

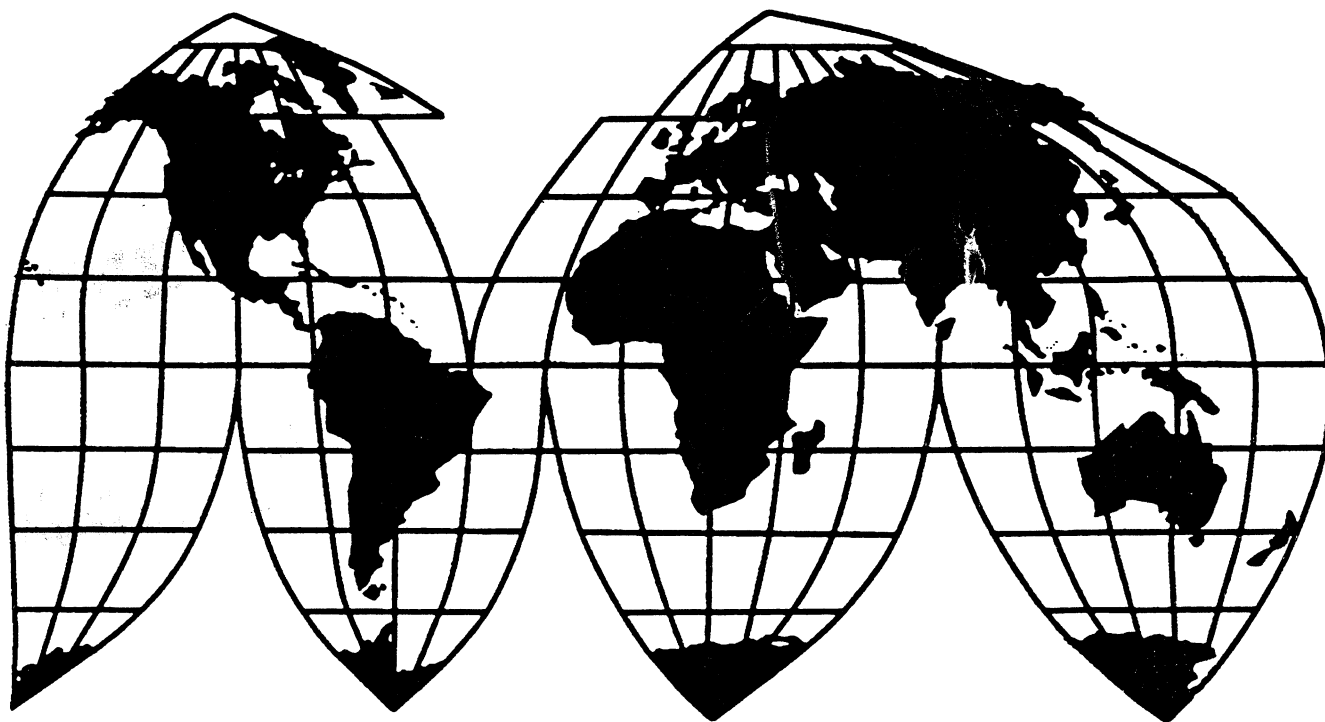
# **The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three-Year Review**

Investigation No. 332-381

Publication 3045

June 1997

**U.S. International Trade Commission**



Washington, DC 20436

# U.S. International Trade Commission

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## **The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three-Year Review**



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## PREFACE

Following receipt on April 23, 1997, of a request from the United States Trade Representative (appendix A), the U.S. International Trade Commission instituted investigation No. 332-381, *The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three-Year Review*, under section 332 (g) of the Tariff Act of 1930 (19 U.S.C. 1332 (g)) on April 23, 1997. The purpose of this report is to assess the effects of the North American Free Trade Agreement (NAFTA) on the U.S. economy, and on industries affected by NAFTA.

Copies of the notice of investigation and public hearing were posted in the Office of the Secretary, U.S. International Trade Commission, Washington, DC 20436, and the notice was published in the Federal Register (97-11181) on April 29, 1997 (appendix B). The Commission held a public hearing in connection with the investigation on May 15-16, 1997. All persons were allowed to appear by counsel or in person, to present information, and to be heard. In addition, interested parties were invited to submit written statements concerning the investigation.

The information in this report is for the purpose of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under other statutory authority covering the same or similar matter.



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## EXECUTIVE SUMMARY<sup>1</sup>

On April 23, 1997 the United States Trade Representative (USTR) asked the United States International Trade Commission (ITC) to conduct a study analyzing the actual impact of the first 3 years of the North American Free Trade Agreement (NAFTA) on the U.S. economy as a whole, and on industries particularly affected by the Agreement. The USTR requested that the ITC use formal empirical tools as well as in-depth industry expertise to evaluate NAFTA, while taking account of economic effects associated with other events occurring during the phase-in of the Agreement. The Administration is required to provide to Congress by July 1, 1997 a comprehensive study of the Agreement during its first 3 years.

The ITC was asked to identify effects of NAFTA, to the extent possible, on trade, wages, employment, productivity, investment, and national output. The ITC was also requested to present a review of literature addressing the effects of NAFTA in its first 3 years, and to identify areas in which inadequate data, the incomplete implementation of NAFTA, or other technical constraints complicate the analysis of NAFTA and its effects. The study conducted quantitative, econometric analyses of over 200 industries to identify NAFTA effects. Separately, the Commission examined industry data on 68 aggregate industry sectors to identify qualitatively any specific effects that would not be covered by the econometric results. The different approaches do not in all cases pick up the same effects of NAFTA on given industries, or find the same relative importance of the effects of NAFTA on the industry compared to other influences. This is to be expected, and is, in fact, an important reason to conduct the two analyses. Together, they give a more complete and balanced picture of NAFTA's effects than would either approach in isolation.

On May 15 and 16, the ITC held a public hearing on this study, and in addition invited written submissions from the public to comment on the subject of the investigation. Over 40 individuals or groups appeared at the hearing, and over 100 written statements have been presented to the ITC. A summary of the written submissions appears in Appendix D to this report.

### Overview of NAFTA and Its Effects

NAFTA took effect on January 1, 1994, after nearly a decade of rapidly growing U.S.-Mexican trade ties, and 5 years after the U.S.-Canada Free Trade Agreement (CFTA) entered into force. Three years later most of its tariff provisions are substantially in place, and their effects can be analyzed. NAFTA provided for immediate tariff reductions on 68 percent of U.S. exports to Mexico, and 49 percent of U.S. imports from Mexico. With respect to U.S.-Canada trade, virtually all tariffs on U.S.-Canadian trade have been eliminated as a result of the CFTA and NAFTA.

NAFTA also provides for reductions in nontariff barriers, including import prohibitions, quantitative restrictions, and import licensing requirements. For example, over a 10-year period Mexico will phase out trade and investment restrictions on autos and trucks. Upon implementing NAFTA, the United States immediately eliminated quotas for Mexican textile and apparel products that meet NAFTA rules of origin. Trade in energy is being liberalized. Numerous nontariff barriers on U.S.-Mexico agricultural trade have been replaced by tariff-rate quotas, which are being phased out by 2009. Most such reductions in nontariff barriers are proceeding on schedule.

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<sup>1</sup> For additional comments of individual Commissioners, *see* Appendix F. For "trip notes" of Vice Chairman Bragg and Commissioner Newquist, *see* Appendix E.

In addition to reducing traditional trade barriers, NAFTA went beyond any previous trade agreement in obligating the NAFTA countries to establish rules governing the conduct of trade among the NAFTA partners. Nearly all of these “rulemaking” obligations are now in force. They govern such areas as the protection of direct investment, intellectual property, services trade, and government procurement. Furthermore, NAFTA includes dispute settlement provisions aimed at resolving conflicts over trade issues.

Pursuant to the request from USTR, the ITC’s analysis of the impact of NAFTA has focused primarily on the effects that can be clearly attributed to specific provisions of the NAFTA. The results of this analysis are discussed in detail below. In general, the ITC found positive, although modest, effects on the U.S. economy after 3 years of the NAFTA. However, based on the hearing testimony and other information collected during the course of this study, it has also become clear that many of the NAFTA’s most important effects are not easily quantified or observed, and the full effects of the Agreement will take many more years to make themselves known.

Among the least tangible results of NAFTA are those that might be described as effects on the general business climate in North America. As Richard Heckman, President of U.S. Filter Corporation, testified to the ITC, “New treaty partners and new trade partners tend to go out of their way to do business with each other.” Numerous witnesses at the ITC’s hearing confirmed that NAFTA had resulted in companies paying new attention to business opportunities within North America.

The ITC also heard testimony to the effect that NAFTA safeguarded U.S. exporters and investors from changes in Mexico’s trade policy regime announced in the wake of the 1994 peso crisis. Because of NAFTA commitments, Mexico did not apply to U.S. goods the high tariffs and quotas imposed on certain imports. Thus, U.S. exports to Mexico fell by a smaller margin in the wake of the peso crisis than did exports from Asia and Europe.

### **NAFTA and the North American Economies**

The three economies linked by NAFTA are driven largely by the economy of the United States, both in terms of its size and its current state of continuing robust growth and consequent strong demand for imports. The size of the U.S. economy makes its output, employment, and investment levels less sensitive than those of its partners to changes in the trade environment. Current rates of growth in U.S. output and employment would tend to absorb many downside effects of NAFTA, but also would provide fewer opportunities for additional growth due to upside effects.

#### ***United States***

The gross domestic product (GDP) of the United States is 10 times the size of Mexico's or Canada's, and the United States is well into its sixth year of economic expansion. Job creation has remained robust since the institution of NAFTA. The unemployment rate reached about 7.5 percent in 1992, and has been declining since then to the 1996 rate of about 5.4 percent. Distinguishing any effect of NAFTA on these trends would be difficult.

The continued growth of the U.S. economy, particularly compared to those of its trading partners, has caused U.S. consumption of imports to rise and has increased its trade deficit with the world, including with North American trading partners. The United States posted a merchandise trade surplus with Mexico from 1991 through 1994, then fell into a deficit in 1995 and 1996, due principally to the collapse of the peso-dollar exchange rate and the resulting recession in Mexico. The United States has had a consistent



merchandise trade deficit with Canada since 1989. The deficit has widened in each year of the current U.S. economic expansion.

Since 1993, total U.S. trade has increased, with NAFTA partners and with the rest of the world (Table ES-1). Imports from Canada and Mexico have grown more rapidly than imports from the rest of the world, as did exports to Mexico when compared to other trading partners, including Canada. Canada and Mexico are the largest and third-largest trading partners of the United States, with Mexico projected to move past Japan to become this country's second-largest trading partner by year end 1997. Nonetheless, U.S. trade with Mexico represents less than 10 percent of total U.S. trade, and trade with Canada represents about 20 percent of total U.S. trade.

### *Canada*

The Canadian economy has been generally strong and stable for the past several years. However, unemployment peaked at a rate of over 11 percent in 1992 and eased to just under 10 percent in 1995 and 1996. Canadian GDP declined by almost 2 percent in 1991, but since then has grown at rates ranging from 0.8 to 4.1 percent. Canada's trade with the United States accounted for about 80 percent of Canadian exports in each of the last 3 years, and 66 to 68 percent of Canadian imports. Canada has maintained a growing surplus in its trade with the United States and the world. In 1996, the Canadian bilateral surplus with the United States was \$37.2 billion.

### *Mexico*

During the first NAFTA year, the Mexican GDP grew by 3.5 percent, and inflation was a modest 7 percent. However, serious macroeconomic imbalances led to the devaluation of the peso at the end of 1994, to a subsequent austerity regime, and a serious recession during the second and part of the third NAFTA years. In 1995, GDP declined by 6.9 percent, and the rate of inflation was 35 percent. There were signs of a strong recovery during the third NAFTA year, marked by 4.0 percent growth of the GDP, increasing employment, and declining interest rates.

Following a \$18.5 billion trade deficit with the world in 1994, the first NAFTA year, Mexico posted a \$7.1 billion global trade surplus in 1995 and a \$6.3 billion surplus in 1996. In order to fulfill its NAFTA commitments, Mexico did not increase its overall tariffs on imports from North America following the peso devaluation. Thus, while the 1982 debt crisis in Mexico was accompanied by a 50 percent decline in U.S. exports from 1981 to 1983, the 1994 devaluation witnessed an increase in U.S. exports to Mexico of 11 percent between 1993 and 1995.

NAFTA's tariff provisions protected U.S. exporters from Mexico's decision in 1995 to raise tariffs from 20 to 35 percent on products, such as textiles, apparel, and footwear articles imported from countries with which Mexico did not have free trade agreements. Compared to European and Asian exporters, North American exporters were less adversely affected by shrinking Mexican imports in 1995 and profited more from resurging Mexican imports in 1996.

**Table ES-1: Total trade: U.S. imports for consumption and exports of domestic merchandise for Mexico, Canada, All Others, and the World, change in value, percentage change, and percentages of total trade, 1993-96**

Trade flow/supplier	1993	1994	1995	1996	Absolute change 1993-96	Percentage change, 1993-96
	<i>Value (million dollars)</i>					<i>Percent</i>
U.S. trade:						
U.S. imports from:						
World . . . . .	574,863	657,885	739,660	790,470	215,607	37.5
Mexico . . . . .	38,668	48,605	61,721	74,179	35,511	91.8
Canada . . . . .	110,482	128,753	144,882	156,299	45,817	41.5
All others . . . . .	425,713	480,526	533,057	559,992	134,279	31.5
U.S. exports to:						
World . . . . .	439,295	481,887	546,465	582,137	142,842	32.5
Mexico . . . . .	40,265	49,136	44,881	54,686	14,420	35.8
Canada . . . . .	91,866	103,643	113,261	119,123	27,257	29.7
All others . . . . .	307,164	329,108	388,323	408,328	101,165	32.9
	<i>Percent of Total</i>					
U.S. trade:						
U.S. imports from:						
World . . . . .	100.00	100.00	100.00	100.00		
Mexico . . . . .	6.73	7.39	8.34	9.38		
Canada . . . . .	19.22	19.57	19.58	19.77		
All others . . . . .	74.05	73.04	72.07	70.84		
U.S. exports to:						
World . . . . .	100.00	100.00	100.00	100.00		
Mexico . . . . .	9.17	10.20	8.21	9.39		
Canada . . . . .	20.91	21.51	20.73	20.46		
All others . . . . .	69.92	68.30	71.06	70.14		

Source: Compiled by the staff of the U.S. International Trade Commission

### Quantitative Findings

The ITC was requested to analyze empirically the aggregate effects of NAFTA on the U.S. economy, including GDP, total manufacturing employment and earnings, and investment, independent of the many other factors affecting the U.S. economy since NAFTA's inception. The challenges the ITC faced in measuring NAFTA's impact to date were several.

Perhaps most problematic for conducting an empirical assessment is the short timeframe during which NAFTA has been in effect and the data constraints thus presented. Trade, expenditure, and output data, commonly used measures for assessing economic impact, are not available in sufficient quantity to allow the volume of observable phenomena on which economists seek to rely.

Moreover, the difference in the size of the NAFTA partners' economies, and their divergent economic performances during these 3 NAFTA years, also complicates the analysis. Not only does the sheer size of the U.S. economy dominate its partners, the U.S. rate of economic growth and its employment levels during this period have exceeded both those of Mexico and Canada. Because of its size, the United States is also less sensitive to shocks to its economy, such as entry into force of a multilateral trade agreement.

Finally, the effort to isolate the effects of NAFTA from any effects of other economic occurrences since the start of NAFTA in January 1994 is difficult. The sharp devaluation of the Mexican peso and that country's resulting recession is widely acknowledged to have been a dominant factor in U.S.-Mexico trade flows. Also, the World Trade Organization (WTO) Agreements entered into force in January 1995. The WTO Agreements liberalized trade in goods and services among its members, reducing the value of the preferences received among NAFTA partners.

Despite these complicating factors, the ITC estimated that NAFTA has had, on balance, positive, although modest, effects on the U.S. economy and individual industry sectors.

### **Aggregate Effects of NAFTA**

#### ***GDP, aggregate employment, and investment***

The ITC found no effects of NAFTA on either GDP levels or growth rates in the United States, in large part due to the limited time period in which NAFTA has been in effect and the size of the U.S. economy compared to Mexico and Canada. Aggregate domestic employment effects of NAFTA were also not discernible, which was not an unexpected result considering the state of almost full employment prevailing in the United States during the duration of NAFTA. Finally, the ITC found no effects of NAFTA on aggregate investment.

#### ***Aggregate trade***

Looking at more direct effects of NAFTA on the U.S. economy, the study found that NAFTA has significantly affected the levels of U.S. trade with Mexico. No significant effects of NAFTA on aggregate trade with Canada were found.

Results from the aggregate analysis indicate that the volume of U.S. imports from Mexico increased by 1.0 percent in 1994 as a result of NAFTA. In addition, the volume of U.S. imports from Mexico are estimated to be 5.7 and 6.4 percent higher in 1995 and 1996, respectively, than they would have been absent the Agreement. Similarly, the results indicate that, as a result of NAFTA, the volume of U.S. exports to Mexico increased by 1.3 percent in 1994 and by 3.8 and 3.2 percent in 1995 and 1996, respectively. In 1994, the only year in which NAFTA was in place and the peso devaluation does not confound the estimates, the implied increase in the volume of U.S. exports to Mexico outpaced the increased volume of U.S. imports from Mexico.

#### ***Industry trade***

Econometric analysis of nearly 200 industries, accounting for over 85 percent of trade between the United States and its NAFTA partners, offers some conclusive industry-specific effects of NAFTA. The criteria applied were conservative, requiring "affected industries" to show statistically significant changes in trade in each of the 3 NAFTA years.

The ITC's estimates found that NAFTA has resulted in significant changes in the volume of bilateral trade for a modest number of industries. However, for most industries analyzed, there has been no consistent discernible impact of NAFTA on changes in the volume of bilateral trade between the United States and its NAFTA partners. With respect to U.S.-Mexico trade, U.S. exports to Mexico increased significantly due to NAFTA in 13 industries. No industries showed decreased exports to Mexico because of NAFTA. U.S. imports from Mexico increased significantly in 16 industries, while decreasing significantly in 7 industries. With respect to U.S.-Canada trade, U.S. exports to Canada increased significantly due to NAFTA in 10 industries, while decreasing significantly in 8 industries. U.S. imports from Canada increased significantly in 13 industries, while decreasing significantly in 8 industries. These results are shown in Table ES-2.

**Table ES-2: Industry-Level Trade Results: Number of industry sectors showing statistically significant increase, decrease, or no evident impact in trade flows during 1994-96, and corresponding share of bilateral trade in these sectors.**

	Number of industries <sup>1</sup>			Share of aggregate bilateral trade <sup>2</sup>		
	Significantly Increase	Significantly Decrease	Not Significantly Affected	Significantly Increase	Significantly Decrease	Not Significantly Affected
U.S. exports to Mexico	13	0	78	8.67%	0.00%	43.88%
U.S. imports from Mexico	16	7	92	14.54%	1.02%	36.84%
U.S. exports to Canada	10	8	95	3.01%	4.99%	35.04%
U.S. imports from Canada	13	8	94	1.95%	0.77%	53.99%

<sup>1</sup> Number of 4-digit SIC sectors found to satisfy the criteria of statistically significant increasing, decreasing, or unaffected trade flows in each of the 3 NAFTA years.

<sup>2</sup> Percentages represent the share of aggregate bilateral trade flow between the United States and its NAFTA partner for the sectors that were judged to have statistically significant increasing, decreasing, and unaffected trade flows.

The ITC also estimated whether industries were significantly affected by NAFTA in trade in any 1- or 2-year NAFTA period. Although this analysis presents less statistical confidence than the 3-year standard discussed above, the results suggest that a greater number of U.S. industries may have been affected by NAFTA in these shorter time periods. Most notably, 36 of 78 domestic industries significantly increased their volume of exports in 1994 because of NAFTA, but did not sustain this increase in either 1995 or 1996. This result highlights the likely impact on U.S. exports of the peso devaluation in December 1994.

### **Labor**

Although the ITC did not find any significant overall effects on aggregate employment or earnings, econometric analysis of labor market data at the industry level indicates that 29 of the 120 manufacturing industries analyzed experienced some NAFTA-related change in hourly earnings or hours worked as shown

by the binary variable analysis. In addition, 7 industries showed employment effects that are adversely sensitive to lower prices for imports from Mexico, meaning that a reduction in import prices, due either to NAFTA or other causes, may cause job displacement. Four industries showed a positive relationship to import prices, such that decreases in import prices may raise the employment level in related U.S. industries. This may be due to market complementarities between imports and domestic production in certain industries, or perhaps to enhanced productivity due to imports. The remaining industries show no evident relationship between employment and import prices.

### *Productivity*

No direct analysis of productivity changes due to NAFTA was possible, due to a lack of data. However, indirect evidence on productivity effects of the Agreement indicates that for those industries experiencing particularly strong import competition, productivity may have been enhanced since NAFTA. In general, the effects that were estimated were relatively modest: in certain sectors where imports were increasing, a 1-percent increase in the market share of total imports was associated with a 0.2-percent increase in labor productivity. Therefore, to the extent that NAFTA induced total imports to increase (*i.e.*, overall trade creation) in those sectors experiencing substantial market penetration over the period 1993-96, the results of this analysis imply that U.S. manufacturing labor productivity likely increased.

### **Qualitative Findings: Analysis of Industry Sectors**

For 59 of 68 sectors analyzed by the ITC, NAFTA was determined to have had a negligible effect. The trade-weighted average rates of duty on U.S. imports from Mexico were relatively low prior to the implementation of NAFTA because of low most-favored-nation (MFN) rates, Generalized System of Preferences (GSP) eligibility, or duty-free treatment on the U.S. content of imports from Mexico's maquiladora industry. With regard to U.S.-Canada trade, the removal of many tariff and nontariff barriers had already taken place under the CFTA. Consequently, the effects of NAFTA tariff reductions in many sectors were largely negligible.

Factors having a greater effect on U.S.-Mexico trade were the rationalization of production within industries in North America (particularly between the United States and Canada) and the peso devaluation which reduced Mexico's demand for U.S. exports in 1995. At the same time, U.S. imports increased because of expanded use of assembly plants in Mexico as both U.S. and Asian companies responded to lower labor costs in Mexico.

The ITC's analysis of individual industries and groups indicates that NAFTA had a significant effect on the increase in U.S. trade in 9 of 68 sectors, including grains and oilseeds, raw cotton, textile mill products, apparel, women's footwear, leather tanning and finishing, household appliances, motor vehicles, and motor vehicle parts. Important findings include the following:

#### **Agriculture**

*Grains* – Mexican tariff reductions on grains, and the conversion of import licensing to a tariff-rate quota, were largely responsible for the increased U.S. exports of grains to Mexico. In spite of increased exports due to NAFTA, employment on U.S. farms continued a long-term decline.

*Cotton* – The growth in U.S. exports of raw cotton to Mexico partly reflected increased Mexican demand for the fiber used in the production of textile mill products (such as fabrics) for shipment to

the United States under NAFTA. Data on changes in employment were not available, nor were investment data other than acreage planted in cotton, which increased by 24.6 percent between 1993 and 1996.

## **Manufactured Products**

*Apparel* – Increased U.S. apparel imports from Mexico were primarily due to NAFTA provisions that enable duty-free and quota-free entry for apparel (and other made-up textile goods) assembled in Mexico wholly from fabric that was both formed and cut in the United States; the increase likely came at the expense of imports from Asian and Caribbean Basin Initiative countries. Employment in U.S. apparel manufacturing has declined since NAFTA, most likely reflecting in part a shift of some operations to Mexico.

*Textiles* – NAFTA rules of origin stimulated demand in both Mexico and Canada for fabrics produced by U.S. textile mills to make apparel for the U.S. market. Job losses, possibly attributable to increased imports, have been at least partly offset by gains due to increased exports.

*Women's footwear* – Increases in women's footwear imports from Mexico, mostly under production-sharing provisions, largely reflected uncertainty over MFN renewal for China, as well as preferential U.S. tariffs under NAFTA. U.S. employment decreased from 1993 to 1996.

*Appliances* – Some leading U.S. appliance producers chose to expand production in Mexico to supply the growing Latin American market, with increased U.S. imports from Mexico reflecting rationalized production. Changes in Mexican investment laws made it attractive to expand U.S.-Mexican joint ventures producing household appliances, and changes in the Maquiladora Decree enabled a phased-in increase in shipments from maquiladoras to the Mexican domestic market. Since employment grew in this sector, it is difficult to qualitatively discern a negative employment effect.

*Vehicles* – U.S. exports of motor vehicles to Mexico increased as a result of NAFTA-related reductions in trade balancing requirements and tariffs. NAFTA has had a positive effect on the increase in industry employment.

*Vehicle parts* – The sustained growth of the U.S. and Canadian motor vehicle markets, and investments in new plants and capacity, have supported employment growth in the U.S. auto parts industry. U.S. imports of motor vehicle parts from Mexico rose in part because of NAFTA rules of origin requirements and a more liberalized foreign investment climate.

*Leather* – The increase in U.S. exports of leather (principally for use in motor vehicle seats) resulted, in part, from NAFTA changes in rules of origin related to motor vehicle export performance requirements and changes in Mexico's Maquiladora Decree that allowed shipments of car seats and/or car seat covers directly from maquiladora operations to vehicle assembly plants in Mexico. Employment in the leather tanning and finishing industry has declined despite increased exports as a result of the cyclical nature of the cattle/beef industry, closures in the face of environmental standards, and relocation of some facilities to low wage-rate countries.

## Services

The effects of NAFTA on U.S. services trade are believed to be negligible. Data on services industries are available only through the second year of NAFTA implementation (1995), and largely reflect the effects of the peso devaluation on Mexico's economy. The effect of NAFTA on U.S. investment is believed to be negligible in nearly all service industries, except in financial services, where it is regarded as significant. NAFTA has raised foreign investment ceilings, thereby facilitating greater investment by U.S. banking and security firms in Mexico.





## CHAPTER 1

### INTRODUCTION

#### Purpose and Organization of Report

The North American Free Trade Agreement (NAFTA, or the Agreement) took effect on January 1, 1994, after nearly a decade of expanded U.S.-Mexican trade ties, and 5 years after the U.S.-Canada Free Trade Agreement entered into force in 1989. Most, but not all, of its tariff provisions have been implemented, and nearly all of its “rule making” obligations (in customs administration, standards, and investment, for example) are in force. The Agreement represented a breakthrough in trade policy, liberalizing North American commerce and serving as a model for subsequent agreements in the Uruguay Round of trade negotiations and elsewhere.

This report has been prepared in response to a letter from the United States Trade Representative (USTR) received on April 23, 1997, requesting an investigation and report on the impact of NAFTA on the U.S. economy and industries. The request was made under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)). The USTR asked that the Commission provide in its report both quantitative and qualitative analyses of NAFTA, specifically including the following: (1) a review and analysis of existing studies that have assessed the impact on the United States of NAFTA in its first 3 years; (2) a discussion of the technical issues involved in formal economic assessment of the impact of a partially implemented free trade agreement; and (3) to the extent feasible, an analysis of the aggregate effects on the economy of the Agreement in its first 3 years. Where possible, the report is also to include an analysis of trade, employment, investment, and productivity in industries affected by NAFTA. Copies of the request letter and the Commission’s notice announcing institution of the investigation and the scheduling of a public hearing are reproduced in appendix A and B.

The request letter noted that section 512 of the NAFTA Implementation Act (19 U.S.C. 3462) requires the President to provide to the Congress by July 1, 1997, a comprehensive study of the operation and effects of NAFTA during the first 3 years. The letter stated that the information in the report would serve as a resource which the administration can draw upon in preparing its report to Congress.

This chapter will do three things. First, it will briefly review some of the research that has attempted to assess and evaluate NAFTA in its first three years of operation. Second, it will describe the methodology used in this study to assess the effect of NAFTA on the U.S. economy and industries. Finally, it will describe the structure of the remainder of the report.

#### Review of Recent Research on the Impact of NAFTA

Although many of the trade liberalizing provisions of NAFTA are not scheduled to be fully implemented until 2009, several researchers have attempted to quantify the effects of the Agreement on each member economy. Since the Agreement was not implemented in a vacuum, a major challenge of this and all such research endeavors is to isolate the effects of the Agreement from other major events. Presidential elections, other political changes, and such significant macroeconomic events as the large Mexican peso devaluation (“peso crisis”) of December 1994 make accurate analysis difficult. In addition to tariff reductions, the Agreement contains other significant provisions, relating to non-tariff barriers, border measures, and dispute resolution mechanisms, that are likely to generate changes of the types that are the most difficult to quantify. Indeed, the recency of the Agreement, the staging of its many rules and

regulations, and the disparate sizes of the United States and Mexican economies suggest minimal impacts on the U.S. economy during the first three years of NAFTA.<sup>1</sup>

The discussion in this section briefly reviews recent empirical work that has attempted to isolate the impact of NAFTA to date on the economies of its signatories. Subsections will cover the literature that has attempted to evaluate NAFTA retrospectively, with evidence taken from post-implementation experience, followed by a brief review of prospective work that evaluates NAFTA (regardless of its publication date) from the perspective of data and expectations available at its inception.

NAFTA's recent implementation allows only a few retrospective analyses. Researchers have primarily used limited trend or qualitative analysis. Clearly, using computable general equilibrium (CGE)<sup>2</sup> modeling to quantify "what if NAFTA were implemented" has been the methodology of choice in prospective analyses, and remains the choice of many analysts for retrospective work, given the lack of historical data. Furthermore, the Agreement addresses many subjects beyond tariff reductions, including rules of origin, technical standards, government procurement, competition policy, and intellectual property rights protection; these further complicate the problem of isolating and quantifying NAFTA effects.

### *Post-NAFTA Retrospective Analysis*

David Gould<sup>3</sup> explored the effect of NAFTA on trade flows between Mexico and the United States. He compared actual trade under NAFTA with what trade might have been without an agreement. In addition, he examined what would likely have happened to U.S.-Mexico bilateral trade had there not been a peso crisis.

Gould analyzed the period<sup>4</sup> when Mexico began trade liberalizations, the period when Mexico instituted macroeconomic stabilization policies, and the period in which NAFTA was implemented, to estimate U.S. imports from and exports to Mexico.<sup>5</sup> Using binary variables to account for Mexico's 1982 debt crisis, the 1985 recession, and the 1994 peso crisis, Gould also estimates the effects of the peso crisis on Mexican industrial production, the real peso/dollar exchange rate, and total U.S. imports from and exports to the rest of the world except Mexico. These results are subsequently used to evaluate the impact of the peso

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<sup>1</sup> Professor Joseph McKinney remarked at the Commission's public hearing on May 15, 1997, that "Almost 5 years ago at hearings such as these, several other economists and I testified that in our professional judgments, the effects of incorporating Mexico into a North American Free Trade Agreement should be on balance positive, but relatively modest. ... While the effects of the NAFTA agreement certainly have not been fully realized [in] its first three years of operation, my current assessment is that despite the economic difficulties encountered by Mexico, the effects of NAFTA thus far on the U.S. economy have been on balance positive and relatively modest."

<sup>2</sup> The designations "computable general equilibrium modeling" (CGE) and "applied general equilibrium" (AGE) modeling are used interchangeably throughout this report.

<sup>3</sup> David Gould, "Distinguishing NAFTA from the Peso Crisis," *Southwest Economy* (Sept./Oct. 1996), pp. 6-10.

<sup>4</sup> A binary (on-off) variable was used to isolate each of these periods. Such variables are designed to take into account exogenous shifts in an econometric relationship, and are particularly useful when dealing with data that cannot be explicitly quantified, but can only be located in time. Here, the binary variable is equal to one during the event, be it the peso crisis or the implementation of NAFTA and is equal to zero otherwise. For more information on binary or "dummy" variables, see William H. Greene, *Econometric Analysis*, (New York: MacMillan Publishing Company, 1993). In the context of this report, a binary variable helps to determine whether, for example, trade is discernibly different after NAFTA than before NAFTA, effectively breaking the data into two sets of observations, hence "binary."

<sup>5</sup> Note that Gould uses import and export values (price times quantity) rather than actual quantities. Price and quantity can move inversely, making it difficult to assess what is actually causing trade values to rise or fall.

crisis on U.S.-Mexico bilateral trade flows. The large devaluation of the Mexican peso occurred just 11 months after the trade agreement's implementation, and Gould estimated the effects of the peso crisis to be significant.

Indeed, he found that the dramatic decline in U.S. exports to Mexico during 1995 could be traced to the peso devaluation, the contraction in Mexican income, and the subsequent Mexican recession. Gould reported that although U.S. exports to Mexico fell more than 10 percent in 1995, "on average, U.S. export growth is about seven percentage points higher per year with NAFTA."<sup>6</sup> His results are even more extreme regarding the effects of the peso devaluation; Gould reported that "exports would have grown 22 percent without the peso crisis, rather than decline by 11 percent, as happened with the crisis."<sup>7</sup> From his limited technical discussion, it is not clear that he appropriately distinguished the peso crisis from NAFTA because both events may not have been simultaneously specified in his regression analysis to allow them to interact appropriately.

Sidney Weintraub<sup>8</sup> attempted to put NAFTA and its assessment into context, using descriptive analyses of recent trade, growth trends, and political events of the last few years. He noted that "it would have been preferable to wait a number of years before reaching conclusions about NAFTA."<sup>9</sup> Weintraub's assessment of NAFTA specifically described: (1) the "incorrect criteria" (merchandise trade balance, jobs and wages); and (2) the "correct criteria" (increases in total trade, intra-industry trade/specialization, productivity and wages, effects on competitive position of industries, environmental effects, and institution building) for making such an assessment.

Weintraub concluded that with respect to trade, the main "correct" criterion under which NAFTA should be evaluated, NAFTA is performing as expected. Bilateral trade is higher than before implementation and increasing. Furthermore, growth in intra-industry trade illustrates that firm competitiveness is growing.<sup>10</sup> Regarding jobs, he asserted that the profound fear that there would be a massive loss of jobs has turned out to be unfounded.<sup>11</sup> Moreover, Weintraub pointed out that by some accounts, NAFTA is working "too well." In fact, the increased competition has produced a protectionist backlash on both sides in some key sectors.<sup>12</sup>

Hinojosa *et al.*<sup>13</sup> used a computable partial equilibrium (CPE) simulation modeling framework to analyze what has occurred in the 3 years since NAFTA's start. Their report is preliminary, and outlines a

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<sup>6</sup> Gould (1996), p. 7.

<sup>7</sup> Gould (1996), p. 8.

<sup>8</sup> Weintraub, Sidney *NAFTA at Three: A Progress Report* (Washington, D.C.: The Center for Strategic and International Studies, 1997).

<sup>9</sup> Weintraub (1997), p. 3.

<sup>10</sup> Weintraub (1997), p. 84.

<sup>11</sup> Although there have been losses with trade and production changes, the reality is that since NAFTA's implementation, there has been "a massive increase in U.S. job-creation and if anything a shortage in qualified labor." Weintraub (1997), p. 84.

<sup>12</sup> Examples cited by Weintraub (1997) include tomato and avocado trade as well as truck transportation rules. However, he notes that one significant benefit from NAFTA is its dispute settlement mechanism.

<sup>13</sup> Raul Hinojosa Ojeda, Curt Dowds, Robert McCleery, Sherman Robinson, David Runsten, Craig Wolff, and Goetz Wolff, *North American Integration Three Years After NAFTA: A Framework for Tracking, Modeling and Internet Accessing the National and Regional Labor Market Impacts* (Los Angeles, C.A.: University of California School of Public Policy and Social Research, Dec. 1996).

research agenda that might be developed to address the dynamic and subnational/sectoral impacts of trade agreements.<sup>14</sup>

The authors conclude that the tariff reductions associated with NAFTA did not significantly affect the rate of growth of U.S. imports or exports, nor the composition of trade between the United States and Mexico. Instead, they assert that established production sharing relationships and the growth rate of the Mexican economy have been among the primary determinants of trade and investment flows between the United States and Mexico in recent years. Their discussion focuses attention on the important structural changes that occurred in Mexico's economy and trade regime in the 10-year period prior to NAFTA's implementation. Specifically, the authors draw the conclusion that these earlier structural changes in Mexico, and macroeconomic conditions in Mexico and the United States, were the main factors explaining why changes in trade after NAFTA's implementation were not larger. According to the authors, this is also why U.S. exports to Mexico were able to recover more quickly after the peso crisis in 1994 than was the case in previous peso devaluations.

While the authors provide large amounts of trade and investment data that are suggestive, neither the trend analysis nor the CPE simulation analysis provides convincing support for their claims. For example, they do not explain how employment effects resulting from increased imports are derived from their partial equilibrium model. If changes in employment were directly estimated from changes in import trade flows using some type of multiplier effect, it is unclear why a model that estimated changes in U.S. output was needed at all in the first steps of this analysis. The effects of this historical event require a much more rigorous analysis of the available data than Hinojosa *et al.* provide before their assertions can be accepted as valid.

### *Pre-NAFTA Prospective Analysis [3]*

Michael A. Kouparitsas<sup>15</sup> used a dynamic computable general equilibrium model with macroeconomic components to analyze the potential effects of NAFTA on the three North American economies and a composite of their trading partners.<sup>16</sup> He noted that insufficient international data make it impossible to estimate all preferences, production, and trade parameters. However, three trade liberalization simulations were performed using his North American trade model. The first experiment looked at a limited North American free trade agreement (the "LNAFTA" experiment), where only explicit tariffs between Canada, the United States, and Mexico are liberalized. The second experiment examined the removal of all North American tariffs and non-tariff barriers (the "NAFTA" experiment). The third experiment focused on

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<sup>14</sup> For future research, the authors propose adopting CGE simulation modeling for retrospectively analyzing what has occurred in the three years since NAFTA implementation. These types of models are parameter-driven structural relationships that are most appropriately used *ex ante*, as a prospective analytical tool for providing "what-if" analyses, or for analyzing long-term effects; these models are less useful in isolating what has already occurred. They do not test whether the hypothetical relationships implied by the model parameters are in fact consistent with observed data.

In testimony before a hearing of the Commission on this investigation, Michael Kouparitsas gave as his opinion that CGE analysis (such as his own) is more appropriate for analysis of medium- to long-term effects, "...and [he thinks] three years is very much the short run." Hearing before the International Trade Commission, May 15, 1997, transcript, p. 109.

<sup>15</sup> Michael A. Kouparitsas, "A Dynamic Macroeconomic Analysis of NAFTA" *Economic Perspectives* (Jan./Feb. 1997), pp. 14-35.

<sup>16</sup> The model's base year is 1992 and is simulated over a 30-year period. The dynamic model has four countries/regions (Canada, Mexico, the United States and the rest of the world) and five sectors (primary raw materials, nondurable manufacturing, durable manufacturing, construction, and services).

a hub-and-spoke arrangement where the United States is the hub; both Canada and Mexico are spokes, each having a free trade agreement with only the United States. The third experiment is essentially a Free Trade Agreement (FTA) between the United States and Mexico, with few changes in trade between the United States and Canada. He used several parameters estimated for NAFTA analysis at the USITC<sup>17</sup> and, consistent with other modelers using static multisector, multicountry computable general equilibrium models, Kouparitsas calibrated the model to the 1992 base period.

These results suggest that NAFTA will generate welfare gains for all North American participants, with the greatest gains accruing to Mexico. Under the NAFTA experiment, Mexico's steady state gross domestic product (GDP) was predicted to increase by 3.2 percent, but the effects on the United States and Canada were negligible. The dynamic analysis also suggests that NAFTA generates real output and trade flow increases that are roughly twice as large as those predicted by other researchers, whose results generally rely on static trade models.

Kouparitsas' results are largely driven by the model's infusion of capital flows into Mexico from outside the NAFTA region. This assumption explains over two-thirds of the output changes. Allowance for an increase in labor effort explains the remaining third. In such model simulations, the results are sensitive to the amount of increase in the supply of productive factors. The amount of increase in factor supplies may be modeled by other methods with different results, but the models that Kouparitsas cites are not able to model such factor supply changes.

The Congressional Budget Office (CBO)<sup>18</sup> also uses a general equilibrium economic simulation model to generate various scenarios. In particular, they employ the McKibbin, Sachs Global (MSG) simulation model.<sup>19</sup> Since this type of model is based on developed country growth patterns, CBO modified the model explicitly to include Mexico. NAFTA encompasses several economic liberalization reforms, and CBO's simulations model the impact of all such reforms since the mid-1980s including, but not limited to, NAFTA.<sup>20</sup>

Results from the CBO study suggest that although net welfare would improve for each country, some sectoral winners and losers will exist. The larger gains to Mexico would most likely come from increased foreign direct investment into Mexico. Short-term gains to the United States are expected to come from greater exports to Mexico. Projected GDP growth for Mexico is between 6 and 12 percent by the time NAFTA is fully enacted. Effects on the United States are much smaller, with CBO's model projecting growth attributed to the trade agreement to be less than 1 percent.<sup>21</sup>

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<sup>17</sup> See David W. Roland-Holst, Kenneth A. Reinert and Clinton R. Shiells, "North American trade liberalization and the roll of non-tariff barriers," in *Economy-wide Modeling of the Economic Implications of an FTA with Mexico and NAFTA with Canada and Mexico*, USITC publication No. 2508, May 1992, pp. 523-580. This computable general equilibrium (CGE) model was a prospective analysis of the potential impact of NAFTA utilizing 1982 input-output relationships benchmarked to 1990 national income statistics. These CGE model results of the potential impact of NAFTA are static and address the question: What would be the impact on the three economies in 1990 of NAFTA changes?

<sup>18</sup> Congressional Budget Office, *A Budgetary and Economic Analysis of the North American Free Trade Agreement* (Washington, DC: CBO, July 1993).

<sup>19</sup> CBO's MSG model is based on work done by Warwick J. McKibbin and Jeffery D. Sachs, *Global Linkages: Macroeconomic Interdependence and Cooperation in the World Economy* (Washington, DC: Brookings Institute, 1991).

<sup>20</sup> For more information, see "Macroeconomic Simulations of NAFTA" in CBO, pp. 113-117.

<sup>21</sup> CBO (1993), p. 14.

The CBO simulations also imply that Mexico's current account deficit would continue for a substantial period, which means that Mexico should attract substantial net inflows of private capital during the several years following NAFTA's implementation. In addition, the 1993 study suggested that the peso would become stronger, making U.S. goods more attractive to Mexican consumers and Mexican goods less attractive to U.S. consumers.

P.J. Kehoe and T.J. Kehoe<sup>22</sup> summarized the work of four prospective general equilibrium studies presented at the USITC's "Economy-wide Effects of NAFTA" conference held in February 1992.<sup>23</sup> The authors include: (1) Brown, Deardorff, and Stern, who modeled NAFTA's impact on all three national economies; (2) Cox and Harris, whose model focused on Canada; (3) Sobarzo, whose model concentrated on Mexico; and (4) Markusen, Rutherford and Hunter, whose model focused on the automobile industry.

The four research teams used static applied general equilibrium models that emphasized increasing returns to scale and imperfect competition. Although each model made different assumptions and emphasized different countries or industries, they are relatively consistent in their agreement on the impact of NAFTA. Specifically, the four works found that because Mexico's economy is the smallest in North America and had the highest levels of protection, it will enjoy the largest NAFTA increase in economic welfare when measured as a percentage of GDP. The studies expect that the positive effect on Mexico's GDP will range from 2 to 5 percent, with a scant increase in U.S. welfare of around 0.1 percent of U.S. GDP. Canada was not expected to experience any gains beyond the benefits it experienced from the U.S.-Canada FTA.

G. Hufbauer and J. Schott<sup>24</sup> gave a thorough pre-implementation assessment of the Agreement, examining its impacts on energy, automobiles, agriculture, textiles and apparel, financial services, transportation, and telecommunications. The authors also analyzed the effect of NAFTA on U.S. jobs and adjustment programs, occupational employment, long-term efficiency benefits, and migration. Their analysis was primarily conjectural in nature, on how NAFTA should be expected to affect certain sectors.

Although little time was spent assessing the macroeconomic effects of the Agreement, Hufbauer and Schott characterized some of the expected benefits for each country. For Canada, the Agreement provides improved access to the Mexican market, while maintaining Canada's preferential treatment in the U.S. market as established under the U.S.-Canada FTA. Mexican exporters are expected to benefit, given relatively unfettered access to the U.S. market, and the few remaining U.S. trade barriers will be liberalized. Finally, U.S. suppliers of intermediate, capital goods, and high-technology products should continue to reap large benefits as prime suppliers to the growing Mexican market.

## Methodology

The empirical analysis of NAFTA effects follows two approaches. The first is a statistical or econometric approach, which is designed to discern systematic relationships between NAFTA and aggregate measures of economic performance on the one hand, and between NAFTA and industry performance on the other. The other basic approach is the industry, or sector-by-sector, analysis, in which specific industry sectors are examined, in terms of a wide variety of trade, regulatory, tariff, nontariff, and other factors, to

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<sup>22</sup> Patrick J. Kehoe and Timothy J. Kehoe, "Capturing NAFTA's Impact with Applied General Equilibrium Models," Federal Reserve Bank of Minneapolis' *Quarterly Review* (Spring 1994), 17-34.

<sup>23</sup> See USITC publication No. 2508, 1992.

<sup>24</sup> Gary C. Hufbauer and Jeffrey J. Schott, *NAFTA: An Assessment* (Washington, DC: Institute for International Economics, 1993).

provide a qualitative assessment of NAFTA effects which might escape the econometric approach. The different approaches do not in all cases pick up the same effects of NAFTA on given industries, or find the same relative importance of the effects of NAFTA on the industry compared to other influences. This is to be expected, and is in fact an important reason to conduct the two analyses, since together they give a more complete and balanced picture of NAFTA's effects than would either approach in isolation.

Following the guidance given by the USTR's request letter, specific sectors were selected based on increases in the level of trade between the United States and its NAFTA partners.<sup>25</sup> The selection process is described most fully in chapter 5, but the essence of the procedure is as follows.

Trade in commodities as classified by the Standard Industrial Classification (SIC) system at the 4-digit level was examined for the years 1993 to 1996. Those 4-digit SIC industries for which trade (either imports or exports) with either NAFTA partner increased by \$50 million or more over that 3-year interval were selected for analysis.<sup>26</sup> The SIC system was chosen to classify industries in the U.S. economy because most data on sectoral economic activity in the United States are based on this system, and because the SIC specifically describes industries (the object of the analysis) rather than products. Nevertheless, for convenience this report often refers to "SIC commodities" where it would more accurately discuss "commodities produced primarily by particular SIC industries."<sup>27</sup> Trade data are based on the Harmonized Tariff System of classification (HTS), but standard concordances exist for translating data from the HTS to the SIC system. The selection procedure identified about one-half the industries listed in the SIC classification system, while accounting for about 85 to 90 percent of the value of all trade between the U.S. and its NAFTA partners.

As stated, the 204 industries selected by this procedure were subjected to two types of analysis. In different econometric analyses the industries<sup>28</sup> were examined to determine the extent to which NAFTA had statistically measurable effects on industry trade and labor markets. At an aggregate level, data on the overall performance of the economy were also examined in order to discern possible effects of NAFTA on GDP and aggregate consumption; productivity; overall trade balances with NAFTA partners; and employment and wages. In the "sector by sector analysis," the industries were aggregated into 68 industry sectors, or groups. Industry specialists on the staff of the ITC gathered trade, production, employment, tariffs, and other data on these aggregations, in order to arrive at an informed qualitative assessment of the effects of NAFTA on them. For this analysis, the criterion for determining a significant effect of NAFTA was based on a standard of NAFTA's importance relative to other factors, rather than on a standard of statistical significance.

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<sup>25</sup> The request letter is attached to this report as appendix A.

<sup>26</sup> The letter from USTR requesting this study calls for an analysis of the "U.S. industries in which U.S. exports to Mexico or Canada or imports into the United States from Canada or Mexico have increased significantly." In the absence of a standard for "significance" in this context, several alternative criteria were examined before selecting the \$50 million threshold.

<sup>27</sup> The SIC is generally a production-based classification scheme, i.e. it considers how resources are organized and used to produce output and accordingly classifies *industries* by these processes. The HTS is a commodity-based scheme that identifies what is being marketed. Because of the underlying conceptual differences between the two types of classifications, the mapping (or concordance) between the two will necessarily be imperfect. One or more SIC industries can produce a given product, and a given industry can produce several widely different products.

