Did NAFTA Spur Texas Exports?

By Anil Kumar

Texas is one of the more interesting lenses through which to assess NAFTA.

The North American Free Trade Agreement unites the United States, Mexico and Canada—three nations with a combined population of 426 million, total output of more than $13 trillion and regional trade of $700 billion in goods and services.

Because of the North American market's sheer size, NAFTA has been repeatedly dissected. Most studies have sought to determine whether the pact fulfilled proponents' predictions of increased trade, lower prices and higher incomes or led to what critics warned would be a "giant sucking sound" of U.S. jobs going to Mexico.

On balance, researchers have found NAFTA a slight positive for the U.S. as a whole. For example, a 1996 study estimated that NAFTA had increased U.S. exports by $5 billion, or 12 percent, a figure projected to grow as more of NAFTA's phased-in trade liberalization took effect.[1]

A lesser volume of research focuses on what NAFTA has meant to state and local economies, although theory and common sense suggest trade deals might have different impacts within countries. States' industrial mixes and workforces vary widely, leading to comparative advantages that influence the composition and destination of exports. Geography is another key factor. Firms may operate in one state rather than another to take advantage of proximity to newly opened markets. The results of national studies of NAFTA's effects may not apply uniformly to all states.

Texas is one of the more interesting lenses through which to assess NAFTA. The state lies near the center of NAFTA's economic space—about equidistant from Mexico City and Toronto, with a 1,200-mile frontier with Mexico and networks of highways and rail lines that lead to some of the world's busiest border crossings. Texas political and business leaders strongly supported NAFTA's ratification, an indication that many presumed it would benefit the state's economy.

Has NAFTA been good for Texas? Merely counting the truckloads passing through border checkpoints in the Lower Rio Grande Valley, Laredo and El Paso would make it seem so. A more definitive answer, though, involves distilling NAFTA's influence from factors responsible for overall increases in Texas exports over the past decade or so.

NAFTA can't be deemed a success for Texas if rising exports to Mexico merely represent sales diverted from markets elsewhere in the world. Trade theory suggests that overall economic effects of NAFTA and other preferential trade agreements depend on trade creation net of trade diversion *(see box)*.

A fresh look at the issue, using industry-level export data, shows that NAFTA did indeed increase Texas' sales to

Trade Creation Versus Trade Diversion

Preferential trade agreements impose lower tariffs on trade in goods and services among their member countries. Even with expansion of the multinational World Trade Organization in recent years, nations have found these regional deals increasingly attractive, concluding more than 180 pacts since 1990.

Two types of preferential deals are common. Free trade areas, such as NAFTA, reduce tariffs on goods from member countries but allow each nation to set its own duties for nonmembers. Customs unions, such as the European Union, agree to impose a common tariff wall on imports from nonmember countries. In economic terms, they're similar, so the following discussion applies to both.

These preferential agreements would normally violate the WTO's most favored nation rules, which require each member to extend to other members the lowest tariff applicable on all goods and services. In other words, there should be no discrimination or preference in tariffs. To allow the existence of free trade agreements and customs unions, WTO rules exempt them from the most favored nation rule if they mandate complete tariff elimination among member countries and if tariffs to nonmembers are no higher than they were before.

Both theory and experience suggest that free trade increases economic welfare. Does the proposition hold for preferential deals as well?

Jacob Viner provided the answer in his classic 1950 book, *The Customs Union Issue*. It introduced two important concepts—trade creation, which denotes new imports and exports, and trade diversion, which means a mere shifting of sources from one country to another. Viner argued that only trade deals that lead to net trade creation would improve economic welfare. If net trade diversion occurs primarily by shifting production from a low-cost nonmember country to a high-cost member country, it will hurt overall economic welfare.

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Mexico—and to Canada as well. Perhaps more interesting, NAFTA also helped raise Texas exports to Asia, Europe and Latin America, making a strong case for net trade creation.

Before and After NAFTA

NAFTA went into effect Jan. 1, 1994. In general, it mandated eliminating trade barriers by 2008. For many products, the agreement did away with tariffs and other restraints immediately. Agriculture and apparel were the main sectors scheduled to be liberalized over a longer period.

