

A New Barometer for the Texas Economy

The Federal Reserve Bank of Dallas has introduced the Texas Manufacturing Outlook Survey, a new tool designed to provide insights into current activity and expectations for growth in the state's manufacturing sector.

The new monthly survey, which launched its premier release November 28, is based on manufacturers' responses to questions about their Texas operations. It asks about changes in production, capacity utilization, orders, inventories, prices, employees and capital expenditures. Other questions solicit opinions about general business activity.

For all questions, participants are asked whether the indicator has increased, decreased or remained unchanged. Answers cover changes over the previous month and expectations for activity six months into the future. Roughly 80 manufacturers regularly participate in the Dallas Fed survey, which began collecting data in May 2004.

Anecdotal assessments like the manufacturing survey do not measure output or employment directly, but they are nevertheless valuable tools.¹ Those operating on the front lines of business are often the first to see changes in economic conditions. By tapping into their real-time collective judgments, including observations about prospects for growth, the surveys can provide timely readings on the economy.

The anecdotal surveys provide information right away and are not subject to large revisions. Generally, regional data are available only with a substantial lag and are often revised as much as a year later.

Texas Manufacturing

The outlook survey focuses on manufacturing because movements in this sector can be particularly useful for understanding changes in the general economy. Swings in business activity are often felt more quickly and more intensely in the manufacturing sector, which tends to be more cyclically sensitive than the total economy.

Texas is important to the nation's



manufacturing. The state produced roughly \$98 billion worth of manufactured goods in 2003, about 7 percent of the country's output. Texas ranks second, behind California, in factory production and first as an exporter of manufactured products.

Texas' share of the nation's factory output has been on the rise. A low cost of living, fast-growing workforce and

favorable business climate have attracted factories to Texas from other parts of the country. Although both Texas and the United States lost a sizable number of manufacturing jobs during the 2001 recession, Texas manufacturers added workers in 2005 while U.S. factories continued to shed jobs.

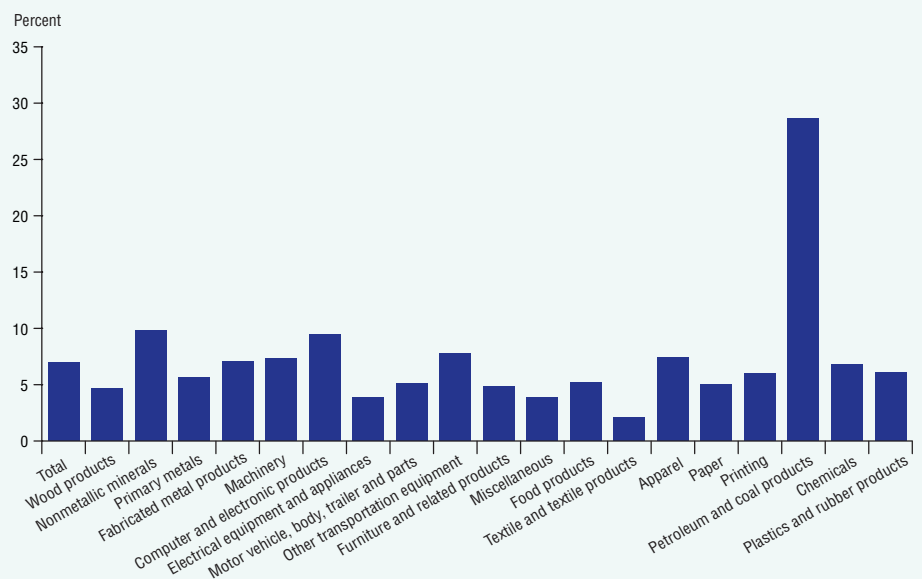
Chart 1 shows Texas manufacturing output as a percent of the nation as a whole. Not surprisingly, Texas turns out a large share of the country's petroleum and coal products, reflecting the muscular refining industry. Texas also claims nearly 10 percent of the nation's output in computer and electronics products and nonmetallic mineral products, such as brick, glass and cement.