<sup>28</sup> For the econometric analyses in chapter 4, a slightly different set of 198 4-digit SIC industries was used. These industries were selected at the beginning of the data collection process for this study, using the same \$50 million increase in trade criterion discussed above, but applied to annualized incomplete data for 1996 trade.

## *Econometric Methodologies*

The first approach to the analysis of NAFTA's effects on industries, and the approach to the assessment of effects on the economy as a whole, is econometric. A variety of techniques were applied, as appropriate to specific topics.

### **GDP Analysis**

The U.S. economy is roughly ten times the size of Mexico's, and trade with Mexico, while large compared with most individual trading partners, constitutes only about 10 percent of U.S. foreign trade. Given the size of the U.S. economy, particularly in the context of its ongoing robustness over the past 6 years, one would not expect to find considerable effects of NAFTA.<sup>29</sup>

Nevertheless, an attempt to model the effects of NAFTA on U.S. GDP was made using both quarterly and annual data from 1959 to 1996 by estimating a traditional production function of the U.S. economy.<sup>30</sup> Many specifications were estimated, and no consistent, theoretically-reliable results were obtained.

Several approaches may be taken to estimate the effects of a policy change on GDP. Based on national accounting identities, GDP can be separated into distinctive components (aggregate consumption, investment, government spending, and net exports). Analysis can then examine the effects of the policy change on the components individually. Alternatively, because GDP also represents aggregate income, income components can be separately identified to detect the impact of a policy change. Finally, since GDP represents gross economic output or production, a third approach would try to detect the effect of a policy change on total production (or on production inputs).<sup>31</sup>

In isolation, the fact that actual GDP growth rates are relatively large compared with the total expected effects of NAFTA would not preclude estimation of the Agreement's effects. Presumably, small deviations from the trend of the GDP growth rate could be empirically detected, assuming there were a sufficient number of data observations, and few or relatively insignificant events occurring during the period being examined. Unfortunately, neither of these two conditions holds during NAFTA's first 3 years. At most, twelve quarterly observations of GDP are available for the period following NAFTA implementation, and these are considered too few observations for reliable statistical inference. Several important shocks also occurred in the economy that are difficult to separate from the impacts of NAFTA. Shocks that significantly cloud empirical estimates of NAFTA's effects on the U.S. economy include: the 1994 peso crisis, the assassination of Luis Donaldo Colosio,<sup>32</sup> news of the bailout agreement, and, more importantly, domestic events that directly affected the U.S. economy, such as defense downsizing and government budget cuts.

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<sup>29</sup> In testimony before the Commission on this investigation, Michael Kouparitsas indicated that, on the one hand, it is far too early to observe significant effects of NAFTA, and on the other, that even in the long run, his work suggests that the effect of the Agreement on U.S. GDP is that it will cause an expansion of one-fourth of a percentage point, "roughly twice as large [an effect] as previous findings from static models." Hearing transcript, p. 80.

<sup>30</sup> A closer examination of the data also revealed significant statistical characteristics associated with time-ordered data. The technical appendix formally addresses time-series issues and correction techniques in more detail.

<sup>31</sup> If appropriate adjustments are made to compensate for problematic macroeconomic data properties, this approach would most likely be converted into estimates of the effect of the policy change on the growth rate of GDP.

<sup>32</sup> Luis Donaldo Colosio was the presidential candidate of Mexico's ruling Institutional Revolutionary Party (PRI) during the 1994 election campaign. He was assassinated in March 1994.



Most of the empirical work connecting trade policy with growth in GDP has been done in the context of developing economies, generally attempting to find connections between openness to trade and economic development. One strand of empirical testing looks at cross section data, analyzing differences among countries in GDP growth and its connection to trade policies;<sup>33</sup> most such analyses focus on long-run growth and are not helpful in identifying short-run effects of trade liberalization agreements. Other studies that look at linkages between exports and growth with time series data for single countries often find that there is a lagged effect, that major increases in exports are associated with increases in growth of GDP after several quarters or years.<sup>34</sup> While none of this work indicated that impacts for a trade liberalization might be discovered empirically for data covering a short period of time, the Commission did adopt and estimate several models, based on some of those described in the literature. A variety of time-series techniques were applied, looking for effects on GDP levels and on growth rates. In no cases were significant links found between NAFTA and changes in U.S. GDP.

### **Effects of NAFTA on Industries: Trade Flows and Labor**

For each of the 4-digit SIC industries, data were collected on imports, exports, domestic production, wages, employment, and other variables. Data constraints were a limitation in some cases. Trade data for service industries do not exist on a monthly basis, and labor force data for agricultural products are very inconsistent, where they exist. Further, the Bureau of Labor Statistics combines a small number of SIC classifications with others in their data. Thus the econometric analysis of labor market data, in particular, is limited to 120 industries. Specific econometric methodologies are described in chapter 4, where results are presented. Briefly, all of the econometric analyses attempt to answer the following two questions: How does one identify formally the effects NAFTA might have on economic activity? And, how does one measure those effects? The first question is one of modeling, and the second is one of econometric inference.

Besides being a tariff reduction agreement, NAFTA addresses many other subjects, including intellectual property rights, trade in services, government procurement, investment, and various customs matters. Separately negotiated side agreements address labor and environmental issues. Furthermore, a series of policy actions were taken in anticipation of the Agreement, principally the privatization of various parastatal enterprises in Mexico. Investment regulations were not only liberalized, but the amount of investment increased in the months prior to implementation of NAFTA in anticipation of its passage.

To model the effects of the various NAFTA provisions, in a way generally applicable to about 200 industries, requires simplification. The analyses attempt to capture NAFTA effects through price effects and binary variable analysis. A binary variable is a variable that, in the context of this analysis, captures the market effects that occur in a given period, whether a year or a sequence of years, that are not captured by other observed variables. The tariff effects are modeled as price effects; the prices of imports are entered into modeling specifications to capture the impact of the cheaper imports (and exports) due to NAFTA tariff reductions. These import prices in fact reflect not only import price changes due to NAFTA tariff reductions, but also those due to other changes in duties attributable to the Uruguay Round, changes in Mexico's GSP

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<sup>33</sup> Ross Levine and David Renelt, "A Sensitivity Analysis of Cross-Country Growth Regressions," *American Economic Review* 82:4 (September 1992), pp. 942-963.

<sup>34</sup> Examples of such time series analyses include M.O. Odedokun, "Alternative Econometric Approaches for Analyzing the Role of the Financial Sector in Economic Growth: Time-Series Evidence from LDCs," *Journal of Development Economics* 50 (1996), pp. 119-146, and Woo S. Jung and Peyton J. Marshall, "Exports, Growth, and Causality in Developing Countries," *Journal of Development Economics* 18 (1985), pp. 1-12.

status,<sup>35</sup> and changes in prices due to other market forces. In the scope of this study NAFTA tariff reductions could not be applied directly at the SIC industry level because changes in the composition of items traded within a given SIC industry have not been fully analyzed, nor have the relationships between NAFTA and other tariff provisions.

In order to capture the other effects of NAFTA besides those due to tariffs, one or more binary variables corresponding to the implementation of NAFTA are included in the analysis. Among the influences explained by these variables, one might expect to find the effects of NAFTA that arise from changes in the market or investment environments, regulatory changes, or other dimensions of the Agreement that do not directly flow into price changes. In analyzing the data covering 1995 and 1996 one would also expect to find the effects of the large peso devaluation and subsequent policy responses.

Neither the price (unit value) variable nor the binary variables can fully succeed in capturing the full effects of NAFTA or in isolating these effects from other changes in the North American economies and trading environment. However, they can serve as indications of those areas in which the Agreement has had its strongest effects so far. Chapter 4 and the technical appendix, on the econometric analysis of the effects of NAFTA on trade flows, discuss these techniques in more detail, together with their interpretation, implications, and limitations. Chapter 4 also presents an analysis of the effects of NAFTA on industry employment and earnings, using a similar methodology.

## **Productivity**

The analysis of productivity, appearing in chapter 4, takes a very different approach, relying on the analysis of cross section data rather than time series data. There are no good data on sectoral productivity over time, nor is there a single definition of productivity itself. After discussing definitional issues, the method used here is to analyze the differences in productivity in industries that face different levels of import competition. From the results, one may then infer the effect that increased trade from a particular country, such as Mexico, may have on productivity.

### *Sector-by-Sector Analysis*

The general approach to the industry sector analyses is described in chapter 5. The results of these assessments, and the data underlying them, are presented in chapter 6. For each of the 68 sectors aggregated from the SIC industries, data were assessed to determine whether NAFTA had a significant effect on increases in trade flows in the sector. In this context, "significant" is defined in chapter 5 to mean that the change in specified performance indicators from 1993 to 1996 is due in considerable measure to the NAFTA as compared with any other economic factor or industry development occurring during the period. It should be noted that these analyses were made considering the sector as a whole, focusing on the effect that NAFTA had on the observed changes in the trade flows.

Nine industry sectors of the 68 were found to be significantly affected by NAFTA in this sense,<sup>36</sup> although there may be industries or products within these sectors where increased trade may not have been

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<sup>35</sup> The change in Mexico's GSP status was part of the NAFTA implementation bill. Items from Mexico, previously eligible for duty-free entry under GSP, became duty free under NAFTA, and Mexico was removed from eligibility for GSP benefits.

<sup>36</sup> These sectors are grains and oilseeds, raw cotton, textile mill products, apparel, leather tanning and finishing, women's non-rubber footwear, household appliances, motor vehicles, and motor vehicle parts.

significantly affected by NAFTA. The alternative finding, that NAFTA had a “negligible” effect on the observed increases changes in trade flows in the remaining 59 sectors, indicates that the change in trade flows from 1993 to 1996 was due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Such a finding, therefore, does not necessarily mean that NAFTA had no influence on the changes in the trade flows or other industry indicators, but rather that some other factor was the predominant cause of such trade shifts. Again, because such determinations were made at the sectoral level, there may be products or industries within these sectors for which NAFTA may have had a “significant” effect on changes in trade flows or other industry measures.

In formulating a conclusion, this methodology relies primarily on assessing measurable changes in the trade and economic environment, such as declines in tariffs, NAFTA rules, investment liberalization, sectoral arrangements under NAFTA, and other factors as appropriate. The analyses cannot fully distinguish the effects that NAFTA has had on the psychological climate of doing business with NAFTA partners, especially Mexico, due to any real or perceived lowering of business risk brought about by the Agreement. However, changes in business relationships as a result of NAFTA may have been an important factor in the decisions of North American businesses;<sup>37</sup> in some cases such changes may have been an important factor influencing decisions to shift production, procurement, or assembly functions.

### **Structure of the Report**

Following this introductory chapter, chapter 2 provides an overview of the North American Free Trade Agreement, including its historical context, key provisions, and issues that have arisen during the first 3 years of implementation. Chapter 3 presents the economic context for analyzing the Agreement’s impact. It includes reviews of the performance of the three national economies and their increasing integration in the years leading up to the Agreement, and discusses economic policy changes and the events surrounding the implementation of the Agreement in the three countries.

The remaining chapters will present the analyses described above. Chapter 4 provides a quantitative analysis of the impact of NAFTA on U.S. trade with its North American partners, conducted at the level of specific industries. It also assesses the effect of the Agreement on the labor force in the industries affected by trade, and then looks at the overall effect of the Agreement on U.S. productivity, to the extent that this can be measured.

Chapters 5 and 6 examine the effects the Agreement has had on specific industry sectors. Chapter 5 provides an overview, describing in detail how industries were selected for analysis and the approach taken to the industrial analyses.

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<sup>37</sup> See, for example, the statement of Richard J. Heckman, president and chief executive officer, U.S. Filter Corporation, transcript of hearing, p. 37.



## CHAPTER 2

### OVERVIEW OF NAFTA

#### Introduction

Before embarking on a rigorous examination of NAFTA's impact on the United States, some background on NAFTA's genesis, key provisions, status of implementation, and relationship to the Uruguay Round is presented in this chapter. This background details NAFTA's coverage. It also highlights changes in trade policy by the three NAFTA partners in the 1994-96 period that may have affected the preferential access of NAFTA partners.

NAFTA is a far-reaching and precedent-setting international trade agreement. Its numerous provisions address far more than tariffs on goods. Many of the barriers being removed by NAFTA are Mexican and Canadian policies that held back U.S. exports and investment. Considerable liberalization of U.S. trade with NAFTA partners has already been achieved as a result of NAFTA, but some key provisions have yet to be implemented. Implementation of those provisions that were to be in place during the period 1993-96 has generally been smooth.<sup>1</sup>

The Uruguay Round of multilateral trade negotiations concluded shortly after NAFTA's passage. The resulting agreements go beyond NAFTA in some respects, notably in agriculture and telecommunications services, but fall short of NAFTA in such areas as investment and state trading. U.S. and Canadian tariffs were reduced as a result of the Uruguay Round, slightly lowering the margin of preference enjoyed by NAFTA suppliers. According to some sources, Mexico's average applied MFN tariffs actually rose during the 1993-96 period,<sup>2</sup> widening the advantage U.S. and Canadian goods enjoy in the Mexican market. On the other hand, Mexico has signed free-trade agreements with several Latin American partners in the period leading up to and after NAFTA, providing them benefits similar to NAFTA. It has also unilaterally lowered tariffs on some goods. A fuller discussion follows.

#### Historical Context

NAFTA entered into force on January 1, 1994, capping nearly a decade of improved and expanded U.S.-Mexican trade ties, and bolstering the scope of the U.S.-Canada Free Trade Agreement (CFTA) that entered into effect in 1989. NAFTA represented a breakthrough in trade agreements, with key provisions liberalizing North American commerce and serving as models for subsequent agreements in the Uruguay Round of multilateral trade negotiations and elsewhere.<sup>3</sup>

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<sup>1</sup> For a fuller discussion of NAFTA implementation, see, U.S. International Trade Commission, *The Year in Trade*, 1994 and 1996 editions, USITC publications 2894 and 3024, July 1995 and Apr. 1997.

<sup>2</sup> Pacific Economic Cooperation Council, *Perspectives on the Manila Action Plan for APEC*, Nov. 1996, p. 8, simple averages, based on UNCTAD data and Individual Action Plans. According to this source, Mexico's simple average tariff was 10.6 percent in 1988, 12.8 percent in 1993, and 12.5 percent in 1996.

<sup>3</sup> See discussion on "Interaction with the Uruguay Round Negotiations" later in this chapter for examples.

The implementation of the CFTA had already further integrated the U.S. and Canadian economies and spurred global trade liberalization even before NAFTA began.<sup>4</sup> Less than 3 years into the 10-year phase-in of the CFTA, the United States responded to a Mexican overture by embarking on an effort to conclude a U.S.-Mexico free-trade agreement (FTA).<sup>5</sup> The U.S. response reflected a recognition of the substantial trade and investment reforms undertaken by Mexico since the mid-1980s, and was billed as a first step toward the eventual economic integration of all of the Americas. NAFTA was also identified as a way to boost U.S. competitiveness relative to emerging trade blocs in Europe and Asia.<sup>6</sup>

In the years leading up to NAFTA, Mexico reversed long-standing statist, import substitution-oriented development policies that had restrained imports and foreign investment opportunities. Austerity programs requested by the International Monetary Fund in the early 1980s in the wake of Mexico's 1982 debt crisis, and the progressive dismantling of many trade and investment restrictions transformed Mexico into one of the world's fastest-growing markets, and resulted in dramatic success in reducing inflation, which fell from an annual rate of 159 percent in 1987 to 11 percent in 1992. Such measures also sparked a surge of foreign investment in Mexico and a return of capital.

Mexico's economic reforms included liberalizing foreign trade, easing rules on foreign investment, improving intellectual property rights protection, privatizing state enterprises, deregulating domestic economic activity, reforming agriculture, and strengthening infrastructure.<sup>7</sup> Mexico joined the General Agreement on Tariffs and Trade (GATT) in 1986, and as part of its accession agreement reduced and bound its tariffs and undertook additional trade-enhancing commitments. U.S.-Mexico trade ties were further strengthened by the implementation of a series of trade and investment agreements starting in 1987.<sup>8</sup>

By 1992, U.S. trade with Mexico had doubled from its 1986 level. U.S. exports to Mexico were increasing faster than U.S. imports from Mexico and the United States recorded a slight surplus in bilateral trade. Indeed, between 1978 and 1995, U.S. exports to Mexico grew by a substantially larger margin than Mexican GDP, with the exception of 1982, 1983, 1986, and 1995. The importance of U.S. trade to the Mexican economy, meanwhile, increased markedly.<sup>9</sup>

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<sup>4</sup> The CFTA covered services, for example, bolstering U.S. efforts to have services addressed in the multilateral trading system that preceded NAFTA. See "Interaction with the Uruguay Round Negotiations" section, below, for a further discussion.

<sup>5</sup> On August 21, 1990, President Carlos Salinas wrote to President Bush proposing that the United States and Mexico negotiate a free-trade agreement, a step required by U.S. law. Then-existing U.S. presidential negotiating authority only permitted the President to enter into negotiations towards an FTA if such negotiations were formally proposed by the prospective partner and required the President to notify Congress of his intent to enter into FTA negotiations in advance of formally launching them. The Authority, since expired, is found at Section 1102(c) of the Omnibus Trade and Competitiveness Act of 1988.

<sup>6</sup> See, for example, "The Administration's Case for NAFTA," Testimony of Ambassador Michael Kantor, United States Trade Representative, Before the Senate Commerce Committee, Oct. 21, 1993.

<sup>7</sup> For a discussion of these reforms, see, U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC publication 2596, Jan. 1992, ch. 1.

<sup>8</sup> For a description of these accords, see U.S. International Trade Commission, *Review of Trade and Investment Liberalization by Mexico and Prospects for Future United States Mexican Relations*, USITC publication 2275, Apr. 1990, ch. 2.

<sup>9</sup> J.F. Hornbeck, *NAFTA, Mexican Trade Policy, and U.S.-Mexico Trade, A Longer-Term Perspective*, CRS Report for Congress, No. 96-225 E, Mar. 11, 1996; pp. 3, 5, and 12 contain supporting data derived from U.S. Department of Commerce and International Monetary Fund statistics. The data show that the value of U.S.-Mexico

With the exception of certain sectors such as agriculture and textiles and apparel, U.S. barriers to Mexican and Canadian goods were already relatively low. U.S. tariffs had been progressively reduced as a result of multilateral rounds of liberalization under the GATT, the CFTA, and the U.S.-Canada Automotive Agreement. Mexico was the leading beneficiary of the U.S. Generalized System of Preferences. Also, a growing quantity of Mexico's exports entered at reduced duties under so-called production-sharing provisions of the U.S. tariff schedule.<sup>10</sup> By 1993, over half of U.S. imports from Mexico in terms of value entered the United States free of duty. Average U.S. tariffs on dutiable imports were just over 4 percent.<sup>11</sup>

Mexico and, to a lesser extent, Canada both retained barriers to U.S. exports and investment. Even with the extensive liberalization of trade and investment policies it had undertaken since 1986, Mexico continued to maintain relatively high barriers to imports of goods and services, imposed numerous restrictions on foreign investment, and had serious deficiencies in its intellectual property regime. The CFTA had put in place a phased elimination of tariffs on U.S.-Canada trade by January 1, 1998, removed some nontariff obstacles to manufactured products, opened services trade to two-way competition, and established new disciplines on foreign direct investment. However, the CFTA largely deferred to multilateral efforts in the Uruguay Round negotiations to address subsidies and policies distorting agricultural trade. The CFTA also offered few advances in such areas as customs administration and intellectual property.

In June 1990, U.S. President Bush and Mexican President Salinas formally endorsed the concept of a comprehensive trade agreement between the United States and Mexico.<sup>12</sup> Canada signaled that it wished to participate in the negotiations. Negotiations towards a trilateral accord among the United States, Canada, and Mexico were formally launched in June 1991. A final text was signed in December 1992 and approved by the legislatures of the three countries in late 1993. Table 2-1 provides a time line of NAFTA developments.

### Key Provisions

NAFTA is more comprehensive in scope than the CFTA. In addition to removing tariffs on North American trade among the partners over a 15-year period, NAFTA's 22 chapters and 10 annexes establish disciplines that cover a broad range of nontariff barriers, commit each party to high levels of security and openness for foreign direct investors and owners of intellectual property rights, liberalize trade in services, and create dispute settlement mechanisms. These include several unique dispute settlement mechanisms dealing with such matters as appeals of antidumping (AD) and countervailing duty (CVD) determinations, resolution of investor-state disputes, and alternate dispute resolution (e.g., mediation) in private commercial disputes. NAFTA also commits the parties to undertake educational and cooperative steps on such matters

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trade turnover relative to Mexican GDP increased from 15.8 percent in 1982 to 28.3 percent in 1994.

<sup>10</sup> U.S. imports of goods assembled or processed abroad from U.S.-made components or materials are eligible for partial exemption from duty under subheadings 9802.00.60 and 9802.00.80 of the Harmonized Tariff Schedule (HTS) of the United States. These provisions provide a partial duty exemption for U.S.-made components that are returned to the United States as parts of articles assembled abroad, or imported articles using U.S.-origin metal that are returned to the United States for further processing. For a more detailed explanation see, U.S. International Trade Commission, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations*, 1992-1995, USITC publication 3020, Apr. 1997.

<sup>11</sup> Calculated by the staff of the U.S. International Trade Commission.

<sup>12</sup> USTR, "Key Points in NAFTA Negotiations to Date," *NAFTA Source Book*, 1993.

**Table 2-1  
NAFTA Time line**

<i>Date</i>	<i>Event</i>
June 17, 1986	Negotiations towards a U.S.-Canada Free Trade Agreement (CFTA) launched.
August 24, 1986	Mexico joins the General Agreement on Tariffs and Trade (GATT).
September 15-20, 1986	Punta del Este GATT Ministerial held, launching the Uruguay Round of multilateral trade negotiations.
November 6, 1987	U.S. and Mexico reach landmark accord improving economic relations. The so-called "framework understanding" creates a consultative mechanism and affirms the need to work together to eliminate barriers to goods and services.
December 9, 1987	U.S. and Canadian negotiators initial final text of CFTA.
January 1, 1989	CFTA enters into effect.
June 10, 1990	President Bush and Mexican President Salinas endorse comprehensive trade agreement between the United States and Mexico; launch preparatory work.
February 5, 1991	President Bush, Mexican President Salinas, and Canadian Prime Minister Mulroney announce their intention to pursue a North American Free Trade Agreement (NAFTA).
May 23-24, 1991	Congress votes to extend fast track authority for 2 years for NAFTA and other purposes, notably concluding the Uruguay Round.
June 12, 1991	NAFTA negotiations formally launched.
October 7, 1992	NAFTA text initialed by three trade ministers in San Antonio, Texas.
December 17, 1992	President Bush signs NAFTA in ceremony at the Organization of American States. Simultaneous signing by Prime Minister Mulroney and President Salinas in respective capitals.
August 13, 1993	Conclusion of negotiations on NAFTA supplemental agreements on labor and environmental cooperation and import surges.
November 1993	On November 17 and November 20 respectively, the U.S. House and Senate pass NAFTA implementation legislation.
December 13, 1993	Uruguay Round negotiations conclude.



**Table 2-1--Continued  
NAFTA Time line**

<i>Date</i>	<i>Event</i>
January 1, 1994	NAFTA enters into force.
January 14, 1994	Inaugural meeting of NAFTA Free Trade Commission held, launching work by specialized NAFTA committees and working groups, including those on Trade Remedies requested by Canada in late 1993.
April 12-15, 1994	Marrakesh GATT Ministerial; Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations signed by 111 countries.
August 2, 1994	U.S.-Canada agreement on wheat announced; tariff rate quotas imposed by United States from September 1994 to September 1995.
December 20, 1994	Peso crisis erupts.
January 1, 1995	Agreement establishing the WTO enters into force and WTO formally comes into existence.
January 31, 1995	President Clinton announces \$20 billion loan package for Mexico.
May 30, 1995	Mexico announces that it will raise tariffs up to the rates bound in the WTO on 502 footwear, leather, textile and apparel products, and impose quotas on textiles and apparel. The higher tariffs and quotas do not apply to goods that meet requirements for preferential treatment under Mexico's free-trade agreements, including NAFTA.
June 7, 1995	NAFTA Free Trade Commission meets to review implementation. United States, Canada, and Mexico launch formal negotiations with Chile on accession to NAFTA.
December 18, 1995	U.S. Secretary of Transportation Federico Pena announces deferred U.S. implementation of NAFTA provisions providing Mexican truckers full access to four U.S. border states.
April 1, 1996	Five-year agreement on U.S.-Canada lumber trade enters into effect.
April 3, 1996	Mexico cited by USTR for failing to comply with telecommunications portions of NAFTA; failure to accept U.S. test data and overly strict standards are at issue.
June 28, 1996	NAFTA Free Trade Commission convenes via teleconference to discuss complaints by Canada and Mexico that portions of the "Helms-Burton" bill violate NAFTA.
October 28, 1996	The U.S. Department of Commerce signs 5-year accord with Mexican producers and exporters of fresh or chilled tomatoes committing them to sell at or above reference prices; the action suspends an antidumping investigation initiated against Mexican suppliers at the request of U.S. tomato growers.

**Table 2-1--Continued**  
**NAFTA Time line**

<i>Date</i>	<i>Event</i>
November 28, 1996	President Clinton takes a global safeguard action and imposes tariff rate quotas (TRQs) on imports of broom corn brooms, including brooms from Mexico (as a result of USITC determination in Inv. Nos. 201-TA-15 and NAFTA-302-1).
December 2, 1996	First NAFTA Chapter 20 general dispute settlement panel report issued in response to U.S. complaint over high post-Uruguay Round Canadian tariffs on dairy and poultry products; it finds the Canadian tariff increases consistent with NAFTA and WTO obligations.
December 12, 1996	Mexico raises tariffs on U.S. fructose, alcoholic beverages, notebooks, flat glass, and wood furniture in retaliation for U.S. TRQs on broom corn brooms.
March 20, 1997	NAFTA Free Trade Commission meets; accelerates tariff elimination on certain products.

as customs administration, product standards, antitrust, and telecommunications aimed at facilitating trade among NAFTA partners. NAFTA was accompanied by so-called side agreements on environmental and labor cooperation, the first U.S. trade accord to be formally linked with such issues.

### Phase-in

Many of NAFTA's provisions were implemented during NAFTA's first 3 years. In the tariff area, for example, the ITC estimated that slightly more than two-thirds of the value of U.S. imports from Mexico, and slightly under half of U.S. exports to Mexico would be accorded duty-free entry upon NAFTA's entry into force in 1994; an additional 8.5 and 17.4 percent, respectively, were estimated to become duty free by 1998, with 20-percent annual reductions in tariffs beginning on Jan. 1, 1994.<sup>13</sup> Thus, based on these estimates, 76.2 percent of U.S. imports from Mexico and 66.3 percent of U.S. exports to Mexico were already well on the way to duty-free treatment by the end of 1996.<sup>14</sup> Key U.S. sectors--notably aerospace equipment, semiconductors, computers, telecommunications and electronic equipment, medical devices, rail locomotives, most auto parts, machine tools, and paper products--that had previously faced Mexican tariffs in the 10-20 percent range became eligible for duty free treatment on January 1, 1994; furniture, steam turbines, light trucks, and beer are among the U.S. products whose Mexican tariffs were phased down by 60 percent as of Jan. 1, 1996.<sup>15</sup> With the implementation of the fourth annual round of NAFTA tariff cuts on January 1, 1997, Mexico's average tariff on NAFTA qualifying goods was reduced to an estimated 2.9 percent.<sup>16</sup> The average U.S. duty collected on all U.S. imports from Mexico, meanwhile, fell to 0.6 percent in 1996. Three-fourths of U.S. imports from Mexico were actually accorded duty-free treatment and average U.S. duties on the remainder were 2.6 percent.<sup>17</sup>

Nearly all of the "rulemaking" obligations of NAFTA came into force immediately upon NAFTA's implementation or shortly thereafter. For example, NAFTA obligations on customs administration, standards, investment, most services and intellectual property rights (IPR) are now fully in effect. Other liberalization commitments are being phased in over time, notably obligations found in the nontariff barrier provisions of NAFTA including automotive, textiles and apparel, agriculture, government procurement, telecommunications, transportation services, and financial services. Even so, considerable liberalization in these areas has already been attained under NAFTA provisions. For example, Mexico's import licensing requirements for agricultural products no longer apply to NAFTA partners, having been replaced with tariff-rate quotas that will become progressively more liberal until they are phased out by Jan. 1, 2004.

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<sup>13</sup> U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC Publication 2596, Jan. 1993, p. ix. Specifically, the ITC estimated that 13.9 percent of U.S. imports from Mexico and 17.9 percent of U.S. exports to Mexico were already free of duty and that 53.8 percent of U.S. imports from Mexico and 31.0 percent of U.S. exports to Mexico would become duty free immediately upon NAFTA's entry into force. An appendix to the report provides industry-by-industry breakdowns of the value of trade falling into each tariff staging category.

<sup>14</sup> While the Commission did not redo similar calculations for the present study based on present trade composition, changes in tariffs required by NAFTA have been implemented according to the originally-agreed schedules, which were the basis for the ITC's 1993 estimates.

<sup>15</sup> USTR, "Market Access," *NAFTA Source Book*, 1993, p. 1.

<sup>16</sup> USTR, *1997 National Trade Estimate Report on Foreign Trade Barriers*, p. 250.

<sup>17</sup> Compiled by the staff of the U.S. International Trade Commission.

## Status of Implementation

NAFTA's various liberalization and facilitation commitments continue to be implemented, generally in a smooth fashion. Mexico, in particular, has continued to make a number of changes in its trade and investment regimes as a result of NAFTA disciplines.<sup>18</sup> Mexico has, in fact, undertaken additional unilateral liberalization since NAFTA inception, notably in the investment area.<sup>19</sup> The NAFTA partners themselves have also found it possible to accelerate the implementation of NAFTA. At its March 20, 1997, meeting, for example, the NAFTA Free-Trade Commission announced that elimination of tariffs under NAFTA on several dozen products would be accelerated, effective July 1, 1997.

However, the United States has expressed dissatisfaction with certain aspects of Mexico's NAFTA implementation, notably in the areas of standards, telecommunications, intellectual property, and small package delivery services.<sup>20</sup> Canada's high post-Uruguay Round tariffs on agricultural goods, perceived subsidies for lumber and wheat, and protection of cultural industries remain sources of U.S. concern.

Mexico and Canada, meanwhile, have their own frustrations, including delays in U.S. implementation of NAFTA trucking provisions, remaining animal and plant health restrictions, and aspects of U.S. sugar policy. Table 2-2 reviews the pre-NAFTA situation, highlights key provisions of NAFTA, and summarizes the status of implementation.

## Interaction With the Uruguay Round Negotiations

Evaluating NAFTA's effect on U.S. trade is made more complex by the phase-in of a host of market-opening and rule-making agreements negotiated during the Uruguay Round of multilateral trade negotiations. The obligations are now embodied in the Agreement establishing the World Trade Organization (WTO) and the final Act of the Uruguay Round (hereafter, WTO Agreements). Indeed, the relationship between the two accords is a long and complex one, dating back to the launching of negotiations towards a CFTA in June 1986, which was widely seen as a U.S. effort to revive stalled efforts to launch an ambitious round of multilateral trade negotiations. Agreement to launch such a round quickly followed at the September 1986 Punta del Este GATT ministerial meeting. The Uruguay Round concluded on December 15, 1993, a year after NAFTA was signed. The WTO Agreements thus were being negotiated prior to, during, and after NAFTA's negotiation.

To a significant degree, NAFTA disciplines were both modeled on, and served as models for, the final WTO Agreements. Draft Uruguay Round texts were available on some topics when NAFTA negotiations were formally launched on June 12, 1991. In December 1991, GATT Director General Arthur

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<sup>18</sup> Changes in Mexico's trade and economic regime that will result from NAFTA are highlighted in recent Congressional testimony. See, "Written Testimony by Ambassador Ira Shapiro before the Subcommittee on International Economic Policy and Trade of the House International Relations Committee," Mar. 5, 1997, p. 2 and "Written Testimony of Regina K. Vargo, Deputy Assistant Secretary of Commerce for the Western Hemisphere before the Subcommittee on International Economic Policy and Trade, House International Relations Committee," Mar. 5, 1997, p. 2.

<sup>19</sup> See chapter 3 for details.

<sup>20</sup> USTR, *1997 Trade Policy Agenda and 1996 Annual Report*, p. 198.

**Table 2-2  
NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Tariffs	<p>The 1988 U.S.-Canada Free Trade Agreement (CFTA) eliminated virtually all tariffs on qualifying U.S.-Canadian trade, in a phase-out beginning in 1989 and ending by 1998.</p> <p>Mexico's average applied tariff on U.S. goods was 10 percent, 2.5 times the U.S. rate of 4 percent. Half of Mexico's trade actually entered the United States duty-free under MFN, GSP, or production-sharing provisions.</p>	<p>NAFTA provided for immediate elimination of existing tariffs on 67.7 percent of U.S. imports from Mexico and 48.9 percent of U.S. exports to Mexico. Most remaining duties on U.S.-Mexico trade will be phased out by 2004, with duties on the most sensitive products to be phased out by 2009.</p>	<p>The United States, Canada and Mexico agreed to accelerate tariff elimination on a small set of products effective July 1, 1997; a second round of tariff acceleration talks is now underway.</p> <p>NAFTA parties reduced MFN tariffs as a result of the Uruguay Round. In Mexico's case, it bound 100 percent of its tariffs in the Uruguay Round, most at a 35-percent ceiling rate. Mexico raised its tariffs on footwear, apparel and leather goods to the 35 percent ceiling rate (from the 20 percent applied rate) in June 1995; United States and other FTA partners are exempt for originating goods. The United States and Canada have announced plans to eliminate tariffs on information technology products effective July 1, 1997. Canada has implemented one set of unilateral MFN tariff reductions, largely on inputs, with a second under consideration. Mexico has entered into FTAs, lowered tariffs on selected goods for non-FTA partners, and announced that it will unilaterally eliminate tariffs on environmental equipment.</p> <p>As part of a global safeguard action, the United States imposed tariff-rate quotas on two subheadings of broom corn brooms from Mexico on November 28, 1996. In response, Mexico raised tariffs on U.S. fructose, alcoholic beverages, notebooks, flat glass, and wood furniture effective December 13, 1996. The United States formally requested consultations under NAFTA dispute settlement procedures about the increases on Mar. 11, 1997.</p>

Table 2-2

NAFTA: Summary of Key Trade Provisions and Status of Implementation

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Nontariff barriers	Mexico and Canada maintained import licensing requirements on both agricultural and industrial goods. Cultural industries-- publication, distribution, or sale of books magazines, newspapers, film and video recordings; audio or visual music recordings; and radio, television, and cable broadcasting-- were exempted from the nontariff barrier provisions of the CFTA.	Prohibitions, quantitative restrictions, and import licensing requirements applied at the border are being phased out. (Mexico retained licensing for basic petrochemicals.) During the phase-out period, tariff-rate quotas (TRQs) apply. Canada's "cultural exemption" remains in effect under NAFTA.	Phase-outs continue on schedule, resulting in improved U.S. market access. Mexico imposed additional requirements regarding certificates of origin for goods from several countries. While not directly applicable to NAFTA goods, this requirement has affected U.S. firms, most notably those that distribute goods made in several countries to Mexico from distribution centers in the United States. The United States has challenged in the WTO some Canadian restrictions on U.S. magazines that Canada justifies on cultural grounds.
Autos	U.S.-Canada automotive trade was already substantially free of duty as a result of the 1965 U.S.-Canada Auto Pact and 1988 CFTA. Mexico maintained numerous tariff, nontariff, and investment restrictions in the auto sector.	Mexico is to phase out over a 10-year transition period its trade and investment restrictions associated with its Auto and Truck Decrees, including local content and trade balancing requirements for local assemblers, and its policy of only permitting firms assembling in Mexico to import vehicles. Local content requirements were reduced to 34 percent (from 36 percent) in the first 5 model years, and will then decline by 1 percent annually thereafter until being eliminated entirely after 10 years.	Implementation proceeds on schedule.
Textiles and Apparel  2-10	The United States maintained quotas on imports of Mexican textiles and apparel, but began liberalizing quotas in 1988, particularly for garments made from U.S. components.	NAFTA obligates the United States to immediately eliminate quotas on textiles and apparel imports from Mexico meeting NAFTA rules of origin, and to phase out over 10 years quotas on textiles and apparel from Mexico not meeting such rules. Specific quantities of goods that do not meet NAFTA rules of origin, known as Tariff Preference Levels (TPLs), are permitted to enter at NAFTA preferential tariff rates.	Implementation proceeds on schedule. A sharp rise in U.S. imports from Canada of men's and boys' wool suits prompted complaints from U.S. industry over NAFTA TPLs for wool suits.

**Table 2-2  
NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Rules of origin	The CFTA established the "change in tariff heading test" in determining substantial transformation. Value-content rules existed in certain sectors.	<p>To qualify for NAFTA preferences, products must generally be wholly produced in North America or originate in a NAFTA partner, usually determined by substantial transformation.</p> <p>Special value-content rules apply to automotive items, high technology goods, and textiles and apparel.</p> <p>Prior value-content rules were simplified, notably regarding computers, telecom equipment, semiconductors, and machine tools.</p> <p>Auto value-content requirements will be tightened by progressively raising them to 62.5 percent and changing the calculation method.</p>	<p>Cooperation on administration, interpretation, and refinement of rules of origin continues. One set of changes was made effective Jan. 1, 1996, and another set of changes is slated to go into effect shortly. The first set of changes liberalized origin rules for certain chemicals. Making rules of origin for certain products less restrictive and easier to use is under consideration in a NAFTA working group. Non-NAFTA trading partners have raised concerns about the pact's rules of origin in the context of the WTO's review of NAFTA, and of WTO origin agreement work.</p>
Customs procedures	The CFTA contained few procedural provisions regarding customs administration.	<p>NAFTA establishes procedures for each customs administration to follow in the treatment of goods traded among the three partners. The procedures are designed to provide uniform, effective, and efficient application of NAFTA rules of origin and to facilitate the flow of trade across national boundaries. Binding advance rulings, rights of review and appeal, and other procedural advances are included.</p>	<p>Mexican customs procedures have improved dramatically in recent years,<sup>1</sup> and a law passed in 1996 should further increase transparency in customs administration, improve clarity regarding importer responsibilities, and permit greater flexibility in duty payments. Some U.S. exporters, particularly in consumer product sectors, continue to complain about certain aspects of Mexican customs administration.</p>

**Table 2-2  
NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Energy	<p>Trade in natural gas and petroleum was an important component of trade among the United States, Canada, and Mexico. The CFTA commits the United States and Canada to limit government interference in energy trade. Participation in Mexico's energy sector was largely reserved to the Mexican state.</p>	<p>NAFTA provides more secure or new opportunities for U.S. investment in Mexico in specified nonbasic or secondary petrochemicals and electric power generation, and for U.S. exports of natural gas, electricity, petrochemicals, and services. It also aims to prevent Mexican state-owned enterprises from abusing their monopoly positions. The procurement chapter creates opportunities for U.S. firms to supply services and equipment to Petroleos Mexicanos (PEMEX) and Comision Federal de Electricidad (CFE). All tariffs on fuels (natural gas, electricity, gasoline, etc.) are to be phased out by 2003.</p>	<p>Since NAFTA entered into effect, Mexico announced, and subsequently scaled back, privatization plans in the secondary petrochemicals sector. In October 1996, Mexico's Energy Secretary announced that Mexico was availing itself of a reservation made under NAFTA that permits it to restrict the initial sale by the state of existing secondary petrochemical facilities to minority foreign ownership. PEMEX will reportedly retain majority ownership in this sector; it has not been determined how the sale of the remaining (49 percent) ownership of secondary petrochemical facilities will be handled.</p> <p>In the electricity sector, Mexico has decided that the next round of new electric generating plants will be built on a build-lease-transfer basis versus the outright ownership basis previously proposed.</p> <p>Mexico has undertaken liberalization beyond that required by NAFTA in natural gas, distribution and storage.</p>



**Table 2-2**  
**NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Agriculture	<p>Tariffs, subsidies, quotas, import licenses, and animal and plant health standards distorted trade among the three NAFTA partners. The CFTA eliminated tariffs and reduced some nontariff barriers for poultry and eggs, grains, meat, and sugar, but did not generally address domestic support measures.</p>	<p>NAFTA establishes both bilateral and trilateral commitments on agricultural trade. Market access commitments are made bilaterally among the three NAFTA partners, that is, between the United States and Mexico, between the United States and Canada (generally, what was already agreed under the CFTA), and between Canada and Mexico. Trilateral commitments address domestic support, export subsidies, sanitary and phytosanitary measures, rules of origin, and safeguards. NAFTA eliminated existing nontariff barriers on U.S.-Mexico trade (import licenses in Mexico and allocated quota shares in the United States), replacing them with tariff-rate quotas (TRQs) that enlarge as over-quota tariffs are phased down and eliminated over 10 or 15 years (by 2004 or 2009).</p>	<p>NAFTA provisions have generally been implemented, liberalizing trade among NAFTA partners. The WTO Agreement on Agriculture has liberalized U.S.-Canada trade beyond NAFTA. However, as part of tariffication of nontariff barriers called for in the WTO, Canada replaced its previous border restrictions on agriculture with TRQs with high over quota tariffs effective Jan. 1, 1995. In December 1996, a NAFTA dispute settlement panel ruled that Canada's action was consistent with NAFTA, and thus could be retained. Under NAFTA, the United States has imposed "snap back" duties on frozen concentrated orange juice from Mexico.</p> <p>Several non-NAFTA developments have also affected trade in agricultural products. The United States imposed TRQs on Canadian wheat from September 1994 to September 1995. A 5-year agreement on U.S.-Canada lumber trade entered into effect April 1, 1996. In October 1996, Mexican suppliers and the U.S. Department of Commerce signed a bilateral price undertaking on tomatoes, ending a 2-year dispute including an antidumping petition filed by U.S. tomato growers.</p>

**Table 2-2  
NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Standards	<p>All three NAFTA partners were signatories to the Tokyo Round Agreement on Technical Barriers to Trade (TBT), which prohibits discrimination and establishes procedural requirements when establishing mandatory standards and conformity assessment procedures. The United States and Mexico had engaged in a series of discussions on standards-related issues with the 1989 advent of Trade and Investment Facilitation Talks.</p>	<p>NAFTA provisions largely modeled on WTO TBT Agreement. In addition, NAFTA requires acceptance of test results from other parties by 1998 and commits parties to harmonize standards in specific sectors.</p>	<p>The United States has experienced numerous problems with Mexico's implementation of its notification and comment obligations for new or revised standards, adoption of new labeling requirements, and access to testing and "verification" facilities, particularly for consumer goods. Harmonization efforts regarding automobiles and transportation have yielded some progress.</p>
Government procurement	<p>Canada and the United States were signatories to the Tokyo Round Agreement on Government Procurement (GPA). The CFTA resulted in additional contract coverage, notably in Canada, where most contracts fell below the GPA threshold. Mexico's government procurement market was effectively closed to foreign suppliers.</p>	<p>Procedural requirements similar to those in the GPA are established for all three partners. These requirements prohibit offsets, provide for nondiscriminatory treatment of partners' products and services, and require use of transparent tendering and bid protest procedures. Federal corporations, including Mexico's two largest parastatals, PEMEX and CFE, and numerous services are covered.</p>	<p>Implementation has been generally effective.<sup>2</sup> U.S. firms have succeeded in winning Canadian government contracts and recently won several contracts with PEMEX and CFE.<sup>3</sup> The USTR has expressed concern over Mexico's implementation of set-asides (exemptions) for PEMEX and CFE and Mexico's proposed services schedule, which has still not been finalized and excludes a number of sectors.<sup>4</sup> Canada's broad interpretation of its NAFTA exception for services is also a source of U.S. complaint.<sup>5</sup> U.S. procurement regulations, particularly increases in thresholds for small business set asides, have been raised as concerns by Canada and Mexico.</p>

**Table 2-2**  
**NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Investment	<p>Canada long maintained mechanisms to review and limit foreign direct investment (FDI). The CFTA did not eliminate those review procedures, but raised the threshold for review in some cases. It also incorporated four basic investment disciplines addressing national treatment, performance requirements, full and fair compensation in the event of expropriation, and free transfer of investment proceeds. These disciplines are to apply subject to specified exceptions.</p> <p>Despite extensive privatization and liberalization of FDI, Mexico maintained stringent barriers on some foreign investment and imposed numerous restrictions on the operations of firms that invested there.</p>	<p>NAFTA removes significant investment barriers, ensures basic protections for direct investors, and establishes dispute settlement mechanisms. Although screening is still permitted, NAFTA obliges all three parties to provide the better of national or MFN treatment, accord fair and equitable treatment in accordance with international law, permit transfers of the proceeds of investment-related transactions, and provide prompt compensation at fair-market value in the event of expropriation. NAFTA builds upon the CFTA by prohibiting specified performance requirements, limiting signatories' ability to require that senior management positions be filled by local nationals, and establishing binding international arbitration of investor-state disputes.</p> <p>Each party reserved certain existing measures, including prohibitions on foreign ownership in selected sectors, and non-conforming state and local measures. Exceptions may not be made more restrictive and, if liberalized, may not subsequently be made more restrictive.</p>	<p>Implementation proceeds on schedule. Mexico has undertaken additional liberalization. Mexico amended its constitution in December 1994 to permit foreign ownership in the railroad, telecommunications, and satellite transmission sectors. In February 1995, limits on foreign ownership in the banking and financial services sectors were eased for all investors beyond the levels required by NAFTA. Transportation, distribution, and storage of natural gas were opened to private (including foreign) participation in May 1995. Foreigners were also permitted to participate in the auctioning of 50-year airport management concessions.</p>

**Table 2-2  
NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
<p>Services (in general)</p> <p style="text-align: right;">2-16</p>	<p>The CFTA was the first major international agreement containing provisions on trade in services, covering some 150 sectors and serving as a model in the Uruguay Round negotiations. U.S. firms participated actively in the Canadian market and showed heightened interest in Mexico's market with the introduction of investment reforms in 1989. Mexico still retained restrictive laws and/or regulations that either prohibited foreign investment in services establishments altogether or limited it to a minority ownership position, without guarantees of nondiscriminatory treatment or transparency.</p>	<p>With limited exceptions, NAFTA provides for nondiscriminatory treatment of partners' services--the better of national or MFN treatment. NAFTA generally eliminates requirements for U.S. services to set up local companies in order to do business in Mexico and Canada (local presence requirements). Mexico eliminated equity limitations in key services sectors.</p> <p>NAFTA also provides for transparent licensing and certification of service providers on the basis of objective criteria. Citizenship and permanent residency requirements for professional service providers are to be eliminated. Professional licensing requirements are to be reviewed with a view to eliminating burdensome and discriminatory requirements.</p> <p>A separate annex addresses land transportation. It phases in liberalization of cross-border truck, bus, and railroad services, and removes restrictions on investment in intermodal terminals, landside port activities, and other land transportation services. Safety standards for truck, bus, and rail equipment and operators are to be harmonized over a 6-year period, with all efforts except those regarding transportation of dangerous goods to be completed within NAFTA's first 3 years.</p> <p>All services are covered unless specifically exempted, such as maritime and air transportation, basic telecommunications (see below) and nonconforming local measures.</p>	<p>With respect to licensing requirements for professional services, agreement on mutual recognition of engineering licenses has been achieved; ratification efforts are underway. A draft text on foreign legal consultants is currently being reviewed. Several other professional groups are discussing mutual recognition.</p> <p>Problems in implementation have centered on the transportation services sector. NAFTA was to provide Mexican truckers full access to the four U.S. border states starting in December 1995, and to the entire United States by 2000. The United States announced on December 18, 1995, a delay in its processing of applications to provide such services; implementation of NAFTA commitments calling for lifting of restrictions on regular-route, cross-border scheduled bus service on January 1, 1997, also has been delayed.</p> <p>Resolution of U.S. concerns over Mexico's continued restrictions on U.S. small package delivery services, use of 53-foot trailers, and investment are being discussed in connection with the trucking issue.</p>

See footnotes at end of table.

