

**THE NORTH AMERICAN FREE TRADE AGREEMENT:
Effects on U.S. Agriculture and Trade**

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TAMRC International Research
Report No. IM-4-01
November 2001

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Texas Agricultural Market Research Center (TAMRC) International Research Report No. IM-4-01, November 2001 by Dr. Gary W. Williams.

Abstract: Despite the optimism of proponents and the concerns of critics, NAFTA has had a limited direct impact on either U.S. agricultural trade with Canada and Mexico or the pattern of agricultural production and processing in the United States. The primary impacts of NAFTA have been to stimulate U.S. imports of specific products from Mexico and to lock in U.S. trade gains achieved through the unilateral liberalization of Mexican agricultural and food trade that began in the mid-1980s.

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EXECUTIVE SUMMARY

What has been the contribution of NAFTA to recent increases in U.S. agricultural trade with Mexico and Canada? What impact has NAFTA had on U.S. agricultural production and processing and the composition of U.S. agricultural trade with NAFTA countries? To answer these questions, this report first examines the historical underpinnings of NAFTA scrutinizes the debate on NAFTA that took place in the U.S. as the negotiations on NAFTA proceeded, and then summarizes the principal agricultural provisions of NAFTA. Following an analysis of the contribution of NAFTA to U.S. agriculture and trade, the report then considers the future of U.S. agricultural trade with Canada and Mexico under NAFTA.

Has NAFTA boosted the level of U.S. agricultural exports? The data clearly show that U.S. sales of agricultural products to both Mexico and Canada have grown in recent years. However, NAFTA is not likely the primary reason for several reasons. First, CUSTA had already been in place for five years when NAFTA was implemented and had long-since established the pattern of change in U.S.-Canada agricultural trade. Second, Mexico began unilaterally opening its markets to trade, substantially reducing tariffs and eliminating many non-tariff barriers to trade, a decade before NAFTA was ever implemented. U.S. barriers to agricultural imports from Mexico were also relatively few so that relatively few explicit barriers to U.S.-Mexico trade remained to be eliminated when NAFTA was implemented. Third, NAFTA requires the few remaining trade barriers to be eliminated slowly over 5, 10, or 15 years. Finally, many trade-distorting non-tariff barriers to U.S.-Mexico agricultural trade were not included in the agreement.

A simple trend and structural change test supports this analysis, indicating no significant change in the trend growth in the value of U.S. agricultural exports to Mexico before and after NAFTA. Thus, U.S. agricultural exports to Mexico in the post-NAFTA years have followed a trend established during the pre-NAFTA years as Mexico unilaterally liberalized its trade. A similar analysis indicates that CUSTA had a significant impact on the both the level and the rate of growth of U.S. agricultural exports to Canada while NAFTA appears to have altered that trade little.

Has NAFTA driven North American agricultural production and processing south to Mexico as some believed would happen? There is little statistical evidence to suggest that NAFTA *per se* has had a substantial impact on either the patterns or trends in agricultural production or processing in North America. U.S. processed food exports to Mexico and capital investments by U.S. food manufacturing and processing firms in Mexico have been growing in recent years but that growth is actually a continuation of a trend that began well before the implementation of NAFTA. The growth in U.S. capital investments in Mexico represents primarily an expansion of the U.S. food industry into Mexico to take advantage of the growing Mexican market rather than a relocation of U.S. food processing plants and operations to Mexico as a means of lowering costs.

Has NAFTA boosted U.S. imports of agricultural products from Canada and Mexico? In this case, a trend and structural change analysis provides a clear indication that NAFTA has indeed increased the rate of growth in U.S. agricultural and food imports from Mexico. This makes sense because while Mexico had already eliminated most of its trade barriers over the decade prior to NAFTA, the U.S. only began eliminating its existing barriers to Mexican imports with the implementation of NAFTA. On the other hand, a similar analysis suggests that U.S. agricultural imports from Canada have been growing at an increasing rate since the early 1980s which has been little affected by either CUSTA or NAFTA. The U.S.-Canada agricultural trade balance which slid slowly from positive to negative during the 1990s jumped back to a positive level in 1990 following the implementation of CUSTA but slowly slipped from positive to negative once again during the 1990s. CUSTA has forced a one-time upward adjustment in the U.S. agricultural trade balance but has had no effect on the downward trend in that balance.

So despite the optimism of proponents and the concerns of critics, NAFTA has so far had a limited direct impact on either U.S. agricultural trade with Canada and Mexico or the pattern of agricultural production and processing in the United States. Over the longer term, NAFTA will likely have some substantial direct effects on U.S. trade primarily with Mexico in specific agricultural products for which relatively restrictive trade barriers remain to be completely eliminated. At the same time, NAFTA will continue to lock in the gains from trade realized by the U.S. both before and since the implementation of NAFTA, helping to prevent Canada and Mexico from resorting to trade barriers in times of economic crises as a means of stabilizing their economies and shifting the burden of adjustment onto U.S. markets. By maintaining more open borders among all three countries, NAFTA will also insure greater direct interaction and response of the agricultural markets in each country to changes in market and economic conditions in any of the other member countries. As a result, the pattern, composition, and growth in U.S. agricultural trade with its NAFTA partners will be increasingly determined by the underlying comparative advantage in each country as affected by broad range of forces external to those markets than ever before, many of which may be more important to future U.S. agricultural trade with Canada and Mexico than the provisions of NAFTA, including changes in the relative rates of economic growth and investments in research and technology; domestic farm or macroeconomic policies; U.S. FDI in Mexican productive capacity, technology, and infrastructure; the Mexican food processing, distribution, and retailing system; Mexican labor markets, laws, and wage rates; the Mexican land tenure system and farm size; and Mexican environmental practices and laws.

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The North American Free Trade Agreement (NAFTA) has alternately been credited or blamed for changes in North American agricultural trade since its implementation in January of 1994. U.S. proponents of the agreement cite the growth in U.S. agricultural exports to both Mexico and Canada in recent years as vindication of their argument that NAFTA would expand trade and, therefore, boost economic growth and employment in all three countries. U.S. opponents of the accord, however, point to the growth in U.S. imports from both neighbor countries and growing trade disputes over the same time period as a realization of their fears that NAFTA would shift agricultural production and processing south and generate greater dependence of the U.S. food sector on imports. In Mexico, initial support for NAFTA in the agriculture sector during the negotiations faded to skepticism in the first year of the agreement as the Mexican agricultural trade deficit with the U.S. deepened and then to outright opposition in the following year when a severe economic recession slashed real incomes and boosted the already high level of unemployment.

What have been the effects of NAFTA on U.S. agriculture and trade? How much of the credit or blame for recent increases in U.S. agricultural trade with Mexico and Canada can be attributed to NAFTA? How much of an impact has NAFTA had on U.S. agricultural production and processing and the composition of U.S. agricultural trade with NAFTA countries? As background to an analysis of the answers to these and related questions, this report first examines the historical underpinnings of NAFTA scrutinizes the debate on NAFTA that took place in the U.S. as the negotiations proceeded, and then summarizes the principal agricultural provisions of NAFTA. Following an analysis of the contribution of NAFTA to U.S. agriculture and trade, the report then considers the future of U.S. agricultural trade with Canada and Mexico under NAFTA.

The Historical Underpinnings of NAFTA

Three important preceding events paved the way for the establishment of NAFTA, all of which were likely more important for future North American agricultural trade than NAFTA itself: (1) problems related to the ongoing Uruguay round of multilateral trade negotiations, (2) the Canada-U.S. Free Trade Agreement (CUSTA), and (3) reforms in Mexican economic policy that included an abandonment of the long-standing import substitution model of development.

Problems in the Uruguay Round of Multilateral Trade Negotiations

In the early and mid-1980s, world markets were in disarray as commodity prices tumbled, trade stalled, U.S. farm program costs escalated, world export competition intensified spurred by competitive export subsidization, and trade disputes became more common. Against this backdrop, multilateral trade negotiations as a means of reforming agricultural policies and achieving agricultural trade liberalization appeared to have promise. What began with great hopes as the Uruguay Round of trade talks in 1986, however, soon developed into frustration as the negotiations yielded more dissension than agreement, resulting in at least two collapses in the negotiations, largely as a result of impasses on agriculture, and requiring over seven years (September 1986 - April 1994) to finalize. By the late 1980s, the frustration over the slow and often unproductive multilateral trade talks encouraged the U.S. and Canada to experiment with trade liberalization on a smaller scale by initiating bilateral negotiations.

