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Texas–Mexico Trade After NAFTA

Texas exports affected more than its imports

A NAFTA Retrospective

In this special issue, Dallas Fed economists look at NAFTA's effect on U.S.–Mexico trade. David Gould develops a model to disentangle the treaty's effects from those of the peso crisis. Jeremy Nalewaik and Lori Taylor extend the analysis to Texas–Mexico trade.

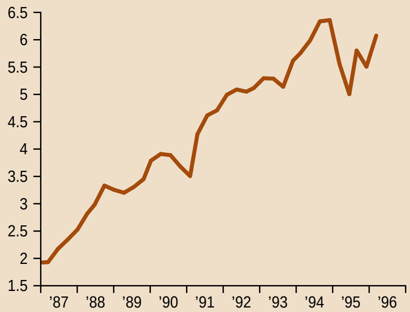
MERCHANDISE TRADE is a significant economic link between Texas and neighboring Mexico. In 1995, Texas exported nearly $22 billion in merchandise to Mexico and imported at least $14 billion in Mexican merchandise.[1] As such, trade with Mexico represents a bigger share of the Texas economy than oil and gas extraction.

Recently, Texas–Mexico trade has gone through a series of dramatic changes. The implementation of the North American Free Trade Agreement (NAFTA) is one such change. Another was the sharp drop in the value of the peso in December 1994 and subsequent fall in Mexican output. Both the Mexican economy and the value of the peso have since staged comebacks, further changing the Texas trade picture. This article describes the flow of merchandise trade between Texas and Mexico, assesses the relative impacts of NAFTA and the peso crisis on Texas trade flows, and examines the outlook for Texas merchandise trade with Mexico.

Texas—Mexico Trade After NAFTA *(continued)*

Chart 1
Texas Exports to Mexico
A Historically Strong Growth Record

Billions of 1995 dollars
(Quarterly data)



SOURCE: Massachusetts Institute of Social and Economic Research (MISER).

An Overview of Texas Trade with Mexico

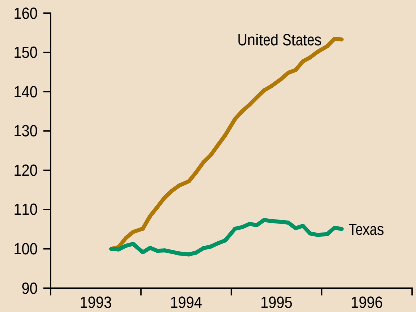
Given the proximity of Texas and Mexico, it is not surprising that Mexico is Texas' biggest international export market. From 1988 to 1993, exports to Mexico accounted for 33 percent of Texas exports to the world. Since 1994, this proportion has increased to nearly 36 percent.

Electronics and electrical equipment, transportation equipment, and industrial machinery and computer equipment make up most of Texas' exports to Mexico. Together these industries have accounted for nearly 50 percent of Texas exports to Mexico since 1988; the electronics and electrical equipment industry alone has accounted for more than 26 percent. Furthermore, Texas frequently sells more than half of its electronics and electrical equipment exports and almost half of its transportation equipment exports to Mexico. Mexico accounts for roughly 15 to 20 percent of Texas exports of industrial machinery and computers.

Not only is Mexico a large market for Texas products, but it has traditionally been a rapidly growing market (*Chart 1*). Since 1987, Texas exports to Mexico have grown 14 percent per year (after adjustment for inflation). In contrast, total exports to other foreign countries have grown only 9 percent per year. Although exports to Mexico contracted sharply with the onset of the peso crisis, they resumed their upward trend in third-quarter 1995.

Chart 2
U.S. and Texas Imports From Mexico
U.S. Imports Grow Faster

Index, 1993:9 = 100
(Six-month moving average of monthly data)



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics.

The pattern of Texas imports is not as well documented as the pattern of exports. However, data on transborder surface freight between Texas and Mexico illustrate most of the pattern of trade (goods shipped by air and sea are excluded).[2] The surface freight data indicate that Texas is a substantial importer of Mexican goods. Since April

The Role of Maquiladoras in U.S. Trade with Mexico

Maquiladoras are Mexican firms with special tariff status. Maquiladoras import components and raw materials that are exempt from Mexican tariffs and use those imports to produce export goods. If the goods are exported to the United States, the U.S. content of the goods is also exempt from U.S. tariffs.

