

## Special Article



Mexican Government Tourism Office

## NAFTA's Impact on U.S. Agriculture: The First 3 Years

The North American Free Trade Agreement (NAFTA) has had a positive overall effect on the U.S. agricultural sector, reinforcing the trend toward greater integration of markets in North America and enhancing the competitiveness of U.S. agriculture. From implementation of NAFTA through 1996, total U.S. agricultural trade has grown rapidly, rising from nearly \$68 billion (exports \$43 billion, imports \$25 billion) to about \$94 billion (exports \$60 billion, imports \$34 billion). In relative terms, the share of trade with NAFTA partners has held steady at about 24 percent of total U.S. agricultural trade.

During the 12 months prior to NAFTA's January 1, 1994 implementation, U.S. agricultural trade with Canada and Mexico totaled just over \$16 billion (more than \$9 billion in exports and \$6 billion in imports). By the end of 1996, just 3 years after implementation, it had grown to over \$22 billion (nearly \$12 billion in exports and nearly \$11 billion in imports).

But quantifying the trade effects directly attributable to NAFTA is less than straightforward. The increase was not all due to the implementation of NAFTA or the already-existing U.S.-Canada Free Trade Agreement (FTA). The initial years of NAFTA implementation have coincided with significant changes in the domestic agricultural policies of the U.S., Canada, and Mexico and in the global trade policy environment. These policy reforms have affected some commodity markets in ways that are difficult to

separate from the direct effects of NAFTA trade reforms, because the two are compatible and mutually reinforcing.

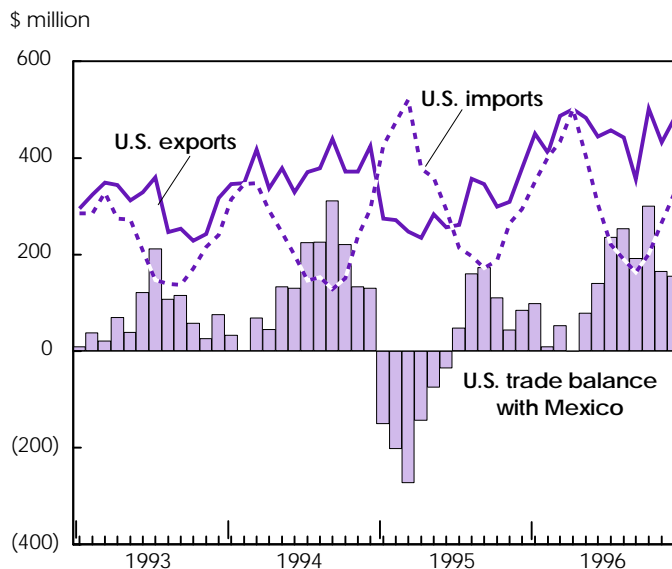
Moreover, the peso crisis and subsequent recession in Mexico seriously disrupted trade in 1995, overwhelming the effects of the early tariff reductions under NAFTA. Adverse weather conditions which affected Mexican grain and cattle production, and changing production technology for vegetables, influenced trade in several agricultural commodities in North American markets.

The collapse of the Mexican peso in December 1994 and the subsequent recession reduced Mexican consumers' purchasing power and increased short-term price competitiveness of Mexican exports. Consequently, U.S. agricultural exports to Mexico plunged 22 percent in 1995, offsetting the gains from 1994, while Mexican exports to the U.S. grew 32 percent. The Mexican economy began a strong recovery in 1996, and U.S. agricultural exports to Mexico rebounded, increasing almost 55 percent from the previous year, while imports from Mexico dropped slightly.

Analysis by USDA's Economic Research Service (ERS) examined the impact of agricultural trade liberalization under NAFTA and the FTA on trade through 1996—the third year of NAFTA implementation. The analysis attempted to disentangle the effects of the changes in tariffs and nontariff barriers under the agreement from other forces influencing economic conditions and agricultural markets in North America.

To what extent is the trade growth due to NAFTA? ERS analysis, which isolated the economic impacts of NAFTA from other developments, found that U.S. agricultural exports to Mexico were about 3 percent higher in 1996 than they would have been without the reduction in trade barriers under NAFTA. U.S. agricultural exports to Canada were about 7 percent higher because

### Peso Devaluation in December 1994 Disrupted Normal U.S.-Mexican Agricultural Trade Flows



Economic Research Service, USDA

## Nuts & Bolts of NAFTA

Calendar 1996 marked the third year of trade liberalization between the U.S. and Mexico under the North American Free Trade Agreement (NAFTA) and the eighth year of an earlier trade agreement between the U.S. and Canada. NAFTA liberalizes trade and investment rules among the U.S., Mexico, and Canada. It encompasses the U.S.-Canada Free Trade Agreement (FTA), in place since January 1, 1989, and builds on the "Framework of Principles and Procedures for Consultations Regarding Trade and Investment Relations" between the U.S. and Mexico, initiated in 1987.