The Canada-U.S. Free Trade Agreement

Implemented on January 1, 1989 with little public debate in the U.S., CUSTA provided for the elimination of nearly all U.S.-Canada agricultural tariffs over 10 years. The last of the regular tariffs on goods trade between the two countries was eliminated on January 1, 1998. CUSTA also dealt with Canadian rail transportation subsidies, export subsidies, and various other restrictions on the agricultural trade between the two countries. CUSTA resulted in real trade gains for both the U.S. and Canada. After hovering around US\$1.8 billion to US\$2.0 billion during the decade of the 1980s, the value of U.S. exports to Canada jumped dramatically following the implementation of CUSTA in 1989 to US\$5.3 billion in 1993, the year just before the implementation of NAFTA (Figure 1). While post-CUSTA Canadian agricultural exports to the U.S. also increased, the more rapid growth of U.S. exports to Canada reversed the decade long surplus-to-deficit slide of the U.S. balance of agricultural trade with Canada during the 1980s back to a surplus once again in the early 1990s.

Besides freeing up trade between the U.S. and Canada, the CUSTA experience also taught U.S. policymakers several important lessons. First, CUSTA was *prima facie* evidence that the U.S. could successfully and more easily negotiate a bilateral trade agreement with a major trading partner than a multilateral trade agreement with a host of countries through the slow and contentious process being experienced in the Uruguay Round of trade talks. Second, given the compromises required in the Uruguay Round, the apparent success of CUSTA suggested that bilateral trade agreements with major trading partners might be potentially more trade-creating than anything that might be achieved through multilateral talks. Finally, the successful negotiation of CUSTA generated some optimism that a Western Hemispheric trade alliance might provide some economic counterbalance to the apparent trade-diverting effects of the progressive harmonization of European markets.

Mexican Economic Reforms

Even while CUSTA was being negotiated and implemented and the Uruguay Round plodded along, events were unfolding in Mexico that would pave the way for expanding the free trade area to include the southern-most country of North America. Before the mid-1980s, Mexico was one of the most closed economies of the world with tariffs as high as 100% on many agricultural imports as part of an overall economic development strategy of import substitution. Mounting external debt, a sharp devaluation of the Mexican Peso, and the ensuing economic crisis of the early 1980s, however, forced Mexico to abandon import substitution and institute an historic process of sweeping economic reforms.

As one part of that adjustment, Mexico acceded to the General Agreement on Tariffs and Trade (GATT) in 1986. As a condition of GATT membership, Mexico agreed to reduce its average import tariff level from around 80% to about 50%. Mexico, however, unilaterally went much further than required, reducing the average tariff level to between 10% and 20% much before the implementation of NAFTA in 1994. Mexico also unilaterally eliminated the import licensing requirement for most agricultural products. In addition, Mexico initiated the privatization of the many government-owned enterprises through a process of mergers, liquidation, and sales, reduced the growth rate of the money supply in an attempt to curb inflation, brought the peso more in line with the U.S. dollar through foreign exchange operations, and forced the Mexican farm sector towards greater market determination of prices, production, and marketing by eliminating the producer price support program as well as producer subsidies for all inputs, including credit, fertilizer, electricity, irrigation, and water (Grennes, et al.).

The effects of the unilateral opening of Mexican markets on U.S.-Mexico agricultural trade became quite evident much before NAFTA was implemented. By 1993, Mexico had emerged as the third largest market for U.S. agricultural exports, purchasing food and fiber valued at \$3.6 billion, a 235% increase over 1986 (Figure 2). Although imports of Mexican food and agricultural products increased as well, the increase was more modest, up just over 30% to \$2.7 billion between 1986 and 1993. More importantly, the unilateral opening of the Mexican market turned a \$1.0 billion U.S. food and agricultural trade deficit in 1986 into a \$1.0 billion surplus by 1993 before NAFTA even entered into force.

Although agricultural trade between Canada and Mexico averaged only about 5% of U.S.-Mexico agricultural trade in the decade before NAFTA, the unilateral opening of Mexican markets also sparked a 150% increase in the value of Canadian agricultural exports to Mexico and a 64% increase in the value of Canadian agricultural imports from Mexico between 1986 and 1993 (Figure 3). Canada also maintained a surplus in its agricultural trade balance with Mexico in most years over the same period.

The NAFTA Debate

With continuing problems in the GATT negotiations, a recently concluded trade agreement between U.S. and Canada, and an apparent strong commitment by Mexico to policy and trade reforms, political leaders in all three countries recognized the potential mutual benefits of creating a free trade area in North America. In simple terms, Mexico wanted some reciprocity from Canada and the U.S. to balance its own unilateral removal of trade restrictions. The U.S., on the other hand, was more interested in creating a counterbalance to the growing economic threat of European harmonization. Canada primarily wanted to be directly involved in determining the rules of North American trade rather than be left to accept the rules that a U.S.-Mexico trade agreement might imply for U.S.-Canada trade through the recently established CUSTA.

In contrast to the U.S. experience during the negotiation of CUSTA, the negotiations on a North American free trade area that began in 1991 were accompanied by an intense debate which framed the 1992 presidential election on the costs and benefits of free trade. Because CUSTA already existed, the debate focused primarily on Mexico and the consequences for the U.S. economy of a free trade area with our less developed neighbor to the south. NAFTA proponents claimed that the agreement would expand trade, boost economic growth, and create a net increase in employment in all three countries. Critics warned, however, that lower trade barriers would encourage many U.S. industries to move to Mexico to take advantage of the low cost labor and lax enforcement of environmental regulations typical of many developing countries. In the agriculture sector, proponents argued that a NAFTA would open the door to a huge new market in Mexico for U.S. agricultural and food products, especially feedgrains, beef, and processed foods. Opponents of the agreement claimed that the agreement would mainly stimulate Mexican production and exports to the United States and a relocation of U.S. agricultural production and processing to Mexico.

The Agricultural Provisions of NAFTA

Despite the unexpected and divisive debate on NAFTA raging in the U.S., the governments of the three North American countries pushed ahead with negotiations and announced in little over a year after negotiations began that an agreement had been reached. Implemented on January 1, 1994, NAFTA obligates the U.S., Canada, and Mexico to expand the flow of goods, services, and investment through: (1) a full, phased elimination of import tariffs, (2) an elimination or fullest possible reduction of non-tariff trade barriers, such as import quotas, licenses, and technical barriers to trade; (3) the establishment of clear, binding protection for intellectual property rights; and (4) fair and expeditious dispute settlement procedures. Trade restrictions applied by each country to imports from all other countries were unaffected by the agreement.

For agriculture, NAFTA actually created two separate bilateral agreements, one between the U.S. and Mexico and the other between Canada and Mexico, in addition to the already existing CUSTA which was folded into the trilateral accord. The U.S.-Mexico agreement required the immediate

elimination of all import tariffs on about 50% of all agricultural commodities traded between the two countries upon implementation of the agreement (Figure 4). For most of those commodities, however, the import duties were already low or negligible. All remaining tariffs on U.S.-Mexico agricultural trade were to be systematically reduced over 5, 10, or 15 years and in some cases in concert with special safeguard provisions. A small share of U.S.-Mexico agricultural trade (about 10%) was scheduled for liberalization over a five-year period. These products were deemed to be too sensitive for immediate liberalization but not sensitive enough to require more than five years of transition to free trade.