Trade with maquiladoras has been a major influence on U.S. trade with Mexico. The U.S. International Trade Commission estimates that nearly one-quarter of U.S. exports to Mexico in 1994 were destined for maquiladora firms. Most of those temporary exports then returned as the duty-free content of U.S. imports from maquiladoras. In 1994, maquiladora products made up nearly half of total U.S. imports from Mexico, and temporary exports reentering the United States made up over half the value of those maquiladora imports. Maquiladoras have been particularly important to transborder trade in transportation equipment, apparel, electronics, industrial machinery and instruments.

NAFTA and the peso crisis likely affected the maquiladora trade in ways that were different from their effects on exports and imports in general. Because U.S. content is not subject to tariffs, NAFTA probably had no effect on U.S. exports to maquiladoras and only limited effects on U.S. imports from maquiladoras. Furthermore, U.S. exports to maquiladoras are only temporary and were not reduced by declines in Mexican purchasing power. Instead, the peso devaluation made it more cost-effective to assemble products in Mexico and probably increased U.S. exports to maquiladora firms. In turn, the increase in U.S. exports to maquiladoras probably fostered a corresponding increase in U.S. imports from maquiladoras.

1993, Texas has consistently purchased at least one-quarter of U.S. surface imports from Mexico.

Interestingly, the leading import industries generally correspond to the leading export industries. As with exports, the largest Texas import industry—by a wide margin—is the electronics and electrical equipment industry. Thirty-seven percent of Texas' surface imports from Mexico are classified as electronics and electrical equipment. Other important import industries include industrial machinery and computers, transportation equipment, instruments and apparel. This correspondence probably arises from the prominent role that maquiladora firms play in transborder trade. (See the box entitled "The Role of Maquiladoras in U.S. Trade with Mexico.")

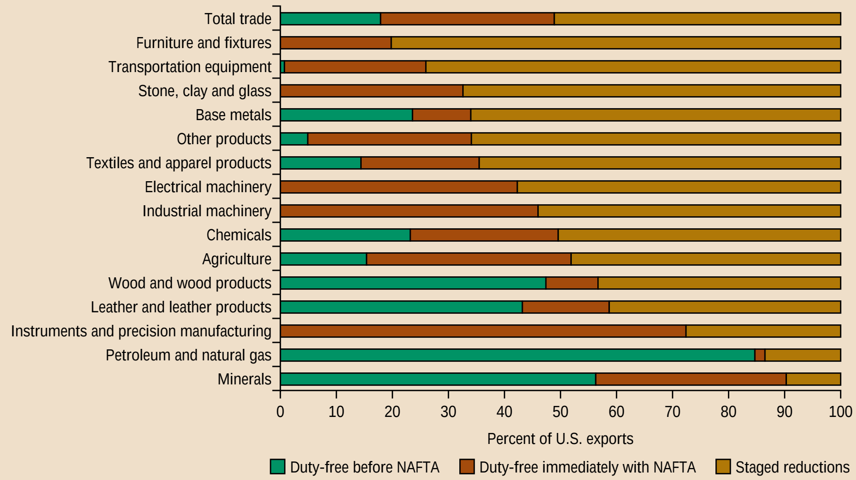
Texas imports from Mexico have been growing recently, although the pace of that growth is much slower than for U.S. imports from Mexico (*Chart 2*). Between second-quarter 1993 and first-quarter 1996, Texas surface imports from Mexico grew at an average annual rate of 3 percent, while U.S. surface imports from Mexico grew at an average annual rate of 19 percent.

Changes in Export and Import Demand

Recent economic changes—NAFTA, the peso devaluation, the Mexican recession and recovery—all have had an impact on demand for Texas imports and exports. However, these events have influenced demand in different ways. The expected demand effects of each change are the focus of this section.