Pre-NAFTA Mexico had the more protected economy, so it committed to larger tariff cuts than the U.S. and Canada. Average Mexican duties on U.S. goods fell from 12 percent in 1993 to 1.3 percent in 2001, while U.S. tariffs on Mexican goods declined from 2.1 percent to 0.2 percent.[2] The effect of NAFTA on U.S.–Canada trade restraints was minimal because the two countries operated under a free-trade agreement that took effect in 1989.

Trade has increased by leaps and bounds in the NAFTA years. U.S. exports to Mexico rose from $42 billion in 1993 to $111 billion in 2004, while imports from Mexico increased from $40 billion to $156 billion. Over the same period, U.S. sales to Canada grew from $100 billion to $189 billion, while imports from Canada to the U.S. climbed from $111 billion to $256 billion.

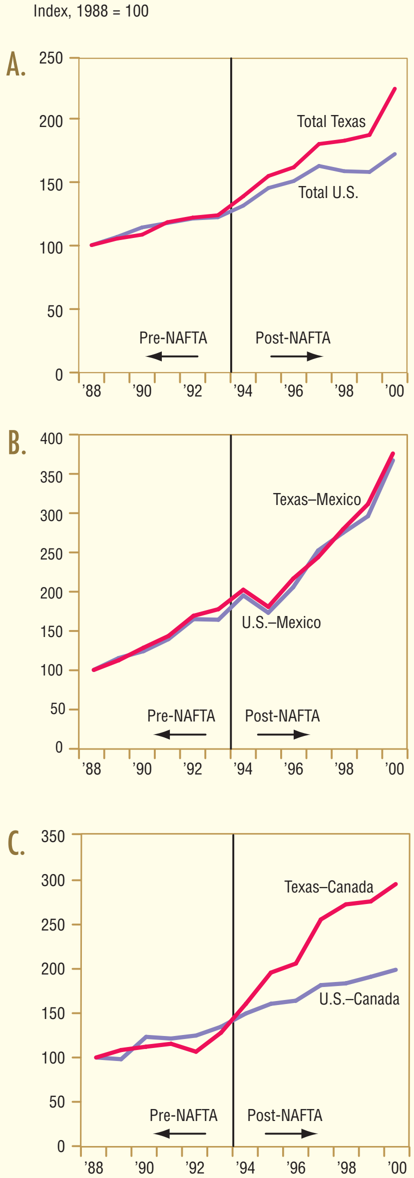
During the first six years of NAFTA, Texas gained ground in many foreign markets, allowing the state to grow faster than the nation in overall exports *(Chart 1A)*. Texas exports to Mexico also increased—but not by any more than the nation as a whole. From 1994 to 2000, the growth of Texas shipments across the Rio Grande mirrored that of U.S. exports, just as it did in the five years prior to NAFTA's taking effect *(Chart 1B)*.[3] Indeed, both Texas and U.S. exports to Mexico grew steadily before and after NAFTA, except for a sharp decline in 1995, the year following the pact's implementation. An economic crisis in Mexico led to a steep devaluation of the peso vis-à-vis the dollar, making U.S. exports to Mexico more expensive.

Given Texas' proximity to Mexico, it might be surprising that the state didn't increase its market share under NAFTA. Interestingly, one of the expanding markets has been Canada, the NAFTA partner farther from Texas *(Chart 1C)*.

Although trade grew faster with Canada, there's no denying the importance of Mexico to the state's economy. In 1993, nearly 40 percent of Texas' exports went to Mexico, compared with less than 10 percent of overall U.S. exports *(Chart 2)*. The state trailed the U.S. average in sales to Canada and all other regions except Latin America.

