Cyclical Differences Emerge in Border City Economies

The Texas–Mexico border is a fast-growing region, a complex blend of U.S. and Mexican cultures, languages and customs. It is a dynamic area that has benefited from a large and growing population in northern Mexico, rapid growth in U.S.–Mexico trade and a tenfold increase in maquiladora industry activity over the past two decades. Total population in the four Texas border metropolitan statistical areas (MSAs)—Brownsville, El Paso, Laredo and McAllen—is about 1.8 million, and population growth since 1980 has been 65 percent, versus 24 percent nationally. A high birthrate and young population suggest that the border will continue its rapid growth.

This article describes the business cycles of the four main Texas border cities and, based on their economies' similarities and differences, relates them to the broader economies of the United States, Mexico and Texas.

Texas Border Cities

Texas border cities are characterized by some common economic features. There is more transportation and distribution activity than in other U.S. cities, mainly due to servicing international trade. We find a relatively large retail sector serving not only the American but the Mexican side as well. And border enforcement and programs that address high poverty levels make the government sector substantially larger than normal.

However, there are also differences. Retail trade is not as important to El Paso as it is to Laredo. Similarly, the economic impacts of the transportation and gas and oil sectors are uneven along the border. Table 1 shows 2003 contributions, by industry, to total earnings for the four Texas border metropolitan areas and the state of Texas. The manufacturing sector is the No. 1 earnings generator for El Paso, while it is No. 3 in Brownsville, No. 4 in McAllen and only No. 10 in Laredo. Transportation and warehousing is the top earnings generator in Laredo, while health care is at the top for McAllen and Brownsville. Retail trade is No. 2 for the border cities with the exception of El Paso, where it is No 3.

Measuring Regional Business Cycles

Analysts often measure regional business cycles by looking at movements in various economic indicators, such as employment or the unemployment rate. But different indicators sometimes lead to different conclusions. In analyzing the national economy, researchers consider movements in broad measures of the macro economy, such as real gross domestic product and employment, although neither of these measures is necessarily broad enough to completely reflect the underlying state of the economy.

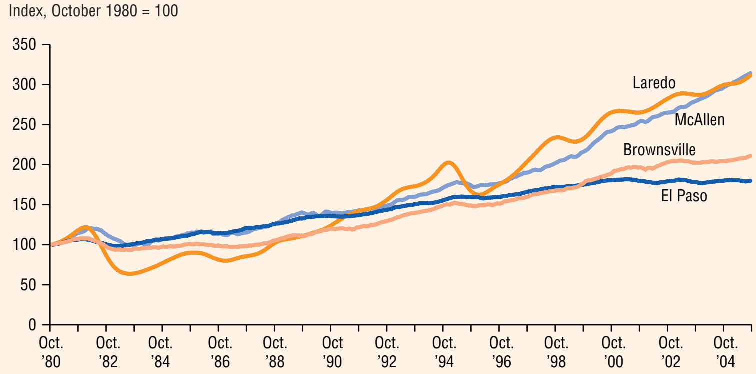
To better understand the economic performance of cities along the Texas–Mexico border, we designed a set of economic indexes that defines the current state of each economy over time—that is, its business cycle. The indexes are a weighted combination of seasonally adjusted changes in employment, the unemployment rate, real wages and retail sales.[1]

