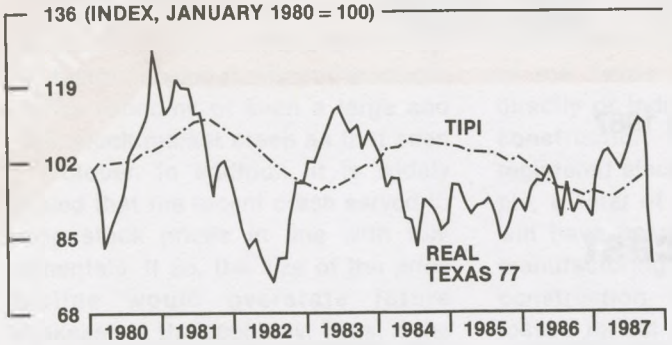
Construction Activity Plummets

The recent downturn in Texas construction activity was the product of several unrelated factors. Rapid regional economic growth and favorable changes in real estate tax laws fueled a construction boom in the early 1980s. The construction boom turned to bust, however, as severe, unanticipated contractions in the state's energy sector slowed economic growth.

Although the construction of public works in Texas has increased in recent years, the increases have been insufficient to offset declines in residential and nonresidential building. Construction of single- and multifamily homes has been decreasing since 1983. Nonresidential construction in the state dipped in 1983, rose for the next two years, but fell hard in 1986. Overall, Texas has lost about 82,000 construction jobs since June 1985—an 18-percent decline (see Chart 3).

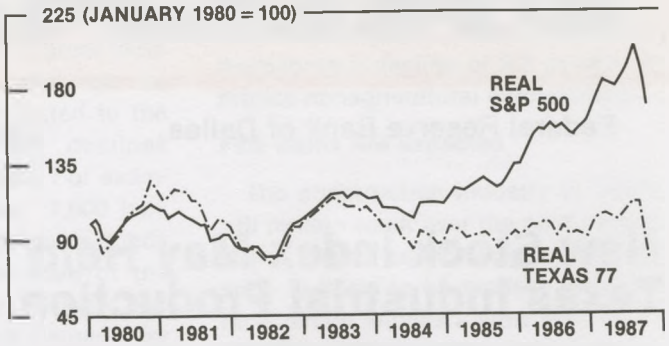
(Continued on back page)

Chart 1
TEXAS STOCK PRICES AND INDUSTRIAL PRODUCTION



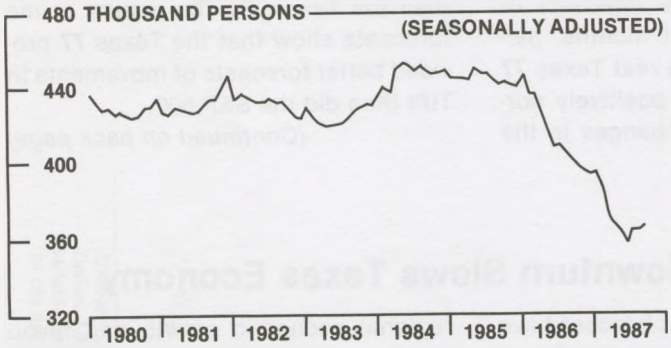
SOURCES: Texas Comptroller of Public Accounts.
Federal Reserve Bank of Dallas.

Chart 2
TEXAS AND U.S. STOCK PRICES



SOURCES: Standard and Poor's Corporation.
Texas Comptroller of Public Accounts.
Federal Reserve Bank of Dallas.

Chart 3
TEXAS CONSTRUCTION EMPLOYMENT



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

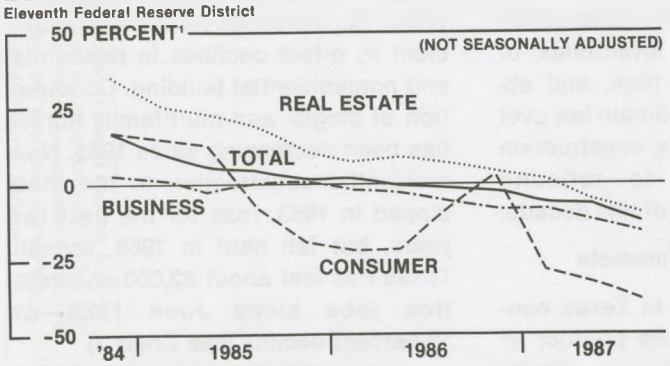
Table 1
TEXAS CONSTRUCTION-RELATED EMPLOYMENT LOSSES

Industry	Employment loss: Thousands	Employment loss: Percentage
Mining	5.31	2.02
Construction	81.65	18.27
Nondurable manufacturing	5.72	1.39
Durable manufacturing	17.47	2.97
Transportation and public utilities	9.47	2.48
Wholesale trade	8.33	1.85
Retail trade	30.46	2.43
Finance, insurance, and real estate	11.02	2.48
Services	37.64	2.79
Total private nonagricultural employment	207.07	3.70

SOURCES: Texas Department of Water Resources.
U.S. Bureau of Labor Statistics.
Federal Reserve Bank of Dallas.