Table 2-2

*NAFTA: Summary of Key Trade Provisions and Status of Implementation*

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Telecommunications	<p>Canada's market for enhanced telecommunications services was largely open to U.S. firms. Mexico's small but growing market was not. For example, Mexico required that providers of telecommunications services be majority-owned by Mexican partners and restricted the establishment of foreign-owned private networks.</p>	<p>NAFTA covers measures relating to access to and use of telecommunications networks and services; basic telecommunications are exempt from NAFTA provisions. NAFTA creates opportunities for enhanced and value-added telecommunications services providers by requiring that licensing and granting of permits be nondiscriminatory, and by requiring that prices of public telecommunications transport services reflect economic costs directly related to providing the services. Governments may only impose conditions on access to and use of the public network that are necessary to safeguard public service responsibilities or protect network integrity. NAFTA governments requiring equipment to be tested must allow any competent entity to conduct the tests, and by Jan. 1, 1995, have in place procedures to accept results of testing carried out in other NAFTA countries. Each country is required to adopt competition safeguards, such as accounting or nondiscrimination requirements.</p>	<p>Two problems have arisen regarding implementation of NAFTA telecom commitments: Mexican acceptance of U.S. test data (Mexico was to have in place mechanisms for doing so by Jan. 1, 1995) and new mandatory Mexican standards for terminal attachment equipment, which also were to be in effect by Jan. 1, 1995; the ones Mexico proposed went beyond the scope of those permitted under NAFTA. In April 1996, the United States cited Mexico for failing to comply with the telecommunications portions of NAFTA. Resolution of the standards issue was attained in February 1997; a resolution of the test-acceptance issue was announced in May.</p> <p>WTO negotiations on basic telecom ended in February 1997, resulting in new commitments by NAFTA partners and others on market access for local, long distance, and international service, subject to certain exceptions. Mexico and Canada retain 49 percent foreign equity caps in certain sectors.</p>

Table 2-2

*NAFTA: Summary of Key Trade Provisions and Status of Implementation*

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Financial Services	<p>The CFTA covered banking, lifting for U.S. banks Canadian restrictions on foreign control of market share and asset growth and expansion, and providing Canada with guarantees that it would benefit from future U.S. financial services liberalization. FDI in the insurance sectors of Canada and the United States was permitted on a national treatment basis.</p> <p>Mexico imposed equity limits on foreign ownership of commercial banks, holding companies, insurers, and other financial service providers and, with one grandfathered exception, prohibited foreign (including U.S. firms) from establishing in Mexico.</p>	<p>Covers banking, insurance, and securities. Subject to specified reservations and exceptions, NAFTA commits parties to provide the right of establishment, the better of national and most-favored nation treatment, and prohibits them from requiring that senior management or other essential personnel be nationals. As a result, Mexico now permits foreign banks to establish wholly-owned subsidiaries and to engage in a complete range of banking services. Mexico agreed to allow foreign banks to increase their collective share of Mexico's banking market from 8 percent to 15 percent by Jan. 1, 2000, and to eliminate all individual and aggregate market share limitations by Jan. 1, 2004. A dispute settlement procedure was established.</p>	<p>Mexico has liberalized foreign investment in existing Mexican institutions since NAFTA's inception, benefitting firms in the banking, pension fund, and insurance sector. For example, individual and aggregate market share restrictions have been relaxed so that only the three largest banks cannot be taken over by foreign institutions.</p>
Competition Policy	<p>The United States and Canada had strong competition policy regimes. Mexico's regime was relatively undeveloped, but of increasing importance, given extensive privatization and deregulation of its economy and the still-dominant role of state monopolies in key sectors.</p>	<p>NAFTA requires each country to adopt or maintain measures against anticompetitive business practices and to cooperate on issues of competition law and enforcement. Existing and new state enterprises (those owned or controlled by NAFTA parties) are required to act in a manner consistent with that country's NAFTA obligations when exercising regulatory, administrative, or other governmental authority. Government-owned or sanctioned monopolies are subject to disciplines over their conduct.</p>	<p>Mexico adopted a competition law and established an independent agency to oversee its operation. A NAFTA working group on trade and competition has been established to review issues concerning the relationship between competition policies and trade, and to make recommendations as appropriate by Jan. 1, 1999. Thus far, the group has examined legal standards and enforcement procedures in the three parties. The Working Group has also begun to discuss enforcement cooperation in the context of cross-border competitive conduct.</p>

**Table 2-2  
NAFTA: Summary of Key Trade Provisions and Status of Implementation**

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
<p>Temporary Entry</p>	<p>The CFTA contained provisions on the temporary entry of business persons.</p>	<p>NAFTA commits parties to facilitate the temporary entry of business persons who are citizens of other NAFTA countries in a manner similar to that found in the CFTA. The United States is authorized to impose a numerical limit on the number of Mexican professionals entering the United States until December 31, 2004.</p>	<p>Implementation proceeds on schedule. Mexico's procedures for granting temporary entry have been simplified and their operation made more predictable. The United States has restricted entry of certain executives of Mexican and Canadian firms in accordance with the Helms-Burton law.<sup>6</sup></p>
<p>Intellectual Property</p>	<p>The only CFTA provision on IPR required Canada to provide copyright protection for retransmission of commercial broadcasts. Despite improvements in Mexico's intellectual property regime, Mexico's protection of IPR was found wanting in 1987 and 1989 decisions by USTR and in February 1988 and April 1990 studies by the USITC.</p>	<p>NAFTA commits parties to provide high levels of protection for IPR, establishes strong national treatment obligations, and places strict limits on compulsory licensing. It requires parties to effectively enforce IPR both internally and at the border. Detailed judicial procedures, including damages, injunctive relief, and general due process protections, are to be put in place. Improvements in Mexican trademark and copyright law enacted in 1991 were codified in an international treaty.</p>	<p>Mexican enforcement of intellectual property rights has been slowly improving since NAFTA's inception. The entry into force of a new customs law in April 1996 enabled Mexican customs officials to seize pirated merchandise for the first time, and U.S. rights holders have reported positive outcomes when such action has been requested. Nevertheless, USTR reports that piracy and counterfeiting of U.S. intellectual property in Mexico remains a serious U.S. concern.<sup>7</sup> Copyright legislation enacted in December 1996 makes some improvements but contains serious deficiencies from the U.S. perspective. Technical amendments to Mexico's copyright law addressing some U.S. concerns were passed on April 29, 1997. Efforts to rectify other U.S. concerns are under way. Canada was placed on USTR's "watch list" in April 1997 because a recently-passed copyright law fails to provide U.S. copyright holders national treatment.</p>

Table 2-2

*NAFTA: Summary of Key Trade Provisions and Status of Implementation*

Topic	Pre-NAFTA situation	Key NAFTA Provisions	Status of Implementation
Antidumping (AD)/ Countervailing Duty (CVD) Cases	The CFTA established a mechanism permitting private parties to appeal antidumping and countervailing duty decisions to binational panels of experts. Mexico had one of the world's highest rates of unfair trade cases brought against imported goods, but its AD and CVD procedures and judicial review lacked openness and predictability.	NAFTA carries over the panel review system, creates an Extraordinary Challenge Procedure, and requires Mexico to take numerous specific steps to ensure due process, transparency, and meaningful redress.	Mexico has adopted changes to bring greater transparency and fairness to its AD/CVD proceedings. A total of 28 panel reviews have been initiated, 12 reviewing U.S. agencies' determinations, 7 reviewing Mexican agencies' determinations, and 9 reviewing Canadian agencies' determinations. Panel reviews completed and outcome (as of May 22, 1997) were: 7 regarding U.S. agency determinations, 5 of which resulted in changes in agency determinations; 2 regarding Mexican agencies; 1 of which nullified the agencies' determinations; and 5 regarding Canada, 3 of which resulted in changes in agencies' determinations. In the 38 decisions rendered under both CFTA and NAFTA since 1989, 34 were unanimous.
Dispute settlement	The CFTA contained a dispute settlement mechanism. The 1987 U.S.-Mexico framework understanding created a consultative mechanism for disputes.	NAFTA creates several mechanisms for resolution of disputes that supplement WTO dispute settlement mechanisms. Chapter 20 sets out a detailed procedure for government-to-government resolution of disputes involving allegations of actions that are inconsistent with NAFTA or that "nullify or impair" benefits under it, including recourse to an arbitral panel. In addition to procedures for the review of AD/CVD actions, mechanisms for the resolution of investor-state and financial-service-related disputes are also created.	Panels were established to examine two matters (Canadian tariffs on certain U.S. agricultural products and U.S. safeguard action on broom corn brooms). A report has been issued in one of them. Formal consultations under Ch. 20 have been held on at least 6 additional matters, according to USTR's latest summary of developments in international dispute settlement. In a submission for the record in the ITC's present investigation, David Lopez, Assistant Professor of Law at St. Mary's University, termed outcomes of NAFTA dispute settlement thus far a "mixed success." UPS, meanwhile, said the Ch. 20 process has not achieved a timely and equitable resolution of its concerns over Mexican restrictions on small package delivery services.

<sup>1</sup> U.S. Department of State telegram, "1996 Trade Act Report: Mexico," message reference No. 11492, prepared by U.S. Embassy, Mexico City, Nov. 18, 1996.

<sup>2</sup> USTR, *Annual Report on Discrimination in Foreign Procurement*, Apr. 30, 1996, p. 9. (Note: This reporting requirement has been sunset, therefore, no report was issued on April 30, 1997.) Mexico issued guidelines in 1996 intended to ensure more consistent compliance with NAFTA procurement obligations. U.S. Department of State telegram No. 4095, "Foreign Government Procurement Practices—Title VII Report—Mexico", prepared by U.S. Embassy, Mexico City, Mar. 20, 1996.

<sup>3</sup> "Response to Request for Information on Foreign Government Procurement," Prepared by U.S. Embassy, Ottawa, message reference No. 909, Feb. 23, 1996. In fact,



Table 2-2

*NAFTA: Summary of Key Trade Provisions and Status of Implementation*

U.S. firms have reportedly captured a steady share of the Canadian government procurement market, with U.S. firms in the computer software, telecommunications, and aerospace industries doing particularly well. Written Testimony of Regina K. Vargo, Deputy Assistant Secretary of Commerce for the Western Hemisphere before the Subcommittee on International Economic Policy and Trade, House International Relations Committee, Mar. 5, 1997, p. 2.

<sup>4</sup> According to NAFTA, the schedule was to be finalized by July 31, 1995.

<sup>5</sup> USTR, *Annual Report on Discrimination in Foreign Procurement*, Apr. 30, 1996, p. 9.

<sup>6</sup> See U.S. International Trade Commission, "Major U.S. Sanctions Activities," *The Year in Trade 1996*, Publication 3024, Apr. 1997, p. 160. The companies affected are Canada's Sherritt International and Mexico's Grupo Domos.

<sup>7</sup> USTR, *1997 Trade Policy Agenda and 1996 Annual Report*, p. 198.

Sources: Compiled by staff of the U.S. International Trade Commission from NAFTA and U.S. Statement of Administrative Action (SAA), USTR's NAFTA Source Book, and official reporting by the U.S. Department of State, USTR, and the U.S. International Trade Commission.

Dunkel introduced the first comprehensive text on all topics under negotiation in the Uruguay Round, though participants were still far from consensus on the most controversial issues, such as agriculture, subsidies, and antidumping measures. This text generally served as a starting point for NAFTA negotiators since all three countries agreed that the Uruguay Round and the CFTA were the “floor” for NAFTA and strove to go beyond these accords to the greatest extent practicable.

The WTO Agreements entered into force on January 1, 1995. They address many of the same topics addressed by NAFTA. In addition, they address customs valuation and preshipment inspection, two areas not addressed in NAFTA, but which are not major issues in terms of market access in North America.<sup>21</sup> NAFTA coverage includes state-trading and competition policy. These two topics are not addressed in the URAs but are particularly important for ensuring meaningful market access to Mexico, given Mexico’s lack of prior history of antitrust enforcement, privatization of key sectors, and lingering government role in such fields as the purchase of staple foodstuffs.

To the extent there is an overlap between the accords (table 2-3), NAFTA disciplines generally go further and faster than their Uruguay Round counterparts, particularly in such areas as market access, investment and most services. For example, NAFTA involves complete elimination of tariffs. The Uruguay Round negotiations resulted in a 35-percent reduction in U.S. tariffs, with tariffs being lowered in stages starting Jan. 1, 1995. In the services area, NAFTA disciplines and commitments are generally more extensive than those in the Uruguay Round General Agreement on Trade in Services (GATS). NAFTA rules provide for unconditional MFN and national treatment, and for the right of establishment, for example.<sup>22</sup> Mexico’s and Canada’s commitments under NAFTA are less restrictive than those under the GATS.<sup>23</sup> Disciplines on such nontariff barriers as sanitary and phytosanitary measures, standards, and government procurement are largely the same in both accords, although coverage varies.

Some NAFTA innovations were ultimately incorporated into the final Uruguay Round accord, notably in the intellectual property area, where the final WTO provisions on trade-related intellectual property rights (TRIPs) are much stronger than those previously under discussion. The effect of the TRIPs changes is that within a relatively short period of time, standards for protection of intellectual property will be raised throughout the world to levels comparable to those existing in the United States and other developed economies. But NAFTA accomplishes this goal faster. Under NAFTA, Mexico was required to implement state-of-the-art IPR protection within NAFTA’s first few years of operation. Under the WTO TRIPs Agreement, Mexico would have had until 2000 to make similar strides.<sup>24</sup>

NAFTA disciplines on investment are regarded as much more far-reaching than those found in the Uruguay Round accord. They cover a range of matters affecting foreign direct investment generally, versus the more narrowly defined coverage of the WTO Agreement on Trade-Related Investment Measures (TRIMs). Unlike NAFTA, the TRIMs agreement does not address such basic issues for investors as the right

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<sup>21</sup> Mexico was already a signatory to the Tokyo Round Customs Valuation Code. The WTO Customs Valuation Agreement added two clarifying decisions that pertained to practices found in India and Africa. Mexico does not employ preshipment inspection.

<sup>22</sup> Organization of American States (OAS), Trade Unit, *Provisions on Trade in Services in Trade and Integration Agreements in the Western Hemisphere*, May 1997.

<sup>23</sup> U.S. International Trade Commission, *General Agreement on Trade in Services: Examination of Major Trading Partners’ Schedules of Commitments*, USITC publication 2940, Dec. 1995.

<sup>24</sup> On the assumption that Mexico would be treated as a developing country for purposes of implementing TRIPs obligations other than MFN and national treatment.

Table 2-3

## Summary of Uruguay Round Agreements, time frame for implementation, and overlap with NAFTA

Topic	Key provisions and implementation schedule	Covered by NAFTA?
GATT 1994 and Ministerial Decisions	Includes the national market-access schedules, appended to the Marrakesh Protocol to GATT 1994, where specific national commitments are found reducing tariff and nontariff barriers over 5 years, that is, by 2000. Adjusted interpretation of 7 GATT articles, notably by deciding that regional trade arrangements should now be completed within 10 years.	Yes.
Agreement on Agriculture	Agreed to "tariffy," bind, and reduce tariffs on imports; reduce export subsidies; and limit domestic support payments on agricultural products over a period of 6 years, to 2001, for developed WTO members. Developing WTO members have 10 years, until 2005. Also agreed minimum access provisions, notably to rice markets in Japan and South Korea.	Only partially.
Agreement on Sanitary and Phytosanitary Measures (SPS)	Agreed that a scientific basis must be used to justify any trade restrictions placed on agricultural imports aimed at protecting human, animal, or plant health and must follow a consistent national assessment of risks so as to avoid becoming a disguised trade barrier. Provides for recognition of equivalence and of pest- and disease-free zones.	Yes.
Agreement on Textiles and Clothing	Agreed to phase-out the Multifiber Arrangement in 3 stages over 10 years, by 2005. Does not apply to new members, such as China or Taiwan, until they become a WTO member.	Yes.
Agreement on Technical Barriers to Trade (TBT)	Agreed to use international standards where appropriate and follow procedural steps to ensure transparency and nondiscrimination. Extended coverage to include PPMs and conformity assessment procedures.	Yes. NAFTA contains additional disciplines on conformity assessment and calls for harmonization of standards.
Agreement on Trade-Related Investment Measures (TRIM)	Prohibits certain contingent investment incentives (such as local content and trade-balancing requirements) that distort trade flows. Also provides an opening for more far-reaching investment disciplines in the future.	NAFTA goes beyond TRIMs.
Agreement on Antidumping	Agreed to more standardized and transparent procedures for initiating, carrying out, and reviewing antidumping measures.	Yes, except for reviews and sunset of outstanding orders.
Agreement on Customs Valuation	Agreed procedures to investigate incorrectly priced customs invoices more readily as well as continuing standardized procedures for valuing imports at customs clearance.	No.

Table 2-3

Summary of Uruguay Round Agreements, time frame for implementation, and overlap with NAFTA—Continued

Topic	Key provisions and implementation schedule	Covered by NAFTA?
Agreement on Preshipment Inspection (PSI)	Set out standardized procedures for preshipment inspections, employed by such countries as Indonesia, the Philippines, and a number of countries in Sub-Saharan Africa, to avoid trade delays.	No.
Agreement on Rules of Origin	Agreed a 3-year study to develop principles and rules to harmonize origin rules for nonpreferential trade and to follow such principles in the interim until rules can be developed.	Coverage differs.
Agreement on Import Licensing Procedures	Increased transparency and predictability of import licensing by strengthening rules governing notification and publication of licensing requirements, whether automatic or nonautomatic.	NAFTA eliminates import licensing.
Agreement on Subsidies and Countervailing Measures	Defined and categorized subsidies into prohibited, actionable, and nonactionable—including actionable subsidies that are presumed detrimental to other WTO member economies—to strengthen the previous disciplines prohibiting export subsidies on manufactured goods set-out under the 1979 Tokyo Round Code on Subsidies and Countervailing Measures.	Only partially.
Agreement on Safeguards	Phases out Voluntary Restraint Agreements and other so-called “grey area” measures taken outside the GATT/WTO multilateral trading system—many of which are targeted on APEC members such as China, Hong Kong, Japan, South Korea, and Singapore as well as at one time members of the European Union—and permits selective safeguards (that is, on a non-MFN basis) for strict 3-year time limits.	Yes.
General Agreement on Trade in Services (GATS)	Agreed framework rules and specific commitments concerning trade in services in December 1993. Negotiations continued regarding particular service sectors such as financial services (June 1995), movement of personnel (June 1995), basic telecommunications (April 1996), maritime transport (June 1996), and professional services (no deadline).	NAFTA’s approach and commitments are generally more liberalizing than the GATS, but NAFTA does not cover basic telecom.
Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs)	Agreed to provide minimum legal protection of intellectual property rights such as patents, copyrights, and trademarks, and adequate enforcement of these rules. Agreement effective for developed WTO members in 1996 but in 2000 for developing WTO members.	Yes. NAFTA goes beyond TRIPs in certain areas.

**Table 2-3**

**Summary of Uruguay Round Agreements, time frame for implementation, and overlap with NAFTA--Continued**

Topic	Key provisions and implementation schedule	Covered by NAFTA?
Dispute Settlement Understanding (DSU)	A single integrated dispute settlement system now applies to all WTO members, makes adoption of dispute panel reports virtually automatic, and creates an appeals body to reconsider panel report judgements.	Yes. NAFTA contains additional mechanisms for AD/CVD measures, investment, financial services, and private commercial disputes.
Plurilateral Agreements	The Agreement on Government Procurement, Agreement on Trade in Civil Aircraft, International Bovine Meat Agreement, and International Dairy Agreement are the four remaining Tokyo Round codes with limited memberships that were carried over into the WTO. The last three are essentially unchanged (the United States is not a member of the Dairy Agreement) but the Government Procurement Agreement went into effect in 1996 with lower contract thresholds; coverage expanded to services and construction contracts; and, on a reciprocal basis, extension to contracts beyond the central government level to cover "subcentral" governments and quasi-public entities.	Procurement is covered.

Compiled by staff of the U.S. International Trade Commission.

of establishment, the right to fair and just compensation for expropriation, and the expeditious handling of investor-state disputes. Moreover, NAFTA's premise is that all flows of investment will be free of restrictions unless specifically exempted. These and other NAFTA disciplines have served as models in other trade-related forums. For example, they are forming the basis for U.S. pursuit of updated bilateral investment treaties with foreign partners, and for U.S. efforts to secure a Multilateral Agreement on Investment (MAI) in the OECD.

On the other hand, the absolute amount of U.S. trade covered by the Uruguay Round is significantly larger. Some 70 percent of U.S. exports and imports was accounted for by non-NAFTA partners in 1996, most of which was potentially affected by any Uruguay Round-related changes by virtue of such changes being extended on a most-favored-nation (MFN) basis. Moreover, the Uruguay Round went beyond NAFTA in some areas, notably agriculture and services. Clearer rules on antidumping and subsidies and requirements to review or sunset outstanding AD/CVD measures also were established in the Uruguay Round.

The WTO Agreement on Agriculture<sup>25</sup> went well beyond NAFTA and the prior CFTA in replacing existing nontariff barriers to U.S.-Canada trade in agricultural goods with tariffs (a process known as "tariffication"), as well as reducing subsidies.<sup>26</sup> In addition to tariffication, WTO members agreed to bind and reduce tariffs on agricultural imports; reduce export subsidies; and limit domestic support payments on agricultural products over a period of 6 years for developed country members and 10 years for developing country members (ending in 2001 and 2005, respectively). Minimum access levels for imports were also established.

As the analysis presented in Chapter 8 makes clear, these WTO provisions on agriculture have already liberalized NAFTA trade, particularly between the United States and Canada. As a result of a December 1996 NAFTA panel ruling, high Canadian tariffs will apparently remain on key agricultural products of potential interest to U.S. exporters even after NAFTA's provisions are fully phased in.<sup>27</sup> However, many border measures are being eased, transparency has increased, and any reduction in subsidies as a result of the Uruguay Round should benefit trade among NAFTA partners. Moreover, the WTO Agreement on Agriculture commits WTO participants to begin negotiations by the year 2000 on further reducing agricultural support and protection.

Another Uruguay Round advance over NAFTA is found in the area of services. The Uruguay Round negotiations addressed basic telecommunications, a topic largely exempted from NAFTA. WTO negotiations

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<sup>25</sup> Part II, Annex 1A, Agreement on Trade in Goods, Agreement on Agriculture, Final Act Embodying the Results of the Uruguay Round (December 1993).

<sup>26</sup> The U.S.-Mexico portion of the NAFTA chapter on agriculture already called for the tariffication of nontariff barriers in U.S.-Mexico trade. For further background on the Uruguay Round Agreement on Agriculture, see, U.S. International Trade Commission, *The Year in Trade 1993*, USITC publication 2769, June 1994, pp. 6-9 and *Potential Impact on the U.S. Economy and Industries of the GATT Uruguay Round Agreements*, USITC publication 2790, June 1994, Part II.

<sup>27</sup> On December 2, 1996, an arbitral panel set up under NAFTA chapter 20 at U.S. request, unanimously determined that Canada had acted in a manner consistent with both its NAFTA and its WTO commitments when it replaced its prior supply management systems for certain agricultural products, including dairy products, poultry, eggs, barley, and margarine, with tariff-rate quotas and high over-quota tariffs (up to 285.6 percent). NAFTA Secretariat, *In the Matter of Tariffs Applied by Canada to Certain U.S.-Origin Agricultural Products* (Secretariat File No. CDA-95-2008-01), *Final Report of the Panel*. The United States has expressed disappointment with the ruling. USTR, "Joint Statement of the Acting U.S. Trade Representative and the Secretary of Agriculture Regarding Release of the NAFTA Panel Report on Canadian Agricultural Tariffs," press release 96-93, Dec. 2, 1996.

on basic telecommunications successfully concluded in February 1997. Canada and Mexico, the United States' two largest telecommunications-trading partners, are now participating in a multilateral accord providing market access for local, long distance, and international service through any means of network technology, either on a facilities basis or through resale of existing network capacity. Canada retained a 46.7-percent cap on foreign-equity ownership of all basic telecommunication service providers except those providing services through submarine cables, and mobile and fixed satellite. Mexico increased its foreign equity limits on all telecommunication services from 40 to 49 percent. In cellular services, Mexico agreed to allow 100-percent foreign ownership. Mexico also scheduled commitments that accord foreign service providers full market access and national treatment when providing all services except domestic satellite services, for which foreign providers are required to use Mexican infrastructure until 2002.<sup>28</sup>

Another effect of the Uruguay Round has been in the area of tariffs. To the extent that NAFTA partners subsequently lowered tariffs in the Uruguay Round on an MFN basis, the margin of preference, or price advantage, enjoyed by NAFTA-qualifying goods relative to non-NAFTA origin goods will be reduced.<sup>29</sup> Most URA tariff reductions are being phased in over the 5-year period from January 1, 1995 to January 1, 2000. Tariffs on particularly sensitive sectors, such as textiles, will be phased out over a 10-year period ending January 1, 2005. On the other hand, the Uruguay Round resulted in agreement to completely eliminate (or substantially reduce) tariffs on an MFN basis in certain sectors.

By the end of the Uruguay Round, the United States had agreed to lower its tariffs by an average of more than a third by the year 2005, when all Uruguay Round tariff concessions are slated to be fully phased in. It is estimated that the trade-weighted applied U.S. tariff will be 2.7 percent by the year 2000. Simple average tariffs will be 4.6 percent in 2000 and 3.16 percent by 2005.<sup>30</sup>

The United States and Canada fully participated in all of the so-called "zero-for-zero" agreements concluded as part of the Uruguay Round. Such sectoral initiatives cover agricultural equipment, beer, brown spirits, chemicals,<sup>31</sup> construction equipment, furniture, medical equipment, paper, pharmaceuticals, scientific equipment, steel, and toys. The United States and Canada are also participating in the multilateral Information Technology Agreement (ITA) that is slated to enter into effect on July 1, 1997, which will further lower their average MFN tariffs.<sup>32</sup> The ITA will eliminate tariffs on a wide-range of products in the information technology sector, including computer hardware, software, telecommunications equipment, electronic components, and office machines. Mexico did not participate in these initiatives, thus the margin of preference enjoyed by U.S. goods in the Mexican market as a result of NAFTA has not been reduced.

There has been a slight lowering of the margin of preference some U.S. goods enjoy in the Canadian market. Canada's pre-Uruguay Round applied MFN tariff rate averaged 7.24 percent; its post-Uruguay

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<sup>28</sup> For further background on the negotiations, see, U.S. International Trade Commission, *The Year in Trade, 1996*, USITC publication 3024, Apr. 1997.

<sup>29</sup> This situation is only relevant during the second two years being examined here (1995 and 1996), since the first stage of Uruguay Round cuts did not enter into force until Jan. 1, 1995. Moreover, it is not relevant in examining U.S. exports to Mexico, since Mexico did not reduce MFN-applied tariffs as a result of the Uruguay Round.

<sup>30</sup> APEC, Individual Action Plan of the United States of America, "Tariffs," Nov. 1996 and WTO, Integrated Data Base CD-ROM.

<sup>31</sup> Tariffs on certain chemicals are being harmonized at low levels.

<sup>32</sup> For a discussion of the ITA and information on how it will affect U.S. industries, see U.S. International Trade Commission, *Advice Concerning the Proposed Modification of Duties on Certain Information Technology Products and Distilled Spirits*, USITC publication 3031, Apr. 1997.

Round bound rate is 4.11 percent.<sup>33</sup> Canada has also unilaterally lowered its tariffs since the Uruguay Round's conclusion. Among other things, in June 1995 it unilaterally lowered tariffs on some 1,500 items (largely inputs) on an MFN basis, and expanded its preference scheme for developing countries known as the General Preferential Tariff (GPT).<sup>34</sup> Another package of unilateral tariff reductions and a simplification of the Canadian tariff schedule is under consideration for implementation Jan. 1, 1998. Duty-free treatment of items not made in Canada, and of selected machinery and parts, are key features of the proposal.<sup>35</sup>

Mexico did not lower its tariffs in the Uruguay Round, instead opting to bind its tariffs at relatively high ceiling rates.<sup>36</sup> These rates are generally set at 35 percent *ad valorem*, still lower than the 50 percent rate permitted by Mexico's 1986 GATT accession protocol. Most goods from non-NAFTA countries continue to enter Mexico at lower applied rates--typically ranging between 10 and 20 percent *ad valorem*--that predated NAFTA and the Uruguay Round. Mexico's average MFN applied tariff rate stood at 12.5 percent in 1996 and weighted average tariffs were 9.8 percent.

The value of NAFTA vis-a-vis WTO commitments in securing U.S. access to the Mexican market has already been demonstrated. As a result of a worsening in its external accounts and the ensuing December 1994 peso crisis, Mexico raised MFN tariffs on 502 consumer goods (apparel, footwear, and leather articles) to the 35 percent bound rate (versus the 20 percent rate previously applied).<sup>37</sup> U.S. goods meeting NAFTA rules of origin, as well as goods from other trading partners with whom Mexico has free trade agreements, are not subject to the higher rates and therefore now enjoy a wider margin of preference relative to other foreign suppliers in the Mexican market.

To the extent there has been any change in the margin of preference for U.S. goods in the Mexican market, it has been a result of developments outside of the Uruguay Round. Mexico continues to broaden its engagement with the world economy, joining the Organization for Economic Cooperation and Development (OECD) in 1994, participating in the Asia-Pacific Economic Cooperation (APEC) forum, and pursuing trade agreements with Latin American and other partners. Mexico had a preexisting FTA with Chile when NAFTA entered into effect. It has since concluded FTAs with Bolivia (1995), Colombia (1995), Costa Rica (1995), and Venezuela (1995), and is negotiating such accords with Guatemala, Honduras and El Salvador.<sup>38</sup> (Interestingly, although these accords provide tariff advantages to partners, they may serve to enhance U.S. access to key Central and South American markets by virtue of extending NAFTA-based rules on such topics

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<sup>33</sup> WTO, Integrated Data Base CD-ROM.

<sup>34</sup> GATT, *Trade Policy Review Mechanism: Canada, Report by the Secretariat*, Oct. 25, 1994, p. 53 and APEC, *Osaka Initial Actions, submission by Canada*, Nov. 1995.

<sup>35</sup> Bureau of National Affairs, "Draft Bill to Update Customs Tariff Introduced in Canadian Parliament," *International Trade Reporter*, Apr. 30, 1997, pp. 773-4.

<sup>36</sup> WTO, Integrated Data Base CD-ROM.

<sup>37</sup> The list of products affected by the Mexican tariff increase was published in the May 30, 1995 *Diario Oficial*, Mexico's "Federal Register". Virtually the entire list of goods in chapters. 61 through 64 of the Harmonized Tariff Code and various categories of chapters 42 and 43 are affected. U.S. exports to Mexico in these chapters totaled \$1.9 billion in 1996. The increased tariffs went into effect shortly after the notice was published. For background see, U.S. Department of State telegram No. 12356, "Mexico Raises Import Tariffs for Leather Goods, Footwear, and Apparel," prepared by U.S. Embassy, Mexico City, June 1, 1995.

<sup>38</sup> Discussions with Miguel Rodriguez Mendoza, Chief Trade Advisor, OAS, suggest that in these bilateral agreements Mexico utilized many sections of NAFTA as the basis for the new agreements it signed.



as IPR, investment, services, and government procurement to Mexico's FTA partners.<sup>39)</sup> Mexico is also seeking a framework trade and investment accord with the EU, with notable breakthroughs reported in recent months. Negotiations to make its bilateral FTA with Chile more comparable to NAFTA by expanding its coverage and adding disciplines on nontariff barriers, services, investment, intellectual property rights, and temporary movement of personnel are under way.

Mexico has unilaterally granted non-FTA partners lower tariffs on several products, notably machinery and electronic inputs.<sup>40</sup> In 1997, Mexico announced that it was unilaterally eliminating tariffs on environmental equipment not made in Mexico. Since products originating in North America were already accorded lower tariffs than were those of non-NAFTA partners, they will no longer enjoy a tariff-related price advantage in the Mexican market. A U.S. manufacturer of water treatment equipment testifying at the Commission's public hearing stated that tariffs are an insignificant factor in competition in Mexico's market; NAFTA's investment guarantees and availability of financing are reportedly much more important.<sup>41</sup>

Some NAFTA provisions explicitly call for updating NAFTA commitments to reflect any advances made in the Uruguay Round. For example, NAFTA Article 1024 requires Parties to immediately begin consultations with a view towards including procurement by sub-Federal (e.g., U.S. State and local) entities and enterprises, and increasing the obligations on government procurement under NAFTA to a level commensurate with that attained in the Uruguay Round. Discussions regarding that provision have occurred within the context of the NAFTA Government Procurement Working Group, but thus far no changes in NAFTA coverage have resulted.<sup>42</sup>

A final important effect of the Uruguay Round has been in the area of dispute settlement. Specifically, dispute settlement procedures were strengthened and made more automatic in the WTO, which replaced the GATT on January 1, 1995. The result is that the WTO has become a more viable forum for the resolution of disputes. For NAFTA partners, the WTO may be a preferable forum for considering matters, such as protection of "cultural industries," that are treated differently in NAFTA and the WTO. Indeed, in response to a U.S. complaint, a WTO dispute settlement panel recently found Canada's taxes on so-called split-run magazines<sup>43</sup> in violation of GATT 1994.<sup>44</sup>

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<sup>39</sup> OAS Trade Unit, *NAFTA Rules: Exporting Framework for Trade*, informal transmittal to USITC staff, May 22, 1997.

<sup>40</sup> APEC, *Individual Action Plan, Mexico*, Nov. 1996, p. 2.

<sup>41</sup> Testimony of Richard J. Heckmann, President and Chief Executive Officer, U.S. Filter Corp. before the U.S. International Trade Commission in inv. 332-381, May 15, 1997.

<sup>42</sup> NAFTA Government Procurement Working Group, *1994-96 Report to the Free Trade Commission*, p. 3. Although the Uruguay Round generally resulted in the expansion of coverage by the Government Procurement Agreement (GPA), Mexico still is not a signatory to the GPA and the United States and Canada failed to agree to accord each others' sub-Federal entities and utilities nondiscriminatory treatment. Canada maintains that coverage of sub-federal entities is tied to removal of set asides and Buy America provisions, a position the United States rejects. U.S. Department of State Telegram No. 58176, "NAFTA Working Group on Procurement: March 20-21 meeting," Mar. 28, 1997.

<sup>43</sup> The Canadian measure applied to special edition periodicals imported into Canada that contain an advertisement primarily directed to a market in Canada that does not appear in identical form in all editions of that periodical distributed in the periodical's country of origin.

<sup>44</sup> The dispute settlement panel in the case found that certain Canadian measures were inconsistent with Articles XI: 1, XX(d), III:2, III:4, and III:8(b) of GATT 1994. World Trade Organization, "Report of the Panel on Canada - Certain Measures Concerning Periodicals," WT/DS31/R, Mar. 14, 1997, para. 6.1.

For matters arising under both the NAFTA and the WTO, NAFTA establishes a procedure for notification and consultation prior to resort to WTO dispute settlement. NAFTA partners may choose either agreement's dispute settlement procedure; the choice is made by the complaining party.<sup>45</sup> Regardless of the forum to which a dispute is brought, the scope of the panel's examination is limited to whether the practice being complained of violates that particular agreement. Thus, the NAFTA panel examining the U.S. complaint on dairy and poultry found Canada's actions consistent with NAFTA itself, not that WTO rules *per se* take precedence over NAFTA.<sup>46</sup> NAFTA article 103 states that unless otherwise provided in the Agreement, in case of a conflict between NAFTA and WTO provisions, the NAFTA provisions prevail.

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<sup>45</sup> NAFTA Art. 2005.1. However, NAFTA article 2005.2 states that if the Parties cannot agree on a forum, "the dispute normally shall be settled under this Agreement."

<sup>46</sup> The panel's reasoning was that article 710 of the CFTA brings into NAFTA by reference the replacement regime for nontariff barriers that was ultimately established for the WTO Agreement on Agriculture. As a result, the Canadian duty increases were found to be "otherwise provided for in the agreement," and therefore consistent with NAFTA article 302. NAFTA Secretariat, *In the Matter of Tariffs Applied by Canada to Certain U.S.-Origin Agricultural Products* (Secretariat File No. CDA-95-2008-01), *Final Report of the Panel*.

## CHAPTER 3

### THE NORTH AMERICAN ECONOMIES

#### Introduction

A brief review of the overall size of the U.S., Mexican, and Canadian economies and their recent performance provides a perspective for understanding NAFTA's impact on the U.S. economy and U.S. industries during its first three years of operation. The discussion below provides such a perspective focusing mainly on the 1994-96 period. Trends and developments during NAFTA's first three years are placed in a longer term context through the use of charts and textual references.

NAFTA links three nations that share borders, yet which differ markedly in economic size and population. Canada's and Mexico's economies are each about 10 percent as large as the U.S. economy on a purchasing power parity basis.<sup>1</sup> Mexico's population is one-third that of the United States and nearly three times as large as Canada's. Canada's population enjoys one of the world's highest per capita incomes. Mexico remains a middle income developing country with per capita income less than a third that of either the United States or Canada. Estimates of 1995 levels of purchasing power parity, Gross Domestic Product (GDP), population, and GDP per capita are presented below.<sup>2</sup>

	<u>GDP</u> (billion)	<u>Population</u> (million)	<u>GDP per capita</u> (actual)
United States .....	\$7,248	266.5	\$27,500
Canada .....	694	28.8	24,400
Mexico .....	721	95.8	7,700

On an exchange rate (current U.S. dollar) basis, Mexico's economy is even smaller, equalling just over 4 percent of U.S. GDP in 1996 and accounting for a little under 4 percent of overall North American GDP in 1996. The United States accounted for 89 percent of North American GDP. Canada, whose economy was just under 8 percent of the United States' on an exchange rate basis, accounted for just under 7 percent of North American GDP (figure 3-1).<sup>3</sup> Because of its relatively smaller size, a high export-to-GDP ratio (approximately 29 percent in 1996),<sup>4</sup> and its heavy dependence on trade with the United States,

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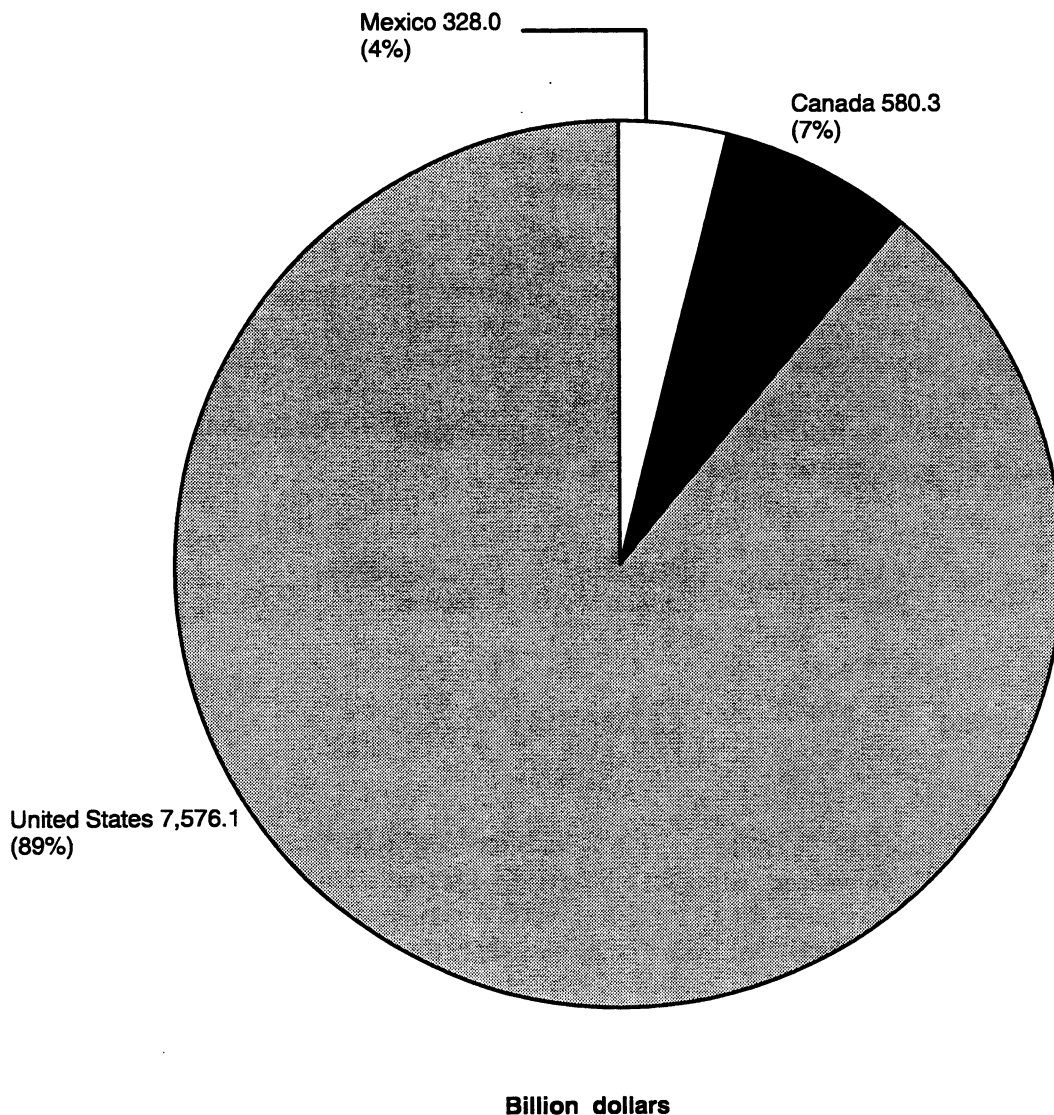
<sup>1</sup>Purchasing power parity is a method of comparing magnitudes expressed in different currencies by comparing their ability to purchase a particular mix of market goods.

<sup>2</sup>1995 levels, as reported in the CIA, *1996 World Fact Book*.

<sup>3</sup>International Monetary Fund, *International Financial Statistics*.

<sup>4</sup>Based on the ratio of actual 1996 merchandise trade exports and the estimated value of Mexican GDP in 1996, as reported in U.S. Department of State, *Country Reports on Economic Policy and Trade Practices*, Mar. 1997, pp. 274-275.

**Figure 3-1**  
**1996 GDP for Canada, Mexico, and the United States, actual and as a share of NAFTA members' combined GDP (total North American GDP)**



Source: U.S. Department of Commerce, Bureau of Economic Analysis, and U.S. Department of State, *Country Report on Economic Policy and Trade Practices*, March 1997.

Mexico's economy was expected to be the most affected by NAFTA implementation. Canada, too, is highly dependent on exports and on the U.S. market, but had already benefited from preferred access under the U.S.-Canada Free Trade Agreement (CFTA).

Economic trends in North America during the 1994-96 period illustrated the increasing internationalization of all three North American partners and their growing interdependence. Growth rates of the three economies varied (figure 3-2). The U.S. economy continued to outperform the Organization for Economic Cooperation and Development (OECD) average, as it has since 1991, when its longest postwar expansion began. Inflation remained low, job growth was robust, and U.S. exports increased, even as progress was made in reducing the U.S. Federal budget deficit. The overall U.S. trade deficit expanded, largely due to faster growth in the U.S. economy vis-a-vis the economies of most major U.S. trading partners. The U.S. share of both the Canadian and Mexican import markets has risen during the 1994-96 period. The current account deficit as a share of GDP increased from 1993 to 1994 but remained steady thereafter. Canada's export-driven economy continued to track closely that of the United States, outperforming the OECD average in 1994 and 1995.

Mexico's economic growth had slowed considerably in the 2 years preceding NAFTA, grew rapidly in 1994, and then experienced its worst recession since the 1930's in the wake of the December 1994 peso crisis.<sup>5</sup> Decisive measures returned Mexico to solvency,<sup>6</sup> improved its external accounts, and put the country on a path of renewed economic growth by 1996. U.S. exports to Mexico recovered most of the ground lost during 1995, and still exceed their pre-NAFTA levels. Indeed, on a percentage basis, non-U.S. markets and suppliers appear to have been more negatively affected by the peso-induced shift in Mexico's trade balance since 1994 than their U.S. counterparts.<sup>7</sup> A country-by-country review of economic performance by NAFTA partners follows.

## United States

### *Economy*

The U.S. economy performed remarkably well in the 1994-96 time frame that coincided with NAFTA's first 3 years of operation (table 3-1), entering 1997 well into its sixth year of economic expansion. National income grew at rates generally higher than those prevailing in other industrialized countries, unemployment declined, and inflation remained subdued, despite upward movements in energy and food prices and wage costs over the past year. Productivity increased and wage hikes were offset by a slowing of

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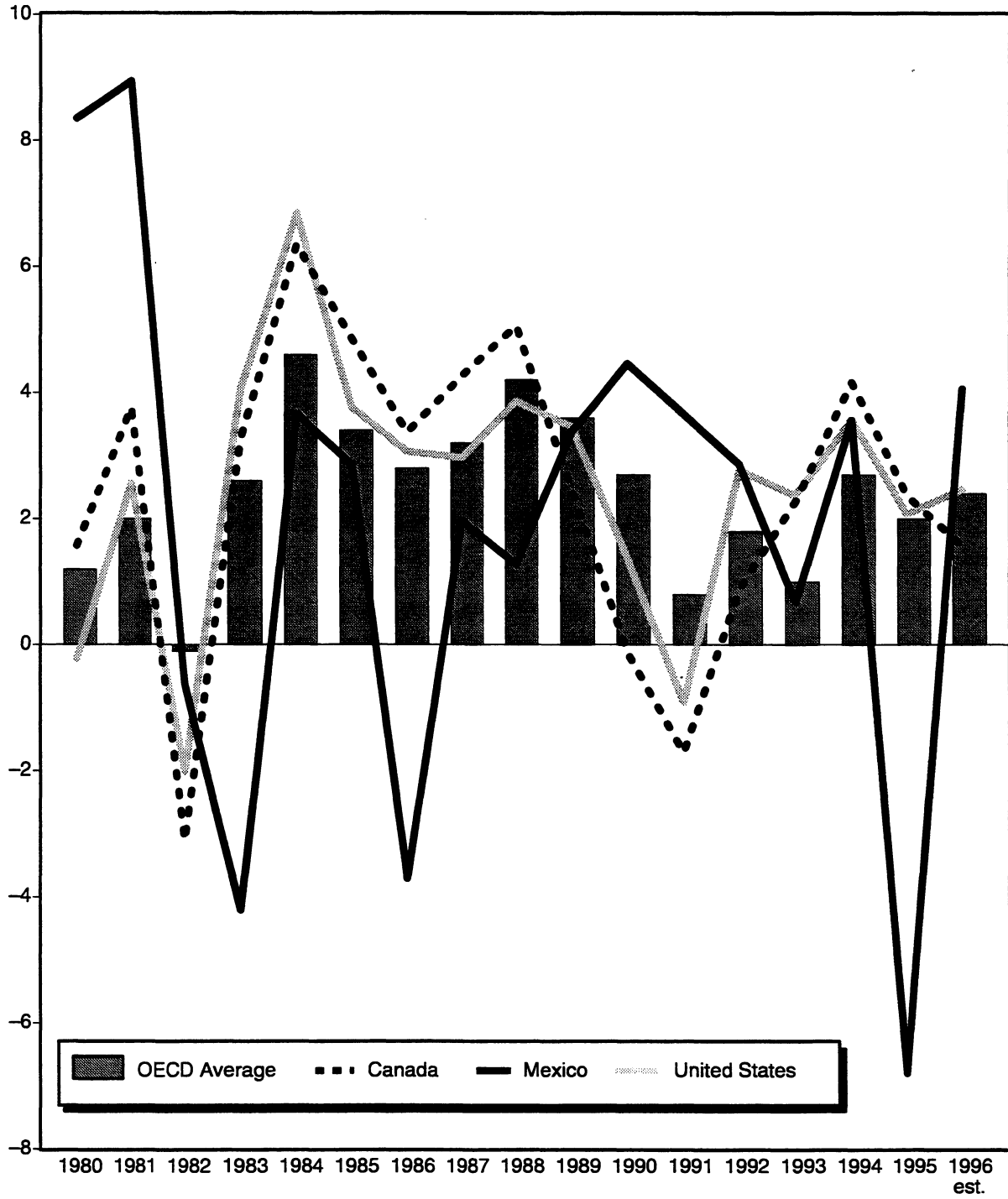
<sup>5</sup> In May 15, 1997, testimony before the Commission, Sidney Weintraub referred to the Mexican contraction as a virtual "depression," being substantially larger in percentage terms (Mexico's GDP declined by 6.9 percent in 1996) than in the recessions that followed the 1982 debt crisis and 1985 earthquake, when GDP declined by 4.3 and 3.8 percent, respectively, according to OECD statistics.

