

# Globalizing Texas: Direct Investment and Business Cycles

By Anil Kumar

In Austin, South Korea's Samsung Electronics Co. makes semiconductors. In San Antonio, Japan's Toyota Motor Corp. turns out Tundra pickups in a plant built on a former cattle ranch. Along the Gulf Coast, the American subsidiary of France's Air Liquide produces oxygen, nitrogen, argon and hydrogen for Texas-based industries. The Dallas area provides a U.S. base for several foreign telecommunications firms—Canada's Nortel Networks, Finland's Nokia Inc., Sweden's Ericsson Inc. and Japan's Fujitsu Ltd.

Hundreds of foreign companies, employing almost 400,000 workers, have put down roots in Texas. The highest concentration of jobs is in manufacturing, but more foreign firms are finding their way into services. Early this decade, Texas exceeded the nation in attracting foreign direct investment (FDI) assets, but the state has since lost its edge. Its FDI-related employment as a share of overall jobs ranks in the middle of the pack.

In the September/October issue of *Southwest Economy*, an article on globalizing Texas focused on export growth and related employment, including jobs in high tech.<sup>1</sup> Analyzing foreign investment in the state offers further insight into the Texas economy in an era of rapid globalization.

Have these deeper economic connections to the rest of the world affected Texas' output and employment? One model finds that over the past two decades the state's gross domestic product has become increasingly correlated with economic activity in the largest foreign economies. Globalization's business-cycle links, however, include many crosscurrents, creating uncertainty about how overseas events might impact the Texas economy.

This isn't a satisfying answer. Unfortunately, many globalization issues are elusive at the state level. The biggest hurdle is data on states' trade and investment flows, which are either not collected or not reliable. Although we can shed light on aspects of Texas' globalization, considerable blind spots remain.

## SECOND OF TWO PARTS

### Foreign Direct Investment in Texas

Cross-border capital flows are widely used as an indicator of globalization. Analysts divide the incoming money into three categories—portfolio equity, portfolio debt and foreign direct investment.<sup>2</sup> Unfortunately, data on equity and debt flows aren't available at the state level, leaving FDI the only source of information on financial globalization in Texas.

The state's central location, relatively low production costs, diversified industrial base and technological sophistication have lured many foreign multinationals. According to the Bureau of Economic Analysis (BEA), the total value of property, plants and equipment of the Texas nonbank affiliates of these companies exceeded \$103 billion in 2005, second only to California's \$123 billion.

As a share of state GDP, however, FDI in Texas has slipped in recent years (*Chart 1*). Since 1999, the affiliates' FDI fixed assets—plant, property and equipment—have fallen from 14 percent to 11 percent of state GDP, equaling the national average in 2005.

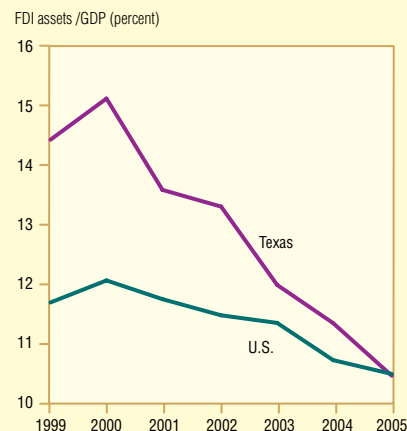
Texas' decline, as well as the slight ebb in the U.S. trend, may have begun with the recession in 2001 and the global economic slowdown that followed. Another factor may be the growing attraction of China, India and other emerging economies, now serious competitors for FDI dollars.

For the subset of Texas companies with at least 50 percent foreign ownership, the decline in FDI fixed assets as a percentage of GDP was fairly widespread across industries, with manufacturing suffering the greatest losses. However, services, real estate, and professional and technical services showed gains in FDI fixed assets.