Survey Execution and Results

Near the end of each month, the questions for the new manufacturing survey are electronically transmitted to respondents. Answers are collected over a few days.² Survey respondents are instructed to exclude the effects of normal seasonal changes. After sufficient

Chart 1

Texas Manufacturing Output as a Share of U.S. Output



NOTE: Data are for 2003.

SOURCE: Bureau of Economic Analysis.

data are gathered, the survey will be statistically tested for the presence of seasonality and corrections will be made as necessary.

Survey responses are used to calculate an index for each question. Each index is calculated by subtracting the percentage reporting a decrease from the percentage reporting an increase. When all firms report that activity has increased, an index will register 100. An index will register -100 when all firms report a decrease. An index will be zero when the number of firms reporting an increase or a decrease is equal.

To date, the manufacturing survey's index for general business activity has been consistently positive (Chart 2). The index for future activity has remained mostly above the index for current activity, suggesting optimism among firms that their business will improve over the next six months.

The index for production has also remained in positive territory (Chart 3). Once again, the production index for future activity continues to be stronger than for current production, suggesting that firms believe output will increase over the next six months. The future production index rose in August and September 2005.

The manufacturing employment index has remained generally positive, although it dipped slightly below zero in October 2004 (Chart 4). This index has been weaker than the other indexes. This is consistent with the general increase in productivity that has been occurring in manufacturing for years, with output increasing at a stronger rate than employment. Echoing the production index, the employment index for future activity rose in August and September 2005, suggesting growing optimism about future manufacturing activity in the state.

Other FRB Indexes

The Texas Manufacturing Outlook Survey is the fifth such survey published by a Federal Reserve Bank. The Philadelphia Fed was the first to introduce a survey, starting in 1968. The Richmond, Kansas City and New York Federal Reserve Districts also publish manufacturing outlook surveys. These indexes have become useful tools that provide