The implementation of NAFTA on January 1, 1994, kicked off a series of tariff reductions. Under the agreement, tariffs on many traded goods immediately dropped to zero. Tariffs on remaining products will drop in stages over the next five to 15 years. (Chart 3 illustrates the pattern of Mexican tariff reductions.) Mexican tariff reductions

Chart 3
Pattern of Mexican Tariff Reductions Under NAFTA

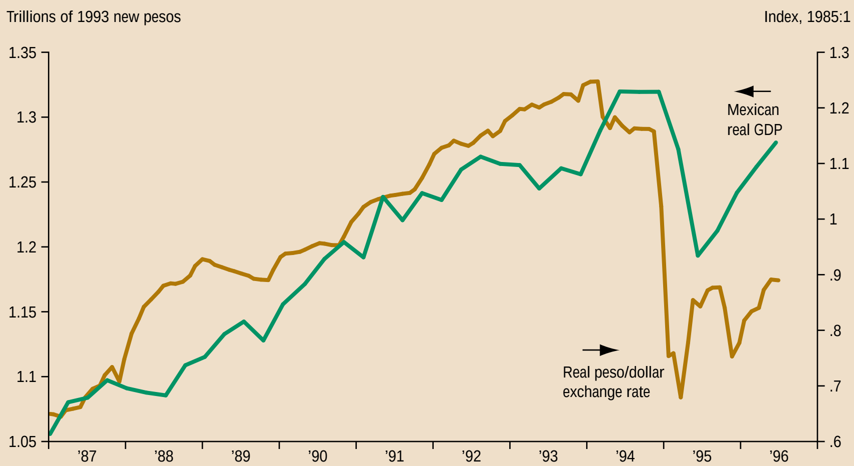


SOURCE: U.S. International Trade Commission.

encourage demand for Texas exports by lowering the effective price of Texas goods. Similarly, U.S. tariff reductions encourage Texas imports by lowering the effective price of Mexican goods. Each step down in tariffs under NAFTA should increase both Texas imports and exports.

After the sharp devaluation of the Mexican peso in December 1994, Texas goods became much more expensive for Mexicans, while Mexican goods became much cheaper for Texans. These price effects increased Texas demand for Mexican exports and reduced Mexican demand for Texas exports. The devaluation also triggered one of the sharpest economic downturns in Mexican history. Mexican real gross domestic product (GDP) con-

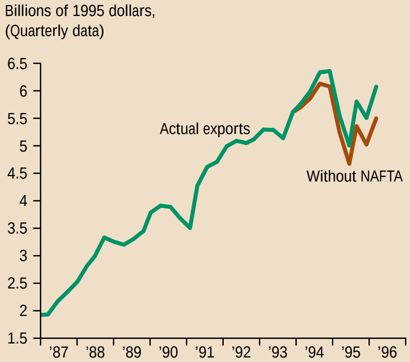
Chart 4
Mexico Experiences Sharp Business Cycle With Onset of Peso Crisis



SOURCES: International Financial Statistics (IFS); Instituto Nacional de Estadística, Geografía e Informacíon (INEGI).

Texas—Mexico Trade After NAFTA *(continued)*

Chart 5
NAFTA's Estimated Effect On Texas Exports to Mexico



SOURCES: MISER and authors' calculations.

tracted at an 18.2-percent annual rate between fourth-quarter 1994 and second-quarter 1995 (*Chart 4*). The recession further reduced Mexican demand for Texas exports and may have spurred Texas imports by encouraging Mexican producers to look abroad for sales.

Since the middle of 1995, however, conditions in Mexico have started to turn around. The inflation-adjusted value of the peso has regained more than one-third of the devaluation losses. In addition, Mexican real GDP grew 7.2 percent between second-quarter 1995 and second-quarter 1996. A leading index for Mexico created by the Dallas Fed and the Center for International Business Cycle Research indicates that the expansion is likely to continue for at least the remainder of 1996. This recovery implies a reversal of previous demand shifts.