Shifting the focus to jobs, the BEA reports that the broad category of all foreign affiliates had 388,000 Texas employees in 2005, giving the state the nation's third-largest total. Adjusted for size, Texas' FDI

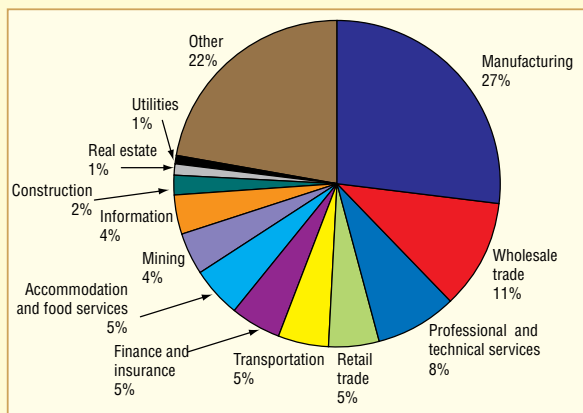
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**Chart 1**  
**FDI Fixed Assets/GDP Declines Faster for Texas Than for U.S.**



SOURCE: Bureau of Economic Analysis.

**Chart 2**  
**Sectoral Composition of Texas FDI Employment, 2002**



SOURCES: Bureau of Economic Analysis; Census Bureau.

looks less formidable; it ranked 33rd in the percentage of employment by affiliate firms. Employment echoes the trends in fixed assets, sliding from 4.7 percent of total employment in 2000 to 4.2 percent in 2005.

Texas employment by foreign affiliates is fairly broad-based when measured at the sector level (*Chart 2*). Manufacturing accounted for 27 percent of the state's FDI-related jobs in 2002, just slightly below the nation's 29 percent. Texas had a relatively large share of its FDI employment in wholesale trade, professional and technical services, information and mining, while the U.S. had a larger share of its FDI job total in retail trade and finance and insurance.

In recent years, the share of manufacturing in total FDI has declined in both Texas and the nation, contributing to a rise in the share of services' employment in foreign-owned affiliates (*Chart 3*). For Texas, industry-level data for the affiliates reveal job gains in such sectors as wholesale trade, retail trade, and real estate and leasing. In percentage terms, real estate and leasing was the fastest growing, with a 60 percent increase in affiliate jobs from 2002 to 2005.

The burgeoning importance of services FDI in Texas is part of a worldwide trend. According to *World Investment Report 2004*, a United Nations publication, services industries accounted for more than two-thirds of world FDI inflows in 2002 and increased their share in total FDI stock from less than half in 1990 to about 60 percent in 2002.<sup>3</sup>

By establishing a presence in overseas markets through FDI, multinationals overcome the inherent difficulties in trading services, expanding the sector's presence in

the global economy.

When it comes to region of origin for FDI-related jobs, considerable similarity exists between the U.S. and Texas. For both, European companies provide the largest share by far (*Chart 4*). They account for almost two-thirds of the FDI-related jobs in the state. U.K. investors are the largest employers for both Texas and the U.S., followed by the French and Dutch in Texas and Germans and French in the U.S.

Given Mexico's proximity to Texas and the market opening under the North American Free Trade Agreement, it's not surprising to find that Mexican companies have been more active in Texas than the nation. They're responsible for 4 percent of Texas' FDI-related jobs, compared with just 1 percent for the United States. Asia-Pacific countries, including Japan, constitute a larger share of FDI employment in the U.S. (15 percent) than in Texas (12 percent).

Texas' record on FDI is mixed. The sheer size of FDI fixed assets and FDI-related employment reflects the state's success in attracting overseas investors. Recent declines in FDI intensity, however, suggest that the state has lost some of its appeal—

particularly for manufacturers. On a positive note, the state has seen a faster trend toward FDI in services than the nation.

## Business Cycles

Globalization can strengthen or weaken links between business cycles in different countries through several channels. The most important are trade and financial flows. World financial markets clearly rise and fall together, but it's less easy to discern how trade and cross-border investment influence the movement of real economic variables, such as output and employment.