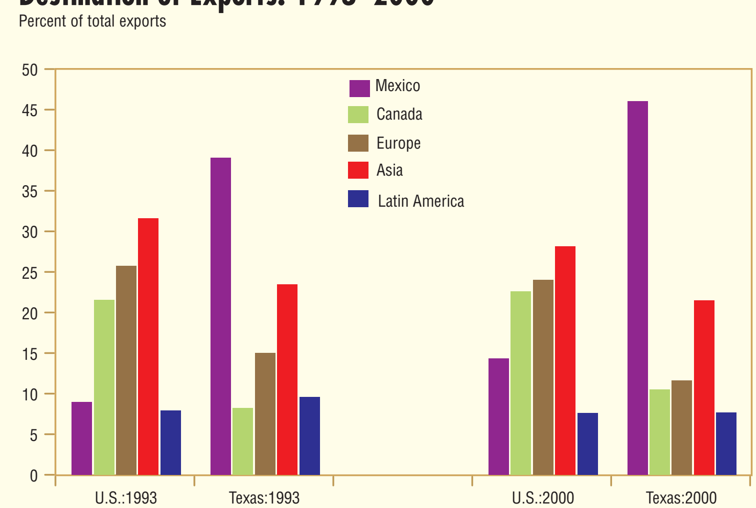
In the NAFTA years, Mexico has

Chart 1
U.S. and Texas Exports: Pre- and Post-NAFTA



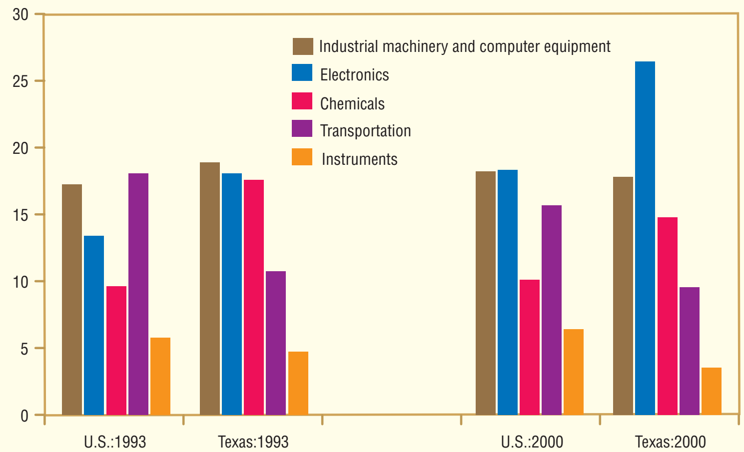
SOURCE: WISERTrade.

Chart 2
Destination of Exports: 1993–2000



SOURCE: WISERTrade.

Chart 3
Composition of Exports: 1993–2000
Percent of total exports



SOURCE: WISERTrade.

For both the U.S. and Texas, the leading exports are largely the same—industrial machinery including computer equipment, transportation equipment, electronics, chemicals and instruments.

become even more dominant as a market for Texas. By 2000, Mexico received more than 45 percent of Texas' exports, and Canada also gained as a destination for Texas products.

Broad-based data on exports suggest continuity rather than change in the first years NAFTA was in effect. Texas and the U.S. sold more to Mexico and Canada in 2000 than they did in 1993, but general trade patterns didn't change all that much in the six-year period. NAFTA's impacts on the Texas economy emerge more clearly by looking at the changes in exports by industry.

Looking at Industry Data

For both the U.S. and Texas, the leading exports are largely the same—industrial machinery including computer equipment, transportation equipment, electronics, chemicals and instruments *(Chart 3)*. They reflect America's comparative advantages in the global marketplace. Texas' mix differs from the rest of the country—electronics, for example, has emerged as a particular strength for the state. Even so, the same five categories were at the top before NAFTA in 1993 and after it in 2000.

In terms of overall exports, some major Texas industries show distinct breaks from their pre-NAFTA trends *(Chart 4)*. Texas electronics companies, for example, saw their exports grow significantly faster after NAFTA went into effect. Chemicals, which were dropping prior to the trade deal, began to rise after its implementation. After an initial decline due to Mexico's peso crisis of 1994, transportation equipment experienced an uptick in its growth rate.

Not all sectors show rising exports. Texas sales of lumber and wood had been increasing before 1994 but declined after NAFTA. Furniture and fixtures show a similar pattern.

Industry data suggest churning beneath the surface for Texas exports. How much of it can be attributed to NAFTA? The answer requires a model that takes into account other factors that might contribute to the state's expanding overseas sales. Income growth in Texas and Mexico would affect exports because richer countries tend to buy more overseas. The real exchange rate between the U.S. and Mexico is especially important because the period under study includes Mexico's peso crisis, which induced wide swings in trade.

The worldwide march toward freer trade deserves consideration because it, too, could be expected to increase Texas exports. Since 1990, nations have signed more than 180 regional free-trade agreements. Among the more important ones were the European Union's steps toward integration in 1992 and the liberalization in Latin America symbolized by the Southern Common Market, or Mercosur.