Tariffs for most sensitive products were scheduled for elimination over a 10- or 15-year transition period, some of which were allowed special safeguards in the form of tariff-rate quotas (TRQs) to facilitate the transition to free trade for producers of those products by charging a low or zero duty on imports up to a specified level after which a higher tariff (the current or original) would be applied. Both the within-quota and the over-quota tariffs were scheduled to decline to zero over the specified time period. The initial TRQ levels were determined by average trade levels and were to expand at a 3% annual compounded rate over the transition period. Ten-year TRQs were put in place for U.S. imports of selected Mexican fruits and vegetable and Mexican imports of U.S. hogs, pork, potatoes, and apples. Fifteen-year TRQs were provided for the most economically and politically sensitive products, including U.S. imports of Mexican sugar, peanuts, and frozen concentrated orange juice and Mexican imports of U.S. corn, dry beans, and non-fat dry milk.

Mexico and the U.S. also agreed to the phased elimination of non-tariff barriers to agricultural trade. Mexico agreed to eliminate its import licensing requirements on U.S. products. The U.S. agreed to replace Section 22 (Agricultural Adjustment Act of 1933) quotas on imports from Mexico with TRQs during the transition period. Mexico also became exempt from the U.S. Meat Import Act.

In addition, NAFTA confirmed the right of each country to establish and maintain the level of sanitary and phytosanitary (SPS) protection each considered appropriate to protect human and animal health and plant life. Trade measures related to SPS protection must be based on scientific principles and a risk assessment and not simply result in disguised restrictions to trade.

Rules of origin were included to prevent non-NAFTA countries from taking advantage of the preferential trading arrangements afforded NAFTA countries. In general, the *de minimis* requirements of the CUSTA were adopted allowing all products to receive NAFTA benefits as long as foreign ingredients make up less than 7% of the value of a processed commodity. These rules were also intended to protect and ensure the integrity of U.S. farm programs and to reduce the possibility of unfair competition.

To resolve the trade disputes expected to arise among the three member countries, NAFTA created various formal dispute resolution mechanisms. Those most applicable to agricultural trade disputes are related to anti-dumping (AD) and countervailing duty (CVD) laws (Chapter 19 of NAFTA) and to the interpretation or application of NAFTA provisions (Chapter 20 of NAFTA).

The Post-NAFTA Experience in North American Agricultural Trade

The first year of NAFTA prompted little change in either the trends or the composition of North American agricultural trade. U.S. agricultural exports to Mexico in 1994 increased along the trend of the previous 10 years with only a small increase in U.S. imports from Mexico resulting in a record U.S. surplus in agricultural trade with Mexico in that year of \$US 1.7 billion. At that time, U.S. agricultural exports to Mexico consisted primarily of oilseeds, grains, meat, and livestock products (Figure 5). Mexican agricultural exports to the U.S. included mostly fruits and vegetables, feeder cattle, coffee, and malted beverages.

Meanwhile in Mexico

Even before NAFTA was implemented, conditions were changing that would create disruptions in Mexican trade with the U.S. and Canada which some groups in all three countries still contribute to the NAFTA agreement itself. A growing Mexican trade imbalance with both trading partners, problems in restraining fiscal expenditures, an increasing rate of inflation as the result of continued rapid expansion of the Mexican money supply, and political and investor confidence problems resulting from political assassinations and uprisings of native groups, and more all combined to put severe downward pressure on the Mexican economy. Also, while NAFTA was generating the expected foreign capital inflows to Mexico, much of it was short-term portfolio investments which is highly mobile and generated relatively little in the way of the hoped for long-term employment and income growth opportunities. At the same time, an increase in U.S. interest rates by the U.S. Federal Reserve Bank began attracting some of that capital back to the U.S.

One result was that the Mexican peso was becoming increasingly overvalued as the Mexican central bank deferred the usual periodic, small devaluations of the peso until after the negotiation and implementation of NAFTA and the Mexican presidential elections in late 1994. The overvalued peso acted as a increasing tax on Mexican exports and an increasing subsidy on its imports so that Mexico was importing more and exporting less than would have been the case if the peso had been allowed to devalue over time.

By the end of 1994, the peso had become so overvalued that the Mexican government basically ran out of U.S. dollar reserves to continuing defending it which sent the peso plunging by nearly 100% against the U.S. dollar from 3.4 pesos/US\$ to 6.7 pesos/US\$ between December 1994 and March of 1995 (Figure 6). Mexico subsequently slid into a major economic recession, experiencing a drop in real GDP growth and consumer incomes, a higher rate of unemployment, and a resurgence of inflation. In response, the Mexican government implemented a Program of Economic Austerity in 1995 which included, among other things, a 10% to 15% increase in the value added tax, a 35% increase in the government-controlled price of gasoline, and a 10% cut in government expenditures. The consequence for U.S.-Mexico agricultural trade was predictable - a 23% decline in U.S. exports to Mexico and a 33% increase in U.S. imports from Mexico as the peso devaluation removed the

implicit tax of the overvalued peso on Mexican exports and the implicit subsidy on Mexican imports.

The lower level of U.S. exports to Mexico and the higher level of imports from Mexico in 1995 than were forecast when NAFTA was implemented refueled fears in the U.S. that NAFTA would primarily benefit Mexican agriculture. U.S. agricultural exports to Mexico rebounded strongly in 1996, however, back to the trend level of the previous decade (see Figure 2). Mexican exports to the U.S., on the other hand, lost steam in 1996 and recovered slowly over the next two years. Thus, after turning negative in 1995 for only the second time since 1987, the U.S. agricultural trade balance with Mexico jumped back to a near record high of US\$ 1.68 billion in 1996 and has hovered between US\$ 800 million and US\$ 1.5 billion every year since.

Canadian agricultural trade with Mexico following the implementation of NAFTA also continued its upward trend. Canadian exports to Mexico have grown more rapidly than imports resulting in a growing Canadian trade surplus with Mexico (see Figure 3). Even though the value of both Canadian agricultural exports to Mexico and imports from Mexico reached record levels in the year 2000, the more rapidly increasing Canadian exports pushed the Canadian agricultural trade surplus to a record US\$ 192 million in the same year.

Trade Disputes

Since the implementation of NAFTA, a number of trade disputes have arisen, some of which have threatened to derail the process of trade liberalization under NAFTA for certain commodities. Most of the disputes have originated from four main sources: (1) ambiguities in the provisions of the NAFTA agreement; (2) an increase in trade resulting in a corresponding increase in trade tensions; (3) sanitary and phytosanitary concerns and issues; and (4) the tendency by affected groups to seek protection from increased competitive pressures (USDA).

The NAFTA dispute resolution mechanisms have been used for various disputes involving anti-dumping and countervailing duties, including Mexican anti-dumping duties on U.S. exports of high fructose corn syrup (HFCS), Mexican exports of fresh cut flowers and Canadian exports of live swine to the U.S., and U.S. exports of refined sugar and products to Canada (USDA). At least two disputes involving the interpretation or application of NAFTA provisions have also been handled under NAFTA dispute resolution mechanisms, including Canadian TRQs on poultry, dairy products, barley, and margarine and U.S. safeguard duties on broom corn broom exports from Mexico. Most trade disputes since the implementation of NAFTA, however, have been handled outside the formal dispute resolution process provided for in NAFTA through one of several processes: (1) existing national anti-dumping and countervailing duty laws; (2) government-to-government negotiations; (3) industry-to-industry negotiations; and (4) technical assistance and cooperation to resolve or prevent disputes by building scientific and institutional capacity (USDA).

The Contribution of NAFTA to North American Agricultural Trade

The preceding discussion of the history and characteristics of NAFTA from an agricultural perspective provides sufficient background for analyzing the extent to which the agreement has contributed to observed changes in North American agricultural trade in recent years. Has NAFTA generated an increase in U.S. agricultural exports to Mexico as NAFTA proponents claimed would happen? Has NAFTA induced a shift of production and processing from the U.S. to Mexico or increased U.S. agricultural imports as the NAFTA critics warned? In other words, has NAFTA been a primary factor affecting the evolution of agricultural production and trade patterns among member countries in recent years?

Has NAFTA Boosted U.S. Agricultural and Food Exports to Mexico or Canada?

The trade data clearly indicate that U.S. agricultural exports to Mexico and Canada have grown in recent years. However, NAFTA is not likely the primary reason, at least not in the short run, for several reasons. First, CUSTA had already been in place for five years when NAFTA was implemented and had long-since established the pattern of change in U.S.-Canada agricultural trade. CUSTA was simply folded into the trilateral agreement so that U.S.-Canadian agricultural trade was largely unaffected specifically by the implementation of NAFTA in 1994.