Chart 2

General Business Activity

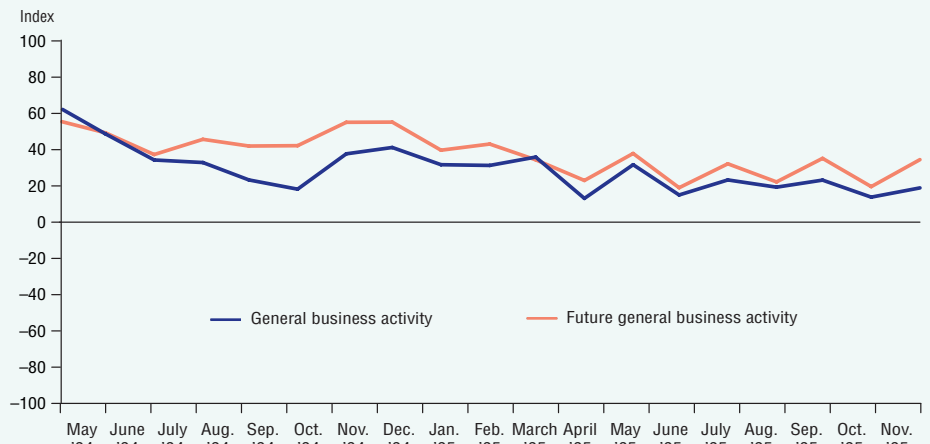


Chart 3

Production

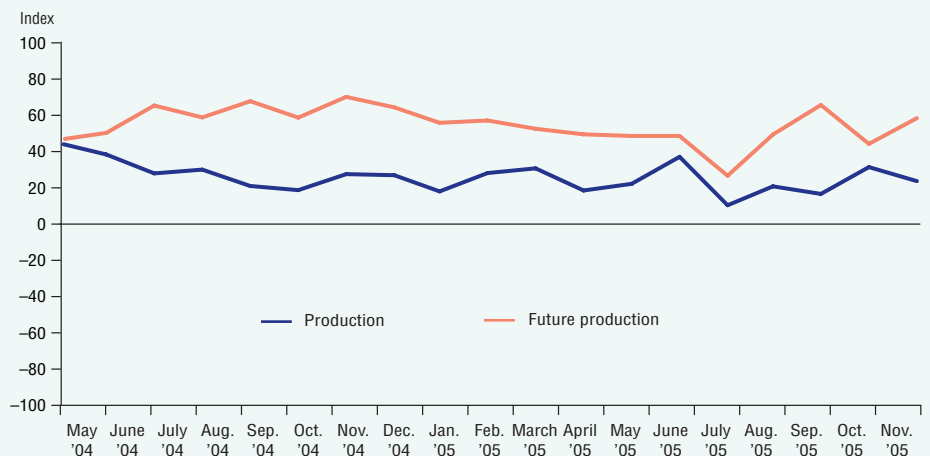
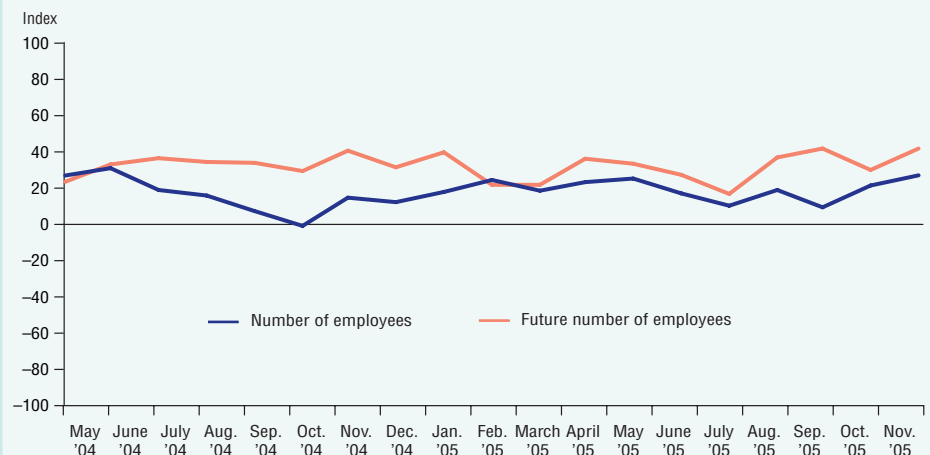


Chart 4

Employment



Dallas Fed's Regional Economic Tool Kit

The Texas Manufacturing Outlook Survey is the newest of a host of regional economic indicators created and maintained by researchers at the Dallas Fed. Unique regional indicators include the following:

- The Dallas Fed improves Texas **state and metropolitan employment data** by including revisions earlier than the Texas Workforce Commission and Bureau of Labor Statistics.¹
- A sophisticated **seasonal adjustment technique** developed by the Dallas Fed is applied to Texas state and metropolitan employment.²
- The Dallas Fed **Beige Book** summarizes anecdotal information about recent economic conditions and trends in the Eleventh District.
- The **Texas Industrial Production Index**, which has been produced since 1958, measures the output of the manufacturing, mining and utility sectors.³
- The **Texas coincident and leading business cycle indexes**, designed to measure and predict changes in the state's business cycle, are available along with their component series.⁴ Coincident business cycle indexes are also available for major metropolitan areas in Texas.
- The **Survey of Eleventh District Agricultural Land Values** estimates the value per acre of dry, irrigated and rangeland reaching back to mid-1976.

Notes

¹ More information about this revision process can be found in the article "Getting a Jump on Texas Employment Revisions," by Franklin D. Berger and Fiona Sigalla, also in this issue.

² This technique has been adopted by the Bureau of Labor Statistics for use with all state employment series. For more information about Dallas Fed improvements to Texas employment series, see "Reassessing Texas Employment Growth," by Franklin D. Berger and Keith R. Phillips, Federal Reserve Bank of Dallas *Southwest Economy*, July/August 1993.

³ "The Texas Industrial Production Index," by Franklin D. Berger and William T. Long, Federal Reserve Bank of Dallas *Economic Review*, November 1989, pp. 21–38.