Table 1
2003 Contributions, by Industry, to Total Earnings

	Percent
Brownsville	
Health care and social assistance	18.1
Retail trade	8.9
Manufacturing	8.8
Transportation and warehousing	4.2
Accommodation and food services	3.7
Construction	3.6
Wholesale trade	3.5
Finance and insurance	3.2
Real estate and rental and leasing	1.6
Information	1.5
El Paso	
Manufacturing	11.8
Health care and social assistance	9.5
Retail trade	7.9
Real estate and rental and leasing	7.3
Transportation and warehousing	5.9
Construction	4.8
Wholesale trade	4.4
Finance and insurance	3.4
Accommodation and food services	2.7
Information	2.2
Laredo	
Transportation and warehousing	16.2
Retail trade	9.9
Health care and social assistance	9.7
Finance and insurance	4.8
Wholesale trade	4.3
Construction	4.0
Mining	3.8
Accommodation and food services	3.4
Real estate and rental and leasing	2.3
Manufacturing	1.2
McAllen	
Health care and social assistance	20.4
Retail trade	10.7
Construction	5.5
Manufacturing	4.6
Wholesale trade	3.9
Finance and insurance	3.5
Transportation and warehousing	3.3
Accommodation and food services	3.0
Forestry, fishing, related activities	1.7
Real estate and rental and leasing	1.5
Texas	
Manufacturing	12.8
Professional and technical services	8.6
Health care and social assistance	8.5
Retail trade	6.8
Finance and insurance	6.5
Construction	6.4
Wholesale trade	6.0
Transportation and warehousing	4.4
Mining	4.0
Information	3.8

NOTE: Excludes government earnings, which average 27.3 percent for all four border cities and 15.3 percent for the state.
SOURCES: Bureau of Economic Analysis; authors' calculations.

Chart 1
Border Business Cycles Similar, Yet Different



SOURCE: Authors' calculations.

As shown in Chart 1, from October 1980 to March 2005 the indexes are generally smooth and show a significant amount of correlation among the entire group. Declines occurred in all four of the border metro areas beginning in late 1981, early 1986 and early 1995. While it is evident that these cities share some common cyclical movement, it is also clear that they experience independent cycles, such as Laredo's downturn in 1999 and the cities' varied reactions to U.S. recessions in 1990–91 and 2001. Laredo, by far the smallest of the MSAs, has the greatest cyclical volatility over the period, while El Paso, the largest Texas border city, shows the least.

Regional business cycles are typically affected by their national counterparts. In the case of a metropolitan economy, business cycles are affected by both the national and state economies. For border economies such as Brownsville, El Paso, Laredo and McAllen, international business cycle considerations also come into play. One way to understand the local business cycle is to compare the performance of the border indexes with the broader economies of the United States, Texas and Mexico. A high correlation with the state or nation provides important clues about what drives local economic conditions.

The border business cycle indexes show that changes in the border region correlate with changes in the Texas, Mexican and U.S. economies, although to differing degrees. As highlighted in Chart 2, all of the border MSAs share cyclical relationships with the broader economies of Mexico, Texas and the United States. Laredo appears most tied to the Mexican economy, while El Paso seems to have the most in common with Texas and the nation.

To investigate the correlation of border business cycles before and after NAFTA, we divided our business cycle data into a pre-NAFTA period from July 1981 to December 1993 and a post-NAFTA period beginning in January 1994. For the pre-NAFTA period, we analyzed data from July 1981 through December 1993; for the post-NAFTA period, data from January 1994 through June 2002.[2]

Before NAFTA, the border cities behaved very much like each other and also were strongly correlated with the business cycle changes of Texas and Mexico. The U.S. business cycle was very different. One likely reason was the dominant role of oil prices during this period. Because Mexico and Texas are net energy producers, they benefited from oil price increases, while the United States, as a net consumer, was hurt. In 1986, when the price of oil dropped sharply, Texas and Mexico entered into recession and the border cities followed. Laredo is the only one of the border cities with a significant amount of oil and natural gas production.

During the post-NAFTA period, oil and gas prices stabilized, and U.S.–Mexico trade and maquiladora production surged. Two clusters of economic integration emerged. El Paso's economy now appears to be linked to the U.S. and Texas business cycles, while the South Texas border cities are aligned with Mexico's. El Paso has become increasingly dependent on the U.S. economy because of its ties to the large maquiladora industry in Ciudad Juárez, which has the most maquiladora jobs in Mexico. And with the rapid growth of high tech and diminished importance of oil in Texas, the state's economy has become more like the nation's.

On the other hand, the South Texas border cities have become more synchronized with the economic fortunes of Mexico due to their support of cross-border trade and the large numbers of Mexican shoppers.