Second, Mexico began unilaterally opening its markets to trade, substantially reducing tariffs and eliminating many non-tariff barriers to trade, a decade before NAFTA was ever implemented. Because the U.S. has maintained relatively few barriers to agricultural imports from Mexico over the years, relatively few explicit barriers to U.S.-Mexico trade remained to be eliminated when NAFTA was implemented.

The third reason that the specific impact of NAFTA on U.S. agricultural exports to Mexico likely has been small in recent years is that the elimination of the few remaining trade barriers was designed to occur slowly over 5, 10, or 15 years. The longest periods of tariff elimination were applied precisely to those few commodities for which trade restrictions remained the highest. Even for many of those commodities, however, special safeguards were put in place to protect against import surges from year to year as scheduled tariff elimination occurred. NAFTA is currently only in its eighth year so that many of the most protected commodities are still subject to rather restrictive trade barriers. The last of the tariffs and TRQs on those commodities will not be fully eliminated until the year 2008.

Finally, although NAFTA eliminates most border measures over time, including tariffs and import licensing regulations (quotas), many of the most trade-distorting non-tariff barriers to U.S.-Mexico agricultural trade were not explicitly covered in the agreement. Such potentially trade-distorting policies not covered by NAFTA include domestic farm policies and differences between U.S. and Mexican commodity grades and standards, chemical use regulations, food

residue regulations, insect and disease control standards, sanitary and phytosanitary regulations, and similar regulations and their enforcement. Indeed, since the implementation of NAFTA, traders on both sides of the border have voiced concerns about non-tariff barriers of various types being erected as tariff barriers are removed.

A simple trend and structural change test supports this analysis, indicating no significant change in the trend growth in the value of U.S. agricultural exports to Mexico before and after NAFTA (Figure 7). In other words, U.S. agricultural exports to Mexico in the post-NAFTA years appear to be following a trend established during the decade prior to NAFTA as Mexico unilaterally liberalized its trade. The U.S. products experiencing the largest percentage increase in exports over the NAFTA years include not only grains and feed (except corn), oilseeds, beef and livestock products but also raw and processed vegetables and fruit juices, most of which were largely freed from Mexican import restrictions prior to the implementation of NAFTA (Figure 8).

A similar analysis for U.S.-Canada agricultural trade reveals that the trend line of U.S. exports to Canada experienced both an intercept shift as well as an increase in slope with the implementation of CUSTA but no similar change with the implementation of NAFTA (Figure 9). In other words, while CUSTA had a significant impact on the both the level and the rate of growth of U.S. agricultural exports to Canada, NAFTA appears to have altered that trade little.

Has NAFTA Driven Agricultural Production and Processing to Mexico?

If U.S. and Canadian agricultural exports to Mexico have not been substantially affected directly by NAFTA, perhaps NAFTA has driven North American agricultural production and processing south to Mexico as the NAFTA critics feared. There is little statistical evidence to suggest that NAFTA *per se* has had a substantial impact on either the patterns or trends in agricultural production or processing in North America. Although the data indicate that U.S. processed food exports to Mexico and capital investments by U.S. food manufacturing and processing firms in Mexico have been growing in recent years, the growth is actually a continuation of a trend that began well before the implementation of NAFTA (Handy; Bolling and Valdes; USDA; Vollrath). At the same time, the U.S. foreign direct investment (FDI) in the Mexican agricultural production and food processing sectors accounts for less than about 11% of overall U.S. FDI in Mexico (Bolling and Valdes). Much of the increase in U.S. FDI in Mexican agricultural production and processing is related to changes in Mexican investment laws over the years as part of the Mexican program of economic reforms that have eased restrictions on foreign ownership of Mexican businesses and land rather than to the specific provisions of NAFTA.

With some exceptions, the data indicate that sales of U.S.-based food manufacturing and processing firms and their affiliates in Mexico are directed primarily to local Mexican rather than to U.S. markets (Handy; USDA). In other words, the growth in U.S. capital investments in Mexico represents primarily an expansion of the U.S. food industry into Mexico to take

advantage of the growing Mexican market rather than a relocation of U.S. food processing plants and operations to Mexico as a means of lowering costs. Mexican real per capita GDP has increased in all but two years since 1988, hitting a record 5.6% increase in 2000, as a result of the Mexican program of economic reform. The result has been rapidly growing demand for higher value food products in Mexico and opportunities for U.S. food companies to expand their sales to and operations in Mexico (Figure 10). Increasing competition with multinational corporations has created some incentive for Mexican food processors to seek out joint venture opportunities with U.S.-based food processors, particularly since the majority of the competition is from Mexican affiliates of U.S. food processors rather than from direct U.S. exports to Mexico (USDA).

Thus, the primary role of NAFTA for the production, processing, and trade of higher value products has been to lock in U.S. trade gains and to indirectly facilitate investments by U.S. agribusiness in Mexico as consumer incomes have grown. Bolling, Neff, and Handy indicate that by 1995, sales from U.S.-owned affiliates in Mexico were already 2.5 times higher than U.S. processed food exports to Mexico. Obviously without income growth in Mexico, there would be little incentive for U.S. agribusinesses either to expand processed food exports to Mexico or to expand their operations into Mexico with or without NAFTA.

Has NAFTA Increased U.S. Imports of Agricultural and Food Products?

Another concern of the NAFTA critics has been that the agreement would boost U.S. imports of food and agricultural products. In this case, a trend and structural change analysis provides a clear indication that NAFTA has indeed increased the rate of growth in U.S. agricultural and food imports from Mexico (see Figure 7). This makes sense, of course, because while Mexico had already eliminated most of its trade barriers over the decade prior to NAFTA, the U.S. only began eliminating its existing barriers to Mexican imports with the implementation of NAFTA. The U.S. agricultural and food imports from Mexico experiencing the largest percentage increase since the implementation of NAFTA include sugar, tomatoes, beverages, fruits and fruit juices, tomatoes and other vegetables, coffee, and grains, many of which were among the most highly protected of U.S. commodities prior to NAFTA (Figure 11). Because NAFTA has induced an increase in U.S. agricultural imports since 1994 at about the same rate but from a lower level than the U.S. agricultural export increase to Mexico, the U.S.-Mexico agricultural trade balance has been generally positive and relatively stable at between US\$ 0.5 - 1.5 billion since the implementation of NAFTA (see Figure 2).

On the other hand, a similar analysis for U.S. imports of agricultural and food products from Canada suggests that those imports have been growing at an increasing rate since the early 1980s which has been little affected by either CUSTA or NAFTA (see Figure 9). The U.S.-Canada agricultural trade balance which slid slowly from positive to negative during the 1990s jumped back to a positive level in 1990 following the implementation of CUSTA but slowly slipped from positive to negative once again during the 1990s. CUSTA has apparently forced a one-time

upward adjustment in the U.S. agricultural trade balance but has had no effect on the downward trend in that balance (Figure 12). In fact, the U.S.-Canada agricultural trade balance decline at a more rapid rate over the decade of the 1990s that was the case during the 1980s.

NAFTA and Future Prospects for U.S. Agricultural Trade with Canada and Mexico

So despite the optimism of proponents and the concerns of critics, NAFTA has so far had a limited direct impact on either U.S. agricultural trade with Canada and Mexico or the pattern of agricultural production and processing in the United States. The primary impacts of NAFTA have been to stimulate an increase in U.S. imports of fruits, vegetables, and beverages of various kinds from Mexico and to lock in U.S. trade gains achieved as a result of the decade long process of unilateral liberalization of Mexican agricultural and food trade. Changes in the composition of U.S. exports to Mexico to include a larger share of higher value food products and an increase in capital investments and joint ventures by U.S. firms in the Mexican agricultural and food industries have been more related to economic growth in Mexico and changes in Mexican investment laws than to the specific provisions of NAFTA.