The U.S. and Mexico began discussions on a free trade agreement in 1990, and Canada joined the discussions in 1991. The presidents of all three countries signed the agreement in December 1992. The U.S. Congress approved it in November 1993, and it was signed into law on December 8, 1993. NAFTA, which went into effect on January 1, 1994, established two new bilateral agreements on cross-border trade—one between the U.S. and Mexico and the other between Canada and Mexico—adding to the original FTA between the U.S. and Canada. The agricultural provisions of NAFTA addressed tariffs, nontariff barriers, safeguards, rules of origin, and sanitary and phytosanitary regulations.

Under NAFTA's agricultural provisions, all tariffs, quotas, and licenses that restrict agricultural trade between the U.S. and Mexico will be eliminated by the end of the 15-year implementation period. Restrictions on about half of all U.S. agricultural exports to Mexico were eliminated immediately upon NAFTA implementation in 1994, and numerous other restrictions will be eliminated over 10 years. Agricultural trade between Mexico and the U.S. will be completely liberalized by 2008.

Regarding agricultural trade between the U.S. and Canada, NAFTA provided no new market access provisions beyond the FTA, and in general, the rules of the FTA continue to govern U.S.-Canadian trade. Tariffs on most agricultural products traded between the U.S. and Canada will be eliminated by January 1, 1998. Tariffs on certain products previously subject to nontariff barriers will remain in place. Canada will continue to be able to protect its supply-managed products: dairy, poultry, and eggs.

NAFTA established an agreement among the U.S., Canada, and Mexico on sanitary and phytosanitary standards. The agreement requires that regulations for the protection of food safety and plant and animal health be consistent with internationally accepted scientific standards. And the agreement recognized the concept of regional, as opposed to national, certification for plant and animal health standards, and established a dispute settlement mechanism to address sanitary and phytosanitary issues.

of the free trade agreement. Similarly, U.S. agricultural *imports* from Mexico were just over 3 percent higher in 1996 than they would have been without NAFTA, while imports from Canada were about 5 percent higher. A little more than one-fifth of the increase in U.S. *exports* to NAFTA countries since 1993 can be

attributed to trade liberalization under NAFTA provisions, and slightly less than a fifth of the increase in U.S. *imports*.

In addition, analysts at the Dallas Federal Reserve indicate that NAFTA eased trade flows in the wake of the peso crisis and promoted more rapid economic recovery in Mexico than might otherwise have occurred. Perhaps NAFTA's greatest contribution was in preventing the Mexican government from reverting to the restrictive trade policies that had been so destructive during the debt crisis of the early 1980's.

A primary U.S. goal in seeking a trade agreement with Mexico was to lock in the unilateral trade and investment reforms Mexico had undertaken in the mid-1980's. Mexico's adherence to its NAFTA commitments and the rapid recovery of trade in 1996 provide compelling evidence that NAFTA has achieved this.

### Trade Effects Vary Across Countries & Commodities

For most commodities, the direct impact of NAFTA has been small because trade barriers were relatively low before the agreement, liberalization is only partially complete, and tariffs are only one of many factors that influence trade. The largest NAFTA-induced trade changes have occurred among products having the highest tariffs and nontariff barriers before the agree-

#### Animal Products Led NAFTA-Induced Trade Effects

	U.S. exports to		U.S. imports from	
	Canada	Mexico	Canada	Mexico
	<i>Range of percent change</i>			
Grains & products				
Corn		2-5		
Sorghum	6-15	2-5		
Barley		2-5	2-5	
Wheat & wheat products	6-15		2-5	
Oilseeds & products				
Oilseeds		2-5	(2-5)	
Vegetable oils	6-15	6-15	2-5	
Animals & animal products				
Cattle & calves		>15	(>15)	
Beef & veal	>15	6-15	>15	
Hogs		2-5		
Pork		6-15		
Dairy products		>15		
Other crops				
Peanuts				>15
Fruits & vegetables				
Fresh tomatoes	2-5			6-15
Processed tomatoes	>15			6-15
Cucumbers				2-5
Squash	2-5			
Eggplant	2-5			2-5
Snap beans	2-5			2-5
Fresh & processed potatoes			6-15	
Frozen broccoli & cauliflower				6-15
Orange juice				2-5
Apples		>15		
Pears		>15		

Trade gain/loss attributable to NAFTA. Commodities with changes of at least 2 percent. Data in parentheses are negative (loss).