<sup>6</sup> See Mexico section, below, for further details.

<sup>7</sup> See Mexico section, below, for further details.

**Figure 3-2**  
**Real GDP growth, Canada, Mexico, and the United States, 1980-96**

Percentage



Source: OECD, *Economic Outlook*, Dec. 1996.

**Table 3-1**  
**Key economic indicators for the United States**

Item	1994	1995	1996
Real GDP growth ( <i>percentage change</i> ) . . . . .	3.5	2.0	2.4
Non residential fixed investment ( <i>percentage change</i> ) . . . . .	9.8	9.5	7.2
Investment in producers' durable equipment ( <i>percentage change</i> ) . . . . .	13.2	10.4	13.4 <sup>1</sup>
Labor force participation rate ( <i>percentage of working age population</i> ) . . . . .	66.6	66.6	66.8
Index of industrial production ( <i>percentage change</i> ) . . . . .	5.9	3.2	3.2
Capacity utilization rates . . . . .	83.9	83.8	83.2
Consumer credit outstanding ( <i>billion dollars</i> <sup>2</sup> ) .	966.5	1,103.3	1,190.6
Consumer Price Index ( <i>percentage change</i> ) . . . .	2.6	2.8	3.0
Unemployment rate . . . . .	6.1	5.6	5.4
Civilian employment ( <i>millions</i> ) . . . . .	123.1	124.9	126.7
Real private consumption expenditure ( <i>percentage change</i> ) . . . . .	3.1	2.3	2.5
GDP current dollars ( <i>billion dollars</i> <sup>3</sup> ) . . . . .	6,935.7	7,253.8	7,576.1
General government balance ( <i>percentage of GDP</i> ) . . . . .	2.5	-2.0	-1.7

<sup>1</sup> Estimated based on average of first 3 quarters of 1996.

<sup>2</sup> As of November 1996.

<sup>3</sup> Source: International Monetary Fund.

Source: These data have been extracted from: Council of Economic Advisors (CEA), *Economic Report of the President*, Feb. 1997 and OECD, *Economic Outlook*, Dec. 1996, except where a different source for actual data is indicated.

nonwage labor costs and a decline in the cost of capital, resulting in a drop in the core rate of inflation to its lowest level in 30 years (figure 3-3).<sup>8</sup>

Although the expansion of U.S. growth slowed in 1995, largely as a result of a tightening of U.S. monetary and fiscal policies, this was generally viewed as a welcome cooling off of an economy in danger of "overheating." Growth picked up sharply in the spring of 1996. Boosted by 3.9-percent growth in the fourth quarter of 1996, real GDP for the year as a whole grew by 2.4 percent, faster than the 2.0-percent growth rate in 1995, according to the U.S. Department of Commerce. Most recent data indicate that real U.S. GDP increased by 5.6 percent in the first quarter of 1997, fueled by a sharp upturn of investment spending over the fourth quarter of 1996, and a 6.4 percent rise in real personal consumption expenditures.

The industrial production index stood at 119.6 in the first quarter of 1997, up from 117.7 percent in December 1996 (1992=100). Despite a 3.7-percent increase in capacity from March 1996 to March 1997, capacity utilization stands at 84.1 percent, 2 percentage points higher than the 1967-96 average of 82.1 percent. U.S. industrial production and capacity grew steadily in the 1994-96 period, continuing a trend begun in 1991; utilization rates varied, but remained high.<sup>9</sup> Other indicators reflect the strong consumer demand and underlying vitality of the current U.S. economic expansion. The Conference Board's composite index of leading indicators, for example, advanced 0.5 percent in February 1997.

U.S. growth rates in the 1990s, like those in other major countries and regions, have been lower than those experienced in the previous three decades, when real U.S. growth averaged 4.3 percent from 1960-73, 2.9 percent from 1973-79, and 2.7 percent from 1979-89. This long-term deceleration has been primarily attributed to weak productivity growth and smaller increases in the working age population.<sup>10</sup> Recent productivity news, however, has been heartening. The U.S. Department of Labor reports that overall U.S. labor productivity grew faster in 1996 than it had in any of the past 10 years (with the exception of 1992). U.S. manufacturing productivity grew by 3.8 percent in 1996, the largest increase since 1987.<sup>11</sup>

The U.S. unemployment rate has declined steadily since 1992, falling to 5.4 percent in 1996 (figure 3-4).<sup>12</sup> By April 1997, the U.S. unemployment rate stood at 4.9 percent, the lowest level in 24 years. Job creation continues to be robust. Indeed, the IMF termed U.S. job creation "quite impressive," with

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<sup>8</sup> OECD, *OECD Economic Outlook*, No. 60, December 1996, pp. 43 and 45.

<sup>9</sup> Federal Reserve Board, *Federal Reserve Statistical Release*, No. G.17 (419), Apr. 16, 1997, "Industrial Production and Capacity Utilization," pp. 1 and 3.

<sup>10</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, pp. 18-19.

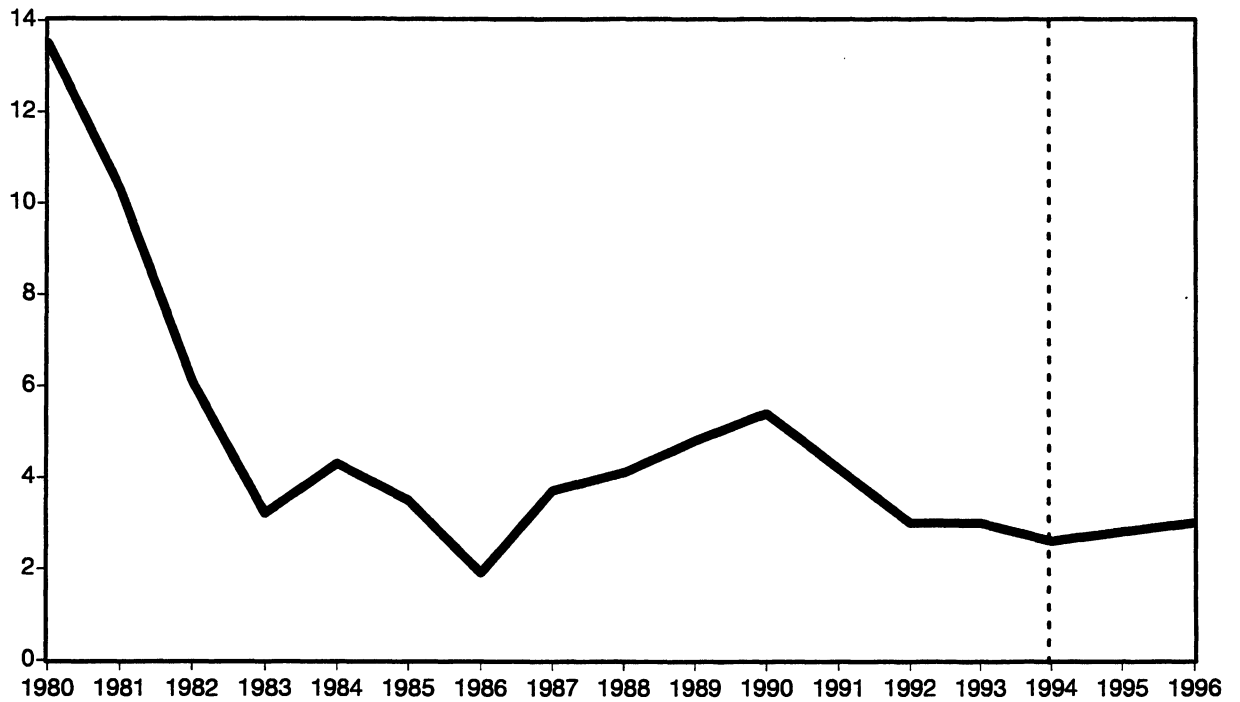
<sup>11</sup> Bureau of Labor Statistics data, as reported by Michael Youssef, "International Economic Developments," U.S. International Trade Commission, *International Economic Review*, Feb./Mar. 1997, USITC publication 3029. For the 1989-96 period, U.S. manufacturing productivity grew at the following annual rates: 1.8 percent in 1989, 1.8 percent in 1990, 2.5 percent in 1991, 3.6 percent in 1992, 2.1 percent in 1993, 3.1 percent in 1994, 3.4 percent in 1995, and 3.8 percent in 1996.

<sup>12</sup> Council of Economic Advisors (CEA), *Economic Report of the President*, Feb. 1997, Table B-40, p. 346.



**Figure 3-3**  
**Inflation (change in consumer prices) for the U.S., 1980-96**

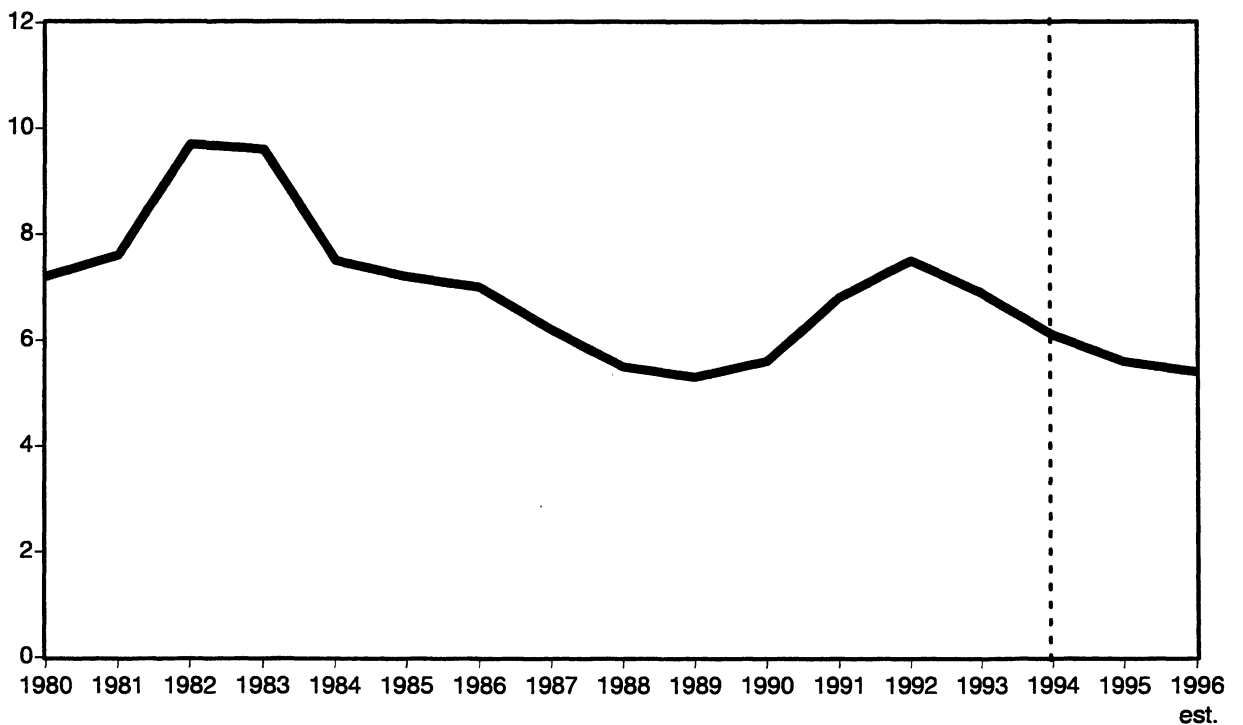
Percentage



Source: OECD *Economic Outlook*, Dec. 1996 and U.S. Department of Labor *Consumer Price Indexes, Nine Countries*, Apr. 1997.

**Figure 3-4**  
**Unemployment rate for the United States, 1980-96**

Percentage



Source: OECD *Economic Outlook*, Dec. 1996.

3-7

employment having expanded by roughly 60 percent since 1970, versus the 11 percent increase registered in the European Union (EU) in the same period.<sup>13</sup> Since January 1994, 3.65 million jobs have been added to the U.S. economy, according to the Bureau of Labor Statistics.<sup>14</sup> The percentage of the population that is employed, at 63 percent, approached a record high in 1996.<sup>15</sup>

Nonfarm payroll U.S. employment expanded by 240,000 jobs per month on average in the first eight months of 1996, a rate which has since slowed. This rate contrasts with the total of some 100,000 workers that were certified during NAFTA's first 3 years as qualified for NAFTA-related Trade Adjustment Assistance (NAFTA-TAA), which is aimed at persons having lost jobs due to increases in imports from, or shifts in production to, NAFTA partners.<sup>16</sup> The current total number of NAFTA-TAA certified workers stands at 126,686.<sup>17</sup> The number of workers under the NAFTA-TAA program was 2.4 percent of the total number of U.S. workers dislocated during the 1993-95 period.<sup>18</sup>

Several factors make this number an unreliable gauge of U.S. jobs "lost" due to NAFTA. The number of jobs existing in the economy is primarily a macroeconomic phenomenon; trade agreements such as NAFTA generally affect the composition, not the overall level, of U.S. employment. The number of workers certified for NAFTA Trade Adjustment Assistance is not necessarily a good proxy for such changes. Limited familiarity with the program and training requirements and time limits associated with it may mean that workers choose to seek assistance under the overall Trade Adjustment Assistance program or to accept alternate employment (which would tend to understate the number of NAFTA-impacted workers). On the other hand, the program is not tied to NAFTA provisions per se, but rather to increases in imports from, or shifts in production to, NAFTA partners (which would tend to overstate the number of NAFTA-impacted workers).

Concerns have been raised about the quality of new jobs being created in the United States and about growing inequality in income distribution. The Council of Economic Advisors (CEA) reported recently that, although most of the new jobs created in the 1990s are "good" jobs, the number of lower-paying jobs also increased, and employment in the middle of the earnings distribution fell. The CEA further noted that "a disproportionate share" of employment growth in the current expansion is in the service sector. Nevertheless, during the February 1994-February 1996 period (most of the period being studied in this investigation), the CEA reported that managerial and professional jobs were the main contributor to net increases in services employment.<sup>19</sup> Meanwhile, gains in real household income during the 1993-95 period were greater, in percentage terms, for the lowest-income households.<sup>20</sup>

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<sup>13</sup> International Monetary Fund, *World Economic Outlook*, Oct. 1996, p. 52.

<sup>14</sup> CEA, *Economic Report of the President*, Feb. 1997, Table B-34, p. 340.

<sup>15</sup> *Ibid.*, p. 141.

<sup>16</sup> During the Jan. 1, 1994-Dec. 31, 1996 period, the U.S. Department of Labor instituted 1,553 NAFTA Trade Adjustment Assistance (NAFTA-TAA) cases involving 181,741 workers; 1,452 of these, involving 167,650 workers, had been decided by year end 1996: 99,861 workers were certified as eligible for benefits under the program, and 66,894 were denied benefits under the program (41 petitions, involving 895 workers, were withdrawn).

<sup>17</sup> As of May 15, 1997, a total of 1,817 cases had been decided and 126,686 workers had been certified. U.S. Department of Labor, Employment and Training Administration, Office of Trade Adjustment Assistance, informal transmittal to U.S. International Trade Commission staff, May 15, 1997.

<sup>18</sup> U.S. Department of Labor, Bureau of International Labor Affairs, fax transmittal, May 8, 1997.

<sup>19</sup> CEA, *Economic Report of the President*, Feb. 1997, pp. 141-42.

<sup>20</sup> *Ibid.*, p. 164.

Analyses of recent data also suggest that most of the jobs being created in the United States pay above-average wages, with most new jobs being full- rather than part-time.<sup>21</sup> The share of part-time employment in total employment declined during the 1994-96 period, partly reversing rises in part-time work that occurred during the 1989-92 period.<sup>22</sup> Wage growth, particularly for white-collar workers, has accelerated.<sup>23</sup> Moreover, there was a decline in the share of U.S. households living below the poverty level in both 1994 and 1995.<sup>24</sup> Even so, total compensation has risen by less than productivity, a trend begun in the early 1980s.<sup>25</sup> White-collar, older, and more educated workers have become more susceptible to job loss.<sup>26</sup>

Total U.S. exports set new records in each of the past 3 years, making the United States the world's leading exporter. Indeed, the World Trade Organization (WTO) reports that U.S. exports grew three times faster than the world average during 1996, rising by 11.9 percent, versus a 4-percent rise in world exports generally.<sup>27</sup> The OECD reports that relative U.S. competitiveness<sup>28</sup> has increased during the time NAFTA has been in force, continuing a trend that began in 1990.<sup>29</sup> A recently-released annual survey ranking countries by competitiveness placed the United States No. 1 in the world in 1997, the third year in a row it was accorded top ranking.<sup>30</sup>

The current account deficit widened in 1996 (figure 3-5), even though the U.S. deficit in investment income narrowed substantially. The U.S. deficit on trade in goods and services expanded to \$114.2 billion in 1996, largely due to weaker growth in foreign markets compared with that of the United States, notably in Canada, the EU, Singapore, and Korea. The appreciation of the U.S. dollar on foreign exchange markets since mid-1995 may also have played a role. However, U.S. exports posted a sharp turnaround in the fourth quarter of 1996, and U.S. exports are expected to pick up in 1997, as growth in such key foreign markets strengthens. The U.S. current account deficit as a percent of GDP is thus expected to stabilize at about 2 percent,<sup>31</sup> up from the 1.5 percent rate in 1993 but smaller than the rate prevailing during the 1984-1988

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<sup>21</sup> IMF, *World Economic Outlook*, October 1996, p. 53.

<sup>22</sup> CEA, *Economic Report of the President*, Feb. 1997, p. 145.

<sup>23</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, p. 45.

<sup>24</sup> CEA, *Economic Report of the President*, Feb. 1997, Table B-31, p. 336.

<sup>25</sup> *Ibid.*, pp. 149-51.

<sup>26</sup> *Ibid.*, p. 153.

<sup>27</sup> WTO, *Press Release*, No. 7, Apr. 4, 1997.

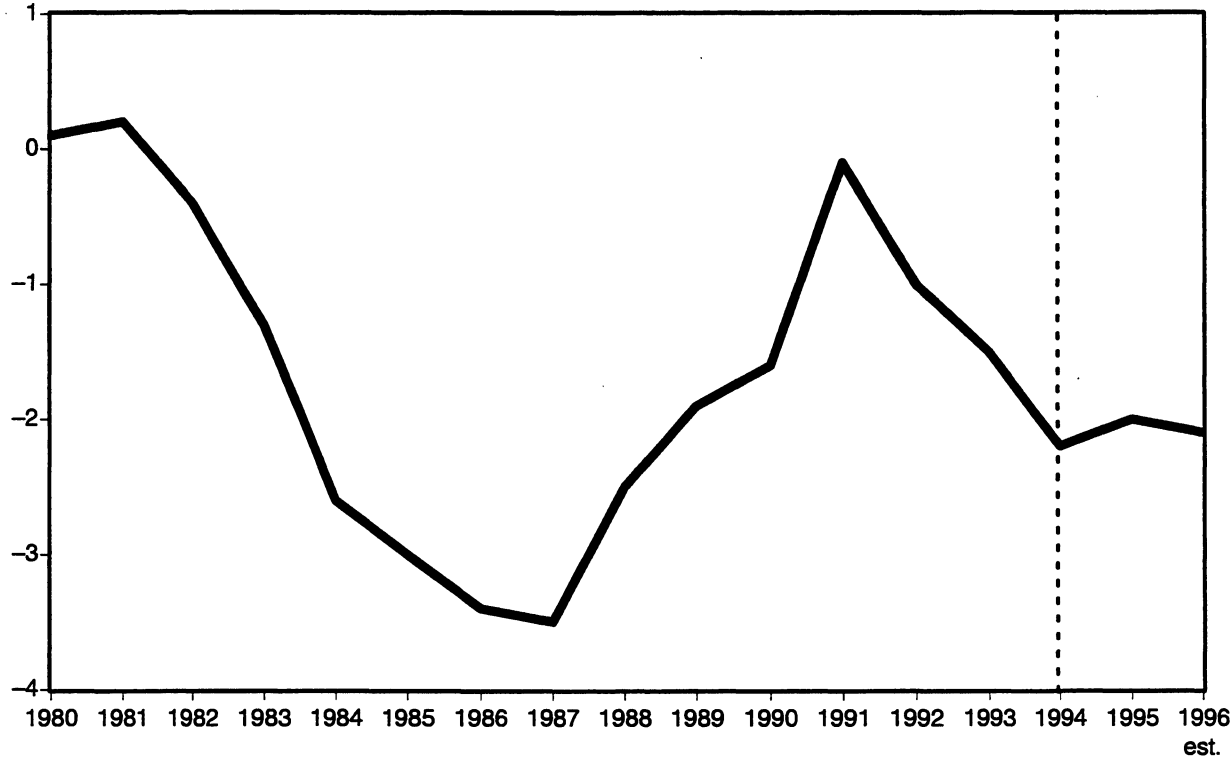
<sup>28</sup> The indicators used are relative average value of manufactured exports, relative unit labor costs in manufacturing, and relative consumer prices.

<sup>29</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, annex figure 4, p. A-64.

<sup>30</sup> *The Economist*, Mar. 29, 1997, p. 7.

<sup>31</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, p. 48.

**Figure 3-5**  
**Current account balance, percent of GDP, for the U.S., 1980-96**



Source: OECD *Economic Outlook*, Dec. 1996.

period. (The recession year of 1991 was the only year since 1983 that the U.S. current account deficit as a share of GDP was close to zero.)<sup>32</sup>

The United States has made steady progress towards general government budget balance since 1992,<sup>33</sup> with an improvement in structural terms of about 2 1/4 percentage points of GDP by 1996 (figure 3-6).<sup>34</sup> The cyclical recovery since the second quarter of 1991 and cuts in discretionary spending, particularly in defense, have brightened the U.S. fiscal outlook. In fiscal year 1996 (ending September 30), the ratio of the federal budget deficit (budget basis) to GDP was 1.4 percent, the smallest it has been since 1974; the overall public debt-to-GDP ratio is expected to fall for the first time since 1989.<sup>35</sup> Business confidence and profits have both been high, keeping business investment in new plant and equipment, particularly information processing equipment, buoyant.<sup>36</sup> The U.S. stock market reached successive record highs during the period, generating a "wealth effect" for asset-owning households otherwise showing signs of needing to retrench in the face of mounting consumer indebtedness. Consumer spending, the largest component of U.S. GDP, has remained strong (figure 3-7). Consumer confidence is also high and real disposable personal income expanding.<sup>37</sup>

Despite increased U.S. investment in new plant and equipment, capacity utilization rates remain high. The OECD found the U.S. economy one of the few to be operating at or above its potential level in 1996; sizeable output gaps were evident in most other industrialized countries.<sup>38</sup> Thus, economists at the IMF, the OECD, the CEA, and the Federal Reserve all appear to agree that the biggest threat to the U.S. economy today is revived inflation, given continued signs of strong U.S. economic activity, high capacity utilization rates, rises in employment and incomes, and expanding employment.<sup>39</sup> Some signs of weakness have emerged in recent weeks, including a decline in retail sales in April 1997, a drop in new orders for manufactured goods in March 1997, and a build-up in inventories during the first quarter of 1997. Nevertheless, a continuation of moderate growth is predicted by most economists in the coming two years,

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<sup>32</sup> *Ibid.*, p. A-54.

<sup>33</sup> IMF, *World Economic Outlook*, Oct. 1996, p. 18.

<sup>34</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, pp. 9-10.

<sup>35</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, p. 45.

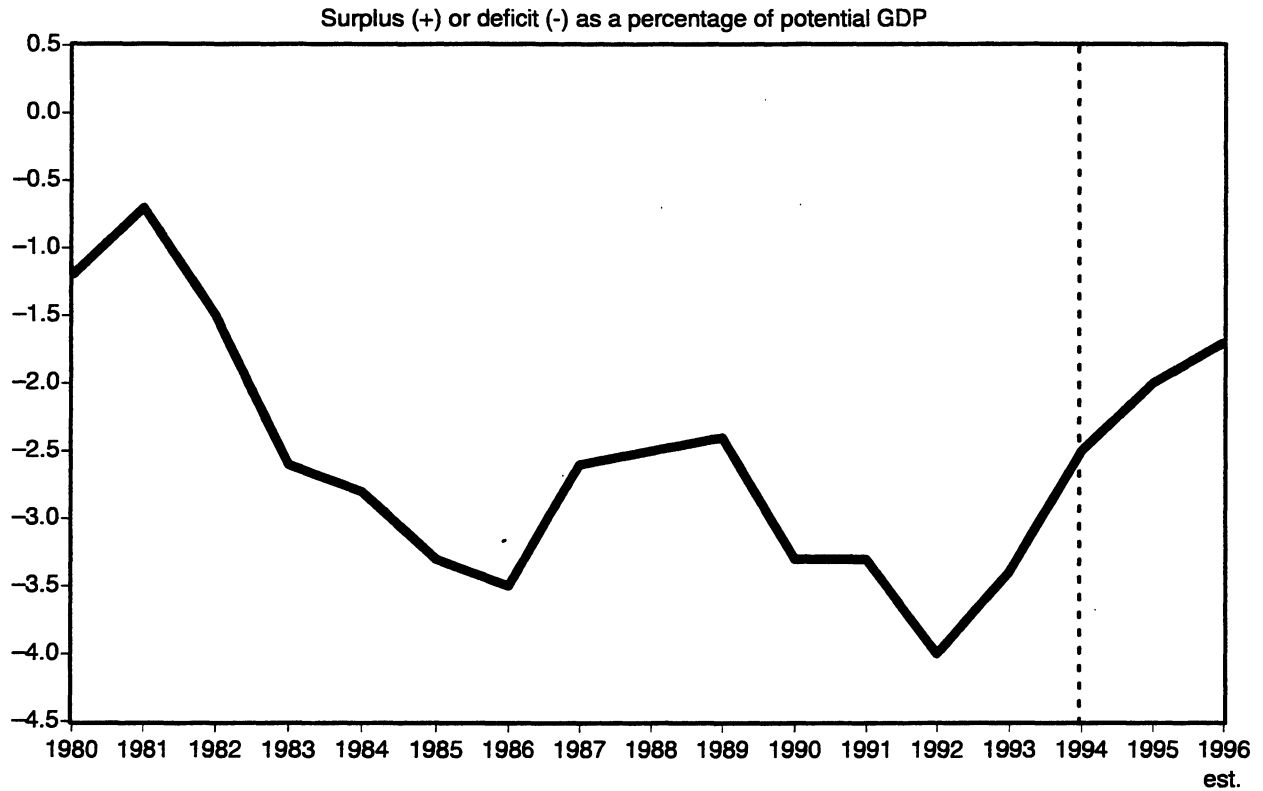
<sup>36</sup> CEA, *Economic Report of the President*, Feb. 1997, Table B-17, p. 317 indicates that real private nonresidential gross fixed investment, particularly for durable goods, expanded briskly in each of NAFTA's first three years.

<sup>37</sup> CEA, *Economic Report of the President*, Feb. 1997, p. 78.

<sup>38</sup> OECD, *OECD Economic Outlook*, No. 60, Dec. 1996, p. 4.

<sup>39</sup> Others reject the idea that the United States has reached full employment, and believe that NAFTA has foreclosed job opportunities in high wage manufacturing jobs. Testimony of Steve Beckman, International Economist, United Auto Workers, before the U.S. International Trade Commission in Investigation 332-381, May 15, 1997.

**Figure 3-6**  
**General government structural balance for the U.S., 1980-96**



Source: OECD, *Economic Outlook*, Dec. 1996.

**Figure 3-7**  
**Real private consumption expenditure, percent change for the U.S., 1980-96**



Source: OECD, *Economic Outlook*, Dec. 1996.

with real growth forecast to be just over 2.5 percent in 1997,<sup>40</sup> and the IMF recently upping its projected real GDP growth estimate for the U.S. economy to 3.0 percent.<sup>41</sup>

### *Foreign Trade*

Since NAFTA's implementation, overall U.S. trade has continued to grow, as has trade with NAFTA partners. The ratio of exports to U.S. national income has risen steadily, from 10.3 percent in 1993 to 10.8 percent in 1994, 11.5 percent in 1995, and 11.8 percent of U.S. GDP by the third quarter of 1996.<sup>42</sup> By 1996, the Commerce Department reported that total U.S. exports stood at a record \$624.8 billion and U.S. imports reached \$791.4 billion, resulting in a \$166.6 billion deficit in merchandise trade. U.S. exports to North America amounted to \$190.4 billion, with exports to Canada totaling \$133.7 billion and exports to Mexico totaling \$56.8 billion. Imports from them, at \$156.5 billion and \$73.0 billion respectively, totaled \$229.5 billion, resulting in a \$39.0 billion deficit in trade with North America, as shown in the following tabulation:<sup>43</sup>

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<sup>40</sup> Based on projections by six different forecast groups compiled by the Conference Board and reprinted with permission in U.S. International Trade Commission, *International Economic Review*, July 1997, forthcoming.

<sup>41</sup> IMF, *World Economic Outlook*, May 1997.

<sup>42</sup> CEA, *Economic Report of the President*, Feb. 1997, p. 302.

<sup>43</sup> U.S. Department of Commerce, *FT-900*, Feb. 1997. These data differ from the bilateral data reported later in the Mexico and Canada sections respectively, which are derived by the U.S. International Trade Commission based from Census data. Among the differences are that the Commerce Department FT-900 reports general imports, but the U.S. International Trade Commission figures are imports for consumption (both are on a customs value basis); Commerce reports total exports on an f.a.s. basis, versus the U.S. International Trade Commission figures, which are domestic exports (both are on a f.a.s. basis). FT-900 data include all errata corrections identified after the release of monthly tapes as well as adjustments for carryover.

	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Exports:				
Total .....	465,091	512,626	584,742	624,767
North America ...	142,025	165,282	173,518	190,429
Canada .....	100,444	114,439	127,226	133,668
Mexico .....	41,581	50,844	46,292	56,761
Imports:				
Total .....	580,659	663,256	743,445	791,364
North America ...	151,134	177,900	207,033	229,469
Canada .....	111,216	128,406	145,349	156,506
Mexico .....	39,917	49,494	61,685	72,963
Balance:				
Total .....	-115,568	-150,629	-158,703	-166,597
North America ...	-9,108	-12,618	-33,515	-39,040
Canada .....	-10,772	-13,967	-18,123	-22,838
Mexico .....	1,664	1,350	-15,393	-16,202

Using a longer time series compiled by the U.S. International Trade Commission from official U.S. Commerce Department data, it is clear that the rate of expansion of the U.S. trade deficit with NAFTA partners has generally been slower than the expansion in the U.S. trade deficit overall (figure 3-8). However, over the 1993-96 period, the U.S. trade deficit with North America has widened at a rate 7.4 times faster than the overall U.S. trade deficit.

North America remained the United States' leading regional export market,<sup>44</sup> accounting for some 30 percent of U.S. exports and 29 percent of U.S. imports in 1996. The import share of North American suppliers rose slightly. North America's relative importance to total U.S. exports fluctuated, but remained on par with its 1993 level, as shown in the following tabulation:<sup>45</sup>

	<u>North America's</u>	
	<u>Share of U.S. exports</u>	<u>Share of U.S. imports</u>
1993 .....	30.5	26.0
1994 .....	32.2	26.8
1995 .....	29.7	27.9
1996 .....	30.5	29.0

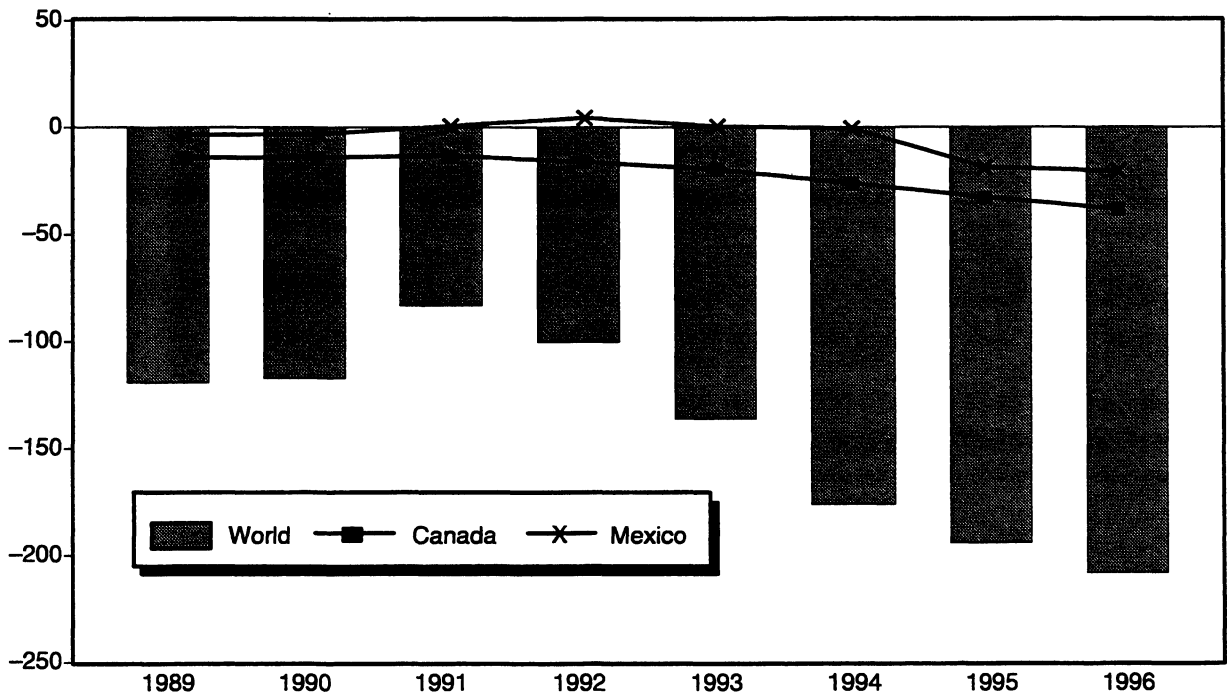
<sup>44</sup> U.S. exports to North America were \$190.4 billion in 1996 compared with \$188.0 billion with the Pacific Rim and \$141.4 billion with Western Europe. The Pacific Rim was a more important import supplier, however, accounting for \$290.0 billion in U.S. imports in 1996, versus North America's \$229.5 billion.

<sup>45</sup> Derived from official statistics of the U.S. Department of Commerce, *FT-900*, Feb. editions for 1995, 1996 and 1997.



**Figure 3-8**  
**U.S. merchandise trade balance overall, and with Canada and Mexico, 1989-96**

*Million dollars*



Source: Compiled by USITC staff from official statistics of the U.S. Department of Commerce. Exports are domestic exports (f.a.s.) imports are for consumption (customs value).

Canada's share of U.S. trade remained relatively constant, standing at 21.4 percent of total U.S. exports in 1996 and 19.8 percent of total U.S. imports in 1996 (from 21.6 percent of U.S. exports and 19.2 percent of U.S. imports in 1993). Mexico's share of U.S. imports rose steadily, while its share of U.S. exports rose sharply in 1994, fell in 1995, and regained much of the ground lost in 1996, as shown in the following tabulation.<sup>46</sup>

	<u>Mexico's</u>	
	<u>Share of U.S. exports</u>	<u>Share of U.S. imports</u>
1993 .....	8.9	6.9
1994 .....	9.9	7.5
1995 .....	7.9	8.3
1996 .....	9.1	9.2

U.S. exports to North America grew by about the same percentage as overall U.S. exports during the 1993-96 period though U.S. exports to Mexico grew by a slightly wider margin (by 36.5 from 1993 to 1996, compared with the increase in overall U.S. exports of 34.3 percent). The growth in U.S. exports to North America is more significant when considered against the sharp appreciation of the dollar versus the Mexican peso that began in late 1994, which made U.S. exports to Mexico more expensive, and the steep recession experienced by Mexico in 1995 and 1996. Indeed, the increase in U.S. exports to Mexico in 1996 was about five times greater than the estimated increase in Mexico's real GDP that year.<sup>47</sup>

U.S. imports from North America increased at a substantially higher rate than overall U.S. imports:

	<u>Percent Change</u>	
	<u>U.S. exports</u>	<u>U.S. imports</u>
	<u>1993 to 1996</u>	<u>1993 to 1996</u>
North America .....	34.1	51.8
Total .....	34.3	36.3

U.S. imports from Mexico grew particularly rapidly, rising by 82.8 percent over the 1993-96 period.

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<sup>46</sup> Derived from official statistics of the U.S. Department of Commerce, *FT-900*, Feb. editions for 1995, 1996 and 1997.

<sup>47</sup> Based on figures contained in CEA, *Economic Report of the President*, Feb. 1997, p. 81.

## Mexico

Mexico's economic policy since 1989 evolved in the context of preparations for a trade agreement first with the United States only, then for a trilateral NAFTA (1990-93), and subsequently in the context of NAFTA in operation (1994-96). Mexico also continued to implement policies associated with its 1986 GATT accession protocol and to pursue unilateral economic reforms. The last 2 years of this period (1995-96) were dominated by the "peso crisis"-- the adverse consequences of Mexican macroeconomic and monetary policies generally preceding and unrelated to NAFTA.<sup>48</sup> Some attribute Mexico's relatively rapid rebound in 1996 to NAFTA and to the increased competitiveness of certain sectors of the Mexican economy.<sup>49</sup>

### *Economy*

When Mexico began considering a free-trade accord with the United States in the summer of 1990, its economy was in a position of relative strength, with a growth rate in real GDP of 4.4 percent (figure 3-9).<sup>50</sup> However, growth thereafter declined each year, and the economy virtually stagnated with a growth rate of 0.6 percent in 1993. Rising labor costs, slowing employment growth, declining profit margins by some companies competing in a market increasingly open to foreign competition, and concerns over the widening of the current account deficit were among the factors dampening Mexico's economic prospects on the eve of NAFTA.<sup>51</sup> Thus, by the time Mexico joined the United States and Canada in NAFTA on January 1, 1994, its economy had been weakened.

In October 1993, then-President Carlos Salinas de Gortari began to address economic stagnation by introducing various stimuli in his economic plan (*pacto*) for 1994.<sup>52</sup> In addition to its sluggish economy,

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<sup>48</sup> Certain public submissions for the Commission's present investigation (e.g., Anderson, Cavanaugh, and Ramney of the Institute for Policy Studies and Robert Blecker of the Economic Policy Institute) claimed there was a link--albeit indirect--between NAFTA and the peso crisis. Specifically, they said, NAFTA "locked in" policies that were already destabilizing to the Mexican economy and impoverishing Mexico's farmers and workers.

<sup>49</sup> See, for example, statements and/or submissions made in connection with this investigation by Gary Hufbauer, Jeffrey Schott, and Jacqueline McFadyen, Institute for International Economics; Albert C. Zapanta, United States-Mexico Chamber of Commerce; Williard A. Workman, U.S. Chamber of Commerce; and the National Foreign Trade Council.

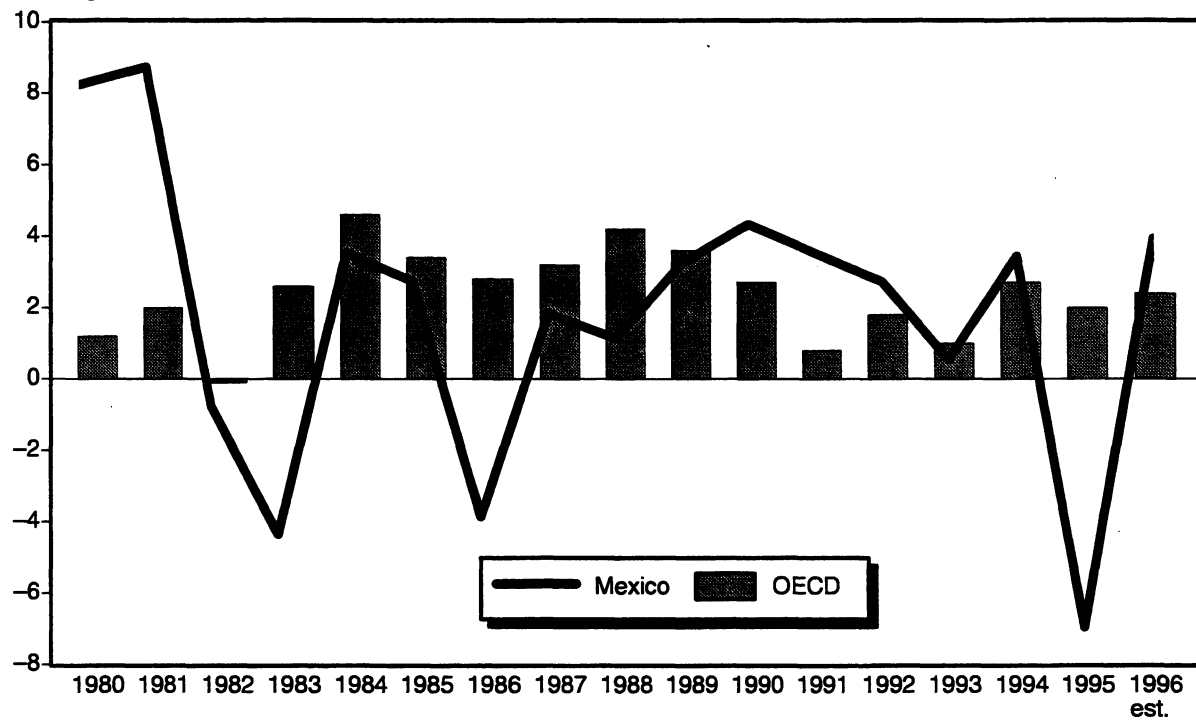
<sup>50</sup> For more detail, see U.S. International Trade Commission, *The Year in Trade: OTAP, 1990*, USITC publication 2403, p. 126.

<sup>51</sup> Banco de Mexico, *The Mexican Economy, 1993*.

<sup>52</sup> Since the end of 1987, a series of annual accords ("*pacto*") between the government, business, and labor have constituted the framework of Mexico's economic policies. Such an accord, the "Pact for Stability, Competitiveness, and Employment," signed in October 1993, was in effect through the end of the first NAFTA year.

**Figure 3-9**  
**Real GDP growth, for Mexico, 1980-96**

Percentage



Source: OECD, *Economic Outlook*, Dec. 1996.

Mexico's prospects at the beginning of the actual NAFTA era were also clouded by political instability--uprisings<sup>53</sup> and political assassinations.<sup>54</sup> Yet, during 1994, the Mexican economy performed well again in terms of economic growth (3.5 percent), and continued control of the rate of inflation, which declined from 26.7 percent in 1990 to 7.0 percent in 1994 (figure 3-10). Real private consumption expenditures increased in 1994 by 3.7 percent (figure 3-11). But, a large trade deficit (\$18.5 billion), current account deficit (\$29.5 billion), low level of foreign exchange reserves (\$6.1 billion), and an artificially high exchange rate for the peso (an annual average of 3.4 pesos to the dollar), indicated serious macroeconomic imbalances. A perception by investors that Mexican securities were risky, in combination with the lure of high interest rates in advanced industrial countries, caused a massive outward flow of portfolio capital from Mexico during the first NAFTA year.<sup>55</sup> Table 3-2 summarizes the major macroeconomic data for the Mexican economy during the first three NAFTA years.

**Table 3-2**  
**Key Economic Indicators for Mexico**

Item	Actual		Estimated 1996
	1994	1995	
Real GDP growth ( <i>percentage change</i> ) . . . . .	3.5	-6.9	4.0 <sup>1</sup>
Consumer Price Index ( <i>percentage change</i> ) . . . .	7.0	35.0	26.5 <sup>3</sup>
Unemployment rate . . . . .	3.7	6.3	6.0 <sup>1</sup>
Real Private Consumption Expenditure ( <i>percentage change</i> ) . . . . .	3.7	-12.9	2.5 <sup>1</sup>
Current Account Balance; end-of-period ( <i>billion dollars</i> ) . . . . .	-29.5 <sup>2</sup>	0.7 <sup>2</sup>	-0.1 <sup>2</sup>
Current Account Balance ( <i>percent of GDP</i> ) . . . .	-8.0	0.2	0.0 <sup>1</sup>
Avg. Annual Exchange Rate ( <i>pesos per US\$</i> ) . .	3.4 <sup>2</sup>	6.5 <sup>2</sup>	7.6 <sup>2</sup>
Short-term and long-term interest rates . . . . .	13.8 <sup>2</sup>	39.8 <sup>2</sup>	34.0 <sup>1,2</sup>

<sup>1</sup> Estimate.

<sup>2</sup> Source; U.S. Embassy, Mexico, *Foreign Investment Report, 1996-97*, Oct. 1996, Annex B.

<sup>3</sup> Department of State, *Country Reports on Economic Policy and Trade Practices, Mexico*, March 1997, p. 274.

Source: OECD, *Economic Outlook*, Dec. 1996, Annex, and OECD, *Main Economic Indicators*, March 1997, unless otherwise specified.

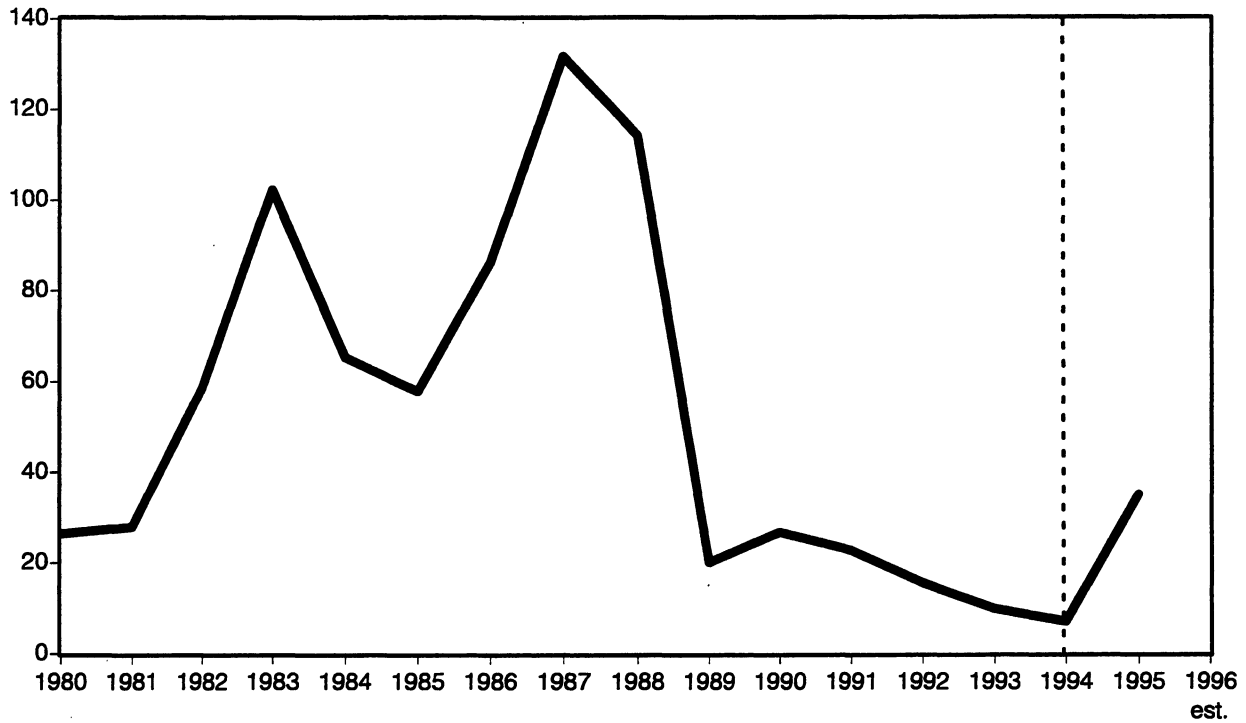
<sup>53</sup> Notably, the January 1994 uprising of the Zapatista National Liberation Army (EXLN) in Chiapas, in protest of the country's social and political conditions.