At the same time, the growth in U.S.-Canadian agricultural trade has been largely unaffected by NAFTA. Implemented much earlier and later incorporated into NAFTA, CUSTA primarily resulted in a one-time boost in the level of U.S. agricultural exports to Canada but has failed to curtail the slow erosion of the U.S.-Canada agricultural trade balance as Canadian agricultural exports to the U.S. have continued a geometric rate of increase that began in the early 1980s.

Over the longer term, NAFTA will likely have some substantial direct effects on U.S. trade primarily with Mexico in specific agricultural products for which relatively restrictive trade barriers remain to be completely eliminated (see Figure 4). At the same time, NAFTA will continue to lock in the gains from trade realized by the U.S. both before and since the implementation of NAFTA, helping to prevent Canada and Mexico from resorting to trade barriers in times of economic crises as a means of stabilizing their economies and shifting the burden of adjustment onto U.S. markets. For example, Mexico responded to a severe devaluation of the peso in 1982 by imposing 100% duties on many imports which cut U.S. exports to Mexico in half (USTR). U.S. exports to Mexico returned to pre-1982 levels only slowly over a period of about six years. In contrast, despite the sharp contraction of the Mexican economy in 1995, U.S. agricultural exports to Mexico dropped to only about the level achieved in 1993 and then jumped back to historical trend levels in 1996.

By maintaining more open borders among all three countries, NAFTA will also insure greater direct interaction and response of the agricultural markets in each country to changes in market and economic conditions in any of the other member countries. As a result, the pattern, composition, and growth in U.S. agricultural trade with its NAFTA partners will be increasingly determined by the underlying comparative advantage in each country as affected by broad range

of forces external to those markets than ever before, many of which may be more important to future U.S. agricultural trade with Canada and Mexico than the provisions of NAFTA.

Consider, for example, what might occur if the Mexican program of economic restructuring and trade liberalization actually spurred the hoped for boost in the pace of economic development in Mexico. In the first place, growth in Mexican purchasing power would intensify Mexican demand for the agricultural and food products that the U.S. and Canada already export to Mexico. Second, economic growth in Mexico would likely be accompanied by an inevitable switch from low-value subsistence foods like corn and beans to higher value and more processed foods like meat and prepared foods. This would help boost the value as well as the volume of U.S. and Canadian agricultural and food exports to Mexico and pay dividends to producers and processors alike in both countries. Finally, substantial income growth in Mexico would also tend to restrict Mexican agricultural and food exports to the U.S. and Canada. Growth in Mexican incomes would tend to increase not only the Mexican demand for products imported from the U.S. and Canada but also the demand for products Mexico currently produces and exports northward, like fruits and vegetables. Consequently, Mexico could find it increasingly difficult to fill its own food needs as a result of growing consumer incomes much less generate sufficient surpluses to meet growing demand in both the U.S. and Canada. This is particularly the case given the limited land area and water resources available for agricultural production in Mexico and other restrictions.

Economic growth, however, is not the only factor that will likely determine the pattern and level of trade between the U.S. and its NAFTA partners. A recent study by Málaga, Williams, and Fuller, for example, concludes that a decline in U.S. investments in the development of yield-enhancing technologies relative to such investments in Mexico could have a greater impact on the level of U.S. imports of fresh vegetables than the elimination of U.S. vegetable import tariffs. NAFTA will require greater attention by U.S. policymakers and decision makers in the agricultural sector to insure an adequate level and growth in investments in research and new technology development to maintain the competitiveness of U.S. agriculture. The return to U.S. agricultural producers and manufacturers of NAFTA-sensitive products from such investments could be particularly high in terms of the limitation on imports or the incentive for exports that such investments might induce.

Burfisher, Robinson, and Thierfelder determine that changes in domestic farm programs could have greater effects on agricultural trade among NAFTA countries than NAFTA itself. NAFTA contains no commitments on changes in domestic farm policies so that there is no direct linkage between NAFTA and the farm policies in the three member countries. Nevertheless, the NAFTA member countries agreed to “endeavor to move toward domestic support policies that are not trade distorting.” The more open borders among the three countries as a result of NAFTA means that domestic farm policy changes in any of the three countries have the potential for greater impact on the domestic agricultural sectors of the other member countries and trade among all member countries than before the implementation of NAFTA.

Among other specific factors likely to have a greater impact on the future composition and level of U.S. trade with Canada and Mexico as a result of NAFTA, the following are among the most important:

- *Macroeconomic linkages:* The 1994-95 devaluation of the Mexican Peso emphasizes the importance of the macroeconomic linkages among the three countries for the level of U.S. exports to NAFTA agricultural trade. Freer trade under NAFTA implies that the effects of changes in monetary, fiscal, or exchange rate policy by any country will be more widely shared among all three countries than before NAFTA was implemented.
- *Foreign direct investment:* Growth in foreign direct investments by the U.S. and other countries in Mexican productive capacity, technology, and infrastructure are an important potential source of growth in employment and incomes in Mexico as a result of Mexican economic reforms and the implementation of NAFTA. Although much of the foreign capital flowing to Mexico in the early years of NAFTA was short-term, highly mobile portfolio investments, foreign capital investment in Mexican food production, processing, and distribution is growing and creating long-term employment and income growth opportunities in Mexico.
- *Changes in the Mexican food processing, distribution, and retailing system:* The Mexican food system is experiencing rapid structural change as traditional open air markets and small, specialized food stores are being increasingly replaced by large, efficient supermarket chains (USDA). The evolving Mexican food retailing system is forcing corresponding changes along the whole supply chain in Mexico, including production, processing, distribution, transportation, packing, and shipping systems. In turn, these changes are forcing changes in the way the Mexican agriculture and food system interact with and impact the U.S. agriculture and food sector.
- *Mexican labor markets and wage rates:* The relatively low cost of Mexican labor provides Mexico with a relative advantage in labor-intensive industries like agriculture. In fact, a short term effect of NAFTA may be downward pressure on Mexican wage rates as increased agricultural imports from the U.S. displace Mexican agricultural labor in import-competing sectors. The consequence could be increased competitive advantage of Mexican labor-intensive sectors like fruits and vegetables in Mexico and greater pressure for migration of undocumented labor to the United States. Over the longer run, given sufficient economic growth in Mexico to absorb the displaced labor, wage rates could recover and eliminate the short-run Mexican gains from low-cost labor.
- *Mexican land tenure and farm size:* Although popular in Mexico among the rural poor, the land tenure laws of the 1930s that created the large number of small, inefficient farms of 2-10 acres, known as the *ejido* system, have been widely blamed for the poor performance of the Mexican agricultural sector and are considered to be a major constraint to productivity growth. In the mid-1990s, the Mexican government legislated extensive land reform which could promote growth in production efficiency and farm

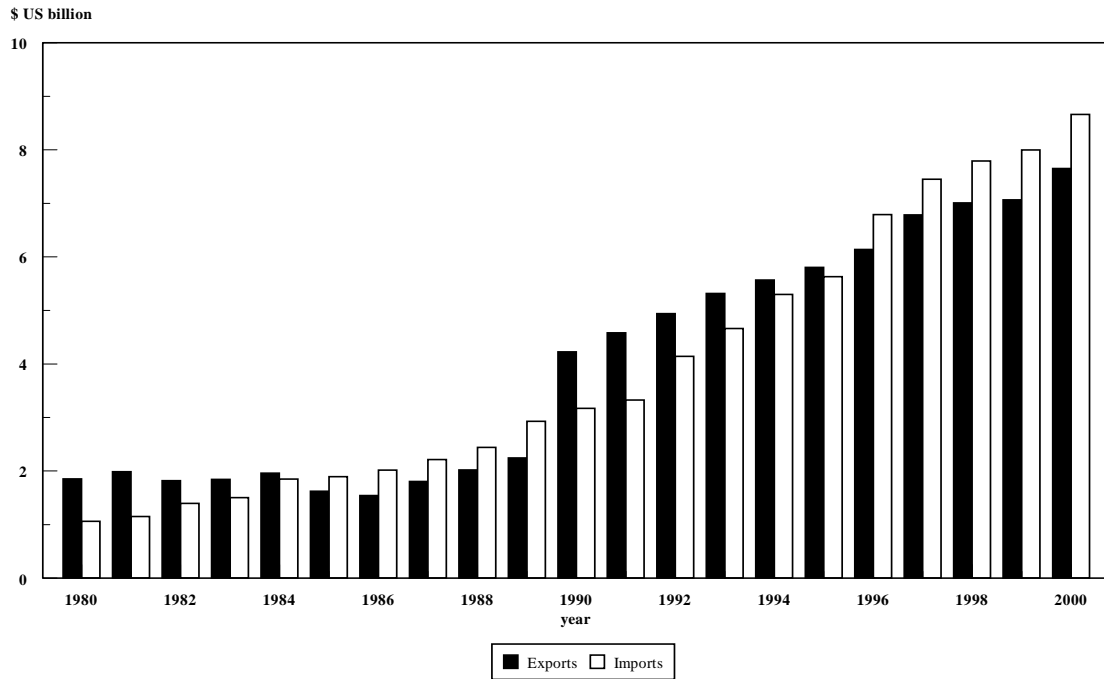
size in Mexico along with a decline in the total number of farms and farmers and increased competitiveness of the Mexican farm sector. Although issues of property rights have so far prevented the effective implementation of the new land laws, they may yet precipitate considerable change in the size, structure, and productivity of Mexican agriculture.