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### Measuring NAFTA'S Impact

USDA's Economic Research Service used a dynamic computable general equilibrium (CGE) model to isolate the economic impacts of NAFTA on investment and employment in U.S. agriculture and agriculture-related industries, and on agricultural trade among NAFTA signatories. The global model included 7 countries or regions and 12 commodities or sectors. The base-year data used in the study (1992) were drawn from USDA's Global Trade Analysis Project database. The model results for consumption, production, investment, and trade are derived from consumer and producer optimization for each country or region.

In deriving the results, the model first estimated the levels of investment, employment, and trade that would have occurred without NAFTA. This was done by using the Most Favored Nation (MFN) tariffs and nontariff measures that each of the three countries applied to other members of the World Trade Organization (WTO) in 1992. Then the MFN rules were replaced in the model with NAFTA provisions for 1996, and the impacts on investment and employment were calculated. The difference between the two outcomes represents the pure impact of the tariff and nontariff changes under NAFTA to date. This approach assumes that the domestic agricultural policy reforms and multilateral trade reforms undertaken in each member country would have happened without NAFTA.

To evaluate the impact of NAFTA on trade for individual commodities, the CGE analysis was supplemented with more detailed country and commodity models. These static equilibrium models were used to evaluate two scenarios for the 1994-96 period based on actual exchange rate and income data.

ment and undergoing significant reductions in trade barriers the first few years of implementation.

Of the U.S.'s two NAFTA trade partners, Mexico is the faster growing agricultural market, averaging nearly 15 percent growth per year since 1993, compared with about 12 percent for U.S. exports to the world. U.S. agricultural exports to Mexico climbed to \$5.4 billion by 1996.

The largest *rates* of NAFTA-specific gains in U.S. exports to Mexico have been for sorghum, cattle, beef, dairy products, apples, and pears. Analysis by ERS indicated that U.S. exports of these products were 10-30 percent higher in 1996 than would have occurred without the agreement. At the same time, U.S. imports of fresh vegetables from Mexico were about 5-10 percent higher in 1996 than they would have been without the agreement.

Growth in U.S. agricultural trade with Canada during the 1993-96 period has been slower but less volatile than trade with Mexico because, as a mature market, Canadian consumer demand is relatively stable. Also, the U.S.-Canada Free Trade Agreement had already been in place for over 4 years by 1993. U.S. agricultural exports to Canada grew to \$6.1 billion by 1996. The largest gains for U.S. agricultural exports to Canada because

The first scenario simulated the trade flows that would have occurred without NAFTA. As in the CGE-only analysis, the MFN tariffs and nontariff measures for each country were used to generate a base estimate of the trade that would have occurred without NAFTA. Where import licenses or quotas were replaced by tariff-rate quotas under the Uruguay Round agreement (implemented at the beginning of 1995), analysts made informed judgments about the level of imports that might have occurred in the absence of NAFTA. The second scenario altered the trade rules for each member country following the terms of the NAFTA agreement, and compared the estimated trade changes to those derived without NAFTA. By comparing the difference in the two scenarios, it was possible to estimate NAFTA's impact in the absence of the economic, weather, and other forces that have affected specific North American commodity markets in the past 2 years.

Since NAFTA is essentially three bilateral agreements (Canada-Mexico, U.S.-Mexico, and U.S.-Canada under the FTA), analysis of NAFTA without assessing the impact of changes in Canada would have provided an incomplete picture of the effects of trade liberalization on the U.S. The FTA was subsumed under NAFTA at the beginning of 1994, and the no-NAFTA scenario explicitly assumes no FTA as well. Because U.S. bilateral trade liberalization has proceeded further with Canada than with Mexico for many commodities, a return to MFN treatment implies a larger shift in bilateral trade rules with Canada than with Mexico. Consequently, the results for Canada may seem larger than one would expect intuitively, because they are capturing the full scope of liberalization between the U.S. and Canada since 1989, not just the liberalization that has occurred since 1994.

of NAFTA (and the subsumed FTA) have been in beef and veal, wheat and wheat products, vegetable oils, processed and fresh tomatoes, and other vegetables.

Agricultural commodities that were freely traded before NAFTA have not been directly affected by the agreement. The U.S. tariff on coffee imports was zero before NAFTA; therefore, the recent increase in U.S. coffee imports from Mexico cannot be credited to NAFTA. Likewise, trade in oats between the U.S. and Canada carried zero tariffs before the FTA, so NAFTA does not explain the recent increases in U.S. imports of oats from Canada.

NAFTA has not yet provided for significant trade liberalization in all agricultural products. For Mexican imports of corn, dry beans, and poultry, over-quota tariffs remain prohibitively high. However, the Mexican government chose to expand the quotas in some years, and this policy rather than NAFTA has allowed U.S. exports of these commodities to increase. Similarly, dairy, poultry, and eggs still face prohibitive over-quota tariffs in Canada.