⁴ "The Texas Index of Leading Economic Indicators: A Revision and Further Evaluation," by Keith R. Phillips, Federal Reserve Bank of Dallas *Economic Review*, July 1990, pp. 17–25.

insights into the regional and national economies—a factor in the Dallas Fed's decision to create its own.

Three recent Federal Reserve Bank studies have found positive results for the ability of their respective Business Outlook Surveys to predict regional economic indicators.³ In their article "What Can Regional Manufacturing Surveys Tell Us? Lessons from the Tenth District," William R. Keeton and Michael Verba report that the Kansas City Federal Reserve District's employment indexes provide substantial information about current and future growth in district manufacturing employment.⁴ They also suggest that their survey provides valuable information about production, orders and capital spending for which no independent regional data exist in their district.

Matthew Harris, Raymond E. Owens and Pierre-Daniel G. Sarte report that the Richmond Federal Reserve Bank employment index leads changes in manufacturing employment by one quarter and is a timely gauge of movements in personal income in the Richmond Federal Reserve District.⁵

In a parallel result, Timothy Schiller

and Michael Trebing report that the Business Outlook Survey Index for the Philadelphia Federal Reserve District is a significant variable in explaining movements in the district's manufacturing employment.⁶

The Dallas Fed cannot yet make similar claims for its Texas Manufacturing Outlook Survey because there are not sufficient data to seasonally adjust the index or to test its relationship to employment, output or other data. Other Federal Reserve Bank indexes benefit from seasonal adjustment, and the Dallas Fed index will be seasonally adjusted as soon as three years of data are available. At the same time, the Dallas Fed will continue to test the index against key economic measures, with the intent of honing its predictive power.

Survey Availability

The Texas Manufacturing Outlook Survey adds another tool to an already large set of indicators the Dallas Fed has developed to track the Texas economy. (See the box titled "Dallas Fed's Regional Economic Tool Kit.") The Bank expects this monthly survey to provide timely indicators for future Texas employment,

manufacturing output and personal income, as well as other regional economic variables of interest.

Survey results will be posted each month on the Dallas Fed web site. An electronic mailing list is available to notify recipients each month when new data are released. To subscribe, go to the Dallas Fed web site at www.dallasfed.org and click on "E-mail Alerts" under "Tools."

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Notes

This index could not have been developed without the help of Mine Yücel, Mario Hernandez, Donya Sonnier, Stephen Douglass and Matthew Garibaldi. Also helping with production of the survey or this article were Tonya Abna, Jennifer Afflerbach, Richard Alm, Laila Assanie, Suzanne Babb, Anna Berman, Anne Coursey, Elizabeth Delaire, Dianna Elzner, Connie Nevarez, Raghav Virmani and Andrea Willis.

¹ The Federal Reserve System regularly conducts an anecdotal Survey of Current Economic Conditions prior to every Federal Open Market Committee meeting. For more information about this survey and its success in predicting economic conditions, see "How Well Does the Beige Book Reflect Economic Activity? Evaluating Qualitative Information Quantitatively," by Nathan S. Balke and D'Ann Petersen, *Journal of Money, Credit and Banking*, vol. 34, February 2002, pp. 114–36.

² A copy of the survey form is available on the Dallas Fed web site, www.dallasfed.org.

³ Other studies have reported positive results for the predictive power of business outlook surveys and national economic indicators. For example, see "The Predictive Abilities of the New York Fed's Empire State Manufacturing Survey," by Richard Deitz and Charles Steindel, Federal Reserve Bank of New York *Current Issues in Economics and Finance*, Second District Highlights, vol. 11, January 2005.

⁴ Federal Reserve Bank of Kansas City *Economic Review*, Third Quarter 2004, pp. 39–69.

⁵ "Using Manufacturing Surveys to Assess Economic Conditions," Federal Reserve Bank of Richmond *Economic Quarterly*, vol. 90/4, Fall 2004, pp. 65–92.

⁶ "Taking the Measure of Manufacturing," Federal Reserve Bank of Philadelphia *Business Review*, Fourth Quarter 2003, pp. 24–37.