- *Mexican environmental practices and laws:* Over the years, Mexican agricultural and livestock practices, such as unwise use of available water supplies, inefficient land use practices, poor farm and livestock management practices, overuse of pesticides and agricultural chemicals, and overgrazing, have contributed significantly to the degradation of the natural resource base of Mexico (Ozuna and Williams). As part of the extensive reforms that began in the mid-1980s, Mexico enhanced its environmental protection efforts with the passage of the *General Law of Ecological Balance and Environmental Protection* in 1988. This wide-ranging law addressed a number of environmental issues such as air, water, and soil pollution; management of hazardous waste and materials, pesticides and toxic substances; and conservation of wildlife, habitats and natural resources. Difficulties in monitoring pollution and enforcing the existing laws, however, continue to limit the effectiveness of environmental protection efforts in Mexico. Nevertheless, growing awareness among Mexican producers that they must change their use of agricultural chemicals to ensure entry of their products through inspection points into U.S. markets is prompting Mexican producers to conform their use of chemical to U.S. standards in the production of commodities planned for export to the United States.

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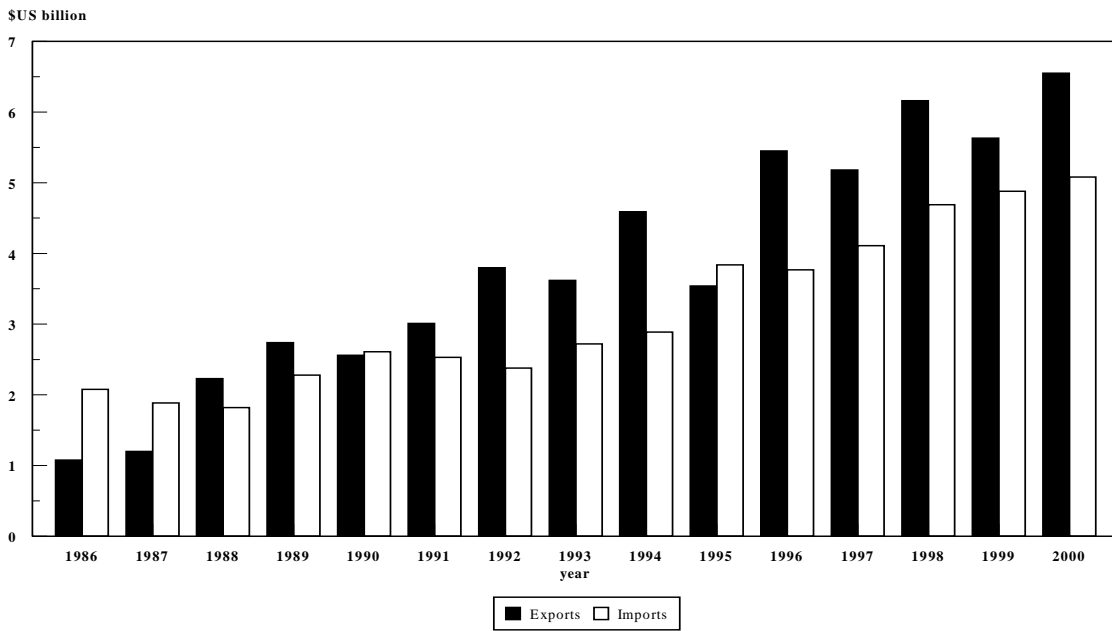
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Figure 1: U.S. Agricultural Trade with Canada, 1980-2000