<sup>54</sup> Notably, the assassination of Luis Donaldo Colosio in March 1994, who had been nominated to succeed President Salinas, and by subsequent violent acts against prominent individuals.

<sup>55</sup> Mexico's peso crisis was discussed in detail in U.S. International Trade Commission, *The Year in Trade: OTAP, 1994*, USITC publication 2894, pp. 85-86.

**Figure 3-10**  
**Inflation (change in consumer prices) for Mexico, 1980-96**

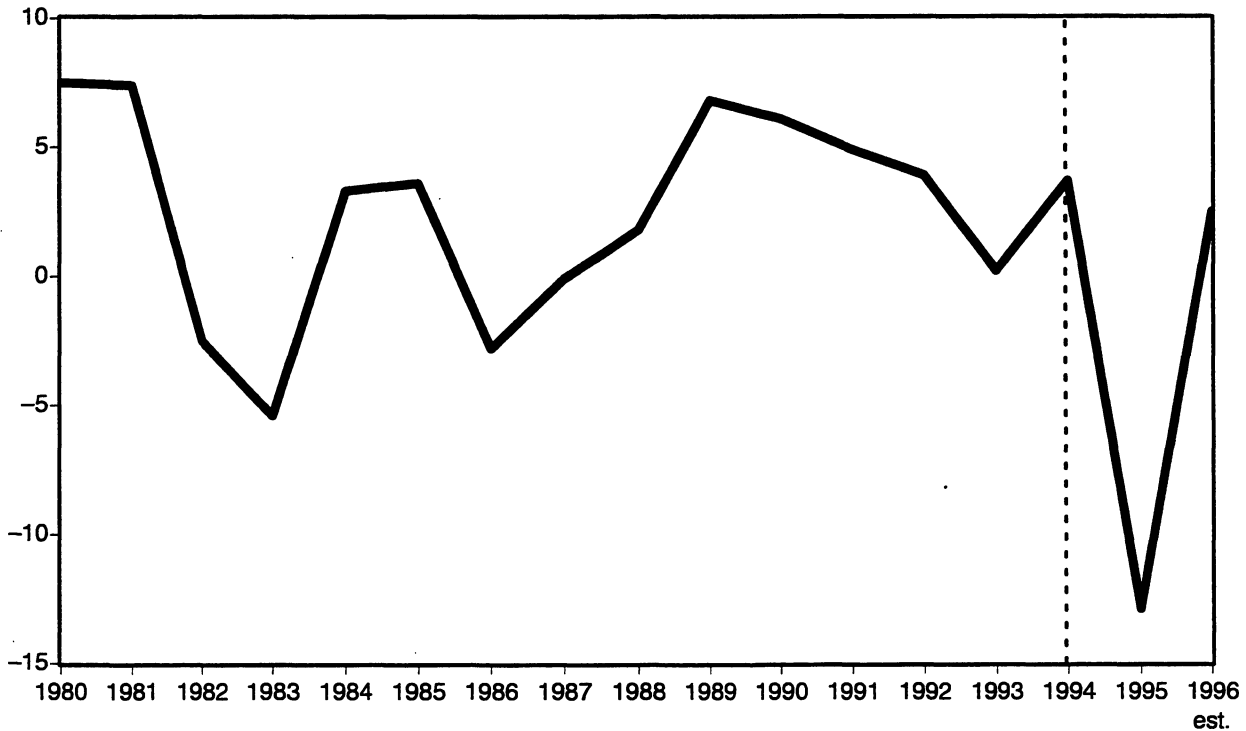
Percentage



Source: OECD *Economic Outlook*, Dec. 1996.

**Figure 3-11**  
**Real private consumption expenditure for Mexico, 1980-96**

Percentage



Source: OECD *Economic Outlook*, Dec. 1996.

All these tensions came to a head on December 20, 1994, when the new Government of Ernesto Zedillo Ponce de Leon<sup>56</sup> devalued the peso by widening the dollar/peso exchange rate band. (Up to this point, the peso had been relatively stable since 1989, declining gradually from an annual average 2.5 pesos to the U.S. dollar in 1989 to an annual average 3.1 pesos to the dollar in 1993 (figure 3-12).) On December 22, 1994, 2 days following the devaluation, market pressures forced the Government of Mexico (GOM) to float the peso freely, and the Mexican currency sharply depreciated from 3.5 pesos to 5.7 pesos to the dollar. Following announcement of an international loan package granted to Mexico on January 31, 1995,<sup>57</sup> the peso strengthened temporarily, but then continued to weaken. The average trade-weighted exchange rate was 6.4 pesos to the dollar during the year.

In 1995 and 1996, the state of the Mexican economy was heavily influenced by the 1994 peso crisis and its aftermath. The international loan package saved Mexico from an immediate default, but increased the country's high foreign indebtedness and left financial markets destabilized. On March 9, 1995, President Zedillo introduced an austerity program, which provided for major tax hikes, drastic increases in the prices of oil and electricity, stringent federal budget cuts, and tight limits for extending credit. These measures led to Mexico's deepest recession since the 1930's.

Economic activity in Mexico declined by 6.9 percent (figure 3-9), and average wages plummeted by more than 20 percent during 1995. Interest rates for a time surged above 90 percent, contributing to a severe credit crunch.<sup>58</sup> The high interest and mortgage rates choked off investment, and caused bankruptcies and loan defaults to the point where the solvency of the entire banking system was threatened, requiring rescue by the GOM. Inflation accelerated, despite the March austerity measures designed to reduce the inflationary impact of the peso's devaluation on the economy. On an annual average basis, the consumer price index increased 35 percent in 1995 (figure 3-10).

Unemployment according to official Mexican definitions had been below 3 percent in the 1989-92 period; it edged up to 3.4 percent in 1993 and was 3.7 percent in 1994. After the peso crisis, official unemployment surged to an annual average of 6.3 percent in 1995 and was recorded at an estimated 6.0 percent in 1996 (figure 3-13). However, a broader measure of unemployment by Mexico's National Statistical and Geographics Institute, which considers persons employed less than 35 hours per week as out of work, showed that 28.7 percent of the economically-active population was unemployed in May and 26.4 percent in December 1995. More than 1 million jobs were reportedly lost following the peso crisis.<sup>59</sup> High

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<sup>56</sup> Ernesto Zedillo took office on December 1, 1994.

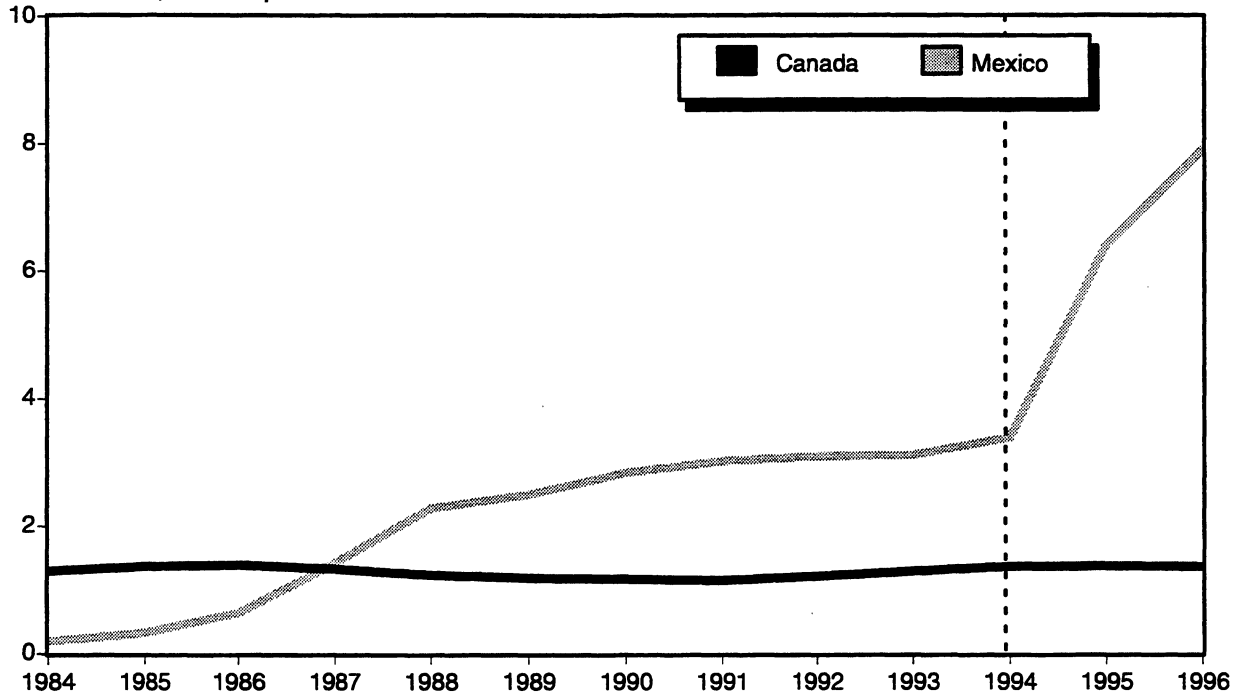
<sup>57</sup> For details on the \$50 billion international loan package assembled under U.S. leadership, see U.S. International Trade Commission, *The Year in Trade: OTAP, 1994*, USITC publication 2971, pp. 86-87.

<sup>58</sup> See also U.S. International Trade Commission, *The Year in Trade: OTAP, 1995*, USITC publication 2971, pp. 25-26.

<sup>59</sup> See also U.S. International Trade Commission, *The Year in Trade: OTAP, 1995*, USITC publication 2971, pp. 25-26. Recent reports by Mexico's National Institute of Statistics, Geography, and Informatics and Social Security Institute suggest that the number of Mexican job holders increased steadily in 1996 and 1997, though labor market improvements still lag behind gains in industrial production and exports. U.S. Department of State telegram No. 3811, "Mexican Unemployment stable in March," Apr. 18, 1997.

**Figure 3-12**  
**Trade weighted nominal exchange rates versus the U.S. dollar for Canada and Mexico, 1984-96**

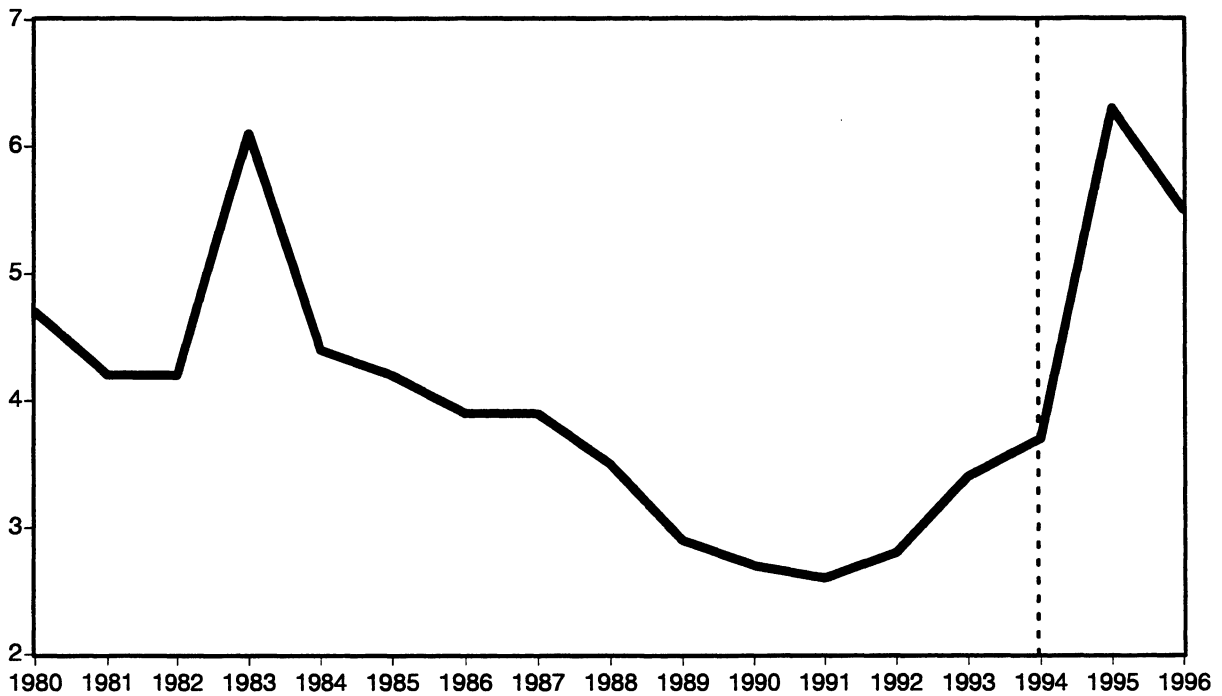
*Canadian dollar, Mexican peso*



Source: Compiled by USITC staff from official statistics of the U.S. Department of Commerce. Exports are domestic exports (f.a.s.) imports are for consumption (customs value).

**Figure 3-13**  
**Unemployment rate for Mexico, 1980-96**

*Percentage*



Source: OECD Economic Outlook, Dec. 1996, Main Economic Indicators, May 1997.



rates of inflation, interest, and taxes; widespread small business failures; diminished revenues for the self-employed; joblessness; and a policy of wage restraints, all had the effect of reducing household consumption and living standards. Real private consumption expenditures plummeted by 12.9 percent for the year (figure 3-11).

However, as 1995 progressed, some measure of normalcy returned. Mexico was able to return to international capital markets far sooner than expected, apparently because its NAFTA partnership and the Mexican administration's austerity policy generated confidence abroad. Its \$29.5 billion year-end 1994 current account deficit, which accounted for 8 percent of GDP, virtually disappeared during the second NAFTA year, shrinking to a negligible deficit of \$654 million (or 0.2 percent of the GDP) by the end of 1995 (figure 3-14). The principal cause was the reversal of Mexico's large 1994 trade deficit to a substantial 1995 trade surplus.

The economy showed strong signs of recovery in 1996, approaching production levels attained before the crisis. Mexico's emergence from the previous year's depression was marked by an estimated 4.0-percent annual growth in GDP, signs of declining unemployment (figure 3-13), and a notable reduction of inflation from an annual rate of 35.0 percent in 1995 (figure 3-10) to 26.5 percent. In line with declining inflation, average (short-term and long-term) interest rates dropped from 39.8 percent in 1995 to an estimated 34.0 percent in 1996, easing the credit crunch (table 3-2).

To cope with Mexico's large burden of external debt, estimated at \$168 billion towards the end of 1996, the GOM extended the maturities of the public portion of the debt by refinancing and altering its composition.<sup>60</sup> One component of Mexico's foreign debt strategy was the prepayment of certain emergency loans obtained following the peso crisis, including those granted by the U.S. Government. The entire \$12.5 billion emergency loan provided by the U.S. Government has already been repaid with interest, having been refinanced in private credit markets.

In 1996, after holding steady for most of the year at somewhat above 7 pesos to the dollar, the exchange rate dipped to some 8 pesos to the dollar in October,<sup>61</sup> following the GOM's retreat from plans to fully privatize the secondary petrochemical plants owned by Petroleos Mexicanos (PEMEX), the federal petroleum monopoly.<sup>62</sup> The estimated annual average trade-weighted exchange rate for 1996 was 7.6 pesos to the dollar (figure 3-12).

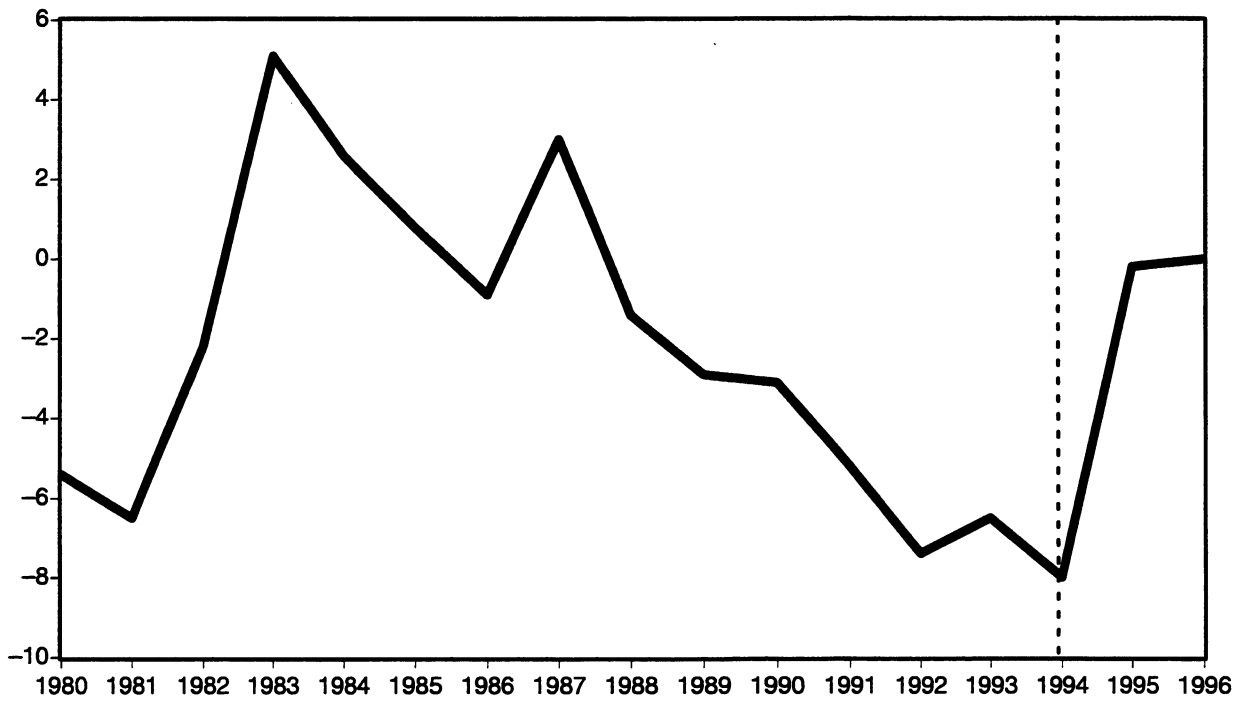
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<sup>60</sup> U.S. Department of State telegram No. 14492, "1996 Trade Act Report: Mexico," prepared by U.S. Embassy, Mexico City, Nov. 18, 1996, p. 4.

<sup>61</sup> Mexico has a floating exchange rate system, with the Bank of Mexico playing a marginal, sporadic role in the currency market.

<sup>62</sup> See discussion of privatization later in this section.

**Figure 3-14**  
**Current account balances as a percentage of GDP for Mexico, 1980-96**



Source: OECD *Economic Outlook*, Dec. 1996.

This renewed decline of the peso's exchange rate sparked an intense debate about the currency's "true value." According to some analysts, the peso had unduly appreciated in real terms. Although the currency's nominal exchange rate dropped, the decline was not sufficient to offset the rise in inflation.<sup>63</sup>

### Foreign Trade

Some consider NAFTA's most important achievement to date the fact that Mexico did not fall back on a protectionist regime following the peso crash, but continued to be committed to an open economy.<sup>64</sup> On January 1, 1995, immediately after the peso crisis erupted, Mexico proceeded with implementation of the second round of its NAFTA tariff cuts;<sup>65</sup> on January 1, 1996, the third round; and on January 1, 1997, the fourth.

During 1995 and 1996, Mexico's foreign trade was profoundly affected by the peso crisis. According to official Mexican statistics, Mexico posted a \$7.1 billion trade surplus in 1995, radically reversing a 4-year string of deficits, which in 1994 reached an unsustainable level of \$18.5 billion (table 3-3). The 1995 trade surplus resulted from a 30.5-percent growth of exports and an 8.8-percent decline of imports. Exports continued to increase in 1996 at an estimated rate of 20.9 percent.<sup>66</sup> However, unlike in 1995, imports were also up in 1996, by an estimated rate of 23.7 percent, causing the 1996 trade surplus to contract to an estimated \$6.5 billion. Table 3-3 shows Mexico's foreign trade data, the U.S. and Canadian share in the country's exports and imports during the first three NAFTA years, and projections for 1997.

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<sup>63</sup> According to the United Nations, in the first 8 months of the year, the rate of appreciation in real terms was 15 percent. Source: United Nations, Economic Commission for Latin America and the Caribbean, *Economic Panorama of Latin America*, 1996, p. 56.

<sup>64</sup> Numerous witnesses at the ITC's hearing made such an observation (see Appendix D). Similar comments are found in the academic literature, for example, Aaron Tornell, and Gerardo Esquivel, *The Political Economy of Mexico's Entry to Nafta*, Working Paper 5322. Cambridge, National Bureau of Economic Research, Oct. 1995, p. 27.

<sup>65</sup> The first round of tariff cuts under the NAFTA was implemented on January 1, 1994, when the accord itself became effective.

<sup>66</sup> U.S. Department of State telegram No. 807, "Mexico's Preliminary Trade Balance for 1996," prepared by U.S. Embassy, Mexico City, Jan. 25, 1997 and Dan McCosh, "Trade Surplus for '96 Was 6.3 Bn. Dollars," *El Financiero*, Jan. 27 to Feb 2, 1997.

**Table 3-3**  
**Mexico's overall foreign merchandise trade and the U.S. and Canadian share**

Item	Actual			Projected
	1994	1995	1996	1997
Exports ( <i>billion dollars</i> ) . . . . .	60.9	79.5	96.0	95.9
U.S. share ( <i>percentage</i> ) . . . . .	84.9	83.6	83.9	82.8
Canada's share ( <i>percentage</i> ) . . . . .	2.5	2.5	2.3	n/a
Imports ( <i>billion dollars</i> ) . . . . .	79.4	72.4	89.5	89.6
U.S. share ( <i>percentage</i> ) . . . . .	69.0	74.4	75.5	74.7
Canada's share ( <i>percentage</i> ) . . . . .	2.0	2.0	1.9	n/a
Trade balance ( <i>billion dollars</i> ) . . . . .	-18.1	7.1	6.5	6.3

Source: Data are official Mexican trade statistics, which include in-bond (maquiladora) trade.

In 1996, the United States accounted for well over four-fifths of Mexico's exports and some three-fourths of its imports. Canada accounted for 2.3 percent and 1.9 percent, respectively. Because of the large U.S. role in Mexico's foreign trade, U.S. trade was most affected by this reversal in Mexico's trade balance.

The GOM recognizes the positive role the United States played in improving the soundness of Mexico's overall foreign trade. At his 1996 year-end press conference, Commerce Secretary Herminio Blanco defended NAFTA by pointing out that Mexico attained a \$12-billion trade surplus in 1996 with the United States. This surplus, he explained, helped offset the \$3.2 billion trade deficit Mexico posted with the European Union and the \$5-billion deficit Mexico had with Asian countries.

The U.S. role in balancing Mexico's foreign trade goes back prior to the implementation of NAFTA. The United States was also responsible for Mexico's 1995 trade surplus, as Mexico posted deficits *vis-a-vis* Europe and Asia. Moreover, the large overall trade deficit Mexico still registered in 1994, the first NAFTA year, was not the result of Mexico's trade with the United States or Canada, but its trade predominantly with Asian countries and the EU.

On the other hand, data also show that Mexico's post-crisis emphasis on exports, and its curtailment of imports, was somewhat restrained by NAFTA commitments. The U.S. share in Mexico's total 1994 exports was 84.9 percent, but this share declined both in 1995 and 1996, and Canada's share also declined in 1996, as Mexico diversified its exports to third-country markets (table 3-3). At the same time, the U.S. share in Mexico's imports increased considerably, from 69.0 percent in 1994 to 74.4 percent in 1995 and 75.5 percent in 1996, as Mexico shifted its sourcing to its NAFTA neighbor. Canada's share in Mexican imports dropped slightly in 1996.

The tabulation below shows year-over-year percentage changes of total Mexican foreign trade since the peso crisis and trade by selected trading partners:<sup>67</sup>

<sup>67</sup> Source: INEGI and the Bank of Mexico.

	<u>1994 to 1995</u>		<u>1995 to 1996</u>	
	<u>Exports</u>	<u>Imports</u>	<u>Exports</u>	<u>Imports</u>
Mexico's total foreign trade .....	30.5	-8.8	20.7	23.5
Mexico's trade with North America .....	29.0	-2.1	21.2	25.4
Europe .....	34.5	-25.5	0.4	15.2
Asia .....	31.2	-22.5	31.2	16.5

The North American market thus received comparatively less than third-country markets from surging Mexican exports in the second NAFTA year. In the third NAFTA year, the growth of Mexican exports to Asia was fastest, but was negligible to Europe. By the same token, North American exporters were less affected by shrinking Mexican imports in 1995 and profited more from resurging imports in 1996 than have European and Asian exporters. For example, as noted in the previous chapter, NAFTA's tariff provisions protected U.S. exporters from Mexico's decision in 1995 to raise tariffs from 20 to 35 percent on textiles, apparel, and footwear articles imported from countries with which Mexico did not have free trade agreements.

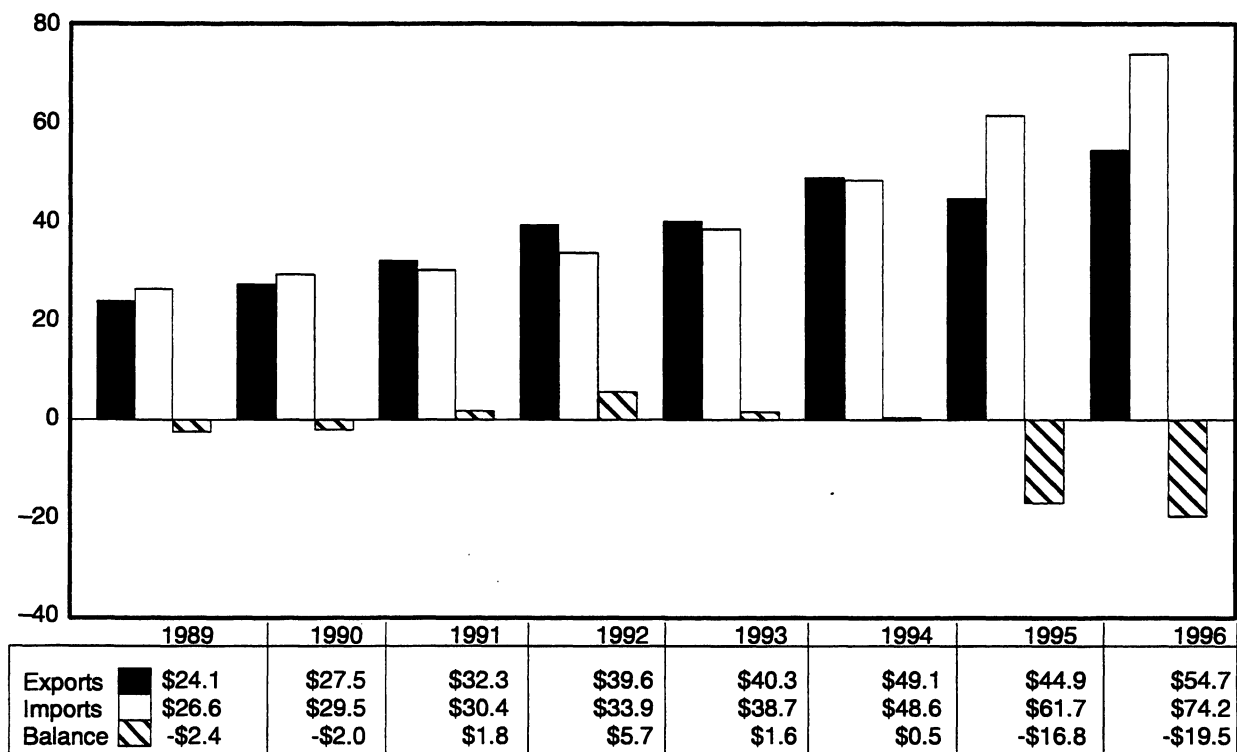
Thus, Mexico did not turn around its trade balance at the expense of NAFTA partners. On the contrary, in percentage terms, the reversal of Mexico's trade balance from a large deficit to a considerable surplus generally affected Mexico's NAFTA partners less adversely than it has third countries.

#### *U.S. Trade with Mexico*

U.S. trade with Mexico increased vigorously throughout the 1989-96 period (figure 3-15). NAFTA further boosted U.S.-Mexico trade in both directions, first, through the expectation of such an accord, then through the lowered tariffs and removal of other trade barriers in its implementation. According to official U.S. statistics, two-way trade reached a record \$97.7 billion in 1994. It continued to rise to \$105.7 billion in 1995 (due this time solely to the continued surge of U.S. imports from Mexico), and reached an unprecedented \$128.9 billion in 1996. Mexico continued to rank as the third-largest U.S. trading partner, after Canada and Japan, in both U.S. exports and imports.

The U.S. trade balance with Mexico began deteriorating even before NAFTA and the peso crisis, reversing a peak U.S. surplus of \$5.7 billion in 1992 to a \$17.7 billion U.S. deficit by 1995. In 1996, the U.S. trade deficit widened to \$19.5 billion, showing a slowdown in the rate of deterioration for the U.S. side.

**Figure 3-15**  
**U.S. trade with Mexico: Exports, imports, and trade balance, 1989-96**  
*Billion dollars*



Source: Compiled from official statistics of the U.S. Department of Commerce.

## **U.S. Exports**

U.S. merchandise exports to Mexico increased to a record \$54.7 billion in 1996. The 21.8 percent increase of this trade flow in the third NAFTA year contrasts sharply with its 8.7 percent decline in 1995. Exports to Mexico in 1996 rebounded in all major Standard Industrial Trade Classification (SITC) product categories from their unusually low 1995 levels (table 3-4).

Machinery and transport equipment was the largest export category, since Mexican producers continued to depend on the capital goods included in this U.S. industry sector. These exports, with motor vehicle parts, electrical products equipment and electronic components being the predominant items in the group, surged by 20.5 percent in 1996, and accounted for 45.8 percent of total U.S. exports to Mexico.

## **U.S. Imports**

In 1996, U.S. merchandise imports from Mexico grew by 20.2 percent (figure 3-15) to \$74.2 billion. Mexico's share of the U.S. import market rose from 6.7 percent in the pre-NAFTA year of 1993 to 9.3 percent in 1996. As on the U.S. export side, machinery and transport items were the dominant SITC category, accounting for 54.8 percent of the total. U.S. imports from Mexico entering under NAFTA provisions constituted an increasing share of the total in each NAFTA year: 63.7 percent in 1994, 71.2 percent in 1995, and 74.2 percent in 1996 (table 3-5).

In 1996, Mexico became the world's largest clothing exporter to the United States by volume, displacing Asian countries. Shared production, i.e., apparel sewn in Mexico from U.S. made and cut fabric and returned to the United States, predominates in U.S. apparel imports from Mexico.

## **Production Sharing Trade**

Close geographic proximity permits inter-country specialization within industrial sectors. Production sharing or the use of assembly plants in Mexico by U.S. firms has been booming for years. Much of U.S.-Mexican production sharing takes place within the sectors producing motor vehicles, auto parts, electronic products (especially televisions), and apparel. Processing U.S. materials or assembling U.S. components in Mexico assists many U.S. producers of labor-intensive articles in competition with imports from Asia; at the same time it benefits Mexico by creating jobs, and transferring U.S. managerial and technological know-how to Mexican establishments.

Most assembly plants in Mexico that process components imported in bond for export markets operate under the Maquiladora Program, which was initially called the Border Industrialization Program when it began in 1965. The Maquiladora Program permits imports of components, raw material, containers, packing material, fuel, lubricants, spare parts, equipment, and machinery into Mexico without requiring payment of import duties or the value-added tax, provided those imports are used to produce goods for export. Over 90 percent of the parts and materials for use in the maquiladora industry originate in the United States; the maquilas obtain only an estimated 2 percent of their supplies from domestic sources in Mexico.

**Table 3-4**  
**U.S. merchandise trade with Mexico, by SITC Nos. (revision 3), 1994-96**  
*(1,000 dollars)*

SITC section No.	Description	1994	1995	1996
		U.S. exports		
0	Food and live animals	3,173,114	2,138,786	3,547,511
1	Beverages and tobacco	170,436	73,805	67,654
2	Crude materials, inedible, except fuels	2,088,369	2,100,857	2,455,237
3	Mineral fuels, lubricants and related materials	1,009,634	1,275,522	1,504,694
4	Animal and vegetable oils, fats and waxes	244,283	362,045	322,546
5	Chemicals and related products, nesl	4,359,814	4,214,913	5,062,163
6	Manufactured goods classified chiefly by material	6,679,912	6,515,738	8,049,697
7	Machinery and transport equipment	22,840,998	20,805,569	25,080,540
8	Miscellaneous manufactured articles	6,344,476	5,456,649	6,316,266
9	Commodities and transactions not classified elsewhere in SITC	2,225,009	1,936,892	2,279,557
	Total all commodities	49,136,046	44,880,776	54,685,865
		U.S. imports		
0	Food and live animals	2,862,953	3,828,492	3,650,835
1	Beverages and tobacco	332,884	400,955	528,479
2	Crude materials, inedible, except fuels	774,197	1,093,025	961,686
3	Mineral fuels, lubricants and related materials	4,975,874	6,012,906	8,024,077
4	Animal and vegetable oils, fats and waxes	10,434	18,845	22,813
5	Chemicals and related products, nesl	1,022,243	1,299,219	1,578,881
6	Manufactured goods classified chiefly by material	3,582,623	4,919,612	5,628,895
7	Machinery and transport equipment	26,480,892	33,208,578	40,596,350
8	Miscellaneous manufactured articles	6,543,989	8,329,981	10,237,485
9	Commodities and transactions not classified elsewhere in SITC	2,019,170	2,609,387	2,949,618
	Total all commodities	48,605,259	61,721,000	74,179,119

Note.—Because of rounding, figures may not add to totals shown. The abbreviation, nesl, stands for "not elsewhere specified or included."  
Source: Compiled from official statistics of the U.S. Department of Commerce.



**Table 3-5  
U.S.-Mexico production sharing trade, 1991-96**

(Million dollars)

Item	1991	1992	1993	1994	1995	1996
Total imports from Mexico .....	30,445.1	33,934.6	38,667.7	48,605.3	61,721.0	74,179.1
U.S. imports under production sharing provisions of HTS 9802: <sup>1</sup> .....						
Total value .....	14,334.3	16,502.0	18,992.3	23,068.2	24,962.3	27,924.3
Percent of total imports .....	47.1	48.6	49.1	47.5	40.4	37.6
U.S. components in HTS 9802 imports:						
Total value .....	7,254.8	8,691.9	9,887.0	11,608.4	12,832.8	15,355.5
Percent of HTS 9802 imports .....	50.6	52.7	52.1	50.3	51.4	55.0
Percent of total imports .....	23.8	25.6	25.6	23.9	20.8	20.7
U.S. imports under NAFTA: <sup>2</sup>						
Total value .....	NA <sup>3</sup>	NA <sup>3</sup>	NA <sup>3</sup>	30,953.6	43,926.6	55,075.9
Percent of total imports .....	NA <sup>3</sup>	NA <sup>3</sup>	NA <sup>3</sup>	63.7	71.2	74.2
U.S. imports entering under both NAFTA and 9802:						
Total value .....	NA <sup>3</sup>	NA <sup>3</sup>	NA <sup>3</sup>	14,504.5	16,721.1	20,388.3
U. S. content .....	NA <sup>3</sup>	NA <sup>3</sup>	NA <sup>3</sup>	7,215.1	8,674.4	10,848.9
Total exports to Mexico .....	33,275.8	39,604.9	40,265.5	49,136.0	44,880.8	54,685.9
U.S. exports of components 9802 operations as a percent of total U.S. exports .....	21.8	21.9	24.6	23.6	28.6	28.1
U.S. merchandise trade balance with Mexico <sup>4</sup> .....	7,354.1	5,670.3	1,597.8	530.8	-16,940.2	-19,493.3

<sup>1</sup> The production sharing provisions of HTS heading 9802 are 9802.00.5010, 9802.00.60, 9802.00.80 and 9802.00.90.

<sup>2</sup> Some import entries from Mexico declare eligibility for preferential tariff treatment under both NAFTA and heading 9802; such entries are reported in the totals for both imports under HTS heading 9802 (and U.S.-made components in HTS 9802 imports) as well as imports under NAFTA.

<sup>3</sup> Not applicable. NAFTA entered into force on January 1, 1994.

<sup>4</sup> The hyphen (-) symbol indicates trade deficit, or not applicable.

Source: Compiled by U.S. International Trade Commission staff from official statistics of the U.S. Department of Commerce.

Prior to the implementation of NAFTA, goods assembled in the maquiladora industry accounted for over 70 percent of Mexico's exports of manufactured goods to the United States. U.S. exports to production-sharing operations in Mexico continued to grow in the NAFTA period undeterred by the peso crisis, because these operations, as before, depended on sales to the U.S. market and were not affected by demand in Mexico. Exports of U.S. components and materials to companies that continued to make use of the production sharing tariff provisions of HTS 9802 when re-exporting assembled goods to the United States continued to gain significance after the peso crisis, accounting for 23.6 percent of overall U.S. exports to Mexico in the first NAFTA year, 28.6 percent in the second, and 28.1 percent in the third (table 3-5). It is estimated that maquiladora exports to the United States entering under NAFTA, but not also claiming eligibility and HTS 9802, amounted to at least \$10 billion in 1996.<sup>68</sup>

Products resulting from production sharing often re-enter the United States under chapter 98 of the Harmonized Tariff Schedule (HTS).<sup>69</sup> Because these imports must pay duties only on the value added in Mexico under these provisions, while the U.S. inputs return free of duty, the overall effective rate of U.S. duty for eligible goods is reduced.<sup>70</sup> Many imports from the maquiladora industry also qualify for and enter at NAFTA rates, further lowering the tariff burden.<sup>71</sup> The value of U.S. components returned after further processing or assembly in Mexico accounted for 55 percent of the total value of U.S. imports under the production-sharing provisions of chapter 98 in 1996. As a result, U.S.-origin components in imports under HTS 9802 accounted for 21 percent of the value of all U.S. imports from Mexico. HTS heading 9802.00.90 permits duty-free entry of apparel from Mexico that is sewn entirely from U.S.-formed-and-cut fabric components, and many U.S. apparel companies have established sewing operations in that country, bringing the number of textile and apparel maquilas to 636 by 1996. The majority of these firms have shifted production from Asia, where Asian fabric was typically employed, and to a lesser extent from the Caribbean Basin, thereby boosting U.S. textile mill exports to Mexico.

NAFTA contributed to the increased use of U.S. components in foreign assembly operations. Several Asian companies responded to NAFTA rules-of-origin requirements by accelerating the movement of the assembly of electronic products from Asia to Mexico and changing the sourcing of components from Asia to the United States.<sup>72</sup>

U.S. imports of jointly produced products from Mexico under production sharing HTS provisions that entered under HTS 9802 increased sharply during the NAFTA years, from \$19.0 billion in the pre-NAFTA year of 1993 to \$25.0 billion in 1995 and to \$27.9 billion in 1996. This trend reflected the growing price-competitiveness of production-sharing operations in Mexico, caused by the cheaper peso and by NAFTA provisions that allowed duty-free entry of Mexican apparel sewn from U.S. fabric.

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<sup>68</sup> See U.S. International Trade Commission, *Production Sharing: Use of Components and Materials in Foreign Assembly Operations, 1992-1995*, USITC publication 3032, Apr. 1997, pp. 1-6, 2-3.

<sup>69</sup> Many imports from production sharing operations, however, do not enter under HTS 98, thus HTS 98 data understate actual imports from production sharing operations.

<sup>70</sup> Duty-free treatment for the value of U.S.-made components contained in U.S. imports from the maquiladora industry and duty-free treatment for GSP-eligible imports from Mexico combined to make the trade-weighted effective rate of duty on U.S. imports from Mexico 2.07 percent in 1993.

<sup>71</sup> The trade-weighted effective rate of duty on U.S. imports from Mexico fell to 0.65 percent in 1996.

<sup>72</sup> See also U.S. International Trade Commission, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1992-1995*, publication 3032, Apr. 1997, ch. 4.

Although boosting the scope of U.S.-Mexican production sharing, NAFTA functioned at the same time as an instrument of phasing out the maquiladora program as it is known presently, and integrating this sector into the Mexican economy. While maquilas were conceived originally as producing for exports only, NAFTA provisions<sup>73</sup> had the effect of modifying Mexico's maquiladora legislation to gradually increase the amount of a maquila's production that may be sold to the Mexican market. Maquilas are granted full access to the domestic market by January 1, 2001. That is the same date by which "duty drawback" for Mexico's trade with the United States and Canada would also be phased out under NAFTA provisions.<sup>74</sup> For example, goods likely to be imported into the United States from Mexico under the production-sharing tariff provisions that have longer duty phaseout periods, or that do not contain sufficient North American content to meet NAFTA rules of origin, would become dutiable after January 1, 2001. Similarly, Mexican tariff preferences for the maquilas on still dutiable imported products would end on that date.

Although the maquiladora program will formally end, and maquilas will operate in the same manner as any other Mexican firm by 2001, the sector will continue to play a significant role in both the U.S. and Mexican economies because the complementarity of the U.S. and Mexican economies will sustain the incentives for production sharing. The ending of Mexican tariff preferences for the maquilas will be of little consequence because, by that date, tariffs on most imports from the United States and Canada would be reduced to zero under NAFTA.

### *U.S. Foreign Direct Investment in Mexico*

While U.S. foreign direct investment (FDI) in Mexico has increased in recent years, there are important conceptual problems to be addressed in attributing any particular portion of this increase to NAFTA. Direct investment, like merchandise trade, was heavily influenced by a number of macroeconomic factors which operate independently of trade liberalization agreements. The rate of growth and stability of the Mexican economy affected the attractiveness of Mexico as an investment location, as did relative wages in the United States and Mexico. The behavior of the Mexican peso played a role, as did investors' expectations of its future behavior. In particular, the extent to which potential investors in Mexico prior to the December 1994 devaluation perceived the strong peso to be a sign of underlying strength in the Mexican economy or, alternately, understood that the currency was overvalued and anticipated a sharp devaluation, remains unclear.

Many of the influences on U.S. FDI in Mexico are similar to the factors which influence domestic investment; for example, such investment becomes more or less attractive as equipment prices fall or rise relative to prices of other goods. Since U.S. direct investment in Mexico is financed primarily in U.S. capital markets, the rate of interest also plays a role. Attributing any particular changes in U.S. FDI flows to Mexico to NAFTA requires that a reasonable attempt be made to control both for those macroeconomic factors affecting investment in general and those impinging particularly on U.S.-Mexican bilateral flows.

Moreover, while NAFTA contains important investment-related provisions which broaden the degree of protection for U.S. investments in Mexico, the Mexican government itself undertook major unilateral reforms in its policies toward foreign direct investment in the immediate pre-NAFTA years, which contrasted markedly with Mexico's earlier inward-looking policies. Mexico significantly broadened the list of sectors of

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<sup>73</sup> NAFTA, Annex I for Mexico, p. I-M-34.

<sup>74</sup> Under "drawback," duties on imported components used in the manufacture of products that are eventually exported can be either waived or rebated.

the Mexican economy eligible for FDI and loosened government oversight of FDI in other sectors. These unilateral reforms are of at least equal importance to NAFTA reforms, which express and “lock in” many of the unilateral reforms in terms of international commitments. The presence of unilateral reforms makes assessment of investment trends in the pre-NAFTA period particularly problematic. While some increases in FDI in the immediate pre-NAFTA years may have been made in anticipation of NAFTA’s passage, others would have taken place as a result of the unilateral reforms alone.

Summary data on foreign direct investment in Mexico, from both the world and the United States, is presented in figure 3-16. Appendix Tables C-8 through C-16 provide detailed information on U.S. foreign direct investment in Mexico by major economic sector, including stocks and flows, method of financing, income, sales, exports and imports. U.S. capital outflows to Mexico were erratic during the debt crisis years of the early 1980s, showing occasional reversals during years of net repatriation (1983 and 1986). Nominal capital outflows quadrupled from \$393 million in 1987 to \$1.7 billion in 1989, when major investment reforms were instituted. Capital flows increased steadily but more slowly thereafter. This increase was interrupted in 1992, when U.S. FDI capital outflows to Mexico dropped to \$1.3 billion, less than half the 1991 level, recovering quickly to trend in 1993. This drop may be partly attributable to business uncertainty regarding NAFTA ratification during the 1992 election year.

The immediate pre-NAFTA period saw favorable macroeconomic conditions for U.S. investment in general and investment in Mexico in particular. These conditions account to some extent for the increases in U.S. FDI in Mexico prior to 1994. U.S. interest rates fell steadily, with Moody’s Aaa corporate bond rate declining from an annual average rate of 9.71 percent in 1988 to 7.22 percent in 1993, remaining between 7 and 8 percent during 1994-95.<sup>75</sup> This reduced the cost of capital for U.S. investments in Mexico, as these investments were financed largely in U.S. capital markets. Of considerable importance to investors, Mexico’s macroeconomic stability increased as well. Inflation at the producer level fell from 136 percent in 1987 to 16 percent in 1989, rose to 23 percent the following year, then steadily declined to under 7 percent in 1994. Following the devaluation, Mexico posted a 39-percent inflation rate in 1995.<sup>76</sup>

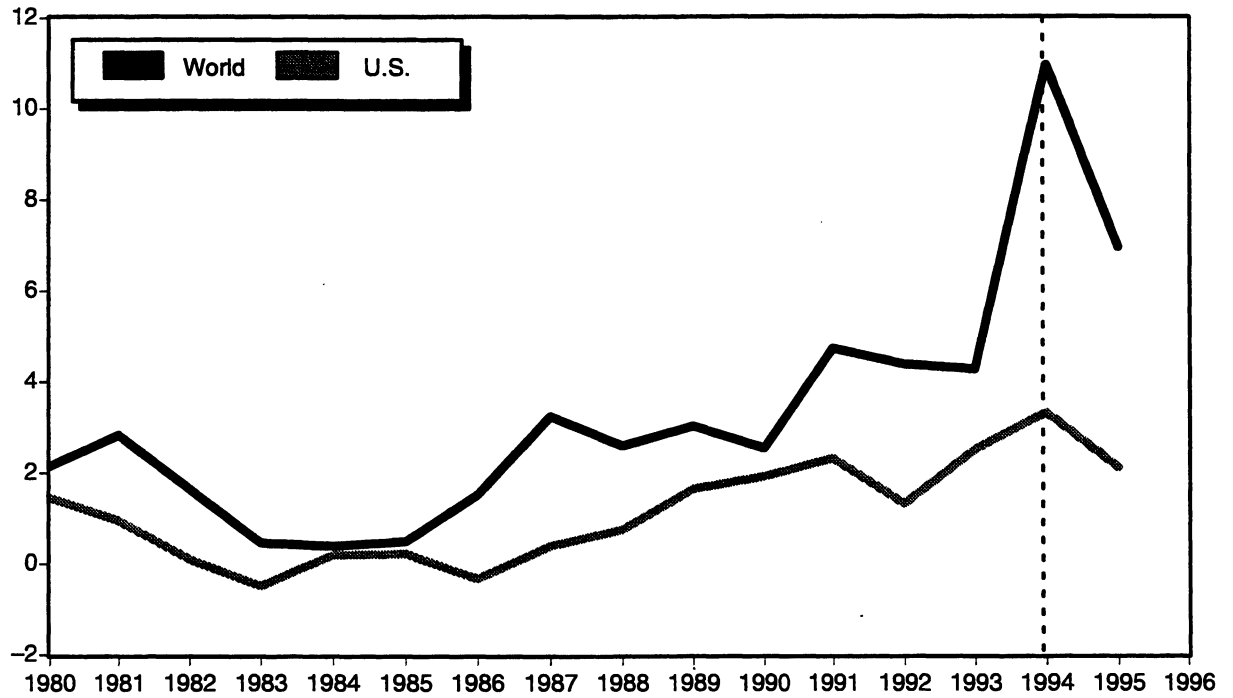
In 1994, the first year of NAFTA implementation, U.S. FDI capital outflows to Mexico reached a record level of \$3.3 billion. This amounts to a healthy, but not spectacular, 15 percent compounded

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<sup>75</sup> Taken from Council of Economic Advisors, *Economic Report of the President*, Feb. 1997.

