

New Business-Cycle Indexes Available for Texas Metros

The frequency and severity of cyclical swings in a local economy are important to businesses and consumers because such cycles impact production and inventory decisions, employment and unemployment. Analyzing the overall direction of a local economy, however, can be difficult and confusing. Often the handful of local economic indicators gives mixed signals. For example, if the unemployment rate and job growth both increase, is the local economy picking up or weakening? Often it is not clear.

To more clearly define regional business cycles, the Dallas Fed has developed composite indexes that aggregate the movements of key economic indicators for nine Texas metropolitan areas. The Metro Business-Cycle Indexes use statistically optimal weights so that movements in the indexes best represent the underlying co-movements in the indicators and thus the underlying state of the economy. The long-run growth in the indexes is set equal to growth in real personal income. The indexes are constructed using the same statistical techniques as the Texas Leading Index.¹

In May 2005, the Dallas Fed introduced business-cycle indexes for nine Texas metropolitan areas: Austin–Round Rock, Brownsville–Harlingen, Dallas–Plano–Irving, Fort Worth–Arlington, El Paso, Houston–Sugar Land–Baytown, Laredo, McAllen–Edinburg–Mission and San Antonio. The indexes are published monthly on the Dallas Fed web site, www.dallasfed.org.

Movements in the indexes summarize the movements in locally measured nonagricultural employment, the unemployment rate, inflation-adjusted wages and inflation-adjusted retail sales. Historical data on these series are also included on the web page.

The quarterly component series of retail sales and wages have been enhanced to provide a longer and more useful time series. The wage data for the metropolitan statistical areas (MSAs) are provided back through 1978. Currently, data are available online from the Census Bureau and the Texas Workforce Commission from 1988 to the present. We hand-entered wage data from the Covered Employment and

Wage Reports from 1978 through 1990. Both series were individually inflation adjusted and seasonally adjusted, after which they were linked together to obtain a full data series from 1978 through the most recently available data.

Retail sales for the individual MSAs have been adjusted historically back to 1978 for the changes in the MSA definitions that are currently used to construct the labor data. Therefore, the series published by the Dallas Fed contains a historically complete measure for the MSA definitions published in 2000 and are consistent with the other component series. For example, the retail sales numbers for the San Antonio MSA include data from the additional counties of Atascosa, Bandera, Kendall and Medina.

The monthly indexes are published a couple of days after the employment and unemployment rate data for the state and metro areas become available from the Texas Workforce Commission. Usually these data are released on about the 22nd day after the end of the reporting month.

The indexes show clear patterns of recessions and expansions. While Texas recessions have impacted local economies, many of the state's metro areas have busi-

Chart 1
Tech Centers Dallas and Austin Hardest Hit but Bouncing Back

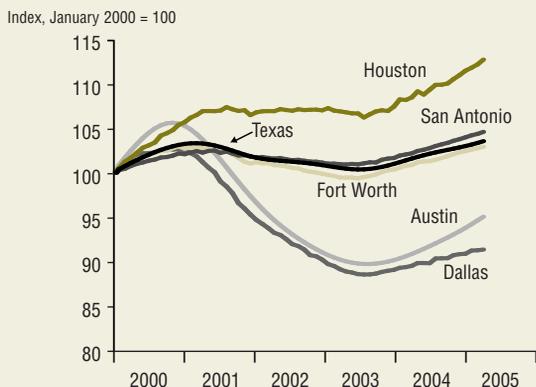
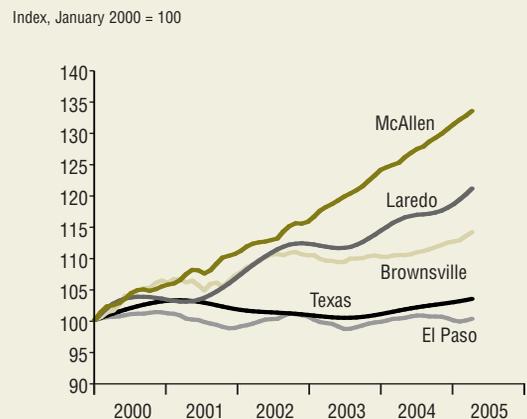