It may seem natural for trading partners' economies to move together as a demand shock in one country ripples through others via imports and exports. However, the principle of comparative advantage governs trade, suggesting that economies specialize in different products and industries.

If countries' industrial bases are very different, industry-specific shocks in one nation are less likely to be transmitted overseas. This specialization effect of trade weakens the correlation between business cycles across borders. If most trade is within the same industry, however, these shocks can create linkages between two countries' business cycles.

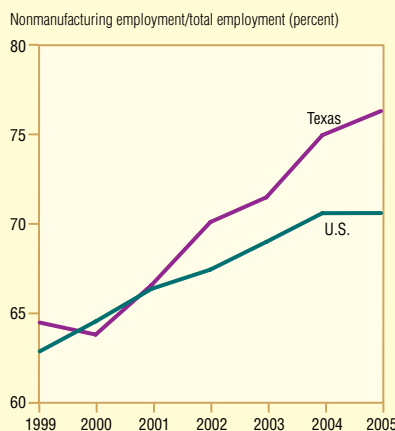
The effects of financial globalization on business cycles may also be ambiguous. On one hand, movements in international financial markets tend to be contagious, which could increase the likelihood of business cycles moving in tandem. On the other hand, integration of the world's capital markets may also promote specialization and allow countries to diversify by investing in foreign countries, thereby diluting links between business cycles.

These complexities make it difficult to identify the effect of trade and financial openness on business cycles. Despite increasingly rapid globalization, the correlation between the cyclical component of GDP in the U.S. and other economies has weakened since the 1980s.<sup>4</sup>

This doesn't seem to be the case for Texas (*Chart 5*).<sup>5</sup> The correlation of Texas' business cycles with the rest of the world's—represented for our purposes by the large, developed countries of Britain, France, Japan, Germany, Canada and Italy—has increased considerably since the 1980s.

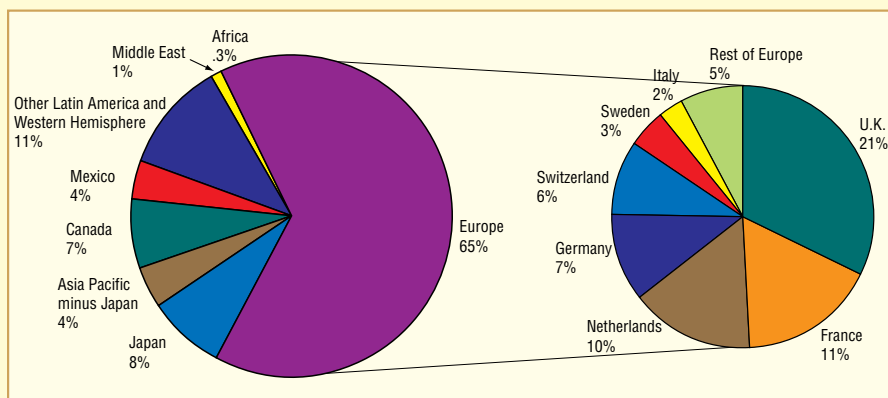
With the complex linkages between globalization and business cycles, a stronger relationship may not necessarily mean that Texas has become more globalized than the

**Chart 3**  
**Nonmanufacturing Employment Share Surges in FDI Firms**



SOURCE: Bureau of Economic Analysis.

**Chart 4**  
**Country Distribution of Texas FDI Employment, 2005**



SOURCE: Bureau of Economic Analysis.

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nation. Indeed, data limitations at the state level create obstacles to pinpointing exact sources of this difference. However, the correlation does signify that global economic forces have become increasingly important in shaping the Texas economy through channels independent of the nation.

### Globalization's Implications

Our two-part exploration of globalizing Texas points to a state economy that's fairly well integrated with the rest of the world. Texas exports more of its output than the nation and employs more of its workers in export-related jobs. It also scores higher on export sophistication.

But not all readings are bullish. Texas' exports are less diversified than the nation's, and the state hasn't done as well in seizing opportunities in such fast-growing economies as Brazil, Russia, India and China. While Texas still has a large stock of assets owned by foreign affiliates, it has slipped back to the national average with the decline of FDI as a share of state GDP.