LOANS—LARGE WEEKLY REPORTERS

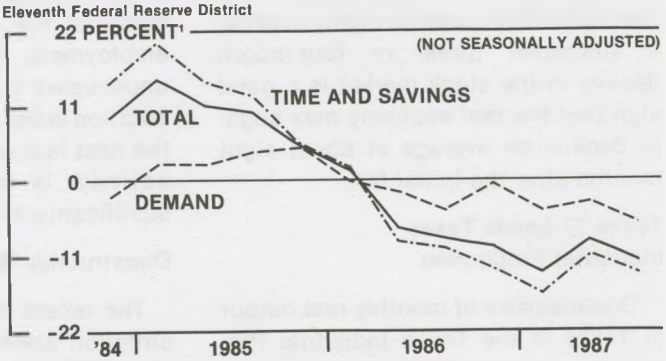
Eleventh Federal Reserve District



1. Percent change from same quarter in previous year.
SOURCE: Federal Reserve Bank of Dallas.

DEPOSITS—LARGE WEEKLY REPORTERS

Eleventh Federal Reserve District



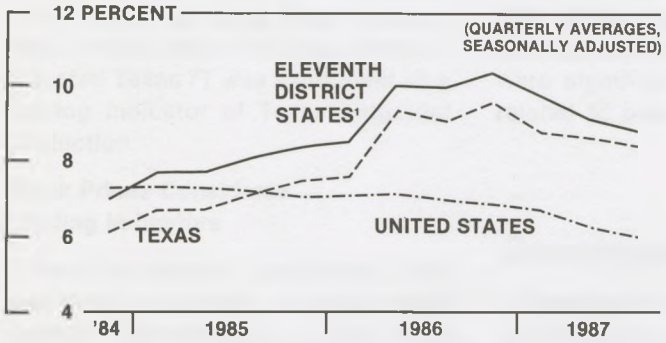
1. Percent change from same quarter in previous year.
SOURCE: Federal Reserve Bank of Dallas.

DISTRICT BRIEFS

The Eleventh District economy is now growing, though still showing weakness in some sectors.

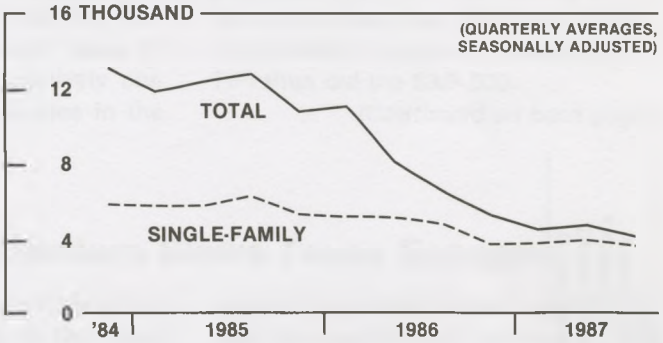
- Nonagricultural employment in the Eleventh District rose in September, and its prolonged downward trend appears finally ended. The majority of the September employment gains occurred in Texas, with increases registered in most major sectors. Although employment in Louisiana fell, it remained above its June trough. Employment in New Mexico rose slightly, continuing its gradual upward trend.
- After increasing every month since February, the seasonally adjusted rig count fell in October and November. The upward adjustment in drilling activity to the current range of oil prices appears over. In fact, recent declines in well permits, a leading indicator of drilling activity, suggest a further decline in December.
- Although construction employment has increased in recent months, declines in construction contracts and permits point toward a future decrease in building activity. Residential contracts have shown considerable weakness lately, as have housing permits. Nonresidential contracts have also declined. Nonbuilding contracts have slipped after increasing strongly in the second quarter.
- Manufacturing activity is expanding overall. The lower value of the dollar has stimulated orders in the chemical and electronic equipment industries, among others. Increases in drilling activity earlier this year have spurred orders for energy-related goods. Conversely, orders for construction-related products have declined somewhat.
- Banks are still adjusting to sluggish economic conditions and problem loans. Loans and deposits continue to contract at the large banks.