<sup>76</sup> Calculated from annual values of the Mexican wholesale price index, as reported in World Bank, *STARS★95 (Socioeconomic Time-Series Access and Retrieval System)*, on CD-ROM.

**Figure 3-16**  
**Foreign direct investment in Mexico: Inflows from World and the United States, 1980-95**  
*Billion dollars*



Source: OECD *Economic Outlook*, Dec. 1996.

nominal increase from time of the 1989 reforms to the first implementation of NAFTA. By comparison, capital outflows diminished somewhat in the wake of the peso crisis, falling in 1995 to \$2.1 billion.

Tables C-16 and C-17 document the significant extent to which U.S. trade with Mexico is intrafirm trade. For 1994, the most recent year for which data are available, U.S. exports to U.S. affiliates in Mexico amounted to approximately \$16.2 billion, while U.S. imports from U.S. affiliates in Mexico were approximately \$16.4 billion. These figures amount to approximately 33 percent of all U.S. exports to Mexico and 34 percent of all U.S. imports from Mexico. The vast bulk of U.S. trade with U.S. affiliates in Mexico is intrafirm trade, i.e., trade between U.S. parents and affiliates. U.S. trade with U.S. affiliates in Mexico has traditionally been in near-balance despite fluctuations in the aggregate bilateral balance, largely because of the historical operation of the Maquiladora Program (see the section on Production Sharing, above).

While U.S. FDI in Mexico increased both prior to and subsequent to NAFTA, U.S. direct investments in other parts of the world increased more rapidly. Thus, there is no particular evidence that U.S. FDI in Mexico was withdrawn from other markets because of superior Mexican investment opportunities. Table 3-6 contains the relevant data. During 1989-94, U.S. FDI in Canada and in the Asia/Pacific region grew at significantly higher rates than U.S. FDI in Mexico. During 1995, a large-scale surge in total U.S. direct investment abroad ended up primarily in Europe, the historical host region for most U.S. FDI, but coincided with the peso crisis and a decline in U.S. FDI to Mexico.

Table 3-6 also illustrates that U.S. FDI flows to Mexico during the NAFTA years were small relative to total U.S. gross private domestic fixed investment, amounting to approximately 0.2 to 0.3 percent of total U.S. investment. Thus, any fluctuations in U.S. FDI in Mexico (whether or not attributable to NAFTA) can have had only a minimal impact on aggregate U.S. investment. To the extent that U.S. real wage increases are driven by U.S. capital investment and increasing education and skills of workers, the influence of U.S. FDI in Mexico on U.S. real wages, in the aggregate, is correspondingly minimal.

**Table 3-6**  
**Growth of U.S. direct investment capital outflows, by region**

	1989	1994	1995	1989-94	1994-95
	-----Millions of dollars-----			--Annualized pct. change--	
World .....	37,604	53,028	93,406	7.1	76.1
Mexico .....	1,652	3,327	2,113	15.0	-36.5
Canada .....	1,268	6,287	7,787	31.0	23.5
Europe .....	23,679	20,050	52,828	-3.3	163.5
Other Latin America/ W. Hemis- phere .....	7,442	11,470	12,501	9.0	9.0
Asia/Pacific .....	4,375	11,143	16,001	20.6	43.6
Other <sup>1</sup> .....	-811	656	2,194	( <sup>2</sup> )	234.5
U.S. gross private domestic fixed investment .....	797,500	954,900	1,028,200	3.4	7.8
FDI in Mexico .....					
from the world .....	2,785	10,972	6,963	31.6	-36.5

<sup>1</sup> Includes Africa and the Middle East.

<sup>2</sup> Cannot be calculated.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division: *Balance of Payments and Direct Investment Position Estimates*, on disk; International Monetary Fund, *International Investment Statistics*.

### *Third-Country FDI Flows to Mexico*

According to International Monetary Fund data, worldwide FDI in Mexico grew sharply in the post-NAFTA period (see figure 3-16). Mexican direct investment inflows from all sources were measured at rates of \$2 billion-\$3 billion annually in each of the years 1988-1990, jumped to \$4 billion-\$5 billion annually during the years 1991-1993, then more than doubled to \$11.0 billion in the first year of NAFTA, 1994. Although worldwide FDI in Mexico fell subsequent to the peso crisis, to \$7.0 billion in 1995, this level was still substantially in excess of historical levels. Thus the raw data show substantially more rapid growth in worldwide FDI to Mexico than in U.S. FDI to Mexico.

Data from Secretary of Commerce and Industrial Development (SECOFI) (Mexico's Ministry of Commerce and Industry) indicate that as of 1996, 60 percent of Mexico's cumulative direct investment had come from the United States, 21 percent from Europe, 5 percent from Japan, 2 percent from Canada, and 10 percent from other sources. For the 30 months from January 1994 through June 1996, the United States accounted for 51.9 percent of new inflows of FDI to Mexico. At least 15.9 percent of new FDI inflows were

from Europe (the Netherlands, 7.2 percent; Germany, 4.6 percent; the United Kingdom, 4.1 percent), 4.4 percent from Japan, 7.0 percent from Canada, 8.3 percent from India, 2.0 percent from Korea, and 10.0 percent from other sources.

### *Economic Policy*

By the time NAFTA concept began to take shape in the early nineties, Mexico had made significant progress in deregulating, privatizing, and opening up its economy for foreign trade and investment. Thus NAFTA was to complete a process of trade liberalization that had been under way in Mexico since the mid-1980s.<sup>77</sup> NAFTA addressed a wide range of topics.<sup>78</sup> Among the more significant changes made by Mexico since NAFTA's inception are removal of certain foreign investment restrictions still mandated by Mexico's laws and permitted under NAFTA; continuation of the country's privatization program; and strengthening of intellectual property rights (IPR) protection through additional legislation, better implementation, and updated customs practices.

### **Foreign Investment Policy<sup>79</sup>**

The legal framework for foreign investment in Mexico changed significantly with the country's Foreign Investment Law (FIL), enacted on December 27, 1993, in response to Mexico's commitments under NAFTA, which opened up further branches of economic activities to foreign direct investment (FDI). The FIL replaced the "Law to Promote Mexican Investment and Regulate Foreign Investment" of 1973, which was generally considered hostile to foreign capital. The new investment law consolidated several earlier regulations that had gradually eased the rigor of the earlier law, and provided for unilateral liberalization of foreign investment during the pre-NAFTA years.

Under the new law, foreign investment is permitted in any sector, unless it is specifically mentioned as being subject to restrictions. These may range from outright prohibition or ceilings on equity participation. In accordance with Mexico's Constitution, the FIL continued to reserve "strategic" economic activities to the State, notably oil and gas exploration and production, and the transmission of electric power; industries such as forestry exploitation, and domestic air and maritime transportation were reserved for Mexican nationals. NAFTA respected Mexico's constitutional reservations.

NAFTA provisions implemented by Mexico assured both national treatment and most-favored-nation (MFN) treatment for investors from partner countries in setting up operations or acquiring firms in the NAFTA area.<sup>80</sup> They removed such barriers to partner-owned operations as export performance requirements, capital controls, and mandatory domestic content percentages; and allowed investors from NAFTA partners to freely transfer hard currency for profit and capital repatriation.

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<sup>77</sup> For a detailed discussion of Mexico's unilateral trade liberalization measures, see U.S. International Trade Commission, *Review of Trade and Investment Liberalization Measures by Mexico and Prospects for Future United States-Mexican Relations*, Apr. 1990, USITC publication 2275.

<sup>78</sup> See ch. 2 for details.

<sup>79</sup> This section is based in part on U.S. Department of State telegram No. 14492, "1996 Trade Act Report: Mexico," prepared by U.S. Embassy, Mexico City, Nov. 18, 1996, and U.S. Embassy, Mexico, "Foreign Investment Report, 1996-97, Oct. 1996.

<sup>80</sup> "National treatment" means treatment as favorable as that of domestic firms, and "most-favored-nation treatment" means treatment as favorable as that of third-country investors.



After NAFTA's implementation, the FIL was followed by other laws and regulations relating to foreign investment in Mexico. These changes further liberalized Mexico's investment policies. Under NAFTA, these subsequent liberalizations cannot now be reversed.<sup>81</sup> A constitutional amendment of December 31, 1994, reduced the scope of the originally reserved areas, allowing foreign investment in railroads, telecommunications, and satellite transmission.<sup>82</sup> Mexico's quest for foreign capital--especially after the peso crisis, which tempered investors' interest in the country--resulted in several new provisions during 1995 that went beyond commitments under NAFTA. On May 12, 1995, the Federal Gazette published the "Regulatory Law of the Railroad Services," which opens for 50 years foreign participation in concessionary enterprises of up to 49 percent in capital stock. In November 1995, the GOM allowed that the airport network's 50-year management concessions should be auctioned off to private investors, including foreigners.

On June 7, 1995, the Federal Gazette published a "Federal Telecommunications Law" that permitted foreign participation in the satellite communications sector up to 49 percent of capital stock, as was applicable in communications overall. (The FIL and NAFTA had originally reserved satellite communication to the State.) This law also permits foreign participation up to 100 percent of capital for communication by cellular phone, subject to approval by the National Foreign Investment Commission.<sup>83</sup> On August 10, 1996, in a step consistent with NAFTA telecommunications provisions, the Gazette announced the establishment of Mexico's Telecommunications' Commission, an agency with a mandate similar to that of the Federal Communications Commission (FCC) in the United States. The same law ended the monopoly of Mexico's national telephone company (TELMEX) on commercial long-distance telecommunications services. U.S. companies responded by beginning to compete, in partnership with Mexican firms, for Mexican long-distance subscribers.<sup>84</sup>

In 1996, the United States cited Mexico for not complying with its NAFTA telecommunications standards under chapter 13 of NAFTA, which requires that Mexico have in place by January 1995 NAFTA-consistent telecom terminal attachment equipment standards as well as procedures to accept telecom test data. These issues have been the subject of ongoing bilateral consultations between the U.S. and Mexican Governments, resulting in an agreement to a NAFTA-consistent set of terminal attachment standards at the February 12, 1997, meeting of the NAFTA Telecommunications Standards Subcommittee (TSSC).<sup>85</sup> A resolution of U.S. concerns related to test acceptance was announced on May 20.<sup>86</sup> The principal remaining restriction in the Mexican telecommunications sector is the 49-percent equity limit for foreign investment in basic telecommunications services, which are excluded from most NAFTA obligations. Although basic telecommunications is not covered by NAFTA, Mexico did participate in the WTO Agreement on Basic Telecommunications Services (see ch. 2 for details). NAFTA provides a further opportunity for liberalization in this sector, stating at Art. 1309 that the Parties shall consult regarding the feasibility of further liberalizing trade in all telecommunications services, including basic services.

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<sup>81</sup> NAFTA Art. 1108.

<sup>82</sup> U.S. Department of State telegram No. 14492, "1996 Trade Act Report: Mexico," prepared by U.S. Embassy, Mexico City, Nov. 18, 1996, p. 6. See also the next section on "Privatization."

<sup>83</sup> The National Foreign Investment Commission, chaired by the Secretary of Commerce and Industrial Development (SECOFI) makes major decisions on foreign investment in Mexico.

<sup>84</sup> United States Trade Representative, *1997 National Trade Estimate Report on Foreign Trade Barriers*, p. 265.

<sup>85</sup> United States Trade Representative, *1997 National Trade Estimate Report on Foreign Trade Barriers*, p. 265

<sup>86</sup> USTR, *USTR Announces Agreement Between the United States and Mexico on Exchange of Product Safety Test Duty for Telecommunications Equipment*, Press Release 97-46, May 20, 1997.

An amendment to the FIL published on May 11, 1995, allows private investment (both national and foreign) in transportation, distribution, and storage of natural gas. Implementing regulations followed on November 8, 1995. Originally, the Constitution and the FIL reserved these activities, as part of the "strategic" petroleum and other hydrocarbons sector, to the Mexican State; NAFTA respected those reservations.

As provided to in NAFTA Art. 1409 and Annex VII (A), foreign financial institutions from member nations are restricted to holding a specified percentage of capital assets in Mexico's financial system. Mexico committed in Annex VII (B) to increase those limits over time in accordance with the amount of assets in the financial system. The limits, published semiannually, take effect the day following publication. The last liberalization of individual and aggregate capital limits applicable to U.S. and Canadian financial institutions operating in Mexico was announced on May 15, 1997.

On February 15, 1995, Mexico amended its "Law to Regulate Financial Corporations," its "Credit Institutions Law," and its "Stock Exchange Law," broadening the scope of activities for foreign investors in the area of banking and financial services in order to ameliorate the effects of the peso crisis. The new rules allowed partner banks to acquire up to 100 percent ownership in existing banks that have less than 6 percent of the total capital in the banking system (this effectively excludes, however, Mexico's 3 largest banks). Collectively, NAFTA-partner investors may now own up to 49 percent of a bank, brokerage house, or financial group--up from the 30 percent required by NAFTA.

With the implementation of NAFTA, U.S. and Canadian insurers that had joint ventures in Mexico were allowed to increase their ownership share from 30 percent in 1994 to 51 percent in 1996, and to 100 percent by the year 2000. U.S. and Canadian insurers were also permitted to establish wholly owned subsidiaries in Mexico, subject to aggregate market share limits, which will be eliminated in 2000. Given these NAFTA preferences to be enjoyed in Mexico by investors from partner countries, some third-country firms entered the Mexican market through affiliates of U.S. or Canadian subsidiaries.

The General Office of Foreign Investment, operating under the SECOFI, is assigned to register and monitor foreign direct investment in Mexico. On June 12, 1996, the Federal Gazette announced that this office will also act as a clearinghouse for NAFTA-related complaints on investment regulations or the implementation of NAFTA's chapter 11, which deals with investment.

While Mexico is actively seeking foreign investment in most sectors of the economy, and has undertaken additional liberalization since NAFTA's inception, it continues to exclude foreign investors (including those from NAFTA partners) from owning assets in other important sectors, including oil and gas distribution and retailing, selected educational services, newspapers and agricultural land.<sup>87</sup>

Mexico's liberal reforms boosted FDI inflows in 1985-1987. The prospect of Mexico's partnership in a NAFTA apparently gave a new impetus to these inflows in 1990. In 1993 and 1994, as NAFTA became a reality, FDI in Mexico surged from the United States, was joined in 1994 from third countries at an even higher rate, and reached an all-time high. However, the peso's collapse caused investors to lose interest in 1995 and 1996. Despite recent signs of revived activity, FDI inflows are reportedly far below pre-devaluation levels.<sup>88</sup>

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<sup>87</sup> United States Trade Representative, *1997 National Trade Estimate Report on Foreign Trade Barriers*, p. 266.

<sup>88</sup> Rick Wills, "International Investments Slowly Leaving Mexico," *El Financiero*, Jan. 13-19, 1997, p. 21.

## Privatization

The GOM has privatized or eliminated more than 1,000 parastatal<sup>89</sup> companies and organizations since 1986, when the process of privatization began in earnest.<sup>90</sup> Privatizations (or “de-monopolization,” as the process is sometimes called)<sup>91</sup> during the administrations of de la Madrid and Salinas included commercial banks, the telephone company, a television network, airlines, steel mills, mining companies, several major industrial facilities, and the banking system.<sup>92</sup> A Federal Economic Competition Law was enacted in 1993 to restrict monopolistic power and other practices of unfair competition in the newly-expanding private sector. Foreign investors have been invited to participate in Mexico’s privatization process in the same way as they have been encouraged to use many other avenues of direct investment.

Some measures liberalizing foreign investment referred to above took place in the context of privatization. The Zedillo administration initially broadened the previous administration’s privatization program, specifying concessions awarded by the national railroad, port facilities, the generation of electricity, and some portions of PEMEX, Mexico’s state monopoly for petroleum-related activities, as major areas of implementation.<sup>93</sup> The May 1995 amendment to the FIL, for example, which opened up several opportunities for foreign investment, legalized the privatization of the national railroad system. Similarly, the June 1995 telecommunications law, which opened up satellite communication to foreign participation up to 49 percent and privatized TELMEX for long-distance communication, was an act of privatization. Nonetheless, progress of privatization during the Zedillo administration has been slow. For example, only one small concession has been awarded thus far in the area of distribution, transmission, and storage of natural gas.<sup>94</sup> The Communications and Transportation Ministry (SCT) has decided to reduce the number of airports to be auctioned off from the originally-scheduled 58 to 35, and the pace in auctioning off railroad concessions has been slow.<sup>95</sup>

Most notable is a weakening in the Government’s resolve to privatize the petrochemical industry. PEMEX has been preparing since 1992 to privatize its secondary petrochemical plants,<sup>96</sup> in quest of foreign funds and technology. Initially, President Zedillo had made the sale of some 61 petrochemical facilities an important component of his privatization program.<sup>97</sup> From the outset, however, petrochemical privatization faced resistance from domestic political forces, which considered Mexico’s entire petroleum industry--

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<sup>89</sup> Organizations with some degree of government ownership and control are generally referred to as “parastatal” organizations.

<sup>90</sup> Some divestment of the public sector began to take place already following the nationalization of Mexico’s banking system in 1982.

<sup>91</sup> U.S. Department of State telegram No. 258771, “National Trade Estimate Report--Mexico,” prepared by Department of State, Washington D.C., Dec. 20, 1996.

<sup>92</sup> U.S. Department of State telegram No. 14492, “1996 Trade Act Report: Mexico,” prepared by U.S. Embassy, Mexico City, Nov. 18, 1996, p. 4.

<sup>93</sup> OECD, “Trade Liberalisation Policies in Mexico,” 1996, p. 50.

<sup>94</sup> David Shields, “Privatization Tribulations,” *El Financiero*, Feb. 17-23, 1997.

<sup>95</sup> Nick Wilson, “Fewer Airports Will be for Sale,” *El Financiero*, Dec. 9-15, 1996.

<sup>96</sup> The distinction of basic petrochemicals versus secondary petrochemicals is used to divide Mexico’s petrochemical products into those reserved for state production (basic) and those open to private production (secondary.)

<sup>97</sup> President Zedillo’s announcement in March 1995, at the 57th anniversary of the nationalization of the Mexican oil industry, that the State petrochemical industry will be put up for sale.

including all petrochemicals--as national patrimony, which should remain state-owned.<sup>98</sup> PEMEX unions, which feared massive layoffs from privatization, were a vocal source of opposition.

Apparently in response to these forces, in March 1996 Mexico announced its intention to use a NAFTA provision that allows it to limit the initial offering of the PEMEX secondary petrochemical assets to private industry. On October 13, 1996, Mexico's energy minister stated that the original plans of privatizing secondary petrochemical plants will be scaled down, and that legislation will be introduced to limit private sector investment in secondary petrochemicals to no more than 49 percent, with PEMEX retaining the majority share.

### **Protection of Intellectual Property Rights<sup>99</sup>**

In the period before and since NAFTA's implementation, the GOM responded to U.S. concerns about IPR violations in Mexico with the following pieces of legislation: the Industrial Property Act of 1991, which significantly improved patent and trademark protection,<sup>100</sup> amendments to this law in 1993 and 1994; and the Mexican Copyright Act of August 1991<sup>101</sup> and amendments thereto. The 1994 amendment to the Industrial Property Law created the Mexican Institute for Industrial Property (IMPI), with a mandate to implement Mexico's patent-related laws. Mexico also joined major international organizations that regulate the protection of IPR rights.<sup>102</sup>

Chapter 17 of NAFTA served as a model for the Trade-related Intellectual Property Rights (TRIPs) agreement negotiated in the Uruguay Round and incorporated commitments built on existing international agreements--including the Paris Convention on the protection of industrial property rights and the Rome Convention on the rights of authors and artists. NAFTA provides for nondiscriminatory national treatment in IPR protection and requires each party to ensure that effective enforcement procedures are in place and civil judicial procedures are available to rights' holders.

Mexico's legislative activity regarding IPR before and during the NAFTA years has been intense. A new Customs Law, in force since April 1, 1996, enabled Mexican customs officials for the first time to seize pirated merchandise. Although enforcement of IPR has been improving in these years, U.S. concerns persist, especially in protecting copyright of computer software, video recording, and sound recording. For this

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<sup>98</sup> According to the Constitution of Mexico and enabling state laws, hydrocarbons are a state domain. Many consider the definition of hydrocarbons to include petrochemicals.

<sup>99</sup> This section is based principally on U.S. Department of State telegram No. 14492, "1996 Trade Act Report: Mexico," prepared by U.S. Embassy, Mexico City, Nov. 18, 1996, and Christina Moeckel, "Harmonizing Mexico's Intellectual Property Rights Regime with That of its NAFTA Partners," *North American Free Trade & Investment Report*, Feb. 15, 1996, pp. 14-15.

<sup>100</sup> Mexico's "Law for the Promotion and Protection of Industrial Property" of June 26, 1991, covers patents and trademarks and trade secrets, and replaces the 1976 Law of Inventions and Marks and the 1982 Law on the Transfer of Technology. Notably, this law extended patent protection from 14 to 20 years from the date of filing; granted trade marks for 10-year renewable periods; and provided for recovery of damages in case of infringement.

<sup>101</sup> The 1991 copyright law includes provisions for increased protection of computer programs against unauthorized reproduction, and provides for procedures when claiming damages.

<sup>102</sup> Notable achievements have been Mexico signing (but not yet ratifying) the UPOV convention and the Patent Cooperation Treaty and reactivating its Interministerial Commission for the Protection of IPR.

reason, on April 30, 1996, a bilateral U.S.-Mexican working group was established to help Mexico amend its laws and improve enforcement.<sup>103</sup> The group met three times in 1996.

In a February 1996 submission to United States Trade Representative (USTR), the International Intellectual Property Alliance (IIPA), an umbrella group for U.S. copyright-based industries, said that Mexico's failure to comply with NAFTA's enforcement obligations cost copyright-based industries more than \$285 million in 1995. The IIPA charged that Mexico does not provide expeditious relief from piracy as required under article 1714 of NAFTA. In addition, the group said that Mexico has not provided provisional remedies, injunctive relief, or sufficient criminal penalties for violators, as required under Articles 1715, 1716, and 1717 respectively.<sup>104</sup>

According to a survey conducted by the Business Software Alliance (BSA),<sup>105</sup> civil actions against infringers are found to be time-consuming, costly, and ineffective in Mexico, therefore rarely initiated.<sup>106</sup> As to criminal investigations, one of the problems in the copyright area was the insufficiency of penalties for violations.<sup>107</sup>

Stiffer penalties for violators were introduced and administrative procedures strengthened in Mexico's most recent copyright legislation, based on analysis of U.S. and European laws, and published on December 24, 1996.<sup>108</sup> The new law substantially increases protection of computer programs, textile designs, and several other types of copyrighted material. Major outstanding questions remain as to the consistency of the new law with Mexico's obligations under NAFTA and the WTO Agreement on TRIPs. Particular concerns include the lack of criminal penalties for sound-recording piracy, the absence of civil remedies, and the possible decriminalization of end-user piracy.<sup>109</sup> Some of these problems were addressed with passage of technical amendments on April 29, 1997. The United States is currently working with Mexico to address its remaining concerns.<sup>110</sup>

## Canada

Canada's membership in NAFTA was more the result of an evolution than a dramatic departure from the trade policy of either Canada or the United States. The "revolution" took place 7 years prior to the trilateral agreement--in 1987, when Canada and the United States successfully concluded the U.S.-Canada Free Trade Agreement (CFTA). The pact became effective on January 1, 1989, and reflected a recognition by Canada of the importance of trade to the overall Canadian economy, and of the significance of the United States as the primary trading partner of Canada. The Agreement was fueled by a Canadian desire for greater transparency and predictability in the bilateral trading relationship with the United States. It was also

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<sup>103</sup> *International Trade Reporter*, May 1, 1996.

<sup>104</sup> IIPA, "IIPA Names 29 Countries Causing Over \$6 Billion in Trade Losses Due to Copyright Piracy in 1995," Feb. 20, 1996 and accompanying report to USTR, pp. 19-26.

<sup>105</sup> As reported by Christina Moeckel, "Harmonizing Mexico's Intellectual Property Rights Regime with That of its NAFTA Partners," *North American Free Trade & Investment Report*, Feb. 15, 1996, pp. 14-15.

<sup>106</sup> Christina Moeckel, "Harmonizing Mexico's Intellectual Property Rights Regime with That of its NAFTA Partners," *North American Free Trade & Investment Report*, Feb. 15, 1996, pp. 14-15.

<sup>107</sup> Penalties for trademark violations are much steeper than for copyright violations.

<sup>108</sup> Rick Wills, "International Investments Slowly Leaving Mexico," *El Financiero*, Jan. 13-19, 1997, p. 21.

<sup>109</sup> United States Trade Representative, *1997 National Trade Estimate Report on Foreign Trade Barriers*, p. 263.

<sup>110</sup> USTR official, telephone interview with U.S. International Trade Commission staff, May 14, 1997.

bolstered by increased Canadian annoyance at what came to be called “contingency protection”--the effect of U.S. measures, generally antidumping and countervailing duties, on Canadian products, and the impact that the threat of the imposition of such measures had in inhibiting the sale of Canadian products in the United States.

The CFTA was viewed therefore, as an explicit attempt on the part of both governments to establish more discipline in bilateral trade, while at the same time creating institutions that would lessen the tensions and add to the measured resolution of disputes that inevitably occurred as part of such a large commercial relationship. All qualifying trade between the United States and Canada will become free of duty as of January 1, 1998. At that time, the 10-year period for the staged elimination of all tariff barriers between the two countries, initiated by the CFTA, will have ended. Canada and the United States are already one another’s main trading partners, and growth in trade under NAFTA has been significant.

### *Economy*

Table 3-7 summarizes the major macroeconomic data for the Canadian economy during 1994 and 1995 and presents projections for 1996 and 1997. Economic indicators for Canada show that the Canadian economy performed respectably during the 1994-96 period.

**Table 3-7**  
**Key Canadian economic indicators and projections**

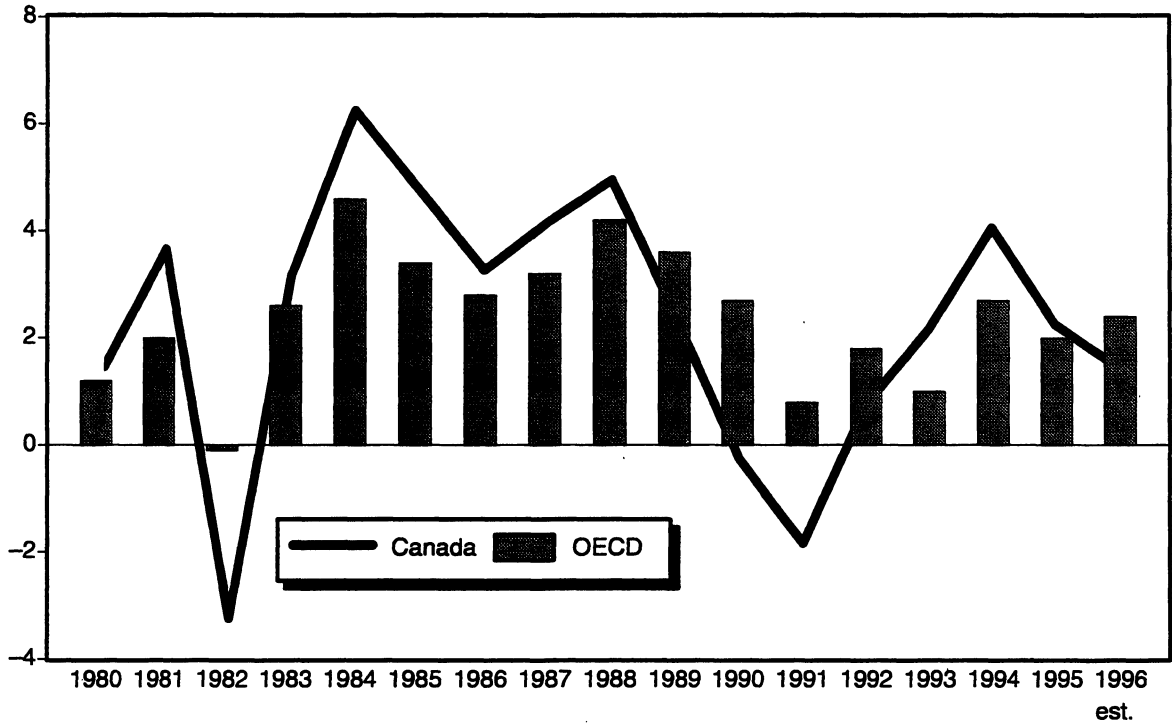
Item	Actual		Projected	
	1994	1995	1996	1997
Real GDP growth ( <i>percentage change</i> ) . . . . .	4.1	2.3	1.4	3.3
Consumer Price Index ( <i>percentage change</i> ) . .	0.2	1.9	1.5	2.0
Unemployment rate . . . . .	10.4	9.5	9.6	9.4
Current Account Balance; end-of-period ( <i>billion dollars</i> ) . . . . .	-16.2	-8.2	0.0	2.3
Foreign Exchange Reserves; end-of-period ( <i>million dollars</i> ) . . . . .	10,219	12,629	18,028	18,450
Foreign Debt ( <i>percentage of GDP</i> ) . . . . .	3.8	3.4	2.8	2.3
Avg. Annual Exchange Rate ( <i>C\$ per US\$</i> ) . .	1.37	1.37	1.36 <sup>1</sup>	1.34

<sup>1</sup>Actual.

Source: OECD, *Economic Outlook*, Dec., 1996; IMF, *World Economic Outlook*, Oct. 1996; IMF, *International Financial Statistics*, March 1997; supplemented by data from Statistics Canada.

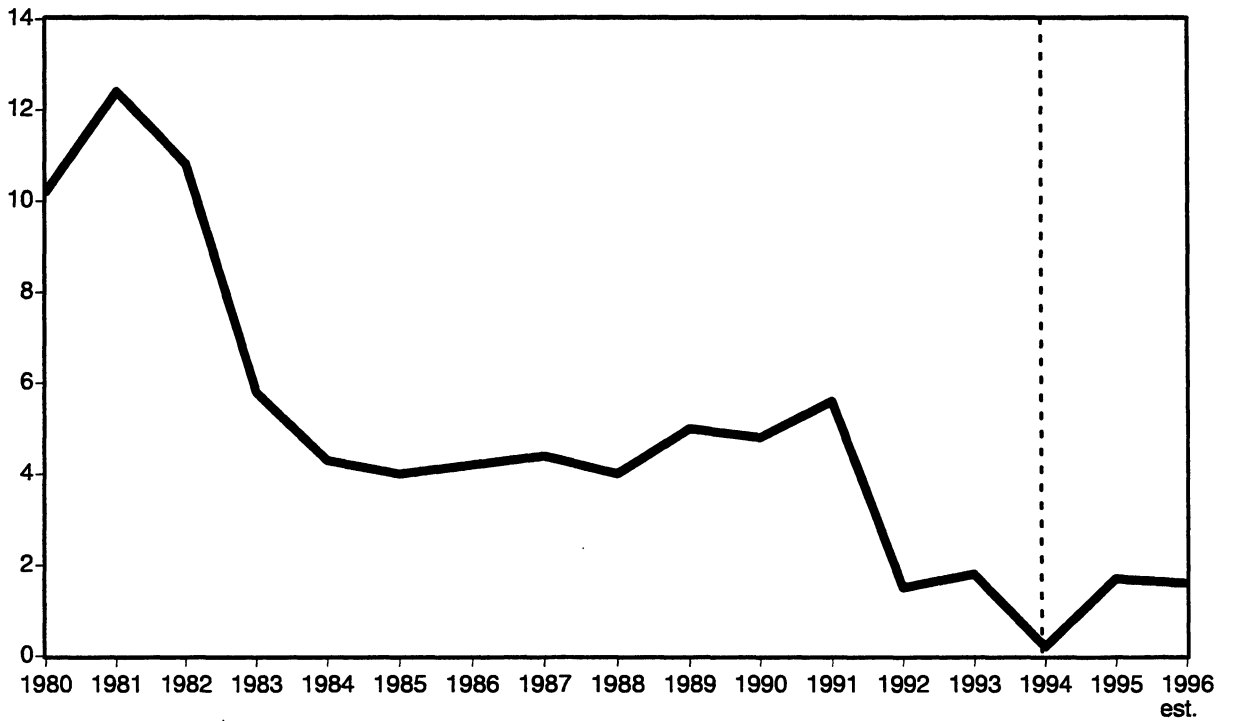
Canada’s real GDP growth closely tracks that of the United States and was faster than the OECD average from 1993-1995, but slowed to 1.4 percent in 1996 (figures 3-2 and 3-17). Inflation has been kept under control (figure 3-18). Unemployment--a particularly difficult problem in Canada--has decreased

**Figure 3-17**  
**Real GDP growth, for Canada, 1980-96**  
 Percentage



Source: OECD, *Economic Outlook*, Dec. 1996.

**Figure 3-18**  
**Inflation rate (change in consumer prices) for Canada, 1980-96**  
 Percentage



Source: OECD, *Economic Outlook*, Dec. 1996.

(figure 3-19). The level of public debt has also diminished significantly, as has the ratio of debt to GDP. The Federal deficit decreased by C\$8.9 billion through the third quarter of fiscal year 1996, an annual decline of 12.7 percent.<sup>111</sup> The targets of lowering the deficit to GDP ratio to 3 percent in fiscal year 1996/97 and 2 percent in fiscal year 1997/98 appear achievable.<sup>112</sup> Most of the improvement has been due to a 4.2-percent drop in current Government expenditures on goods and services over the period.<sup>113</sup>

An ongoing difficult area has been the persistently high level of unemployment. Cutbacks in the public sector, which accounts for 15 percent of Canada's total employment, have had an adverse effect on the overall employment level.<sup>114</sup> However, it appears that recent management of the employment problem is producing positive results. OECD projections for most of the macroeconomic indicators are quite favorable.<sup>115</sup>

The Canadian dollar was stable during the 1994-96 period, closing 1996 at 1.370 (C\$ per U.S.\$), a decline of 0.003 from the previous year.<sup>116</sup> The Canadian dollar depreciated by 5.6 percent from 1993 to 1994, but has remained within a very narrow band since then.

### *Foreign Trade*

A large proportion of Canada's GDP is directly tied to export performance. A recent report on Canadian trade policy states that "the share of exports of Canadian GDP has steadily increased from 24 percent in 1991 to 37 percent in 1995."<sup>117</sup> There have been reports of exports accounting for as much as 43 percent of Canadian GDP.<sup>118</sup>

From 1994-96, overall Canadian exports grew by 24.6 percent and imports by 13.5 percent (table 3-8). The higher rate of export growth caused Canada's total trade surplus to increase to \$29.0 billion in 1996, almost triple the 1994 surplus of \$9.8 billion.<sup>119</sup> Canada's current account balance improved by 2.8 percent over the same period (figure 3-20).

The United States accounted for some 75 percent of Canada's total trade in 1996. Exports to the United States accounted for 79 percent of Canada's total exports in 1996, down slightly from the 83 percent they represented in 1994. The U.S. share of Canada's total imports rose over the 1994-96 period, reaching 68 percent in 1996. Canada's other major trading partners, the EU and Japan, together accounted for less than 15 percent of Canada's trade.

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<sup>111</sup> Statistics Canada, *Canadian Dimensions, Economic Indicators*.

<sup>112</sup> Canadian Embassy, *Canada Quarterly*, Oct. 1996, vol. 4, No. 4.

<sup>113</sup> Statistics Canada, CANSIM matrix 6840.

<sup>114</sup> Ibid.

<sup>115</sup> OECD, *Economic Outlook*, Dec. 1996.

<sup>116</sup> Statistics Canada, *Canadian Dimensions, Economic Indicators*.

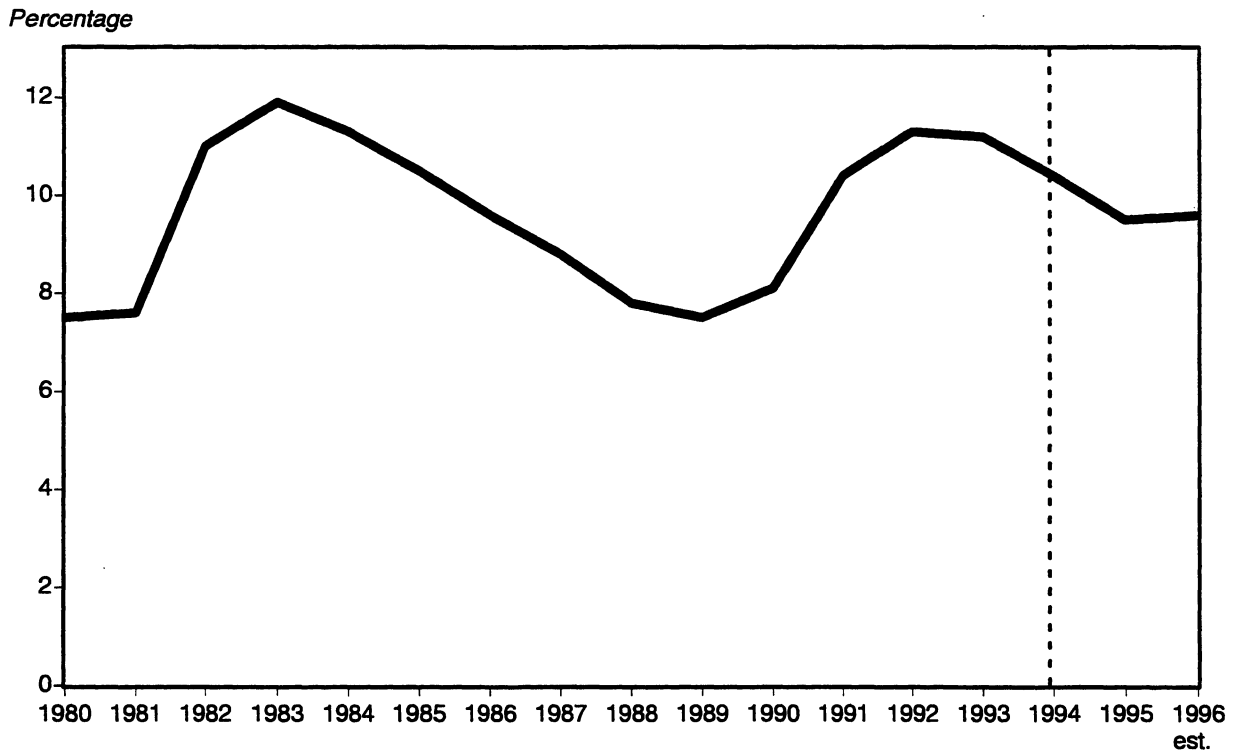
<sup>117</sup> WTO, *Trade Policy Review, Canada: Report by the Government*, WT/TPR/G/22, Oct. 15, 1996, p. 2.

<sup>118</sup> *Wall Street Journal*, "Canada Sees Exports As Path to Prosperity," Oct. 21, 1996, p. A1.

<sup>119</sup> Statistics Canada, *Canadian International Merchandise Trade* - cat. 65-001, Dec. 1995.

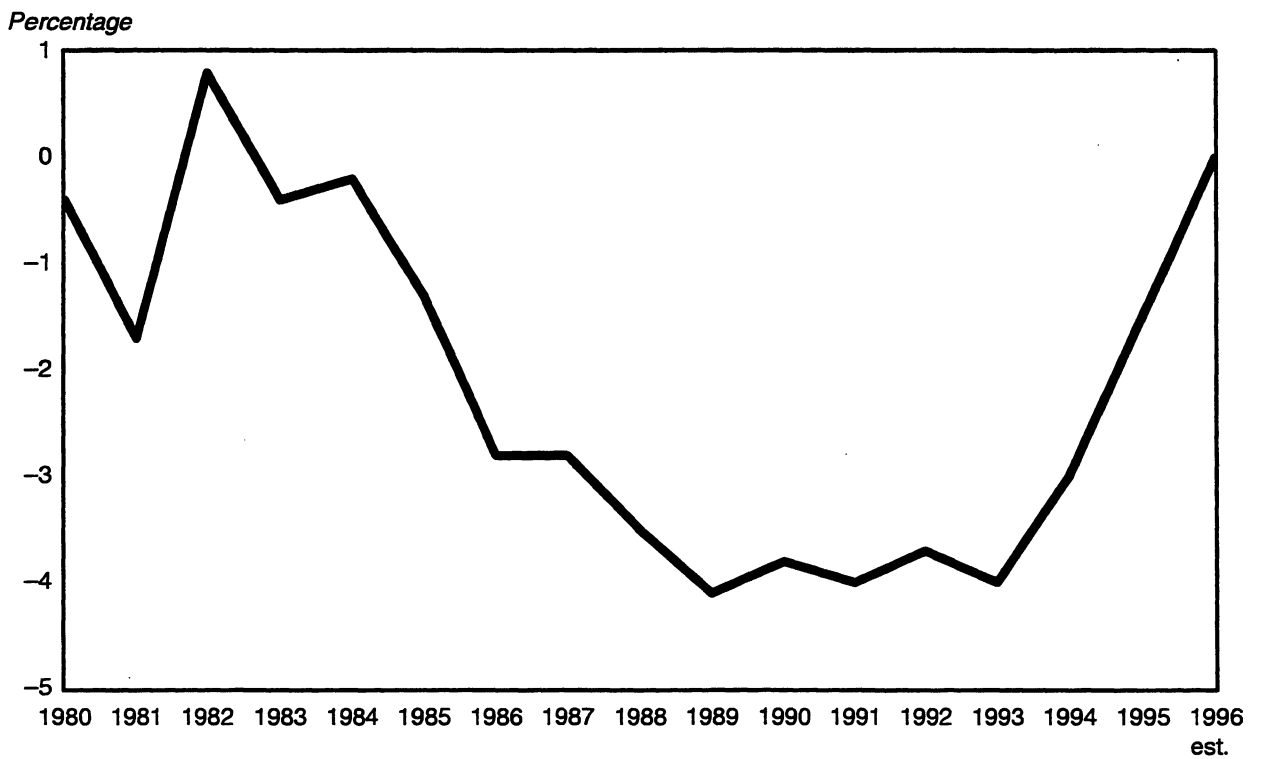


**Figure 3-19**  
**Unemployment rate, for Canada, 1980-96**



Source: OECD, *Economic Outlook*, Dec. 1996.

**Figure 3-20**  
**Current account balance as a percentage of GDP, Canada, 1980-96**



Source: OECD, *Economic Outlook*, Dec. 1996.

**Table 3-8**  
**Canada's overall foreign trade and the U.S. and Mexican share**

Item	Actual			Projected
	1994	1995	1996	1997
Exports ( <i>billion dollars</i> ) . . . . .	161.3	190.2	201.0	221.0
U.S. share ( <i>percentage</i> ) . . . . .	83	80	79	n.a.
Mexico's share ( <i>percentage</i> ) . . . . .	neg.	neg.	neg.	n.a.
Imports ( <i>billion dollars</i> ) . . . . .	151.5	163.3	172.0	188.0
U.S. share ( <i>percentage</i> ) . . . . .	66	67	68	n.a.
Mexico's share ( <i>percentage</i> ) . . . . .	2	3	3	n.a.
Trade balance ( <i>billion dollars</i> ) . . . .	9.82	26.9	29.0	33.0

Source: Data are official Canadian trade statistics.

### Trade with the United States

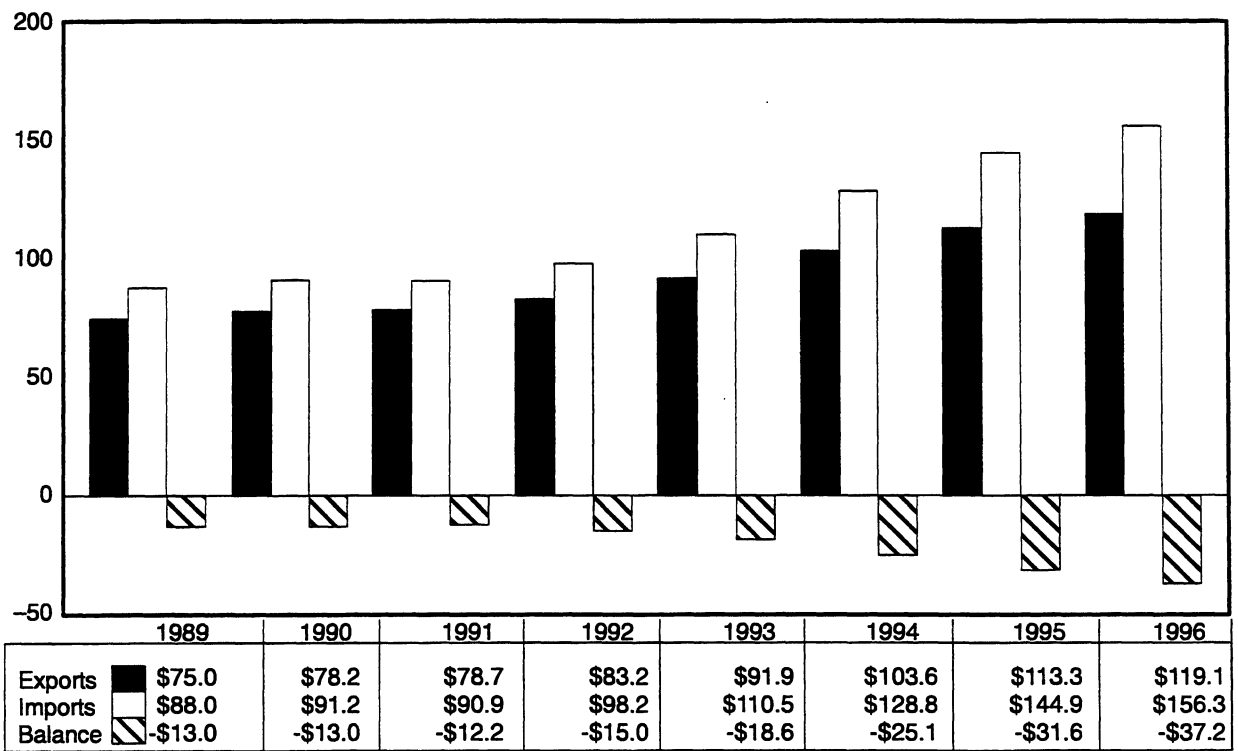
The positive impact of NAFTA on Canada's imports and exports was different in degree. Overall, U.S. exports to Canada increased 29.6 percent from 1993 to 1996. U.S. imports from Canada, which already exceeded U.S. exports in 1993, increased by 41.4 percent over the same period. The U.S.-Canada trade deficit has widened in each year of the current U.S. economic expansion (figure 3-21).

U.S. exports rose by 12.8 percent during 1994 and 9.3 percent in 1995. The declining rate of growth continued during 1996, when U.S. exports increased by 5.1 percent. The machinery and transport equipment sector accounted for over one-half of total U.S. exports to Canada, equaling \$64.8 billion in 1996 (table 3-9). Manufactured goods classified chiefly by material made up the next largest sector equaling 13.5 percent. Miscellaneous manufactured articles and chemicals also constituted significant portions.

U.S. imports from Canada have grown at a slightly higher rate than exports, rising by 16.6 percent in 1994, 12.5 percent in 1995, and 7.9 percent in 1996. As in the case of exports, machinery and transport equipment is the principal category of U.S. imports from Canada, accounting for 43.1 percent of U.S. imports in 1996. "Other manufactured goods" are the next largest category, making up 16.5 percent of U.S. imports from Canada. Third in rank is fuel and raw materials, accounting for 10.7 percent. The three leading natural resource imports from Canada to the United States are crude oil, coniferous wood, and natural gas.