Controlling for incomes, a time trend, exchange rates, the EU opening, Mercosur and other industry- or country-specific factors allows us to isolate NAFTA's impact on 28 Texas industries. When it comes to exports to Mexico, 19 of these industries benefited from NAFTA, while nine saw sales decline. Texas exports to Canada rose for 18 industries and fell for 10. Half of the 28 industries gained in both countries, while six declined in both countries *(Chart 5)*.

Industries with statistically significant gains in exports to Mexico as a result of NAFTA were rubber and miscellaneous plastic products (79 percent), printing and publishing (78 percent), textile mill products (75 percent), petroleum and coal products (69 percent), leather and leather products (71 percent) and electronic equipment (49 percent). Significant declines were found in lumber and wood products (89 percent) and furniture and fixtures (75 percent).

The statistically significant NAFTA winners in terms of exports to Canada were oil and gas exploration equipment (286 percent), furniture and fixtures (75 percent), industrial machinery including computers (70 percent), apparel (66 percent), instruments and related products (58 percent) and rubber and miscellaneous plastic products (54 percent). The only significant decline was in metal mining (88 percent).

The diversity in gains and losses of

exports among industries suggests trade deals affect economic sectors differently. Lower tariffs no doubt gave some Texas industries an advantage over Mexican and Canadian companies. Export declines might signal an inability to compete, although they could simply reflect some firms' decisions to shift economic activity to other states. Because Texas had more winners than losers, though, we can conclude that NAFTA in general made Texas industries more competitive.

Overall, NAFTA had an export-weighted average effect of 28 percent on Texas exports to Mexico. Adjusted for inflation, the trade deal accounted for roughly a quarter of Texas' 111 percent increase in exports to Mexico between 1993 and 2000.

During the same period, Texas' NAFTA-related exports to Canada rose 47 percent, or about a third of the state's 131 percent gain in that market. Texas sells quite a bit more to Mexico than to Canada. Even if the percentage effect is smaller, the NAFTA-led increases in exports to Mexico are larger in dollar terms.

The results indicate that NAFTA stimulated Texas' exports. These findings are similar to those of a St. Louis Fed study.[4] Using a different state-level database covering the years 1988 to 1997, they estimated that NAFTA increased Texas exports to Mexico by 14 percent and to Canada by 28 percent.

Global Gains

Did gains in the Mexican and Canadian markets come at the expense of exports to the rest of the world?

The answer is no. In addition to boosting North American sales, NAFTA also contributed to moderate gains in Texas' exports to other parts of the world. The trade deal helped boost sales by 17 percent in Latin America, not including Mexico; 15 percent in Europe; and 13 percent in Asia.

NAFTA didn't open non-North American markets, so why would it help Texas exports to the rest of the world? The answer likely lies in the reorganization of production that comes with exposure to the global marketplace. As North American trade barriers fell, Texas exporters had new incentives to become more competitive, perhaps by cutting costs to match rivals' prices or by incorporating lower-priced inputs from Mexico. Other factors might also be at work. The international-trade expertise that firms gained by selling to Mexico may have helped them penetrate Europe, Asia and elsewhere. Countries may have informally reduced import barriers as part of a strategy to achieve free-trade agreements with the U.S.

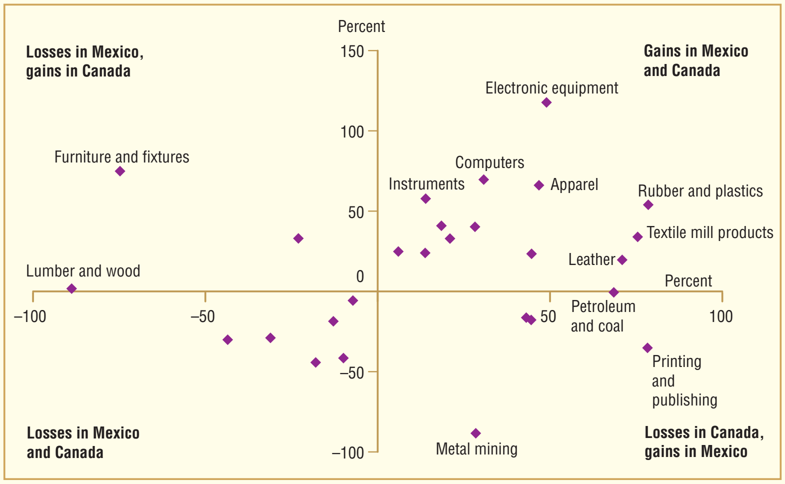
The estimates of NAFTA's impacts on Texas exports don't account for Mexico's highly successful maquiladora program, which allows U.S. goods to enter Mexico duty-free for further processing and re-