NAFTA tariff reductions on U.S. imports of winter tomatoes from Mexico have been very small, less than 1.5 percent on an ad valorem basis. Therefore, only a small part of the increase in trade can be attributed directly to the tariff changes. The peso



## NAFTA: Impacts on U.S. Consumers

Trade liberalization under NAFTA increased product availability, lowered prices for some products, and provided greater variety. During the 3 years since NAFTA's inception (1994-96), U.S. agricultural imports from Mexico grew 38 percent compared with the 3-year period preceding NAFTA (1991-93), while U.S. imports from Canada grew 46 percent. U.S. imports from all non-NAFTA source countries grew only 18 percent, suggesting that NAFTA has had a significant effect on imports from Canada and Mexico over and above the general increase in imports from all source countries. Still, much of this growth was due to factors other than NAFTA, such as peso devaluation in Mexico and the continuing integration of the food production and marketing economies of the U.S., Mexico, and Canada. ERS analysis estimates that about 3-5 percent of this trade growth can be attributed directly to NAFTA provisions.

In 1996, the U.S. imported more than \$33 billion of agricultural products from more than 200 countries. Of this total, \$6.8 billion, or 20 percent, came from Canada—the largest U.S. import source—and another \$3.8 billion came from Mexico. Together, Canada and Mexico supplied 31 percent of U.S. agricultural imports in 1996.

Imports lead to *increased product availability* in two ways. First, some imports are purely supplementary in that the supply of imports adds to the supply of domestic product, increasing total supply available to consumers. Second, some domestic industries produce at costs that are low enough to limit competition from imports. However, even in these industries, occasional tight supplies sometimes occur due to poor harvests or demand mis-

calculations. Imports then may compensate for domestic shortfalls.

Lower import tariffs for many products and the arrival of Mexican products—produced and shipped at lower costs than domestically produced goods—result in directly lower consumer prices. In addition, increased competition from abroad has the indirect effect of *lowering consumer prices* by forcing domestic marketers to lower their own prices—typically through cost cutting measures, increased productivity, or by importing inputs and ingredients at lower costs than on the domestic market.

Trade liberalization also provides consumers with *greater variety*. On the grocery shelves, this takes two forms. Foreign firms may provide an entirely new product line, or new alternatives to an existing product line.

Objectively measuring consumer impacts can be difficult. For most goods produced or consumed in the U.S., international trade tends to be small relative to domestic consumption or production. And while Canada and Mexico are among the largest U.S. trading partners, the economies of these countries are relatively small compared with the U.S. economy. This means that for most goods produced and marketed in the U.S., decisions by Canadian and Mexican producers and consumers will have only a small effect on U.S. prices.

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crisis in Mexico, technological shifts in tomato production, and unusual weather in Florida were far more important than the tariff reductions under NAFTA (AO June 1996).

For many agricultural products, FTA has fostered two-way trade between the U.S. and Canada since implementation. ERS analysis shows that in 1996, U.S. beef exports to Canada were about 100 percent higher, and U.S. beef imports from Canada were about 50 percent higher, because of FTA. At the same time, bilateral trade between the U.S. and Canada in wheat and wheat products and vegetable oils were 5 to 10 percent higher than they would have been without the agreement.

The agricultural provisions of NAFTA have had small positive impacts on agricultural investment and employment to date. Three years into NAFTA, investment in U.S. agriculture and agriculture-related industries has increased on the order of 0.19 percent over what would have been expected without the agreement. Employment in agriculture and agriculture-related industries has increased slightly due to NAFTA, on the order of 0.07 percent.

While specific job losses will occur due to direct import competition or the relocation of production facilities, the overall increases in employment and trade since 1993 suggest that any job losses

in agriculture-related industries have been more than offset by job gains elsewhere in agriculture and the general economy.

These effects are small because NAFTA trade is a small part of U.S. agriculture, and to a lesser extent because trade liberalization under NAFTA is only partially complete. As NAFTA creates competitive challenges and opportunities, labor and capital will seek out their highest returns, driving out less efficient performers while bolstering more efficient enterprises. This dynamic process of adjustments will continue throughout implementation of the agreement.

Trade liberalization through NAFTA expands agricultural producers' ability to compete in a larger marketplace, as more market-oriented domestic policies increase producers' reliance on trade. As the markets of North America become more integrated, regional production shortfalls will increasingly be mitigated by trade flows. Evidence to date appears to support the claim that NAFTA is creating incentives for resources, labor, and capital to remain in the U.S. agricultural sector.

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