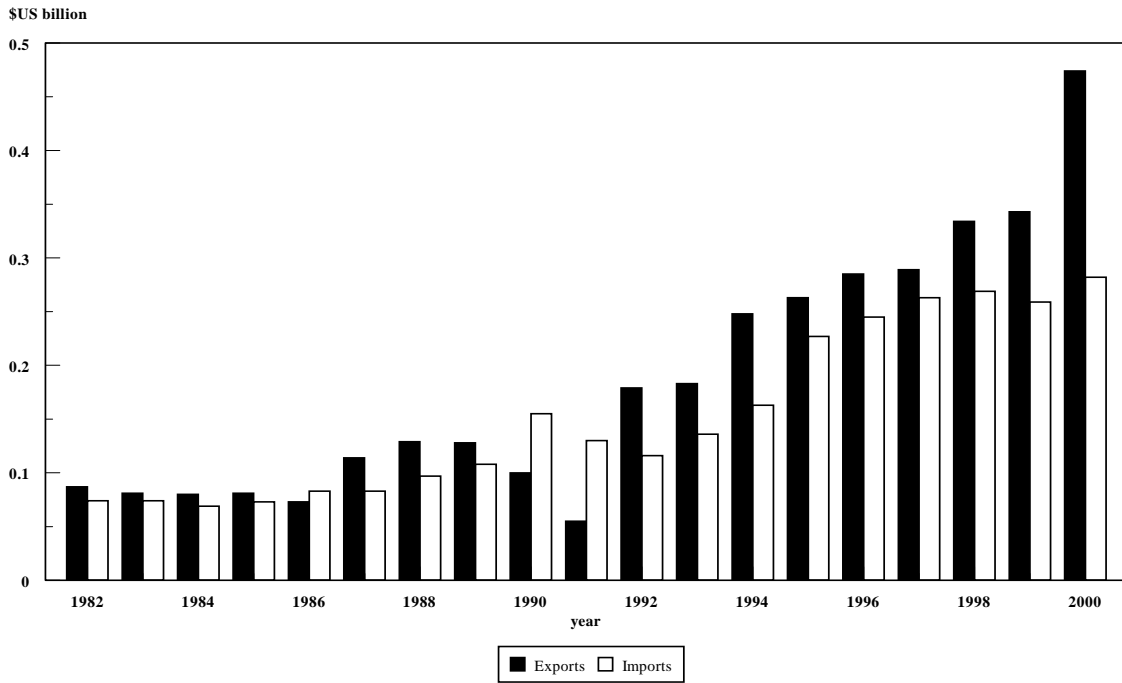
Source: FATUS

Figure 2: U.S. Agricultural Trade with Mexico, 1986-2000



Source: FATUS

Figure 3: Canadian Agricultural Trade with Mexico, 1980-2000



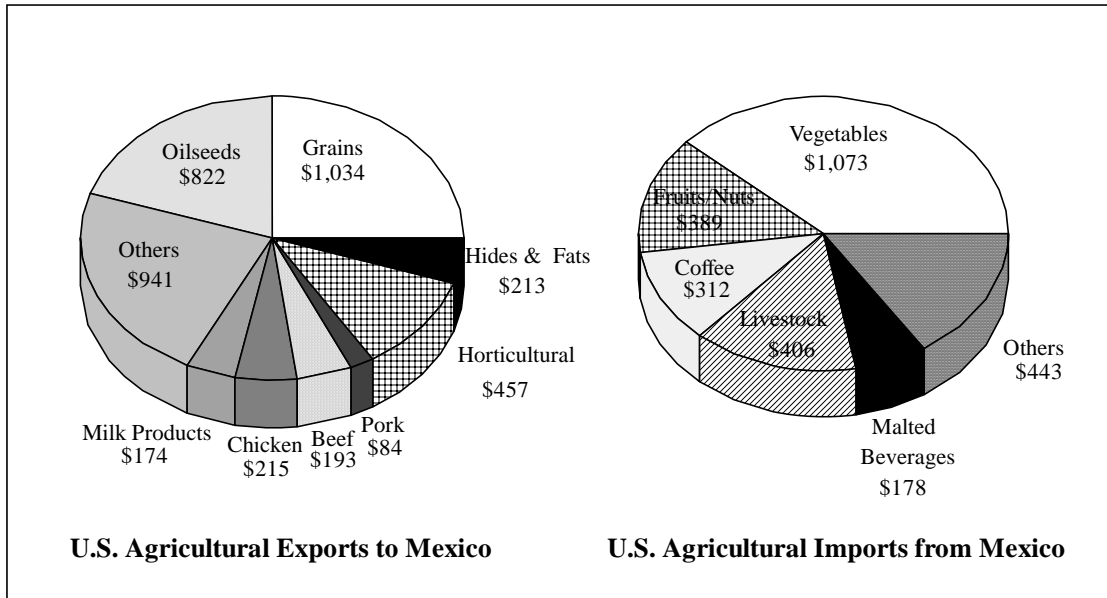
Source: U.N. Trade Data

Figure 4: NAFTA Schedule of U.S.-Mexico Tariff Elimination

| Immediate 1/1/1994 | Fifth Year 1/1/1998 | Tenth Year 1/1/2003 | Fifteenth Year 1/1/2008 |
|---|---|---|---|
| United States corn, sorghum barley oranges, apples pears, peaches fresh strawberries beef, pork, poultry Mexico sorghum oranges (12/1-5/30) other citrus fresh strawberries | United States non-durum wheat soyoil oranges (12/1-5/30) cotton Mexico pears, plums, apricots cotton | United States durum wheat, rice limes winter vegetables dairy frozen strawberries Mexico wheat, barley, rice dairy, soymeal/oil hogs/pork, poultry oranges (6/1-11/30) peaches, apples, frozen strawberries potatoes | United States FCOJ winter vegetables sugar peanuts Mexico corn sugar dried beans powdered milk |

Source: USDA

Figure 5: Composition of U.S.-Mexico Agricultural Trade, 1994 (\$ US million)



Source: FATUS, USDA.

Figure 6: 1994-95 Mexican Peso Devaluation Against the U.S. Dollar



Figure 7: Trend Growth in U.S. Agricultural Trade with Mexico, 1986-2000

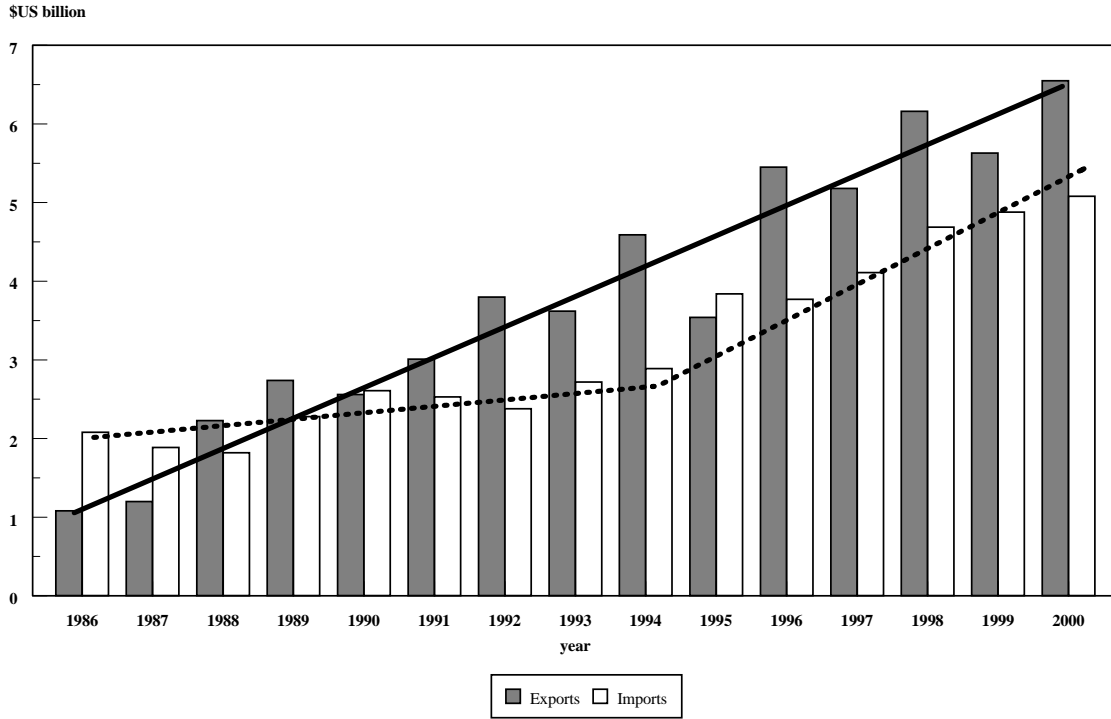


Figure 8: Growth in U.S. Agricultural Exports to Mexico by Commodity Group, 1993-98