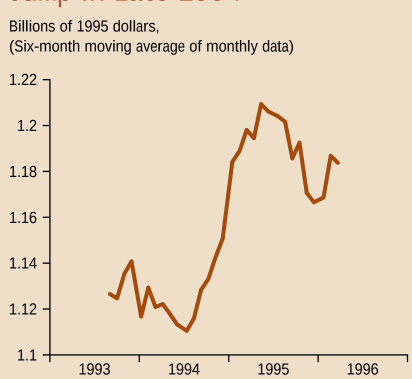
NAFTA's Impact on Trade

NAFTA's tariff reductions have not had an obvious impact on Texas exports. Export growth was robust immediately after NAFTA's implementation, but the 1994 growth rates were not unprecedented. Moreover, the industries that experienced large reductions in Mexican tariffs generally were not the industries that experienced surging export growth in 1994. For example, export growth slowed in 1994 for the instruments industry even after Mexican tariffs dropped to zero on more than 70 percent of instruments exports on January 1, 1994.

The effects of NAFTA are difficult to discern because tariff rates are only one of many factors influencing exports. For example, Texas exports to Mexico are also influenced by the purchasing power of the peso, the relative health of the Mexican and U.S. economies, and the extent to which Texas producers can sell products to the rest of the world.

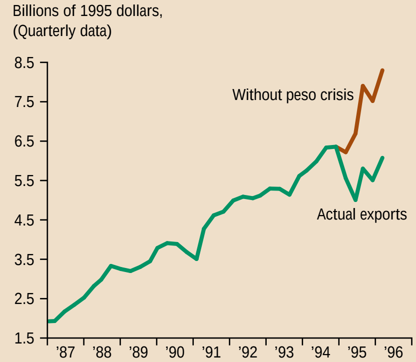
To isolate the effects of NAFTA on Texas exports, we rely on the historically strong relationship between U.S. exports to Mexico and Texas exports to Mexico. The tendency of changes in Texas exports to move with changes in U.S. exports implies that Texas exports are probably influenced by largely the same factors as U.S. exports. Moreover, forecasts from a model of U.S. exports do a reasonably good job of predicting Texas exports since 1987. (For a discussion of this U.S. model, see David Gould's article on page 6.) Because the greater quantity of data available at the national level permits more precise estimates of NAFTA's effects than are possible using Texas data, we use Gould's model of the national economy to estimate these effects on Texas exports.

Chart 6
Texas Imports from Mexico Jump in Late 1994



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics.

Chart 7
Peso Crisis' Estimated Effect On Texas Exports to Mexico



SOURCES: MISER and authors' calculations.

As expected, the model indicates that NAFTA boosted Texas exports (*Chart 5*). By comparing actual exports to Mexico with the level of exports that could have been expected without NAFTA, we estimate that NAFTA has boosted Texas real exports by approximately 6 percent since January 1994. However, given the substantial uncertainty surrounding our estimate, it should be interpreted as suggestive rather than definitive.

There is no evidence that NAFTA provided a comparable boost to Texas imports from Mexico. Data limitations preclude the use of a formal model to estimate NAFTA's effects on Texas imports, but the contrast with the U.S. experience is suggestive. NAFTA seemed to provide a boost to U.S. imports from Mexico, which accelerated sharply after the implementation of the treaty. Texas imports did not follow suit; real surface freight imports from Mexico grew only 1 percent in 1994. Without data on prior years, we cannot know whether this figure represents an acceleration in import growth, but it seems unlikely.

In sum, the import and export data suggest that, so far, NAFTA has had a

“The outlook is bright for Texas trade with Mexico.”

moderate effect on Texas trade with Mexico. However, NAFTA is being implemented in stages. While many tariffs dropped to zero on January 1, 1994, other decreases are being phased in over a 15-year period. As tariffs fall, the treaty's effects should expand and become more evident.

Effects of the Peso Crisis

The unexpected peso devaluation and economic volatility that accompanied it have had much more obvious and dramatic effects on Texas–Mexico trade than has NAFTA. Not surprisingly, exports to Mexico declined sharply in the wake of the December 1994 devaluation. In the first half of 1995, Texas exports to Mexico declined at a 37-percent annual rate. Meanwhile, surface freight imports from Mexico increased at a 9.4-percent annual rate (*Chart 6*). Since then, however, Mexico's economy has regained ground, Texas exports have resumed their robust growth and Texas imports have fallen.