The forces of globalization have been advancing rapidly in recent years and are likely to continue to shape the U.S. and Texas economies. We can expect trade, foreign investment and global competition to create exciting opportunities as well as challenges for the state's businesses and workers. The availability of better data at the state level would improve our ability to fully grasp globalization's implications for the Texas economy.

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### Notes

The author thanks Keith R. Phillips for useful comments.

<sup>1</sup> "Globalizing Texas: Exports and High-Tech Jobs," by Anil Kumar, Federal Reserve Bank of Dallas *Southwest Economy*, September/October 2007, pp. 11–13, 16.

<sup>2</sup> The Bureau of Economic Analysis defines ownership of at least 10 percent of a U.S.-based enterprise as foreign direct investment. Smaller interests are classified as portfolio investments. For some measures, the BEA looks at only foreign majority ownership—above 50 percent.

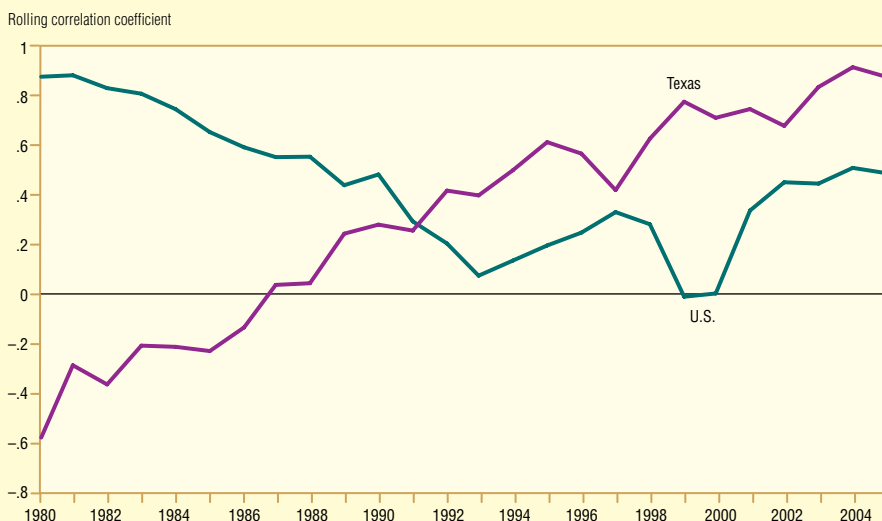
<sup>3</sup> *World Investment Report 2004: The Shift Towards Services*, United Nations Conference on Trade and Development, October 2006.

<sup>4</sup> "Why Has the U.S. Economy Become Less Correlated with

the Rest of the World?" by Jonathan Heathcote and Fabrizio Perri, *American Economic Review, Papers and Proceedings*, vol. 93, no. 2, May 2003, pp. 63–69. Also see "How Does Globalization Affect the Synchronization of Business Cycles?" by M. Ayhan Kose, Eswar S. Prasad and Marco E. Terrones, *American Economic Review, Papers and Proceedings*, vol. 93, no. 2, May 2003, pp. 57–62; and "How Much Does International Trade Affect Business Cycle Synchronization?" by William Gruben, Jahyeong Koo and Eric Millis, Federal Reserve Bank of Dallas Working Paper no. 0203, Aug. 26, 2002.

<sup>5</sup> Chart 5 plots 10-year rolling correlations of detrended log of annual GDPs of Texas and other economies. The series were detrended using the HP filter. Annual GDP data are from the World Bank's World Development Indicators database for G7 countries; Texas data are from BEA 1970–2006.

**Chart 5**  
**Business-Cycle Correlations with Largest Foreign Economies Stronger for Texas Than for U.S.**



NOTE: Countries include Britain, France, Japan, Germany, Canada and Italy.

SOURCES: World Bank's WDI database; Bureau of Economic Analysis.