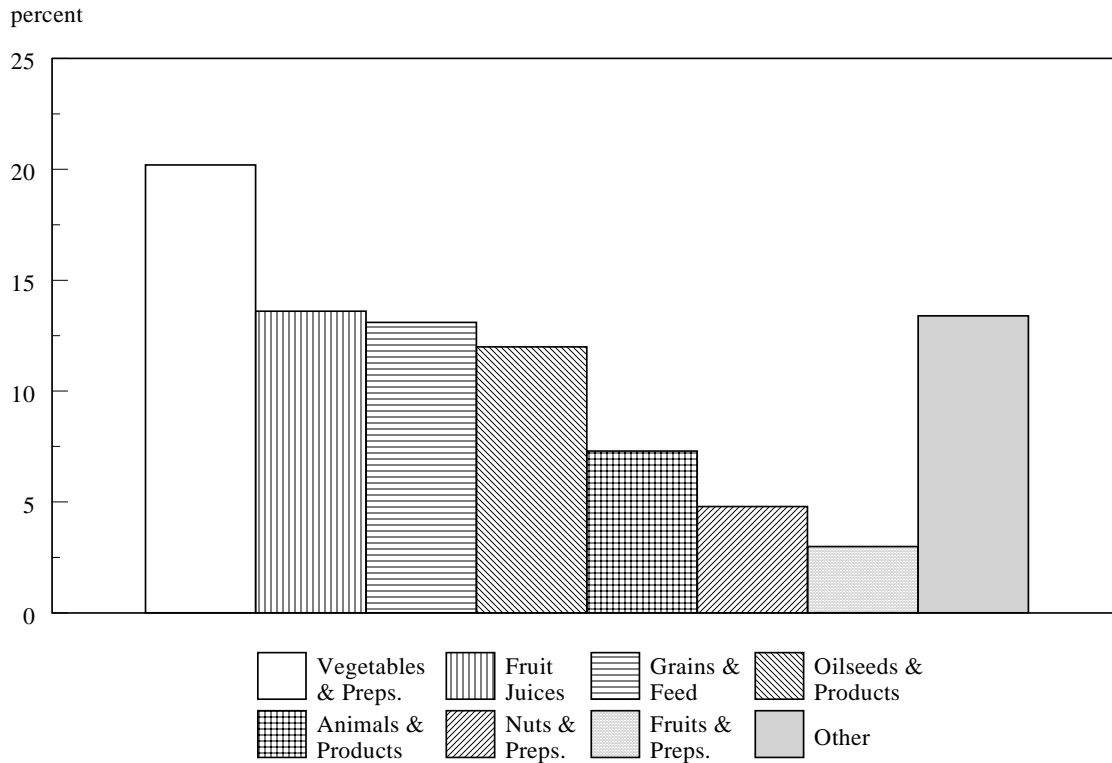


Figure 9: Trend Growth in U.S. Agricultural Trade with Canada, 1980-2000

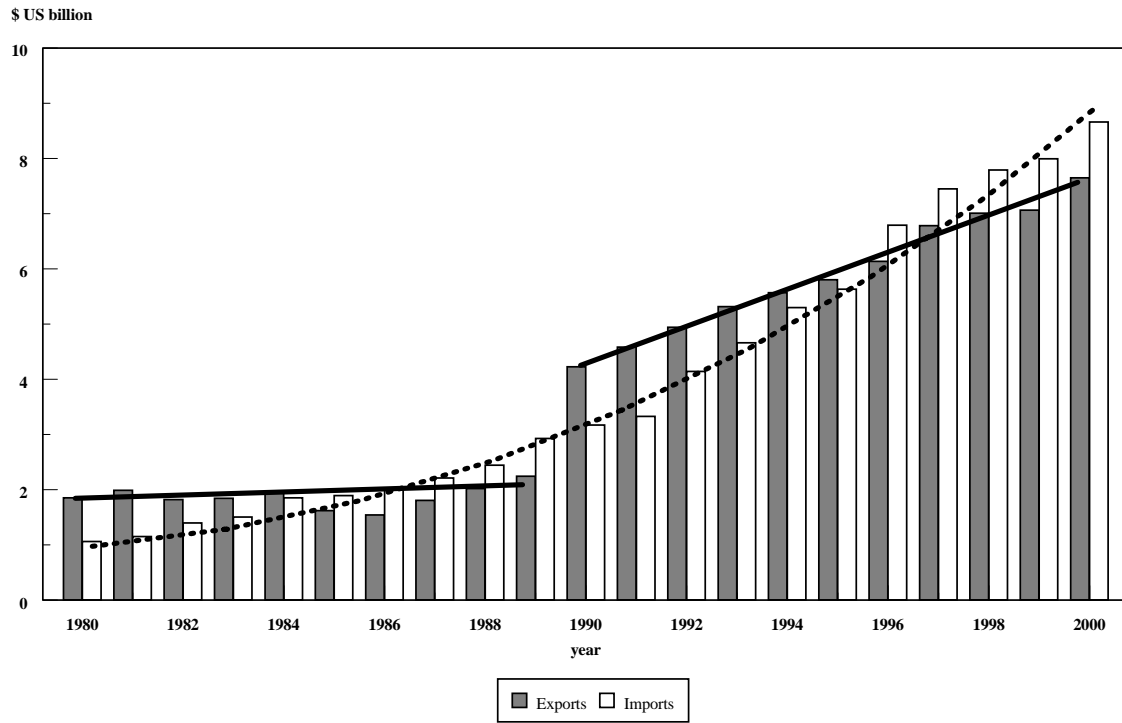
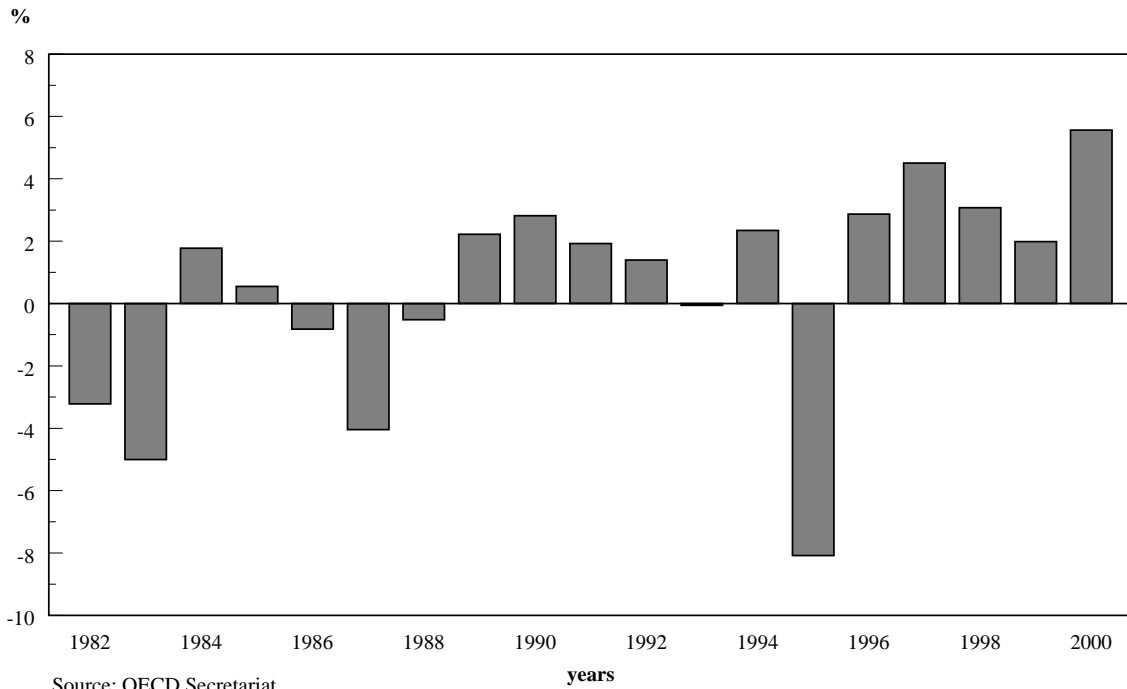
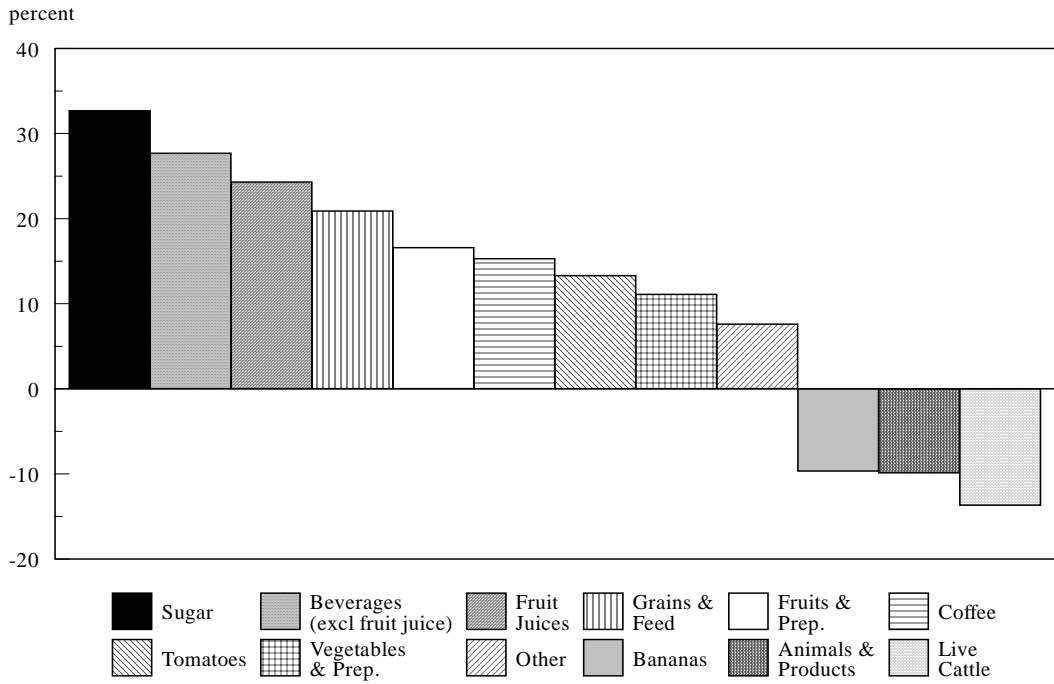


Figure 10: Annual Growth in Mexican Real Per Capita GDP, 1982-2000



Source: OECD Secretariat

Figure 11: Growth in U.S. Agricultural Imports from Mexico by Commodity Group, 1993-98



Source: USDA

Figure 12: Trend in U.S. Agricultural Balance of Trade with Canada, 1980-2000