Given the importance of trade to Canada's economy and the crucial role of the United States as a Canadian trading partner, the strength of the U.S. economy is a major determinant of Canadian economic

**Figure 3-21**  
**U.S. trade with Canada: Exports, imports, and trade balance, 1989-96**  
*Billion dollars*



Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table 3-9**  
**U.S. merchandise trade with Canada, by SITC nos. (revision 3), 1994-96**  
*(1,000 dollars)*

SITC section No.	Description	1994	1995	1996
			<b>U.S. exports</b>	
0	Food and live animals	5,106,293	5,301,201	5,499,424
1	Beverages and tobacco	176,064	203,469	232,888
2	Crude Materials, inedible, except fuels	3,467,934	4,259,158	3,758,615
3	Mineral fuels, lubricants and related materials	1,251,419	1,414,956	1,851,287
4	Animal and vegetable oils, fats and waxes	104,695	124,589	173,639
5	Chemicals and related products, <i>nesi</i>	9,415,595	10,360,727	11,334,840
6	Manufactured goods classified chiefly by material	13,486,923	15,417,848	16,058,037
7	Machinery and transport equipment	56,753,360	61,652,333	64,785,287
8	Miscellaneous manufactured articles	11,028,506	11,623,693	11,869,949
9	Commodities and transactions not classified elsewhere in SITC	2,852,041	2,903,166	3,558,877
	Total all commodities	103,642,830	113,261,142	119,122,843
			<b>U.S. imports</b>	
0	Food and live animals	5,328,174	5,646,490	6,663,389
1	Beverages and tobacco	703,823	677,665	750,345
2	Crude materials, inedible, except fuels	10,138,360	10,898,443	11,314,720
3	Mineral fuels, lubricants and related materials	12,501,798	13,665,083	16,775,287
4	Animal and vegetable oils, fats and waxes	309,632	339,184	404,754
5	Chemicals and related products, <i>nesi</i>	6,679,247	8,126,301	8,530,839
6	Manufactured goods classified chiefly by material	20,395,478	25,381,147	25,833,114
7	Machinery and transport equipment	57,940,204	63,645,520	67,327,222
8	Miscellaneous manufactured articles	6,535,452	7,760,633	8,992,086
9	Commodities and transactions not classified elsewhere in SITC	8,221,068	8,741,416	9,706,847
	Total all commodities	128,753,235	144,881,881	156,298,602

Note.—Because of rounding, figures may not add to totals shown. The abbreviation, *nesi*, stands for "not elsewhere specified or included."  
Source: Compiled from official statistics of the U.S. Department of Commerce.

well-being. During the recent WTO trade policy review of Canada, some countries pointed out “the cyclical vulnerability inherent in such dependence on one destination.”<sup>120</sup> The United States shipped 21.4 percent of its overall merchandise exports to Canada in 1996. On the other hand, Canada shipped 79.5 percent of its merchandise exports to the United States.<sup>121</sup>

### Canadian-Mexican Trade

According to 1994 statistics, Mexico was Canada’s 13th-largest export market.<sup>122</sup> Mexico was Canada’s fourth-largest supplier, accounting for 2.4 percent of 1994 Canadian imports. Mexico’s exports to Canada are about equal to exports to the United Kingdom, and are surpassed only by those of Japan and the United States. Canada’s exports to Mexico in 1995 accounted for 0.4 percent of Canada’s total merchandise exports, while comparable Mexican exports to Canada represented 2.5 percent of Mexican shipments to the world.

Pre-NAFTA trade flows showed a high growth rate in the 1990-93 period, with Canadian imports from Mexico averaging increases of 36 percent annually. Canada’s imports from Mexico rose by 51 percent from 1993 to 1996. In 1993, imports were \$2.71 billion and increased almost 22 percent to \$3.22 billion in 1994.<sup>123</sup> In 1995, Canada’s imports from Mexico increased by 17.8 percent to \$3.91 billion, and in 1996, they rose 10.5 percent to over \$4.3 billion (figure 3-22). Leading Canadian imports from Mexico consisted of fruits and vegetables, electrical machinery, motor vehicles, furniture, mineral fuels, and organic chemicals.

Pre-NAFTA years show variable growth rates of Canadian exports to Mexico. The peso crisis affected Canada’s exports to Mexico in 1995. While Canadian exports to Mexico increased 31 percent in 1994, the increase in 1995 was only 5 percent. In 1996, it was 3.2 percent, bringing Canada’s total 1996 exports to nearly \$855 million (figure 3-22). Canada’s resulting bilateral trade deficit was \$3.5 billion, or approximately 15.0 percent greater than the previous year, down from the 21.2 percent increase that took place between 1994 and 1995. The result was a nearly 40 percent increase in the bilateral trade deficit from the level at the end of 1994.

Canada’s importance as a source of FDI in Mexico increased following the inception of NAFTA. Canada was the ninth largest investor in Mexico, accounting for 1.6 percent of the cumulative total of FDI through 1994.<sup>124</sup> During the first half of 1996, NAFTA partners accounted for the greatest shares of investment in Mexico, with Canada’s share being 21.0 percent of the total [FDI in Mexico] during the period.<sup>125</sup>

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<sup>120</sup> WTO, Trade Policy Review Body, *Review of Canada*, press release, TPRB 50, Nov. 19, 1996.

<sup>121</sup> WTO, *Annual Report 1996*, Vol. 2, p. 31.

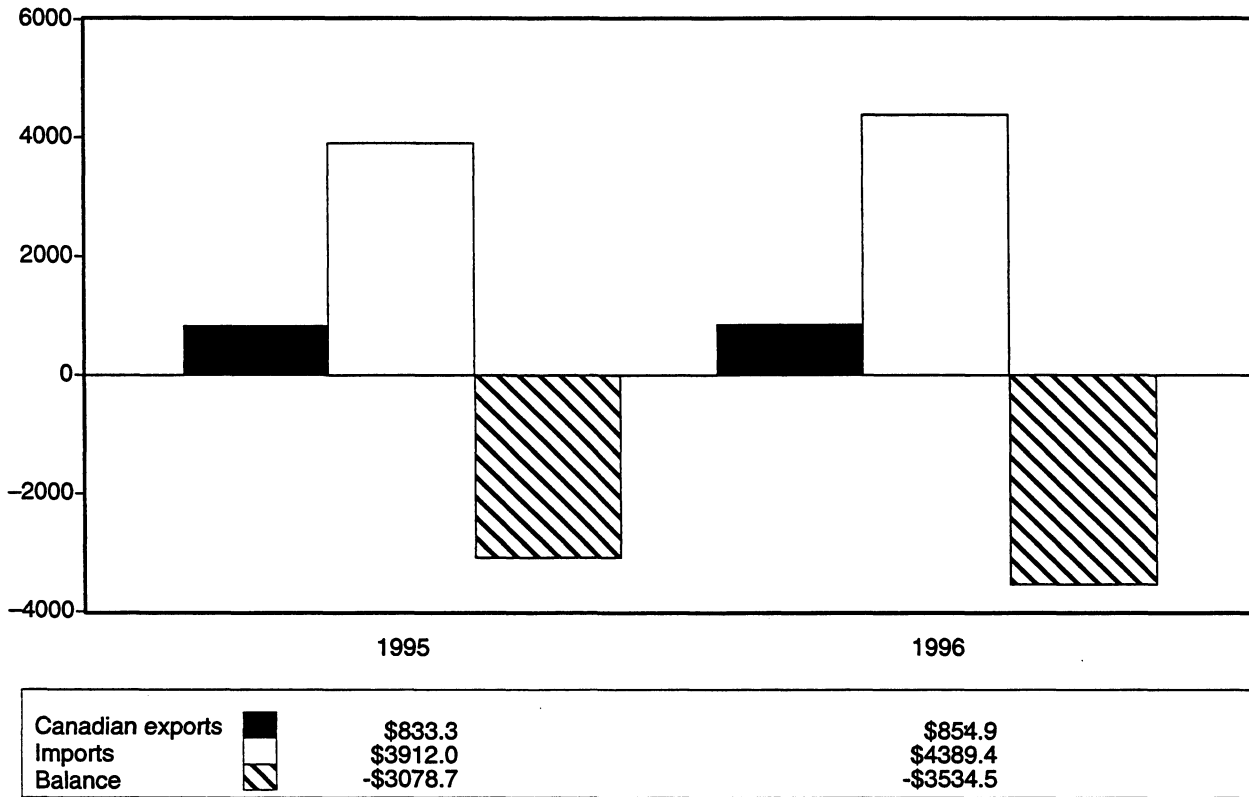
<sup>122</sup> Statistics Canada, *Pocket Facts: Canada - Economic Indicators*, No. 36. Mar. 15, 1996.

<sup>123</sup> Senate of Canada, *Proceedings of the Standing Committee on Foreign Affairs*, 1st sess. 35th Parliament, 1994-1995, No. 26, Aug. 3, 1995.

<sup>124</sup> U.S. Embassy, Mexico, *Economic and Financial Report*, Jan. 1997, table 63 as derived from SECOFI.

<sup>125</sup> U.S. Embassy, Mexico, *Foreign Investment Report, 1996-1997*, table 12. Data reflect the investment situation as of May 31, 1996. Investment worth nearly \$1.3 billion flowed from Canada to Mexico during the period.

**Figure 3-22**  
**Canada-Mexico, merchandise trade, 1995-96**  
*Million U.S. dollars*



Source: Compiled from official statistics of the U.S. Department of Commerce.

## *Direct Investment Between the United States and Canada*

The integration of the North American market is marked by a long-standing collaboration between Canada and the United States--one that pre-dates both the CFTA and NAFTA. Direct investment of U.S. firms in the Canadian economy, and of Canadian firms in the U.S. economy, has historically been substantial and has continued to grow during the NAFTA years. The 1965 Auto Pact forged a strong alliance between auto manufacturers and has resulted in this particular sector being well integrated thirty years later. Trade in automotive products accounts for the largest segment of commerce in either direction between the United States and Canada. The movement toward closer linkages was furthered by both the CFTA and the NAFTA; that is, the bilateral tariff reductions and other liberalizing measures of NAFTA have intensified the integration of the North American market. The most recent WTO review of Canadian trade policies concluded that "...most sectors [in Canada] are now exposed to, and perform well in, full competition with their U.S. counterparts."<sup>126</sup>

As of 1995, the most recent year for which data are available, the U.S. direct investment position in Canada, on a historical-cost basis, amounted to \$81.5 billion.<sup>127</sup> Approximately 67 percent of the stock of FDI in Canada in 1995 was U.S.-owned.<sup>128</sup> Canada accounts for 11.4 percent of the total U.S. direct investment position abroad, and is second only to the United Kingdom as a host country for U.S. direct investment. Manufacturing accounts for 50.7 percent of the stock of U.S. direct investment in Canada, with transportation equipment alone making up 14.5 percent of the U.S. direct investment position. Other important components of the U.S. direct investment position are (non-financial) services (23.1 percent), financial services, including banking (17.4 percent), and petroleum (10.1 percent).

An idea of the importance of U.S. direct investment for Canadian capital formation can be obtained by observing that direct investment flows from all sources accounted for 5.0 percent of Canadian gross fixed capital formation in 1993 and 5.9 percent of Canadian gross fixed capital formation in 1994.<sup>129</sup> The United Nations reports gross FDI inflows into Canada of \$6.0 billion in 1994 and \$11.2 billion in 1995. U.S. Commerce Department data report U.S. direct investment capital inflows into Canada of \$6.3 billion in 1994 and \$7.8 billion in 1995. These figures are not directly comparable, but they suggest that the United States accounts for the vast majority of FDI inflows into Canada.<sup>130</sup>

U.S. direct investment flows into Canada during 1994 and 1995 are large by historical standards, accounting in nominal terms for two of the largest three years of U.S. FDI inflows into Canada. (In 1983, U.S. direct investment capital inflows into Canada were \$6.5 billion). The total U.S. direct investment capital inflow into Canada during the first two years of NAFTA was \$14.1 billion, nearly triple the \$5.7 billion of inflows during the 1992-93 period immediately preceding. The composition of U.S. direct investment capital inflows into Canada during 1994 and 1995 continued to be weighted heavily toward manufacturing, which accounted for 60.6 percent of the total inflows. Transportation equipment alone accounted for 26.0 percent of all U.S. direct

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<sup>126</sup> *WTO, Trade Policy Review Body*, press release, Nov. 11, 1996, p. 2.

<sup>127</sup> Unless otherwise specified, all data on foreign direct investment in this section are those collected by the U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

<sup>128</sup> U.S. Department of State, "*Country Reports on Economic Policy and Trade Practices*," March 1997, p. 221.

<sup>129</sup> United Nations, *World Investment Report 1996: Investment, Trade, and International Policy Arrangements*. (1996) United Nations: New York and Geneva.

<sup>130</sup> By the Canadian Government's own reckoning, "In 1995, from an estimated \$15 billion dollars in FDI, \$12 billion alone originated from the United States." (Source: Industry Canada and Department of Foreign Affairs and International Trade, Government of Canada. The dollar figures in the above quote refer to Canadian dollars.)

investment capital inflows into Canada during the first two years of NAFTA. Other important components of the 1994-95 flows included nonfinancial services (12.0 percent) and financial services, including banking (10.6 percent).

Direct investment of Canadian firms in the United States has also been significant. In 1995, the FDI position of Canadian firms in the United States was \$46.0 billion on a historical-cost basis, over half as large as the U.S. direct investment position in Canada. The FDI position of Canadian firms in the United States accounted for 8.2 percent of the direct investment position of all foreign firms in the United States in 1995. Canada is the fifth largest direct investor in the United States, behind (in order) the United Kingdom, Japan, the Netherlands, and Germany. Of the stock of Canadian FDI in the United States, 42.2 percent is in manufacturing. Commerce Department disclosure of the composition of Canadian manufacturing FDI is incomplete, due to the concentration of certain large investors in some industries. Seagrams (Canada) has a minority, but not controlling, interest in DuPont (United States); data for this firm complicates both disclosure and interpretation of the data for Canadian FDI in the United States.<sup>131</sup> Another 11.5 percent of the stock of Canadian FDI in the United States is in the insurance industry.

Canadian direct investment flows into the United States during the first two years of NAFTA were \$4.0 billion in 1994 and \$4.5 billion in 1995. These were two of the three largest such annual flows in nominal terms (the 1987 figure was \$4.3 billion). By comparison, Canadian direct investment inflows into the United States were \$1.3 billion in 1992 and \$3.8 billion in 1993. Manufacturing accounted for 49.5 percent of the Canadian FDI inflows into the United States during 1994-95, insurance for 18.9 percent, and retail trade for 11.7 percent.

### *Economic Policy*

Given the fact that NAFTA was an evolution from the CFTA, wholesale policy changes were largely unnecessary for purposes of implementing NAFTA in Canada. NAFTA did require some changes by Canada, however, as did the Uruguay Round. These changes are discussed in greater detail in Chapter 2.

#### **FTA With Chile**

Foremost among the other policy changes and Canadian initiatives that took place during the NAFTA period was the negotiation and implementation of a free-trade agreement (FTA) with Chile, the country generally recognized as the leading candidate for additional entry into NAFTA. Canada has frequently expressed interest in adding new countries to NAFTA and broadening the agreement. In December 1994, the Summit of the Americas set the year 2005 as the deadline for the accomplishment of the Free-Trade Area of the Americas (FTAA). During the Summit, the three NAFTA partners--Canada, Mexico, and the United States--announced their intention to expand the trilateral agreement further by including Chile. Lack of fast-track authority effectively prevented the negotiations from proceeding after their formal launch in June 1995.

Canada resumed negotiations with Chile late in 1995, when it was clear that the United States would not be in a position to meaningfully participate; these negotiations were completed and a bilateral agreement

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<sup>131</sup> Lois E. Steckler and Guy V. G. Stephens, "Adequacy of U.S. Direct Investment Data," in Peter Hooper and J. David Richardson, eds., *International Economic Transactions: Issues in Measurement and Empirical Research*, National Bureau of Economic Research Studies in Income and Wealth 55 (1991), Chicago and London: University of Chicago Press.



between the two countries was set in place in November 1996. The Canada-Chile FTA is expected to take effect on June 2, 1997, after legislative approval in both countries. Canada has characterized the bilateral FTA as an "interim" agreement--one that "will provide a bridge to Chile's eventual accession to NAFTA and create momentum for the broader FTAA initiative."

Two-way trade between Canada and Chile in 1995 amounted to about \$500 million, with Canada's surplus in the relationship amounting to about \$380 million. Canadian products shipped to Chile include grains, machinery, minerals, and paper. Chilean exports to Canada include fruit, copper, wine, and seafood. Canadian potential in Chile centers around opportunities for mining, energy, and pulp and paper interests.

The agreement covers more than 80 percent of Canadian industrial exports to Chile. These exports will be duty-free from the inception of the agreement. The 11-percent Chilean duty, levied on all imports, will be eliminated for a broad range of Canadian industrial products. Most Chilean goods already enter Canada duty-free, so the asymmetry in the market access features of the FTA are notable. Duties on certain horticultural, textile, and footwear products from Chile will be lowered over a period of 6 years. Chile will also be able to maintain some duties on edible oil, sugar, potato and wheat products for up to 18 years.

The Canada-Chile FTA tracks the NAFTA model in a number of areas--labor and environmental cooperation, rules of origin, and safeguard protection. However, certain aspects of the Canada-Chile accord and NAFTA differ. In the former, Chile was permitted to retain requirements on foreign investors that have been identified as barriers by the United States. In a significant departure from NAFTA, Canada and Chile both agreed not to apply antidumping measures against one another. This particular facet of the agreement is to be phased-in at the same time that tariffs are being phased-out (i.e. over six years), and will only apply to those products that have already reached a duty-free level. This step was, as a Canadian background paper noted, "consistent with the Canadian government's longstanding objective to reform and eventually eliminate the use of antidumping duties within the NAFTA." Cultural industries were exempted from the pact, as were supply-managed agricultural commodities. Both sectors are also exempt from NAFTA, and both have been the subject of U.S.-Canada disputes since NAFTA's entry into force.

### **Other Policy Developments**

Other noteworthy developments on the Canadian policy front during the 1994-96 period include: a review of the Canadian tariff system; continued deregulation of industries--telecommunications, financial services, and air transport--that previously had been protected; and the elimination of internal trade barriers within Canada. The regulatory environment that governs Canadian growth and structural adjustment has also been bolstered by the internal attempts to lower trade barriers. The Agreement on Internal Trade was signed in July 1994, with most provisions to reduce or remove interprovincial trade barriers within Canada becoming effective by July 1995.

In 1994, Canada began a 3-year review of its tariff system. The purpose of the review was to simplify the system, and to make it more responsive to the competitive pressures facing Canadian industries as a result of freer trade. One part of the review was implemented in June 1995, when most-favored nation rate reductions on a range of manufacturing inputs took place. A new, simplified Customs Tariff was proposed in March 1996. It calls for additional rate reductions, as well as a reduction in the number of tariff categories and a general simplification of the system. The new tariff is expected to be implemented in 1998.<sup>132</sup>

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<sup>132</sup> WTO, *Trade Policy Review, Canada: Report by the Government*, WT/TPR/G/22, Oct. 15, 1996, p. 5.



## CHAPTER 4

### EFFECTS OF NAFTA ON U.S. INDUSTRY PERFORMANCE: TRADE, LABOR, AND PRODUCTIVITY

#### Introduction

This chapter analyzes the effects of NAFTA on U.S. bilateral trade flows with Canada and Mexico and on U.S. labor markets. In addition, the effects of Canadian and Mexican import competition on U.S. labor productivity are evaluated to indicate the potential effects of NAFTA on U.S. industry productivity. In the results reported below, econometric analyses were conducted at a detailed industry level as well as an aggregate level to identify the impact of NAFTA on trade and labor markets.<sup>1</sup> These analyses attempt to control for changes in other market forces that affect each of these variables, including the Mexican peso devaluation. The empirical analysis of U.S. industry productivity has a different focus. That analysis identifies the effects of increased import penetration on U.S. labor productivity to characterize industries that are most likely to exhibit changes in labor productivity as a result of the Agreement. A summary of findings from these analyses is presented below, followed by a more detailed description of the trade, labor market, and productivity results.

The largest consistent result for the detailed industry-level bilateral trade analysis was no statistically discernible change in the volume of imports and exports during 1994-96 as compared with 1989-96. Of the industries that exhibited a strong statistical link between the implementation of NAFTA and changes in trade volumes most of those industries indicated a positive change in trade over 1994-96. Another group of industries were judged inconclusive regarding a strong consistent relationship between changes in trade volumes and the implementation of the NAFTA. The principal result of the aggregate analysis is a strong statistical link demonstrated for U.S.- Mexico bilateral trade.

NAFTA was identified as affecting industries that, in total, employ less than 4 percent of the non-farm labor force. Among the industries that were affected, those with increases in hours worked outnumbered industries with decreases, and industries with earnings reductions outnumbered industries in which there were earnings increases. The aggregate labor market was not found to have a NAFTA-related impact.

Labor productivity is shown to increase as a result of higher import penetration, but the results obtained here suggest that lagged import competition, and not contemporaneous import competition, affects labor productivity. In addition, imports must account for a relatively substantial share of consumption—in this analysis, 15 percent—before productivity is affected by increases in import competition. In general, the estimated effects of imports on U.S. labor productivity were relatively modest.

#### The Effects of NAFTA on Trade Flows

Changes in U.S. imports and exports are evaluated at both detailed and aggregate levels to determine if there were shifts in U.S. trade flows that can be associated with NAFTA. Approximately 85 to 90 percent of U.S. bilateral commodity trade with Canada and Mexico is included in the detailed

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<sup>1</sup> The methodology that is used in the trade and labor analyses tests for statistically significant changes in these markets that are unexplained by changes in factors theoretically associated with their behavior. Although we refer to these shifts as NAFTA effects, they may also reflect other events that occur concurrently with NAFTA implementation. A detailed discussion of technical challenges and issues associated with this analysis can be found in appendix C.

analysis by focusing on approximately 198 of the 4-digit SIC industries (45 percent) that have commodity trade.<sup>2</sup> Monthly data spanning 5 years prior to and the 3 years after (1989-1996) implementation of the Agreement are used to determine whether there were distinct shifts in actual trade flows that can be attributed to NAFTA. Econometric estimations control for the changes in import prices, competing (domestic) goods prices, purchaser incomes, and exchange rates to identify shifts in U.S. imports and exports during the first 3 years of NAFTA that may then be attributed to the Agreement.

### *Industry-Level Results*

Four bilateral trade flows have been analyzed for 198 4-digit SIC industries: 1) U.S. imports from Canada; 2) U.S. exports to Canada; 3) U.S. imports from Mexico; and 4) U.S. exports to Mexico. A total of 677 out of a possible 792 individual econometric estimations were conducted for this analysis.<sup>3</sup> A summary of results directly related to the questions addressed by this report are presented in this chapter. The methodology and details of this analysis are contained in appendix C.

In general, the observed impacts in these estimates are consistent with prior expectations of NAFTA: that specialization, intraindustry trade, and trade diversion would result from the Agreement. Also, since the U.S.-Canada Free Trade Agreement preceded the implementation of NAFTA, the effects of NAFTA on trade flows were not expected to be symmetric between Mexico and Canada. Much of the trade between Canada and the United States has already been liberalized or liberalization is being phased in over time, so NAFTA will generally affect bilateral trade flows with Mexico more than it affects trade between Canada and the United States.

A regression analysis is used to identify statistically significant shifts in 1994, 1995 and 1996 trade flows, after controlling for changes in economic factors theoretically associated with their behavior. In particular, each estimation contains three (binary) variables<sup>4</sup> identifying the years 1994, 1995, and 1996 to formally test whether the growth rates of imports from and exports to Canada and Mexico in the years 1994, 1995, and 1996 are statistically different from the average rates of growth during the entire sample period, 1989 through 1996. Table 4-1 presents a summary of the number of 4-digit SIC industries within each ITC group for which the Commission estimated a 'conclusive' effect (whether an increase, a decrease, or no impact) for all estimations performed.<sup>5,6</sup> A conclusive result is defined in the trade analysis as occurring when the three binary variables all have the same algebraic sign and all are either statistically significant or statistically insignificant.<sup>7</sup> This consistent effect across all 3 years is the basis for the conclusion that an association exists between the implementation of NAFTA and a change in the volume

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<sup>2</sup> The 4-digit Standard Industrial Classification (SIC) level represents greatest degree of disaggregation for which data are widely available and provides the basis for the industries evaluated in this chapter. This level of disaggregation is a common way of distinguishing U.S. industries for analysis.

<sup>3</sup> Data constraints prevented estimation of the additional 115 individual estimations.

<sup>4</sup> A binary variable is a variable that takes on a value of one or zero to identify a specific period or the occurrence of a specific event in time. In regression analyses, binary variables are used to identify shifts that are not explained by other variables in the regression. In this analysis, the year specific binary variables take on a value of one in each of the 12 months in the year it identifies and zero otherwise.

<sup>5</sup> The term "statistically significant" indicates that there is a relatively large probability, for example 90 or more out of 100, that the estimated effect of the variable characterized as significant would not have occurred by chance.

<sup>6</sup> Results for all of the individual estimations are presented in appendix table C-1.

<sup>7</sup> Since the binary variables identify shifts that might be due to NAFTA and non-NAFTA events, a threshold of three statistically significant annual changes (of the same direction) was chosen to minimize the instances of incorrectly attributing a trade shift to NAFTA.

**Table 4-1. Impact of NAFTA on the number of 4-digit SIC study sectors, by country, by ITC Group<sup>1</sup>**

ITC Group	Total study SICs <sup>2</sup>	U.S. Imports from			U.S. Exports to		
		Increase <sup>3</sup>	Decrease <sup>4</sup>	No impact	Increase <sup>5</sup>	Decrease <sup>6</sup>	No impact
<b>Canada</b>							
ITC Group 1: Grains and oilseeds	4			3			3
ITC Group 2: Raw cotton	1						
ITC Group 3: Field crops	1			1			1
ITC Group 4: Fresh vegetables, & canned & frzn. fruits and veg.	3			2			2
ITC Group 5: Ornamental floriculture and nursery products	1						
ITC Group 6: Meats and livestock	3			1			3
ITC Group 7: Fish and shellfish	2						
ITC Group 8: Iron ore	1						
ITC Group 9: Coal	1						
ITC Group 10: Crude petroleum, nat. gas, and nat. gas liquid	2			2			
ITC Group 11: Animal feeds	1			1			1
ITC Group 12: Bakery products	1			1		1	
ITC Group 13: Chocolate and cocoa products	1			1		1	
ITC Group 14: Fats and oils	2			1			1
ITC Group 15: Malt beverages	1			1			
ITC Group 16: Bottled and canned soft drinks and carbonated waters	1						1
ITC Group 17: Miscellaneous food preparations	1						
ITC Group 18: Textile mill products	8	1		5			3
ITC Group 19: Apparel and other finished textile products	11			7			6
ITC Group 20: Solid wood products	8			4			2
ITC Group 21: Furniture	1			1			1
ITC Group 22: Paper products	8			5			6
ITC Group 23: Printed matter	5			3			3
ITC Group 24: Alkalies and chlorine	1						
ITC Group 25: Industrial inorganic chemicals	2	1		1			1
ITC Group 26: Synthetic plastics, resins, and rubber	2			2			1
ITC Group 27: Pharmaceutical preparations	1			1			
ITC Group 28: Soaps, detergents, toiletries	2			2			1
ITC Group 29: Paints and allied products	1			1			1
ITC Group 30: Industrial organic chemicals	2			1	1		1
ITC Group 31: Fertilizers, pesticides, and agricultural chemicals	2		1	1			2
ITC Group 32: Petroleum refinery products	1						1
ITC Group 33: Plastic and rubber products	7	1		4		3	1
ITC Group 34: Leather tanning and finishing	1			2			
ITC Group 35: Women's footwear, except athletic	1						
ITC Group 36: Flat glass and glassware	4	1		3	1		

**Table 4-1. Impact of NAFTA on the number of 4-digit SIC study sectors, by country, by ITC Group<sup>1</sup>**

ITC Group	Total study SICs <sup>2</sup>	U.S. Imports from			U.S. Exports to		
		Increase <sup>3</sup>	Decrease <sup>4</sup>	No impact	Increase <sup>5</sup>	Decrease <sup>6</sup>	No impact
ITC Group 37: Cement	1			1			1
ITC Group 38: Vitreous china plumbing fixtures	1						1
ITC Group 39: Gypsum building products	1		1		1		
ITC Group 40: Mineral wool	1			1			1
ITC Group 41: Steel products	2	1		1			1
ITC Group 42: Nonferrous metals, unwrought	4			2		1	2
ITC Group 43: Nonferrous metals, wrought	4			1			2
ITC Group 44: Fabricated metal products	10			4	2	1	5
ITC Group 45: Industrial machinery	24	3	2	13	1	1	7
ITC Group 46: Computers & computer peripheral equipment	2						
ITC Group 47: Heavy electrical equipment	4	1		1	1		3
ITC Group 48: Household appliances	5	1	1		1		2
ITC Group 49: Electric lighting and wiring equipment	4	1		1			3
ITC Group 50: Radio and television equipment	3	1		2	1		2
ITC Group 51: Communications equipment	2		1				1
ITC Group 52: Electronic components and accessories	6			1			4
ITC Group 53: Misc. electrical machinery, equipment, and supplies	4		1				2
ITC Group 54: Motor vehicles	1			1			1
ITC Group 55: Motor vehicle parts	4			1	1		2
ITC Group 56: Aircraft and aircraft parts	3	1		1			2
ITC Group 57: Boat building and repairing	1			1			1
ITC Group 58: Railroad equipment and parts	1						1
ITC Group 59: Transportation equipment	1						
ITC Group 60: Measuring, analyzing and controlling instruments	6			3			3
ITC Group 61: Medical equipment	3			2			2
ITC Group 62: Photographic equipment and supplies	1						
ITC Group 63: Jewelry, precious metals	1						
ITC Group 64: Games, toys, and children's vehicles	1		1				1
ITC Group 65: Sporting goods	1						1
ITC Group 66: Miscellaneous industries, n.e.c.	1						1
<b>Total Canada</b>	<b>198</b>	<b>13</b>	<b>8</b>	<b>94</b>	<b>10</b>	<b>8</b>	<b>94</b>

**Table 4-1. Impact of NAFTA on the number of 4-digit SIC study sectors, by country, by ITC Group<sup>1</sup>**

ITC Group	Total study SICs <sup>2</sup>	U.S. Imports from			U.S. Exports to		
		Increase <sup>3</sup>	Decrease <sup>4</sup>	No impact	Increase <sup>5</sup>	Decrease <sup>6</sup>	No impact
<b>Mexico</b>							
ITC Group 1: Grains and oilseeds	4			1			3
ITC Group 2: Raw cotton	1						
ITC Group 3: Field crops	1			1			1
ITC Group 4: Fresh vegetables, & canned & frzn. fruits and veg.	3			3			1
ITC Group 5: Ornamental floriculture and nursery products	1						
ITC Group 6: Meats and livestock	3			1			
ITC Group 7: Fish and shellfish	2						
ITC Group 8: Iron ore	1						
ITC Group 9: Coal	1						
ITC Group 10: Crude petroleum, nat. gas, and nat. gas liquid	2			1			
ITC Group 11: Animal feeds	1			1			1
ITC Group 12: Bakery products	1						1
ITC Group 13: Chocolate and cocoa products	1						1
ITC Group 14: Fats and oils	2						2
ITC Group 15: Malt beverages	1			1			
ITC Group 16: Bottled and canned soft drinks and carbonated waters	1	1					
ITC Group 17: Miscellaneous food preparations	1			1			
ITC Group 18: Textile mill products	8			5	2		3
ITC Group 19: Apparel and other finished textile products	11	1		3			5
ITC Group 20: Solid wood products	8	1		3	1		2
ITC Group 21: Furniture	1			1			1
ITC Group 22: Paper products	8			5	1		4
ITC Group 23: Printed matter	5	1	1	2	1		2
ITC Group 24: Alkalies and chlorine	1						
ITC Group 25: Industrial inorganic chemicals	2						1
ITC Group 26: Synthetic plastics, resins, and rubber	2			1	1		1
ITC Group 27: Pharmaceutical preparations	1		1				1
ITC Group 28: Soaps, detergents, toiletries	2			2			
ITC Group 29: Paints and allied products	1			1			
ITC Group 30: Industrial organic chemicals	2				1		
ITC Group 31: Fertilizers, pesticides, and agricultural chemicals	2			2			1
ITC Group 32: Petroleum refinery products	1						
ITC Group 33: Plastic and rubber products	7	3					2
ITC Group 34: Leather tanning and finishing	1			1			1
ITC Group 35: Women's footwear, except athletic	1						
ITC Group 36: Flat glass and glassware	4			4			1

**Table 4-1. Impact of NAFTA on the number of 4-digit SIC study sectors, by country, by ITC Group<sup>1</sup>**

ITC Group	Total study SICs <sup>2</sup>	U.S. Imports from			U.S. Exports to		
		Increase <sup>3</sup>	Decrease <sup>4</sup>	No impact	Increase <sup>5</sup>	Decrease <sup>6</sup>	No impact
ITC Group 37: Cement	1						1
ITC Group 38: Vitreous china plumbing fixtures	1			1			1
ITC Group 39: Gypsum building products	1			1			1
ITC Group 40: Mineral wool	1			1			1
ITC Group 41: Steel products	2			2			1
ITC Group 42: Nonferrous metals, unwrought	4		1	2			2
ITC Group 43: Nonferrous metals, wrought	4			4			2
ITC Group 44: Fabricated metal products	10	1	1	3			2
ITC Group 45: Industrial machinery	24	2	1	15	1		8
ITC Group 46: Computers & computer peripheral equipment	2			1			1
ITC Group 47: Heavy electrical equipment	4			1			
ITC Group 48: Household appliances	5	1	1	1			1
ITC Group 49: Electric lighting and wiring equipment	4	1		1	1		2
ITC Group 50: Radio and television equipment	3	1		1	1		
ITC Group 51: Communications equipment	2		1				
ITC Group 52: Electronic components and accessories	6			3	2		1
ITC Group 53: Misc. electrical machinery, equipment, and supplies	4			1			3
ITC Group 54: Motor vehicles	1			1			1
ITC Group 55: Motor vehicle parts	4	1		2			3
ITC Group 56: Aircraft and aircraft parts	3			1			2
ITC Group 57: Boat building and repairing	1						
ITC Group 58: Railroad equipment and parts	1			1			1
ITC Group 59: Transportation equipment	1						
ITC Group 60: Measuring, analyzing and controlling instruments	6	1		4			5
ITC Group 61: Medical equipment	3	1		1	1		1
ITC Group 62: Photographic equipment and supplies	1			1			
ITC Group 63: Jewelry, precious metals	1						
ITC Group 64: Games, toys, and children's vehicles	1			1			1
ITC Group 65: Sporting goods	1			1			
ITC Group 66: Miscellaneous industries, n.e.c.	1			1			1
<b>Total Mexico</b>	<b>198</b>	<b>16</b>	<b>7</b>	<b>92</b>	<b>13</b>	<b>0</b>	<b>77</b>

<sup>1</sup> These identify econometric estimates in which there are either *three* or *zero* significant coefficients on the binary variables for the NAFTA years of 1994, 1995, and 1996

<sup>2</sup> Results in each row do not sum to the total number of industries in each ITC group. Those SIC industries not reported in the table either did not have a consistent 3-year outcome, or were not estimated due to data constraints.

<sup>3</sup> SICs included in this column: Canada—2252, 2816, 3053, 3221, 3321, 3511, 3554, 3564, 3625, 3635, 3648, 3671, and 3721; Mexico—2086, 2341, 2493, 2771, 3053, 3081, 3089, 3429, 3564, 3599, 3635, 3644, 3651, 3714, 3825, and 3841.

<sup>4</sup> SICs included in this column: Canada—2879, 3275, 3585, 3593, 3631, 3652, 3669, and 3944; Mexico—2721, 2834, 3341, 3441, 3566, 3633, and 3661.

<sup>5</sup> SICs included in this column: Canada—2869, 3211, 3275, 3452, 3493, 3532, 3613, 3635, 3663, and 3691; Mexico—2252, 2281, 2411, 2672, 2771, 2821, 2865, 3535, 3643, 3671, 3676, 3679, and 3841.

<sup>6</sup> SICs included in this column: Canada—2051, 2066, 3011, 3053, 3089, 3339, 3494, and 3519.

Source: U.S. International Trade Commission.



of U.S. imports and exports.<sup>8</sup> Table 4-1 organizes the results for the 4-digit SIC industries using the ITC groupings analyzed in chapters 5 and 6.

First consider those industries with a conclusive statistical link between the volume of U.S. imports and exports and the NAFTA years. For U.S.-Canada trade, 21 U.S. importing industries (13 increasing and 8 decreasing) and 18 U.S. exporting industries (10 increasing and 8 decreasing) show an impact of NAFTA on trade in 1994-96. Similarly, for U.S.-Mexico trade, 23 U.S. importing industries (16 increasing and 7 decreasing) and 13 U.S. exporting industries (13 increasing and 0 decreasing) show an impact of the Agreement on real trade volumes in 1994-96. In every case, those industries showing increases in trade growth outnumber those exhibiting decreases in growth. None of the analyzed industries exhibited a conclusive relationship between NAFTA and lower U.S. exports to Mexico. In addition, the number of industries that showed significant increases in imports and exports are greater for bilateral trade with Mexico than for trade with Canada.

The largest group of industries with conclusive results are those that indicate there is no impact on the growth of bilateral trade between the United States and its NAFTA partners. Specifically, 94 industries with imports from Canada and 92 industries with imports from Mexico exhibited no statistical link between the real volume of imports and the first 3 NAFTA years. Similarly, 94 industries with exports to Canada and 77 industries with exports to Mexico exhibited no statistical link between the growth of imports and the first 3 NAFTA years. For each of the 4 bilateral flows, approximately 40 to 48 percent of the industries analyzed exhibited no statistically discernible change during 1994-96, as compared with the entire sample period. These results are spread across the entire range of industries evaluated.

The effects of the U.S.-Canada Free Trade Agreement preceding NAFTA are also consistent with the estimates presented above. The sequential timing of the two agreements suggests that increases in trade should be largest with Mexico and instances of trade diversion will generally shift U.S.-Canada trade toward bilateral flows with Mexico. This expected pattern is exhibited here by the greater number of conclusive negative import (8) and export (8) changes in U.S.-Canada trade than the number of negative import (7) and export (0) changes in U.S.-Mexico trade. However, because in many industries NAFTA extends the degree of trade liberalization between the United States and Canada beyond the provisions agreed to in the U.S.-Canadian Free Trade Agreement, trade diversion should not be expected in every industry.

Results from the Commission analysis are also consistent with increases in specialization and intraindustry trade. Specialization appeared to be most common, as evidenced by a change in only one direction or a combination of simultaneous increases and decreases in either imports or exports for a given industrial grouping. There were 22 ITC groups in which U.S.-Canada bilateral trade had at least one 4-digit industry with a significant change in imports or exports. U.S. bilateral trade with Mexico was affected in 21 ITC sectors. One-way shifts in trade flows were present in approximately 70 percent of these groupings. Indications of intraindustry trade were most prevalent in the industrial products sectors and other groups expected to generate this pattern of trade, such as those characterized by product differentiation and production with a high degree of manufactured components. For example, in the case of Canada, the glass, industrial machinery, heavy equipment, household appliances, and radio and television equipment sectors demonstrated two-way increases in trade. Two-way increases in trade with Mexico occurred in the apparel, plastics and rubber, industrial machinery, electric lighting and wiring equipment, radio and television equipment, and medical equipment sectors.

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<sup>8</sup> In many instances, the results in each row do not sum to the total number of industries in each ITC group.<sup>4-7</sup> SIC industries not reported in the table either did not have a consistent 3-year outcome, or were not estimated.

Table 4-2 and 4-3 attempt to identify the relative size of the affected industries highlighted in table 4-1 by presenting the 1996 share (or percent) of NAFTA partner trade covered by those industries. Table 4-2 puts into perspective the industries for which conclusive changes were identified. For example, ITC group 33, plastic and rubber products, showed that three of seven industries had a significant positive change in U.S. imports from Mexico (table 4-1). These industries represent 0.57 percent of total U.S. commodity imports from Mexico. In contrast, one of three industries in ITC sector 50, radio and television equipment, had a significant positive change in imports, but that industry represented 6.25 percent of total commodity imports from Mexico. Overall, the results indicate that NAFTA affected a larger share of Mexico's bilateral trade with the United States during 1994-96 than Canada's. Specifically, U.S. imports from Mexico increased in industries that represent about 14.5 percent of total bilateral commodity trade, and U.S. exports to Mexico increased in industries that represent about 8.7 percent of such trade. Alternatively, U.S. trade with Canada that was conclusively affected by NAFTA represents 5 percent or less of total U.S.-Canada bilateral commodity trade flows.

Table 4-3 presents calculations similar to those in table 4-2 for those industries that showed no statistical change in U.S. imports or exports during any of the NAFTA years. Once again, the 1996 share (or percent) of bilateral trade for those industries is reported. These results suggest that the amount of bilateral commodity trade unaffected by NAFTA during 1994-96 is quite significant. It ranges from approximately 35 to 55 percent of total bilateral trade flows, with the largest amount of unaffected trade consisting of imports from Canada.

Under the analysis described above, industries in which there were statistically significant shifts in trade flows in only 1 or 2 years are judged to be inconclusive with regard to a NAFTA effect.<sup>9</sup> A lower degree of confidence exists in defining a conclusive link between NAFTA and a single or two year shift in trade, but a close evaluation of these results yields a notable pattern. Among the many combinations of one and two year changes that are possible (e.g. increases in 1994 and 1995, increases in 1994 and 1996, etc.) in the bilateral trade flows estimated here, the results are generally quite similar.<sup>10</sup> Within each of the many combinations, there are usually only a small number of industries represented.

One notable exception exists to this general pattern. For the estimations representing U.S. exports to Mexico, a striking result emerged. Of the 78 industries that show a statistically significant change in only one or two years, 36 have a single positive statistically significant coefficient identifying a change in 1994 and statistically insignificant coefficients for the variables identifying changes in 1995 and 1996. These 36 industries accounted for approximately 15.3 percent of total commodity bilateral trade between the United States and Mexico in 1996. This result indicates that a considerable number of industries may have experienced a jump in exports to Mexico immediately after NAFTA implementation, but this significant change abruptly ended in 1995 and had not yet resumed in 1996. The Mexican peso devaluation may have had an impact on these industries.

As indicated above, the criteria used to determine a statistical link between trade flow changes and NAFTA is the presence of a statically significant coefficient identifying a change in trade growth in each of the NAFTA years. The choice of criteria involves a tradeoff between a confidence in linking a yearly binary variable to an event that occurs in that year and the probability of erroneously linking NAFTA to unexplained changes in trade. To the extent that the estimated trade models do not fully control for exchange rate changes, requiring three statistically significant binary variables identifying

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<sup>9</sup> This group of industries represents the second largest set of bilateral estimates, behind those with no NAFTA effect.

<sup>10</sup> A tabulation of results based on the different possible combinations is reported in table C-3 in appendix C.

**Table 4-2. 1996 share of total bilateral commodity trade in analyzed industries having conclusive shifts in trade growth, by country, by ITC Group**

ITC Group	Canada				Mexico			
	U.S. Imports from		U.S. Exports to		U.S. Imports from		U.S. Exports to	
	Increase <sup>1</sup>	Decrease <sup>2</sup>	Increase <sup>3</sup>	Decrease <sup>4</sup>	Increase <sup>5</sup>	Decrease <sup>6</sup>	Increase <sup>7</sup>	Decrease
ITC Group 1: Grains and oilseeds								
ITC Group 2: Raw cotton								
ITC Group 3: Field crops								
ITC Group 4: Fresh vegetables, & canned & frzn. fruits and veg.								
ITC Group 5: Ornamental floriculture and nursery products								
ITC Group 6: Meats and livestock								
ITC Group 7: Fish and shellfish								
ITC Group 8: Iron ore								
ITC Group 9: Coal								
ITC Group 10: Crude petroleum, nat. gas, and nat. gas liquid								
ITC Group 11: Animal feeds								
ITC Group 12: Bakery products				0.17%				
ITC Group 13: Chocolate and cocoa products				0.16%				
ITC Group 14: Fats and oils								
ITC Group 15: Malt beverages								
ITC Group 16: Bottled and canned soft drinks and carbonated					0.07%			
ITC Group 17: Miscellaneous food preparations								
ITC Group 18: Textile mill products	0.02%						0.13%	
ITC Group 19: Apparel and other finished textile products					0.19%			
ITC Group 20: Solid wood products					0.04%		0.01%	
ITC Group 21: Furniture								
ITC Group 22: Paper products							0.36%	
ITC Group 23: Printed matter					0.03%	0.02%	0.04%	
ITC Group 24: Alkalies and chlorine								
ITC Group 25: Industrial inorganic chemicals	0.10%							
ITC Group 26: Synthetic plastics, resins, and rubber							2.34%	
ITC Group 27: Pharmaceutical preparations						0.02%		
ITC Group 28: Soaps, detergents, toiletries								
ITC Group 29: Paints and allied products								
ITC Group 30: Industrial organic chemicals			1.12%				0.73%	
ITC Group 31: Fertilizers, pesticides, and agricultural chemicals		0.05%						
ITC Group 32: Petroleum refinery products								
ITC Group 33: Plastic and rubber products	0.12%			1.67%	0.57%			
ITC Group 34: Leather tanning and finishing								
ITC Group 35: Women's footwear, except athletic								
ITC Group 36: Flat glass and glassware	0.06%		0.26%					

**Table 4-2. 1996 share of total bilateral commodity trade in analyzed industries having conclusive shifts in trade growth, by country, by ITC Group**

ITC Group	Canada				Mexico			
	U.S. Imports from		U.S. Exports to		U.S. Imports from		U.S. Exports to	
	Increase <sup>1</sup>	Decrease <sup>2</sup>	Increase <sup>3</sup>	Decrease <sup>4</sup>	Increase <sup>5</sup>	Decrease <sup>6</sup>	Increase <sup>7</sup>	Decrease
ITC Group 37: Cement								
ITC Group 38: Vitreous china plumbing fixtures								
ITC Group 39: Gypsum building products		0.06%	0.01%					
ITC Group 40: Mineral wool			0.49%					
ITC Group 41: Steel products	0.07%							
ITC Group 42: Nonferrous metals, unwrought				0.40%		0.13%		
ITC Group 43: Nonferrous metals, wrought								
ITC Group 44: Fabricated metal products				0.77%	0.40%	0.02%		
ITC Group 45: Industrial machinery	0.34%	0.22%	0.17%	1.82%	0.45%	0.04%	0.16%	
ITC Group 46: Computers & computer peripheral equipment								
ITC Group 47: Heavy electrical equipment	0.19%		0.09%					
ITC Group 48: Household appliances	0.07%	0.07%	0.09%		0.17%	0.04%		
ITC Group 49: Electric lighting and wiring equipment	0.06%				0.51%		0.65%	
ITC Group 50: Radio and television equipment	0.03%		0.58%		6.25%		1.79%	
ITC Group 51: Communications equipment		0.07%				0.75%		
ITC Group 52: Electronic components and accessories							2.14%	
ITC Group 53: Misc. electrical machinery, equipment, and supplies		0.16%						
ITC Group 54: Motor vehicles								
ITC Group 55: Motor vehicle parts			0.20%		5.29%			
ITC Group 56: Aircraft and aircraft parts	0.89%							
ITC Group 57: Boat building and repairing								
ITC Group 58: Railroad equipment and parts								
ITC Group 59: Transportation equipment								
ITC Group 60: Measuring, analyzing and controlling instruments					0.16%			
ITC Group 61: Medical equipment					0.41%		0.32%	
ITC Group 62: Photographic equipment and supplies								
ITC Group 63: Jewelry, precious metals								
ITC Group 64: Games, toys, and children's vehicles		0.09%						
ITC Group 65: Sporting goods								
ITC Group 66: Miscellaneous industries, n.e.c.								
<b>Total</b>	<b>1.95%</b>	<b>0.72%</b>	<b>3.01%</b>	<b>4.99%</b>	<b>14.54%</b>	<b>1.02%</b>	<b>8.67%</b>	<b>0.00%</b>

<sup>1</sup> SICs included in this column: 2252, 2816, 3053, 3221, 3321, 3511, 3554, 3564, 3625, 3635, 3648, 3671, and 3721.

<sup>2</sup> SICs included in this column: 2879, 3275, 3585, 3593, 3631, 3652, 3669, and 3944.

<sup>3</sup> SICs included in this column: 2869, 3211, 3275, 3452, 3493, 3532, 3613, 3635, 3663, and 3691.