Again, we use forecasts from the model of U.S. trade to estimate the effects of the peso devaluation and its aftermath on total Texas exports to Mexico. As Chart 7 illustrates, the peso crisis damped what should have been steep Texas export growth in 1995. We estimate that Texas exports to Mexico would have been approximately 31 percent higher had there been no peso crisis.

The effects of the peso crisis seem to have varied dramatically across industries (*Chart 8*). For example, the crisis appears to have had a much smaller effect on exports of electronics and electrical equipment than on exports of transportation equipment or industrial machinery and computers. The relative insensitivity of electronics exports to fluctuations in the exchange rate and Mexican income implies that maquiladoras have an especially large influence on Texas exports of electronics to Mexico.

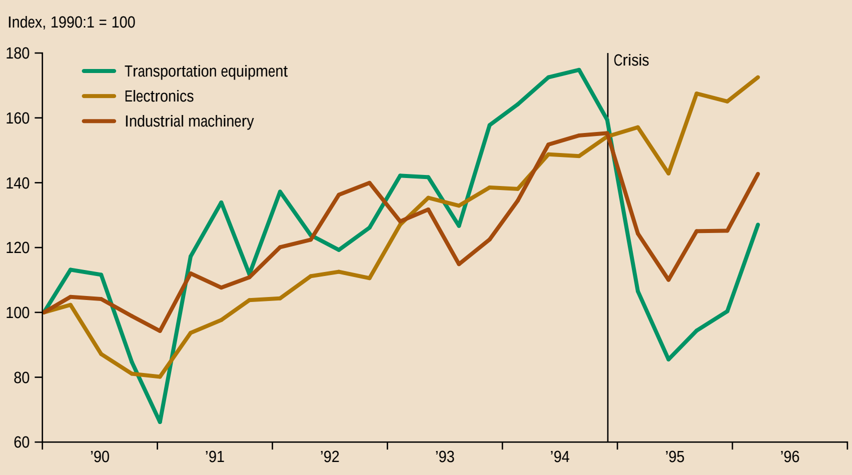
Once again, the lack of data makes it difficult to pin down import effects. It is unlikely that all the increased Texas import growth in early 1995 is attributable to the peso crisis. Some of that pickup may reflect the influence of trucking deregulation or NAFTA.[3] However, a plausible upper bound on the effects of the peso crisis would be the difference between actual imports since December 1994 and the level of imports that would have occurred if imports had continued to grow at their 1994 rate. By this criterion, the peso devaluation and subsequent Mexican business cycle fostered less than 3 percent in additional imports from Mexico. As a lower bound, if Texas mirrored the U.S. pattern, the effect of the peso crisis on Texas imports from Mexico was negligible.

Conclusions and the Outlook for Trade

Texas' recent history of trade with Mexico suggests that both NAFTA and the peso crisis have affected the state's exports much more than its imports. If NAFTA continues to have a greater influence on exports than imports, future tariff reductions under the treaty should boost Texas net exports as well as the total volume of trade. Similarly, as the peso crisis runs its course and the Mexican economy improves, both Texas net exports and the volume of Texas trade with Mexico should grow. Thus, the outlook is bright for Texas trade with Mexico.

—Jeremy Nalewaik
Lori L. Taylor

Chart 8
Top Texas Export Industries to Mexico
Different Reactions to Peso Crisis



SOURCE: MISER.

Notes

[1] Throughout this article, we measure exports using data based on the state of origin of movement to port. All the trade data are adjusted for inflation with 1995 as the base.

[2] Nationally, transborder surface freight represents 92 percent of exports to Mexico and 86 percent of imports from Mexico.

[3] Before deregulation, the wedge between interstate and intrastate trucking rates pushed warehousing activity out of the state. Firms would supply Texas from warehouses just over the state line in Arkansas, Oklahoma and New Mexico. Trucking deregulation in January 1995 made it more attractive for firms to supply Texas customers from warehouses in Texas. Because surface freight imports are apportioned to the states according to their shipping destinations, a shift toward Texas warehousing would increase the Texas import numbers.