UNEMPLOYMENT RATE



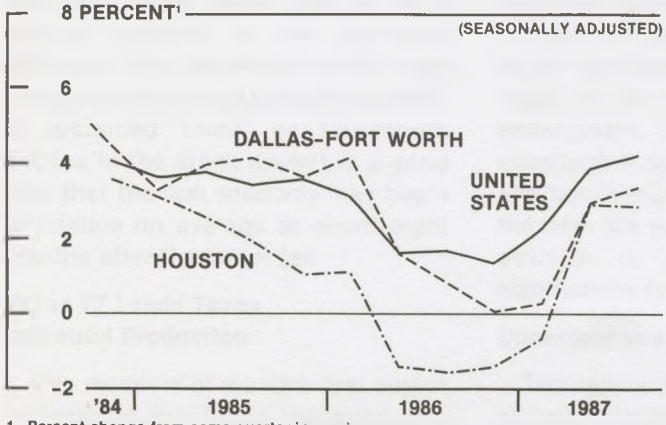
1. Louisiana, New Mexico, and Texas.
SOURCES: Texas Employment Commission.
U.S. Bureau of Labor Statistics.
Federal Reserve Bank of Dallas.

HOUSING PERMITS IN TEXAS



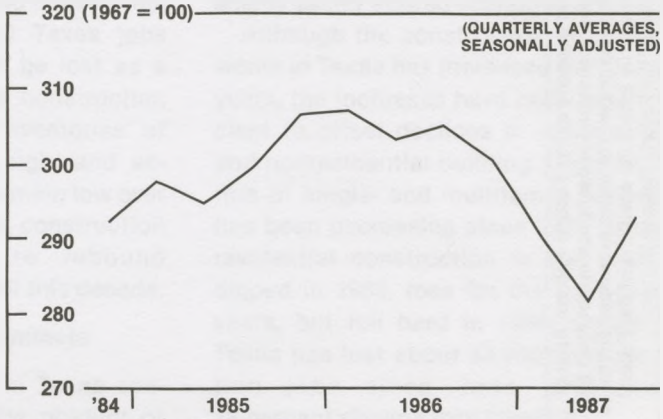
SOURCES: U.S. Bureau of the Census.
Federal Reserve Bank of Dallas.

CONSUMER PRICE INDEX



1. Percent change from same quarter in previous year.
SOURCES: U.S. Bureau of Labor Statistics.
Federal Reserve Bank of Dallas.

TEXAS INDUSTRIAL PRODUCTION INDEX



SOURCE: Federal Reserve Bank of Dallas.

New Stock (cont.)

Leading-Indicator Role May Not Apply to Recent Crash

While there is an established relationship between trend movements in the stock market and the business cycle, history does not reflect the effects on the economy of such a large and swift stock market crash as that seen in October. In addition, it is widely argued that the recent crash served to bring stock prices in line with fundamentals. If so, the size of the price decline would overstate future weakness in the economy. Thus, if the Texas 77 is interpreted as a leading indicator, its recent movements will likely give a misleading signal about the future strength of the Texas economy. Over the longer haul, however, the new index of Texas stock prices should be a reliable indicator and provide valuable new information for forecasting the Texas economy.

—Keith R. Phillips

Construction (cont.)

Other Sectors Are Affected

The decline in construction employment has generated severe dislocations in other industries. Shown in Table 1 are the job losses in other parts of the Texas economy that can be directly or indirectly attributed to the construction employment declines registered since June 1985. For example, a total of more than 17,000 jobs will have been lost in durable-goods manufacturing alone because of the construction downturn. These job losses reflect a reduced demand for such manufactured items as concrete and fabricated metal products. The retail trade and service sectors of the Texas economy also will have sustained large employment losses because of the construction downturn. The employment effects in these sectors largely reflect the reduction in state income, and thus consumer demand, stemming from the decline in construction activity. With all industries considered together, Texas either already has or will have lost a total of over 207,000 jobs as a result of the construction downturn. This represents a decline of 3.7 percent in private nonagricultural employment.

Few Gains Are Expected

The construction industry in Texas will remain weak over the next several years. Overall economic growth in the state is likely to be modest for some time, which implies a slow absorption of both residential and nonresidential space. Lagging absorption, coupled with the large existing inventories of unoccupied space, especially in the nonresidential market, should restrain gains in construction activity throughout the remainder of the decade.

—Jeffery W. Gunther

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