Chart 4
Texas Exports by Industry Before and After NAFTA (Millions of Dollars)

SOURCE: WISERTrade

Chart 5

Industry Winners and Losers from NAFTA



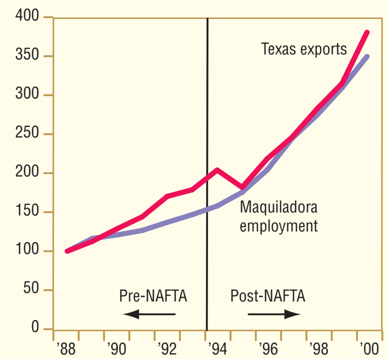
NOTE: Oil and gas equipment, although statistically significant at a 286 percent increase, falls outside the boundaries of this chart.

SOURCE: WISERTrade

Chart 6

Texas Exports to Mexico and Maquiladora Employment: Pre- and Post-NAFTA

Index, 1988 = 100



SOURCE: WISERTrade; Haver Analytics.

export to the United States.

In the debate leading to NAFTA's ratification, experts differed on how the trade pact would affect the maquiladoras. Some thought it would strengthen them by boosting investment in the plants. Others argued that it would erode the maquilas' advantage by lowering tariffs on nearly all imports to Mexico.

Maquiladora employment has grown steadily for decades, but it accelerated under NAFTA *(Chart 6)*. However, a 2001 Dallas Fed study concluded that NAFTA had a negative but statistically insignificant influence on the maquiladoras.[5] If the industry hadn't weakened, the estimates of NAFTA's effects on Texas exports would have been larger.

Texas now ranks as America's top exporting state, with about 14 percent of the nation's overseas sales. At least some of the gains can be attributed to NAFTA, which boosted 2000 exports by an estimated 23 percent above their pre-NAFTA 1993 levels. The trade pact's gains have been broadly based. Exports to Mexico rose—as many expected—but Texas products have also found expanding markets in Canada, Europe, Asia and Latin America as a direct result of NAFTA. The added overseas sales amount to a moderate gain for the state's economy, leading to faster growth and new jobs.

More Texas exports are only half the story. NAFTA also operated at the industry level, prompting a reorganization consistent with the theory of comparative advantage. As North American barriers fell, such knowledge- and capital-intensive industries as electronics, chemicals, transportation equipment and industrial machinery received a stimulating jolt. Labor-intensive industries, like lumber and furniture, couldn't maintain their exports.

The data don't allow industry-specific assessment of NAFTA beyond 2000. However, the steady increase in overall Texas exports in recent years at least suggests that NAFTA continues to exert a positive effect on the state's economy.

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Notes

The author thanks Jason Saving, Mine Yücel and Steve Brown for insightful comments.

1 "Distinguishing NAFTA from the Peso Crisis," by David M. Gould, Federal Reserve Bank of Dallas *Southwest Economy*, Issue 5, September/October 1996.

2 "The Effects of NAFTA on U.S.–Mexican Trade and GDP," Congressional Budget Office, May 2003.

3 The analysis can't be continued past 2000. The World Institute of Social and Economic Research compiles state-level export figures, providing added detail by industry. The switch from Standard Industrial Classification (SIC) to the North American Industry Classification System (NAICS) means data since 2001 cannot be compared with earlier periods.

4 "NAFTA and the Changing Pattern of State Exports," by Cletus C. Coughlin and Howard J. Wall, Working Paper 2000-029, Research Division, Federal Reserve Bank of St. Louis, October 2000.

5 "Was NAFTA Behind Mexico's High Maquiladora Growth?" by William C. Gruben, Federal Reserve Bank of Dallas *Economic and Financial Review*, Third Quarter 2001.