Chart 2
South Texas Border Economies Growing Strongly



ness cycles that deviate from those of the state, the nation and other Texas regions. For example, the high-tech cities of Austin and Dallas were hit hard by the downturn that began in early 2001 (*Chart 1*), but the South Texas border cities continued to grow (*Chart 2*).

San Antonio's Metro Business-Cycle Index shows that the city's economy has expanded at a slightly faster pace than the Texas economy over the past four years (see *Chart 1*). San Antonio has a smaller share of high-tech industries and a larger share of health care—a rapidly growing sector. Historically, the presence of stable industries such as government has allowed San Antonio's business cycle to swing less than those of other metro areas. A reduced federal government presence, particularly military-related jobs, will likely lead to greater business-cycle fluctuations in the future.

—Keith R. Phillips
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Note

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¹ The procedure is described in more detail in "A New Monthly Index of the Texas Business Cycle," by Keith R. Phillips, Dallas Fed Working Paper No. 0401, January 2004. For more detail on the local business cycle using the new indexes, see the following Dallas Fed publications: "Composite Index: A New Measure of El Paso's Economy," by Jesus Cañas, Robert W. Gilmer and Keith Phillips, *Business Frontier*, Issue 1, 2003; "A New Index of Coincident Economic Activity for Houston," by Jesus Cañas, Robert W. Gilmer and Keith Phillips, *Houston Business*, April 2003; and "Steady-as-She-Goes? An Analysis of the San Antonio Business Cycle," by Keith R. Phillips and Kristen Hamden, *Vista*, Winter 2004. All publications are available on the Dallas Fed web site, www.dallasfed.org.

Cyclical Differences

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Notes

- ¹ For more information on the methodology of the indexes of coincident economic indicators, see "Business Cycle Coordination Along the Texas–Mexico Border," by Keith R. Phillips and Jesus Cañas, Federal Reserve Bank of Dallas Working Paper No. 0502, July 2004, available at www.dallasfed.org.
- ² The relationship among the four metropolitan areas over time was defined by use of several techniques, including correlation, cluster analysis and spectral analysis. All led to the common conclusions discussed here.
- ³ For more information, see "Trade, Manufacturing Put Mexico Back on Track in 2004," by Jesus Cañas, Roberto Coronado and Robert W. Gilmer, Federal Reserve Bank of Dallas *Houston Business*, March 2005, available at www.dallasfed.org.
- ⁴ For more information, see "Texas Border Benefits from Retail Sales," by Keith R. Phillips and Roberto Coronado, in *The Face of Texas: Jobs, People, Business and Change*, Federal Reserve Bank of Dallas, forthcoming.
- ⁵ See Gordon H. Hanson, "U.S.–Mexico Integration and Regional Economies: Evidence from Border-City Pairs," *Journal of Urban Economics*, vol. 50, September 2001, pp. 259–87.



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Cross-Border Shopping Activity

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Detroit Branch, Federal Reserve Bank of Chicago

This one-day conference in Detroit will address the current landscape of cross-border shopping activity. It will focus on such issues as competitive implications, the impact of gaming as a draw for shoppers, and practical changes for public officials and retailers.

Conference cosponsors are as follows:

- Detroit Branch, Federal Reserve Bank of Chicago
- San Antonio Branch, Federal Reserve Bank of Dallas
- International Council of Shopping Centers

This is the first of two conferences to be held on cross-border retail and related activities. The second, which will focus on the U.S.–Mexico border, will be held in 2006 in San Antonio.

For more information, visit the Dallas Fed web site, www.dallasfed.org, and click on "Events."