Regional Reactions to Recession

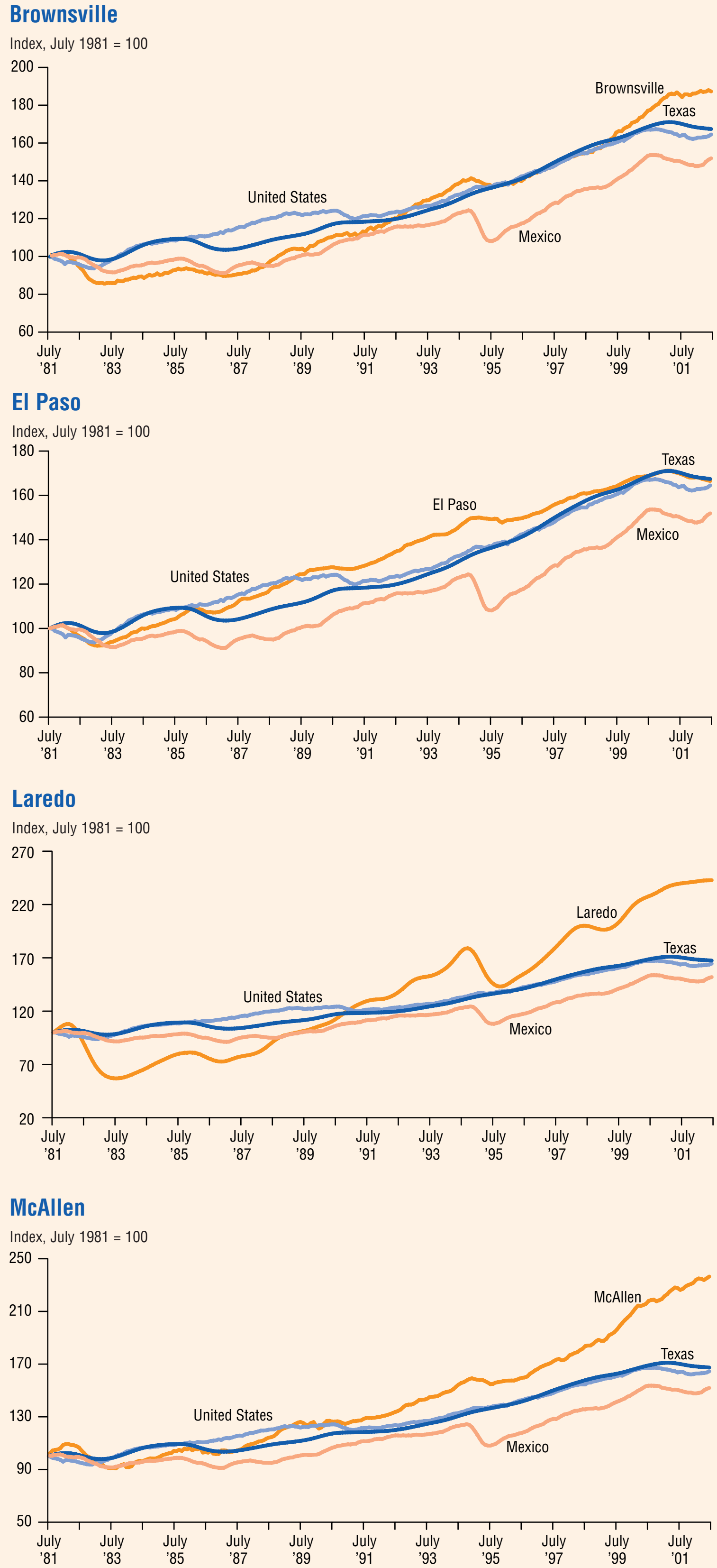
South Texas Border. During the latest recession, El Paso was the only border city that followed the United States, Texas and Mexico into decline. The comparative success of the Rio Grande Valley economies is probably due to the atypical strength of the real value of the peso, especially during the Mexican economy's downturn. This was the first time in recent Mexican economic history that a downturn was not driven by financial crisis and a significant fall in the peso's value. This moderate recession in Mexico was driven by the U.S. recession and its impact on the maquiladora industry.[3]

The strong peso had a greater effect on the South Texas border cities than it did on El Paso because retail spending by Mexican nationals represents a larger share of the economies of Brownsville, Laredo and McAllen than it does El Paso's. In 2001, Mexican shoppers accounted for more than $2 billion in retail sales, representing 1.2 percent of total Texas retail sales.[4] McAllen was the biggest net exporter of retail sales to Mexicans, with almost $1 billion. Laredo was second, with $540 million, and Brownsville third, with $256 million. El Paso, the largest city, exported $216 million to Mexican nationals (*Chart 3*).

Other factors have also impacted growth in the Valley and Laredo. Plentiful rainfall and high citrus prices in recent years have aided Valley agriculture, although apparel industry declines and low shrimp prices have hurt Brownsville. Laredo, the largest land port for U.S.–Mexico trade, has been boosted by strong international trade flows across the border.

El Paso. El Paso's relationship to the U.S. and Texas business cycles changed after 1994. The El Paso economy increased its correlation with those of Texas and the nation and followed both into recession in 2001. This may be because of the large share of manufacturing jobs in El Paso and the city's close ties to the maquiladora industry in Juárez. Juárez has more than 200,000 maquiladora jobs and generates $3.4 billion in value-added each year. One estimate is that a 10 percent increase in maquiladora activity in a

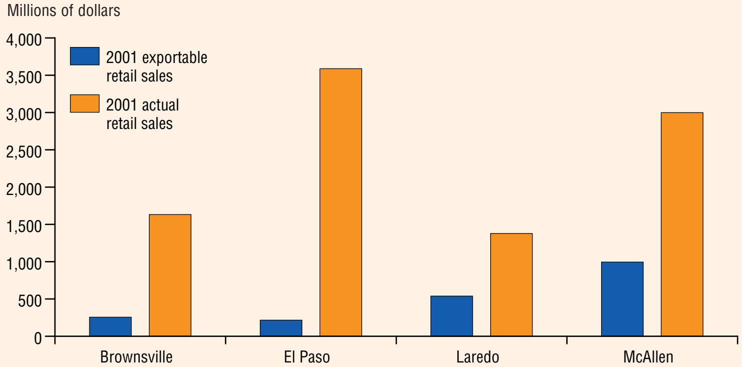
Chart 2
Border Business Cycle Relationships with Broader Economies



SOURCE: Authors' calculations.

Chart 3

Retail Spending by Mexican Nationals in Border Cities



SOURCES: Authors' calculations, with data from the Texas Comptroller of Public Accounts.

Mexican border city leads to a 1 to 2 percent increase in employment in the neighboring U.S. border city.[5]

The severe setback to U.S. manufacturing that began with the 2001 recession set off a chain of events that quickly led to a downturn in Mexico's maquiladora industry and ultimately to recession in El Paso. Juárez' maquiladora employment plunged nearly 25 percent in 2001–02. Strength in U.S. manufacturing since mid-2003, however, has led to a resurgence in maquiladora jobs and improvement in the El Paso economy.

El Paso has also been negatively affected by declines in apparel manufacturing and deployments of soldiers overseas. Recent announcements of military realignments and a rebound in the maquiladora industry in Juárez, however, suggest that El Paso's economy will continue to improve over the next 12 months.

Summary

The areas along the Texas–Mexico border are often influenced by similar forces, yet can sometimes move in different directions based on their unique economic structures. Like brothers and sisters in a family, they often look alike yet behave quite differently. Each border city has experienced a unique business cycle that depends on its sensitivity to a wide variety of factors, such as movements in the broader economies of the United States or Mexico, trade between the United States and Mexico, the real value of the peso, and U.S. and Mexican industrial activity.

So far this decade, the business cycles of the southern border MSAs of Brownsville, Laredo and McAllen have benefited from the strong peso and retail sales to Mexican nationals. At the same time, El Paso's economy has followed the weakness in U.S. manufacturing and Mexico's maquiladoras. Since mid-2003, however, the maquiladora industry has rebounded with U.S. industrial production and the El Paso economy has begun to recover.

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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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