<sup>4</sup> SICs included in this column: 2051, 2066, 3011, 3053, 3089, 3339, 3494, and 3519.

<sup>5</sup> SICs included in this column: 2086, 2341, 2493, 2771, 3053, 3081, 3089, 3429, 3564, 3599, 3635, 3644, 3651, 3714, 3825, and 3841.

<sup>6</sup> SICs included in this column: 2721, 2834, 3341, 3441, 3566, 3633, and 3661.

<sup>7</sup> SICs included in this column: 2252, 2281, 2411, 2672, 2771, 2821, 2865, 3535, 3643, 3671, 3676, 3679, and 3841

Source: U.S. International Trade Commission.

**Table 4-3. 1996 share of total bilateral commodity trade in analyzed industries having no statistically significant shifts in trade growth, by country, by ITC Group**

ITC Group	Canada		Mexico	
	U.S. Imports from <sup>1</sup>	U.S. Exports to <sup>2</sup>	U.S. Imports from <sup>3</sup>	U.S. Exports to <sup>4</sup>
ITC Group 1: Grains and oilseeds	0.48%	0.06%		2.95%
ITC Group 2: Raw cotton				0.49%
ITC Group 3: Field crops	0.09%	0.12%	0.04%	0.04%
ITC Group 4: Fresh vegetables, & canned & frzn. fruits and veg.	0.19%	0.82%	2.27%	
ITC Group 5: Ornamental floriculture and nursery products				
ITC Group 6: Meats and livestock	0.72%	0.46%	0.04%	
ITC Group 7: Fish and shellfish				
ITC Group 8: Iron ore				
ITC Group 9: Coal				
ITC Group 10: Crude petroleum, nat. gas, and nat. gas liquid	8.38%		0.06%	
ITC Group 11: Animal feeds	0.10%	0.08%		0.08%
ITC Group 12: Bakery products	0.19%			0.02%
ITC Group 13: Chocolate and cocoa products	0.17%			0.08%
ITC Group 14: Fats and oils	0.05%	0.05%		0.26%
ITC Group 15: Malt beverages	0.13%		0.42%	
ITC Group 16: Bottled and canned soft drinks and carbonated waters		0.05%		
ITC Group 17: Miscellaneous food preparations			0.06%	
ITC Group 18: Textile mill products	0.50%	0.62%	0.40%	0.81%
ITC Group 19: Apparel and other finished textile products	0.33%	0.16%	1.82%	1.72%
ITC Group 20: Solid wood products	4.43%	0.17%	0.35%	0.08%
ITC Group 21: Furniture	1.63%	1.08%	1.86%	0.85%
ITC Group 22: Paper products	0.59%	0.88%	0.08%	1.29%
ITC Group 23: Printed matter	0.28%	0.59%	0.18%	0.30%
ITC Group 24: Alkalies and chlorine				
ITC Group 25: Industrial inorganic chemicals	0.92%	0.13%		0.15%
ITC Group 26: Synthetic plastics, resins, and rubber	1.34%	1.91%	0.05%	0.19%
ITC Group 27: Pharmaceutical preparations	0.21%			0.09%
ITC Group 28: Soaps, detergents, toiletries	0.29%	0.43%	0.15%	
ITC Group 29: Paints and allied products	0.12%	0.38%	0.01%	
ITC Group 30: Industrial organic chemicals	0.44%	0.28%		
ITC Group 31: Fertilizers, pesticides, and agricultural chemicals	0.22%	0.58%	0.14%	0.15%
ITC Group 32: Petroleum refinery products		0.64%		
ITC Group 33: Plastic and rubber products	1.57%	0.03%		3.02%
ITC Group 34: Leather tanning and finishing	0.02%		0.08%	
ITC Group 35: Women's footwear, except athletic	0.03%			
ITC Group 36: Flat glass and glassware	0.24%		0.64%	0.14%
ITC Group 37: Cement	0.16%	0.03%		0.01%
ITC Group 38: Vitreous china plumbing fixtures		0.02%	0.15%	4-11

**Table 4.3. 1996 share of total bilateral commodity trade in analyzed industries having no statistically significant shifts in trade growth, by country, by ITC Group**

ITC Group	Canada		Mexico	
	U.S. Imports from <sup>1</sup>	U.S. Exports to <sup>2</sup>	U.S. Imports from <sup>3</sup>	U.S. Exports to <sup>4</sup>
ITC Group 39: Gypsum building products			0.01%	
ITC Group 40: Mineral wool	0.06%	0.08%	0.01%	0.03%
ITC Group 41: Steel products	1.57%	1.40%	1.44%	0.11%
ITC Group 42: Nonferrous metals, unwrought	1.96%	0.16%	0.77%	0.33%
ITC Group 43: Nonferrous metals, wrought	0.08%	0.76%	1.28%	2.36%
ITC Group 44: Fabricated metal products	0.86%	1.34%	1.21%	0.13%
ITC Group 45: Industrial machinery	2.06%	2.54%	2.19%	2.68%
ITC Group 46: Computers & computer peripheral equipment			0.98%	2.97%
ITC Group 47: Heavy electrical equipment	0.06%	0.84%	0.23%	
ITC Group 48: Household appliances		0.27%	0.39%	0.08%
ITC Group 49: Electric lighting and wiring equipment	0.07%	0.98%	0.22%	1.40%
ITC Group 50: Radio and television equipment	0.47%	0.93%	0.30%	
ITC Group 51: Communications equipment		0.07%		
ITC Group 52: Electronic components and accessories	0.05%	1.14%	1.86%	0.41%
ITC Group 53: Misc. electrical machinery, equipment, and supplies		0.65%	0.40%	0.81%
ITC Group 54: Motor vehicles	21.44%	9.21%	15.48%	2.23%
ITC Group 55: Motor vehicle parts	0.02%	1.25%	4.66%	8.68%
ITC Group 56: Aircraft and aircraft parts	0.63%	1.26%	0.05%	0.24%
ITC Group 57: Boat building and repairing	0.39%	0.11%		
ITC Group 58: Railroad equipment and parts		0.27%	0.06%	0.06%
ITC Group 59: Transportation equipment				
ITC Group 60: Measuring, analyzing and controlling instruments	0.40%	1.04%	1.58%	1.21%
ITC Group 61: Medical equipment	0.05%	0.39%	0.45%	0.12%
ITC Group 62: Photographic equipment and supplies			0.47%	
ITC Group 63: Jewelry, precious metals				
ITC Group 64: Games, toys, and children's vehicles		0.25%	0.60%	0.14%
ITC Group 65: Sporting goods		0.28%	0.36%	
ITC Group 66: Miscellaneous industries, n.e.c.		0.19%	0.08%	0.09%
<b>Total</b>	<b>53.99%</b>	<b>34.98%</b>	<b>43.88%</b>	<b>36.80%</b>

<sup>1</sup> SICs included in this column: 0111, 0115, 0119, 0139, 0161, 1311, 1321, 2011, 2037, 2048, 2051, 2066, 2079, 2082, 2221, 2257, 2281, 2295, 2321, 2322, 2325, 2331, 2335, 2341, 2369, 2421, 2431, 2439, 2499, 2599, 2653, 2672, 2673, 2676, 2678, 2752, 2771, 2782, 2819, 2821, 2822, 2824, 2834, 2841, 2844, 2851, 2869, 2873, 3011, 3069, 3082, 3089, 3111, 3144, 3211, 3229, 3231, 3241, 3296, 3312, 3339, 3341, 3354, 3441, 3443, 3494, 3499, 3519, 3523, 3535, 3537, 3541, 3542, 3555, 3559, 3561, 3562, 3566, 3569, 3599, 3612, 3641, 3651, 3663, 3678, 3691, 3711, 3724, 3732, 3812, 3823, 3824, 3841, and 3845.

<sup>2</sup> SICs included in this column: 0111, 0116, 0119, 0139, 0161, 0211, 0213, 2011, 2037, 2048, 2076, 2086, 2273, 2281, 2311, 2321, 2322, 2331, 2337, 2342, 2431, 2435, 2599, 2611, 2653, 2657, 2672, 2676, 2678, 2721, 2771, 2782, 2816, 2821, 2824, 2844, 2851, 2865, 2873, 2879, 2911, 3082, 3241, 3261, 3296, 3312, 3334, 3341, 3353, 3354, 3429, 3441, 3442, 3443, 3499, 3511, 3542, 3544, 3555, 3564, 3585, 3593, 3612, 3621, 3625, 3631, 3633, 3641, 3643, 3644, 3651, 3652, 3669, 3671, 3672, 3675, 3676, 3679, 3694, 3695, 3711, 3715, 3721, 3724, 3732, 3743, 3823, 3824, 3827, 3841, 3845, 3944, 3949, and 3999.

<sup>3</sup> SICs included in this column: 0115, 0139, 0161, 1321, 2011, 2033, 2037, 2048, 2082, 2099, 2221, 2257, 2281, 2295, 2322, 2325, 2342, 2431, 2435, 2499, 2599, 2653, 2657, 2672, 2673, 2678, 2752, 2782, 2822, 2824, 2841, 2844, 2851, 2873, 2879, 3111, 3211, 3221, 3229, 3231, 3261, 3275, 3296, 3312, 3321, 3331, 3339, 3351, 3353, 3354, 3357, 3443, 3494, 3499, 3511, 3519, 3531, 3535, 3537, 3541, 3544, 3546, 3554, 3555, 3559, 3561, 3569, 3577, 3585, 3593, 3613, 3631, 3641, 3671, 3672, 3674, 3676, 3691, 3694, 3699, 3711, 3724, 3743, 3822, 3823, 3824, 3827, 3842, 3861, 3944, 3949, and 3999.

<sup>4</sup> SICs included in this column: 0111, 0116, 0119, 0131, 0161, 2048, 2051, 2066, 2076, 2079, 2221, 2295, 2311, 2325, 2337, 2341, 2369, 2431, 2493, 2599, 2621, 2657, 2673, 2676, 2721, 2752, 2816, 2822, 2824, 2834, 2879, 3011, 3089, 3144, 3231, 3241, 3261, 3275, 3296, 3321, 3334, 3339, 3353, 3357, 3442, 3493, 3511, 3519, 3532, 3537, 3541, 3554, 3562, 3571, 3585, 3633, 3644, 3648, 3652, 3678, 3694, 3695, 3699, 3711, 3714, 3715, 3721, 3724, 3743, 3812, 3822, 3823, 3825, 3827, 3845, 3944, and 3999.

Source: U.S. International Trade Commission.

1994-96 could understate the export effects relative to the import effects associated with the Agreement.<sup>11</sup> Relaxing the criteria used to statistically link yearly trade flow changes to NAFTA (i.e., looking at statistically significant shifts in trade flows in only 1 or 2 of the NAFTA years) generally reinforces the results reported above. Moreover, relaxing the selection criteria increases the number of industries in which there were increases in U.S. exports to Mexico relative to the number of industries in which there are increases in U.S. imports from Mexico.<sup>12</sup>

### *Aggregate Bilateral Trade Flows*

This section analyzes the effects of NAFTA on aggregate bilateral trade flows between the United States and its two NAFTA trading partners. After controlling for changes in market forces that are primarily affected by economic business cycles and macroeconomic policy, the results of this analysis indicate a strong statistical link between the increase in bilateral trade between the United States and Mexico and the implementation of NAFTA. On the other hand, the results also indicate that aggregate bilateral trade between the United States and Canada showed no consistent statistically significant changes during NAFTA's first 3 years.

The methodology used to empirically analyze U.S. trade flows here is nearly identical to the approach used to estimate industry-level effects.<sup>13</sup> The analysis of aggregate trade flows estimate the growth of U.S. bilateral imports and exports with Canada and Mexico using monthly aggregate U.S.-Canada and U.S.-Mexico trade data.<sup>14</sup> With the exception of a drop in U.S. exports to Mexico following the sharp devaluation of the peso, these bilateral trade flows generally increased year to year. Estimates in this section compare the growth of U.S. imports and exports during the NAFTA years, relative to their growth over the entire sample period of 1989-96.<sup>15</sup>

As described earlier, the use of year-specific binary variables to capture the trade effects during the period 1994-96 yields information that would not be available if only a single binary variable for the entire NAFTA period had been used. This is most evident in the case of aggregate bilateral imports and exports between the United States and Mexico. The results show a sharp difference in trade growth before and after the peso crisis. This difference also illustrates the important interconnection between U.S. imports from Mexico and U.S. exports to Mexico.

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<sup>11</sup> To the extent that the binary variables in the U.S.-Mexico specifications also account for some of effects of the sharp peso devaluation in late 1994, this standard may result in a larger number of industries with an increase in U.S. imports from Mexico and a smaller number of industries with an increase in U.S. exports to Mexico, because a peso devaluation increases U.S. imports and reduces U.S. exports.

<sup>12</sup> The different possible combinations of yearly effects that are found in the disaggregated results are tabulated in appendix C.

<sup>13</sup> The only difference is that for the aggregate U.S. import demand estimation, exchange rates are explicitly included in the specification because monthly bilateral import price variables are not available. See appendix C.

<sup>14</sup> The trade and macroeconomic variables are more fully described in appendix C. U.S. aggregate bilateral trade flows (monthly) were obtained from various issues of the *Direction of Trade Statistics* published by the International Monetary Fund.

<sup>15</sup> Data were obtained for the period 1973-1996, however, the estimated effects of NAFTA that are reported in this section are derived from data covering the period January 1989 to November 1996. This choice was based on statistical tests that indicate a strong break in underlying behavioral properties of the data during 1988-89. More formally, cusum square and Chow tests were conducted on the specified model and generally found the estimated relationships over these two periods to be sufficiently different at the 95 percent confidence level to warrant separate estimations. Only the results from the 1989-96 estimations are discussed here. The parameter estimates and diagnostic statistics are contained in appendix C.

The results indicate, after controlling for changes in income, prices, and exchange rates, that the volume of U.S. imports from Mexico increased by 1.0 percent in 1994 as a result of NAFTA. In addition, U.S. imports from Mexico are estimated to be 5.7 and 6.4 percent higher in 1995 and 1996, respectively. Similarly, the results indicate that the volume of U.S. exports to Mexico increased by 1.3 percent in 1994 as a result of NAFTA, and increased by 3.8 and 3.2 percent in 1995 and 1996, respectively.<sup>16</sup> Two important points emerge from these estimates. First, in 1994, the only year in which NAFTA was in place and the peso devaluation does not confound the estimates, the increased volume of exports from the United States to Mexico outpaced the increased volume of U.S. imports from Mexico. Second, during 1995 and 1996, the estimated simultaneous increase in import and export volumes demonstrates the high degree of integration between U.S. and Mexican bilateral trade flows.<sup>17</sup>

### **The Effects of NAFTA on the U.S. Labor Market**

The effects of NAFTA on the U.S. labor market are investigated by examining the impact of NAFTA on employment and earnings in manufacturing industries, which account for about 20 percent of the non-farm labor force. Industry level effects are based on an analysis of 120 4-digit SIC categories that were selected using the criteria described in chapter 1 and for which monthly data existed during the period 1989-1996. Because labor effects can occur through changes in employment or earnings, these variables are examined separately. Changes in the labor market are evaluated by controlling for changes in market conditions that generally affect employment and earnings to separate the effects of NAFTA from changes due to typical business cycle shifts.

The principal finding reported in this section is that relatively few U.S. industries show evidence of having been affected (either positively or negatively) by NAFTA in the Agreement's first three years. These industries represent less than 4 percent of the non-farm labor force or less than 17 percent of the manufacturing labor force. Moreover, within these industries, not all workers are necessarily affected. Evidence suggests that the effects on these industries are for the most part small, and that there is no statistically significant effect of NAFTA on the U.S. manufacturing labor force as a whole. Agricultural products and the labor force that produces them are not insulated from either beneficial or detrimental effects of NAFTA, but Bureau of Labor Statistics (BLS) does not collect data on agricultural sectors in the same way as other labor force segments. Consequently, the techniques applied here to manufacturing labor could not be used for agricultural labor. Similarly, because trade flows for services industries are generally not tracked on a monthly basis, an examination of the labor force in services industries was also excluded from this analysis. However, the qualitative analyses in chapter 6 discuss, to the extent that data are available, the effects of NAFTA on employment in selected agricultural and services industries.

The techniques used in the labor analysis are generally similar to those used in the previous section, but there are some important differences. The linkage between trade policy and labor market

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<sup>16</sup> Note that the latter periods are also associated with the peso devaluation. To the extent that the analytical technique used does not fully compensate for the effects of the devaluation on bilateral trade, these results may overstate the effects of NAFTA on U.S. imports from Mexico. However, the results are consistent with the research of David Gould of the Federal Reserve Bank of Dallas. He states in his written submission to the Commission dated May 6, 1997, "... NAFTA has had a statistically significant and important positive effect on trade flows between the United States and Mexico since NAFTA's implementation in January 1994. ... Both exports and imports between the U.S. and Mexico are at least 20% higher in 1997 than they would have been had NAFTA not been ratified. Trade between the United States and Canada, however, has not been significantly affected by NAFTA," p. 1.

<sup>17</sup> Indeed, according to Sidney Weintraub, a "very high import component" is contained in Mexico's exports. He estimates that the import component is roughly 40 to 45 percent. He also notes that about 75 to 80 percent of those imports come from the United States. This relationship is supported by the estimates that suggest strong increases in import growth from Mexico during 1995-96 was accompanied by large, but smaller, increases in U.S. export growth. See the comments by Sidney Weintraub, Public Hearing Transcript, p. 85. 4-14



effects is less direct than the link between the trade agreement and a single bilateral trade flow. Trade policy changes most directly affect the quantities and prices of traded goods, which then affect the labor force that produces those goods. As a result, the labor market findings are less conclusive than the findings reported with respect to trade flows.

There are also differences in the approach used to identify and separate NAFTA effects from those due to the peso devaluation. The impact of trade flow changes on labor is tied to changes in the levels of both imports and exports. Employment and earnings estimates include the effects of imports directly by controlling for shifts in those variables that are due to changes in the price of imports, but effects of exports on labor markets are not treated explicitly. Therefore, a variable identifying the period following the sharp peso devaluation is included to help isolate export effects, insofar as such effects are attributable not only to exchange rate changes but also to the related recession in the Mexican economy.

### *Studies of NAFTA and Employment*

Since the beginning of negotiations for NAFTA, labor market issues have been prominent. A relatively large body of literature has been produced on projected effects of NAFTA, including effects on wages and employment. More recently a number of studies have attempted to retrospectively assess NAFTA's effects. Most such studies agree that the effects of NAFTA on the U.S. economy are minimal in the aggregate; at current levels of near-full employment, small changes in trade will not appreciably affect the total number of jobs, but will only shift jobs between sectors. Where effects are isolated below an aggregate level, most studies rely on anecdotal data or the results of economic simulation models. A selection of these studies will be reviewed briefly below.

A study by Sidney Weintraub<sup>18</sup> discusses the labor market effects of NAFTA as an issue that is of minor significance in the overall evaluation of the Agreement, particularly given the current low level of unemployment in the United States and the rapid rate of job creation. The implication is that the Agreement has had no real, discernable effect on aggregate jobs in the economy, certainly not in a negative direction. Weintraub further points out, however, that sectoral dislocations of labor may occur, as well as reductions in earnings in some industries. No empirical work on the magnitude of such changes is offered.

The Congressional Research Service (CRS) reports that "estimates of NAFTA-related job gains and losses are small related to total U.S. employment ... An estimated 231,000 *net* jobs were created from new exports to Mexico and Canada during 1994 and 1995."<sup>19</sup> The estimates are derived from Commerce Department estimates of jobs related to trade,<sup>20</sup> and the job loss data provided by the Labor Department Trade Adjustment Assistance (TAA) program. The CRS study points out that the measures of gains and losses are generally rather crude, and are derived from different methodologies. The study also notes that in an economy at full employment, jobs are neither created nor destroyed, but only moved from sector to sector. In any case, the study does not provide a sectoral breakout of jobs "gained" or "lost."

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<sup>18</sup> S. Weintraub, *NAFTA at Three: A Progress Report* (Washington, DC: The Center for Strategic & International Studies, 1997)

<sup>19</sup> M.J. Bolle, *NAFTA: Estimated U.S. Job "Gains" and "Losses" by State* (Washington, DC: U.S. Library of Congress, Congressional Research Service, Sept. 1996) p. 1.

<sup>20</sup> The Commerce Department uses an input-output model to derive the number of jobs added to the economy when industrial output increases. The estimate of all jobs supported by exports is used to derive the average number of jobs supported by a given dollar amount of exports. See Bolle, p. CRS-5.

A recent study by Hinojosa and others<sup>21</sup> finds that “ ... the overall positive or negative employment impacts of U.S.-Mexico trade have not been significantly affected by the liberalization of tariffs due to NAFTA; ... the overall net U.S. employment impacts since NAFTA implementation (1994-1996) have also been slightly positive, even taking into account the large impact of the peso crisis of 1995; [and] ... the most important negative impact on employment has been the decline in U.S. exports due to the Mexican peso crisis, not the liberalization of tariffs due to NAFTA.”<sup>22</sup> These conclusions are based on a partial equilibrium simulation model, deriving employment effects from small changes in trade flows inferred from the model. Support for the conclusions is drawn from data provided by the U.S. Department of Labor’s NAFTA TAA program.

### *Results and Interpretation*

The model used to estimate the effects of NAFTA on employment and earnings is described in appendix C. It makes use of two kinds of variables, in a statistical regression form, to detect these effects. The first variable is the price of imports from Mexico, and is used to measure the sensitivity of hours worked and of hourly earnings to a change in the price of an industry’s competing imports from Mexico. These price changes may or may not be due to NAFTA tariff reductions; with data available at this time, it is not possible to identify, on a month-by-month basis, what tariff reductions are due to NAFTA, what reductions are due to the tariff concessions associated with the World Trade Organization and its agreements, what NAFTA reductions simply replace GSP benefits formerly received by Mexican imports, or how much of any tariff reduction is in fact passed through to the purchaser as a price reduction.

The second variable is a NAFTA binary variable. It is used to isolate any effects associated with NAFTA and the period since NAFTA was implemented, other than those captured by import prices. A more detailed discussion of its interpretation, in conjunction with a variable that is connected to the period of the peso devaluation, is provided in appendix C. For the purposes of this analysis, a significant coefficient for the NAFTA binary variable for any particular industry is interpreted as an indication that the NAFTA years, 1994 through 1996, are observably and distinctly different from the previous years for that industry, and that this difference can be identified as being either positive or negative in its effects on the hours worked and the average hourly earnings of the production workers in the industry. A certain caution is required in designating these effects, as being due to NAFTA; again, issues of interpretation are more fully discussed in appendix C.

Table 4-4 provides a summary of the extent of significant findings for the binary variables in the regression estimates. The table shows those sectors for which results indicate a significant effect captured by the binary variables specified above. In the first column, the ITC industry groups<sup>23</sup> in which industries were found to have significant coefficients for the binary variables are listed. Information is provided on the number of sectors for which the NAFTA coefficient was significantly different from zero at the 5 percent level, and indicates how often these coefficients were positive, and how often negative. As mentioned, labor data are not generally available for agricultural industries, so the first sector group in

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<sup>21</sup> R. Hinojosa Ojeda, C. Dowds, R. McCleery, S. Robinson, D. Runsten, C. Wolff, and G. Wolff, *North American Integration Three Years After NAFTA: A Framework of Tracking, Modeling and Internet Accessing the National and Regional Labor Market Impacts* (Los Angeles: North American Integration and Development Center at UCLA, 1997)

<sup>22</sup> R. Hinojosa *et al.*, *North American Integration*, p. 12.

<sup>23</sup> Analysis was conducted at the level of 4-digit SIC industries, but for conciseness these results are summarized 4-16 in terms of the 68 ITC sector groups described in chapter 1 and listed in chapter 6.

<b>Table 4-4. Number of 4-digit SIC study sectors, by ITC Group that have a significant 3-year NAFTA coefficient at the 5 percent significance level, for hours or hourly earnings equations</b>					
<b>ITC Group</b>	<b>No. of 4-digit SICs</b>	<b>+H</b>	<b>-H</b>	<b>+E</b>	<b>-E</b>
<b>First order auto-regressive procedure, with instrumental variables</b>					
ITC Group 6--Meats and livestock	1				1
ITC Group 18--Textile mill products	6				1
ITC Group 19--Apparel and other finished textile products	10			1	
ITC Group 22--Paper products	4		1		
ITC Group 25--Industrial inorganic chemicals	2				1
ITC Group 28--Soaps, detergents, and toiletries	2		2		
ITC Group 33-- Plastic and rubber products	4	2		1	
ITC Group 34--Leather tanning and finishing	1			1	
ITC Group 36--Flat glass and glassware	4			1	
ITC Group 38--Vitreous china plumbing fixtures	1				1
ITC Group 41--Steel products	2	1			
ITC Group 43--Nonferrous metals, wrought	3	1			
ITC Group 44--Fabricated metal products	7	1		1	1
ITC Group 45--Industrial machinery	16	1	1		1
ITC Group 47--Heavy electrical equipment	2				2
ITC Group 49--Electrical lighting and wiring equipment	3	1			1
ITC Group 52--Electronic components and accessories.	4	1			1
ITC Group 60--Measuring, analyzing, and control instruments	3				1
ITC Group 64--Games, toys, and children's vehicles, except dolls and bicycles	1			1	
<b>Total</b>		<b>8</b>	<b>4</b>	<b>6</b>	<b>11</b>

Source: Compiled by the staff of the U.S. International Trade Commission.

which significant results were found is ITC Group 6, Meats and Livestock.<sup>24</sup> The table also shows that in this sector, a single 4-digit SIC was analyzed, as reported in column 2. For that SIC, the coefficient on the NAFTA variable was significant and negative in the “earnings” equation; this is the meaning of the “1” in the “-E” column. In Group 18, 6 four-digit SICs were analyzed; among them, there was only one significant NAFTA coefficient, a negative one in an “earnings” equation meaning NAFTA had a negative effect on earnings in that sector.

If NAFTA has effects on the domestic market (and labor market), some of these effects will be felt indirectly through effects on domestic prices and aggregate consumption. The simple analysis pursued here is not capable of fully separating these indirect effects from the direct effects. These effects will be felt directly through changes in the price of U.S. imports from Mexico and through any residual effect that may be captured by the binary variables. As with most of the other analysis in this report, the problem of interpreting the coefficient of the NAFTA binary variable is of concern here. A significant coefficient indicates that, during the NAFTA years 1994-1996, the trend in earnings (or hours worked) for an industry was higher (or lower) than can be accounted for by import or domestic product prices, real incomes, overall wages and unemployment, and any separate effect captured by the PESO variable for 1995 and 1996.<sup>25</sup> It does not say that the Agreement itself caused hours or earnings to rise (or fall); other events uniquely tied to these years, perhaps affecting industries in specific ways, also would cause the NAFTA variable to be significant. Nor does it imply that earnings (or hours) actually did rise or fall in the NAFTA years; a negative coefficient on earnings may mean that earnings rose by less than they otherwise would have. Finally, this coefficient does not capture all of any NAFTA effect that may exist. In particular, the price of imports from Mexico or Canada can be expected to hold at least part of the effect of any tariff changes due to NAFTA (as well as price changes due to any other market conditions).

One result evident from the table is the relative sparseness of significant effects. The model specification has earnings and hours equations for 120 industries; about 20 of these industries demonstrated significant “NAFTA” effects as defined by the 5 percent significance criterion for inclusion in these tables. There is wide variation in magnitude of the coefficients, ranging from a fraction of a percentage change in hours or earnings attributed to NAFTA to over 15 percent. Hours worked were most often found to be positively related to NAFTA, while earnings were more often found to be negatively related, among those SIC industries with significant effects.

To give an indication of the magnitude of the small number of workers affected by the Agreement, one can add up the size of the total labor force that works in industries found to have been affected, in one way or another, by NAFTA. As of March 1995 (from the BLS benchmark employment survey for that month<sup>26</sup>), for all industries found to have one or more significant NAFTA effects in any estimated equation, fewer than 4 million workers were employed in these industries. The total number of workers in those industries represent 3.4 percent of the total non-farm labor force of 115.3 million workers, and 17 percent of the total manufacturing labor force (of 23.8 million workers). Note that these are counts of the total number of workers in “NAFTA-affected industries,” not counts of “NAFTA-affected workers.” While dislocations have occurred, the econometric estimates indicate that in any industry, changes in total hours worked or average hourly earnings would be very small and, as estimated, affect only a small percentage of the workforce.

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<sup>24</sup> Note, the 4-digit industry evaluated is category 2011- Meat products and meat packing, for which manufacturing labor data is available.

<sup>25</sup> The PESO variable is a binary variable that identifies the years 1995 and 1996. It is included in the regression to identify the period after the substantial Mexican peso devaluation.

<sup>26</sup> U.S. Department of Labor, Bureau of Labor Statistics, *Manual on Series Available and Estimating Methods*, 4-18 *BLS Current Employment Statistics Program, March 1995* (Washington, DC: U.S. Department of Labor, 1996)

### *Price Effects*

Besides any NAFTA effect captured by the binary variables, the other principal channel for NAFTA to affect the labor force is likely to be through the price of imported goods. Revenga (p. 257) found that “changes in import prices have had a significant effect on both employment and wages.” Her study reports a range of import price elasticities for employment of 0.24 to 0.39, and for wages of 0.06 to 0.09. These results were estimated across a selection of U.S. industries, looking at the effects of all import prices (not just from a single country), using data from the years 1977-1987. They imply that, for example, a 1-percent decrease in the price of all imported goods will result in a decrease in employment in manufacturing industries of from 0.24 to 0.39 percent, and a decrease in wages of 0.06 to 0.09 percent.

The Commission study had a tighter focus. In particular, it examined the effects of the prices of U.S. imports from Mexico rather than imports from all countries, to evaluate the impact on individual industries. Table 4-5 presents the magnitudes of estimates for these elasticities<sup>27</sup> where they were found to be significant at the 5 percent level in the autoregression model with instrumental variables. As one might expect, results were in general smaller than those of Revenga, and varied rather widely from industry to industry.

A positive sign in this table indicates that an increase in the price of U.S. imports from Mexico is associated with an increase in hours worked or earnings, and conversely that a decrease in import prices is associated with a decrease in hours and earnings. In principle, the algebraic signs of the coefficients can be either positive or negative, as discussed above. In any event, significant coefficients are again sparse and varied.

These coefficients, it must be emphasized, are not direct NAFTA effects. They are estimates of import price elasticities, and as such indicate the sensitivity of an industry’s labor market to changes in the price of U.S. imports from Mexico. They state that (choosing the industry with the largest estimated hours worked elasticity as an example) that *if* NAFTA reduces duties collected in SIC 2082, Malt beverages, by 1 percent, and if those tariff savings were fully passed through to the U.S. market, total weekly hours worked in that industry will increase by 0.94 percent. There are 35.5 thousand workers in that industry as of March 1995, so if this increase is met by increasing employment rather than adding overtime, there would be an increase of 314 full-time-equivalent workers.

Finally, it should be noted that for the past 3 years, the U.S. economy has been operating at or near what has historically been regarded as full employment. Therefore, while NAFTA will have caused painful dislocations to some workers in the labor force, these are small relative to total job creation over the same period, and relative to dislocations associated with other factors such as technological change.

### *Effects of NAFTA on the Aggregate Labor Force*

The United States labor force has been at virtually full employment for almost the entire duration of NAFTA.<sup>28</sup> Therefore, the real effects of NAFTA on the labor force are to be found at the sectoral level, where cases of job dislocation and employment creation may be found rather than at the aggregate level.

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<sup>27</sup> These coefficients, as estimated, are “price elasticities.” They measure the proportional responsiveness of hours worked (or hourly earnings) to a proportional change in the import price, i.e., a value of 0.1 means that a 1 percent increase in the price of Mexican imports implies a 0.1 percent change in the hours worked (or earnings).

<sup>28</sup> Weintraub, *NAFTA at Three*; CRS, *NAFTA: Estimated U.S. Job “Gains” and “Losses”*.

<b>Table 4-5. Elasticities of earnings and hours with respect to price of imports from Mexico</b>			
<b>ITC Group</b>	<b>SIC</b>	<b>Earnings</b>	<b>Hours</b>
15	2082--Malt beverages		-0.94
17	2099--Food preparations, nec		0.06
19	2331--Women's, misses', and juniors' blouses and shirts	0.12	
22	2621--Paper mills 2653--Corrugated and solid fiber boxes 2676--Sanitary paper products	-0.02 0.03	0.10
33	3069--Fabricated rubber products, nec		-0.06
36	3229--Pressed and blown glass and glassware, nec	0.01	
43	3353--Aluminum sheet, plate, and foil		0.12
45	3561--Pumps and pumping equipment		-0.02
47	3613--Switchgear and switchboard apparatus		0.08
48	3632--Household refrigerators and freezers	-0.06	
49	3641--Electric lamp bulbs and tubes 3644--Noncurrent carrying wiring devices		-0.09 0.04
50	3651--Household audio and video equipment		0.28
52	3676--Electronic resistors	0.04	
55	3714--Motor vehicle parts and accessories	0.05	
66	3999--Miscellaneous industries, nec		0.03

Source: Compiled by the staff of the U.S. International Trade Commission

Where an attempt has been made to estimate the overall effect of trade on employment,<sup>29</sup> very small effects have been found, even for across-the-board changes in all import prices. Therefore one would not expect to find strong effects of NAFTA on the U.S. labor force.<sup>30</sup>

This investigation did not find a significant aggregate effect of NAFTA, or of other variables relating to trade with Mexico or Canada, on the domestic labor force. The investigative procedure paralleled the approach used for the sectoral analysis of labor market effects. Dependent variables were the hourly wage rate and the total hours worked per week in all manufacturing industries. Independent variables included real income and measures of trade flows. Civilian unemployment and the aggregate wage rate were excluded, since these are the dependent variables. Measures of trade include total import flows from and to Mexico, Canada, and the rest of the world. A "price of imports" is not well defined for aggregate trade, so the indices of real exchange rates were used, as well as measures of the total imports from, and exports to, Mexico and Canada. Finally, the two binary variables described above were used, NAFTA and PESO.<sup>31</sup> In no specification was a coefficient on the dollar-peso exchange rate index, import or export trade flow, or NAFTA variable significantly different from zero. This was true in the analyses of both the hourly earnings and the hours worked in the manufacturing labor force.

### The Effects of Trade on Labor Productivity

U.S. labor productivity is examined *across* 455 4-digit SIC manufacturing industries.<sup>32</sup> At the time the econometric analysis was conducted, most of the data used to construct measures of labor productivity, as well as data for most of the explanatory variables, were only available on an annual basis through 1994.<sup>33</sup> In addition, empirical work indicates that changes in import competition affect productivity after a delay.<sup>34</sup> Therefore, the unavailability of high-frequency data over time did not allow a direct econometric estimate of the actual effects of the NAFTA on U.S. labor productivity. Instead, the analysis focused on the general effects of increased import competition from Mexico and Canada on U.S. labor productivity. Therefore, the estimates obtained in this analysis do not measure the actual effects of NAFTA on U.S. labor productivity, but rather, provide an indication of the direction and magnitude of its potential effects. In addition, the analysis identifies sectors that are most likely to experience productivity increases due to NAFTA.

The productivity effects of the growth in industry output, R&D intensity, the level of industry concentration, and the change in imports were estimated for four separate cases. The basic model is described in appendix C and focuses primarily on the changes in labor productivity associated with

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<sup>29</sup> Revenga, "Exporting Jobs?"

<sup>30</sup> In a letter accompanying his written submission to the Commission for this study, David Gould, senior economist at the Federal Reserve Bank of Dallas, stated that "Since trade with Mexico represents less than 10 percent of our total trade, I find it hard to believe that it would have had any effect on aggregate employment levels." Letter, David M. Gould to Donna R. Koehnke, Secretary, U.S. International Trade Commission, May 6, 1997.

<sup>31</sup> The basic equation was estimated with the maximum likelihood first-order autoregressive model, as well as an error correction model as described in appendix C, since the hypothesis of cointegration among variables could not be rejected.

<sup>32</sup> An empirical model is used in which four variables determine productivity changes in an industry: the growth in industry output, research and development intensity, the degree of market concentration, and the change in imports. The model is based on previous economic studies and is discussed further in appendix C.

<sup>33</sup> Following the literature in this area, only labor productivity is evaluated. The effect of trade on total productivity, or capital productivity may not be the same as that observed for labor.

<sup>34</sup> This finding in the literature also implies that import changes induced by NAFTA in 1994 might not affect productivity until later years.

changes in imports lagged one year.<sup>35</sup> A second proposition is examined in which a minimum threshold of imports must exist before lagged import competition affects productivity.<sup>36</sup> The final two analyses involve an examination of the effects of total import competition in sectors where Canadian and Mexican imports were increasing.<sup>37</sup> The specific results are presented in table C-3 in appendix C. This analysis focused on the change in labor productivity that occurred across sectors between 1993 and 1994 which reflects the average change that occurred in productivity for the overall manufacturing sector.

In the basic estimation, the estimated effects of output growth and market concentration on labor productivity were positive and statistically significant.<sup>38</sup> The estimated effects of import changes and R&D intensity were not found to be statistically important in affecting labor productivity.<sup>39</sup> As suggested by the literature examining labor productivity, an alternative hypothesis is that changes in import competition are not likely to have an impact on productivity until they reach a “critical mass” or threshold level in an individual sector. Domestic firms are less likely to respond to changes in import competition if the degree of competition is relatively small. Only at the point where the market share of imports begins to affect domestic producers, do firms begin to react.

The results for this alternative hypothesis suggest that changes in productivity are positively related to changes in total import shares and that some threshold level of total imports must be present—in this case, a 15-percent share—before a sector responds to import competition with increases in productivity. Results of this analysis indicate that a 1-percent increase in the share of imports in industries with relatively high import penetration are associated with a 0.16-percent increase in labor productivity. Of the 455 4-digit SIC manufacturing industries examined, 141 of these have imports with at least a 15-percent share of U.S. consumption. On average, the market share of imports in these industries increased by 3.1 percent between 1992 and 1993. Therefore, during this period, as a result of increased import competition, labor productivity for these 141 sectors increased approximately 0.5 percent on average.<sup>40</sup>

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<sup>35</sup> This is case 1 as reflected by equation C-4. The analyses also examined the effects of contemporaneous changes in import competition. Similar to earlier studies described in appendix C, the analysis in this report found that the effects of import competition did not occur contemporaneously, but appeared with a one-period lag.

<sup>36</sup> Case 2 in appendix C.

<sup>37</sup> These are cases 3 and 4 in appendix C.

<sup>38</sup> Even though high market concentration in a sector is associated with an imperfectly competitive industry structure, this condition does not imply generally that the market is not competitive. An important factor affecting competition in those markets is the degree of openness to international competition. Import competition tends to result in highly competitive markets, even in sectors where domestic firms are highly concentrated. MacDonald examined the interaction between market concentration and changes in import competition. As noted in the overview, he found that labor productivity in highly concentrated markets showed the largest gains as a result of import competition.

<sup>39</sup> The insignificant results for R&D intensity might be partially explained by the fact that the data for R&D are more highly aggregated (2- and 3-digit SIC level) than the data for labor productivity (4-digit) and, therefore, deficient for purposes of measuring R&D variance at the appropriate 4-digit SIC level. Other studies have obtained similar results with respect to R&D intensity.

<sup>40</sup> The rationale for the hypothesis examined in this analysis was that, as markets become open to competition from imports, domestic firms are induced to increase their competitiveness by adopting more efficient production methods. The efficiency or productivity gains induced by import competition can be derived from modernization in plant and equipment, the enhancement of processing methods, or workforce reductions. The source of the observed productivity gains was not specifically identified in this analysis; however, in all likelihood, the gains can be attributed to a combination of these factors. As discussed in appendix C, for the 141 sectors, the correlation between productivity changes and employment changes was observed to be negative. This would tend to suggest that the gains in productivity found during this period were, on average, accompanied by reductions in the workforce.



While these results provide support for the hypothesis that there is a positive association between import competition and U.S. labor productivity, a similar statement cannot be made about import competition from U.S. NAFTA trading partners (Canada and Mexico) or, more specifically, imports from Mexico. The effects estimated for the second analysis apply to the total level of imports in each of the sectors and not to imports from a single country source. Even though imports from a single country might increase, total import penetration in an industry would not change if trade diversion, rather than trade creation, occurred. Changes in total imports give a more accurate indication of changes in import competition. Therefore, estimates from the second analysis cannot be applied on an individual basis to Mexican or Canadian imports without considering the relative change in total imports.

This analysis also examines the effects of import competition from Canada and Mexico relative to total import competition. This effect was measured by focusing on those sectors where the overall threshold level of imports was relatively substantial (15 percent) and where both total imports and NAFTA imports simultaneously increased.<sup>41</sup> As in the analysis of all sectors, the effects of import changes are both positive and statistically significant only for industries with a relatively substantial import market share. In the case of industries with relatively high import shares and simultaneous increases in total and NAFTA (Canadian and Mexican) imports, 73 sectors meet this criteria with a total market share of imports increasing on average by 7.3 percent. The estimated effect suggests that, for these 73 sectors, labor productivity on average increased by 1.2 percent during this period as a result of increased import competition.

The final analysis focuses on the effects of imports on labor productivity for the case in which there was a simultaneous increase in both total and Mexican imports. This combination occurred in 67 industries. For these sectors, the total share of imports increased on average by 6.9 percent. The estimated effect of changes in import market share on labor productivity, for these 67 sectors was an average increase in labor productivity of 1.4 percent.<sup>42</sup> Results of this analysis can also be used to identify specific sectors that might experience productivity gains as a result of NAFTA. Rather than listing all of the sectors that are likely to be affected by increased import penetration due to NAFTA, a subset was selected consisting of the 17 leading 4-digit SIC sectors where U.S. imports from Mexico accounted for at least 10 percent of total U.S. imports and there were increases in both the total and Mexican import market share (table 4-6).<sup>43</sup> Over one-half of these 17 sectors fall within the electronic and electrical equipment and components sector.<sup>44</sup>

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<sup>41</sup> Numerous simulation analyses prior to the NAFTA estimated that, in general, U.S. imports from Mexico would increase as a result of the Agreement. For a summary of these estimates, see USITC, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC publication 2596, Washington, DC, Jan. 1993.

<sup>42</sup> The import-competition effect estimated for case 4 suggests that, on average, a 0.2-percent increase in labor productivity could potentially result with every 1-percent increase in the market share of total imports.

<sup>43</sup> On average, total imports in these 17 sectors increased by 7 percent, between 1992 and 1993. Applying the estimated effect from case 4 to the subset, productivity for these 18 sectors increased by 1.5 percent during this period as a result of increased import competition.

<sup>44</sup> Many of these sectors include industries where a substantial share of the imports from Mexico are associated with production-sharing operations in Mexico.

Table 4-6  
 Leading 4-digit SIC manufacturing sectors that might experience gains in labor productivity as a result of  
 NAFTA

(Percentage)

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4-digit SIC No.	Industry	Imports from Mexico as a share of total U.S. imports	Total import share of U.S. consumption in 1992
2399	Fabricated textiles products, n.e.c.	68.5	25.3
3677	Electronic coils, transformers and other inductors	37.3	34.4
3672	Printed circuit boards	29.9	22.3
3643	Current-carrying wiring devices	29.4	22.9
3644	Non-current carrying wiring devices	27.9	15.8
3691	Storage batteries	24.0	16.6
3631	Household cooking equipment	16.9	25.7
3955	Carbon paper and inked ribbon	15.8	21.0
3493	Steel springs, except wire	14.2	41.3
3669	Communications equipment, n.e.c.	14.1	15.4
3253	Ceramic wall and floor tile	13.4	36.4
3131	Boot and shoe cut stock and findings	12.7	53.7
3823	Industrial instruments for measurement, display and and control of process variables	12.7	15.7
3625	Relays and industrial controls	12.3	15.4
3494	Electrical equipment for internal combustion engines	11.6	51.3
3671	Electron tubes	10.9	22.8
3648	Lighting equipment, n.e.c.	10.3	37.2

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Source: Constructed by USITC staff from Bureau of Census statistics.

## CHAPTER 5

### INDUSTRY ANALYSIS

This chapter describes the selection of industries for analysis,<sup>1</sup> their grouping into 68 sectors, and the qualitative analytical approach used to determine the effect of NAFTA on these industries. This analysis builds on the expertise of the Commission. Staff has conducted more than 25 studies analyzing implications of the liberalization by Mexico and Canada of trade and investment measures.<sup>2</sup> A summary of the major findings and the individual sector analyses are presented in chapter 6.

#### Industry Selection

The Commission examined the effect of NAFTA on those industries “in which U.S. exports to Mexico or Canada or imports into the United States from Mexico or Canada have increased significantly,” as set forth in the request letter for the study by the United States Trade Representative (appendix A).<sup>3</sup> Industries were defined according to the U.S. Bureau of the Census Standard Industrial Classification (SIC) 4-digit industry number groupings. This industry classification system facilitated the collection and compilation of the necessary shipment, trade, employment, and other data required to conduct the analysis specified by USTR. Although the request letter does not define “increased significantly,” the Commission selected a threshold of a \$50-million increase from 1993 to 1996 in any one of the trade flows with our NAFTA partners (i.e., U.S. exports to Canada, U.S. exports to Mexico, U.S. imports from Canada, or U.S. imports from Mexico). The \$50 million threshold was used because this level would capture a high percentage of total trade with NAFTA partners. A decline in imports or exports did not trigger consideration within the scope of this investigation.<sup>4</sup> Based on this threshold, the Commission examined a total of 271 4-digit SIC industries<sup>5</sup> of which 198 4-digit SIC industries were further analyzed using quantitative models.<sup>6</sup>

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<sup>1</sup> A list of industries selected for analysis appears at the end of this chapter.

<sup>2</sup> These reports include examination of Mexico’s economic reforms, conditions of competition with NAFTA partners, rules-of-origin issues related to various industries, and major trading partners’ commitments under the GATS. In addition, the Commission has issued a series of reports examining the composition of U.S.-Mexico trade overall, and with maquiladora operations.

<sup>3</sup> Section 512 of the North American Free Trade Agreement Implementation Act (Public Law 103-182, approved Dec. 8, 1993) requires that the Administration provide a similar analysis in its report to the Congress due July 7, 1997.

<sup>4</sup> Nine 4-digit SIC industries had declines in exports of \$50 million or more from 1993 to 1996: SIC 0912, Finfish; 2023, Milk and Cream, Condensed; 2111, Cigarettes; 2899, Chemical Preparations, Not Elsewhere Classified; 3356, Extruded Nonferrous Metal Products; 3412, Metal Shipping Barrels; 3465, Automotive Stampings; 3647, Motor Vehicle Lighting Equipment; and a grouping entitled in the Census concordance, 9200, Used or Second-Hand Merchandise.

<sup>5</sup> Using the \$50 million threshold, 204 industries were initially selected. Because of the numerous 4-digit SIC textile and apparel industries that met the threshold and the commonality of analysis for these 4-digit industries, textile and apparel products were examined at a more aggregated 2-digit level; as a result, 35 additional 4-digit SIC’s were added to the analysis. Further, the U.S. Bureau of the Census has in instances grouped one or more 4-digit SIC industries under one 4-digit SIC industry title in its concordance between SIC industries and merchandise trade classifications. This appears where U.S. trade data classifications do not match the production activities or output of 4-digit SIC industries. As a result of the Census classification, 32 additional 4-digit SIC industries are included for analysis. Also, Commission staff reassigned certain merchandise trade classifications within the Census SIC/trade concordance when Census assignments conflicted with classifications described in the Census *Standard Industrial Classification Manual, 1987*.

<sup>6</sup> Chapter 4 quantitatively analyzes 198 4-digit SIC industries.

Collectively, these industries accounted for a range of 86 percent to 94 percent of the value of imports from or exports to a particular NAFTA partner (table 5-1). Overall, a greater percentage of U.S. imports were covered (90 percent to 94 percent) as a result of this threshold than of U.S. exports (86 percent to 91 percent). Overall, approximately the same percentage of U.S. exports to Canada and Mexico, and similarly almost the same percentage of U.S. imports from Canada and Mexico, are covered by the Commission's analyses.

To facilitate analysis and to provide a manageable report, SIC industries were generally grouped into sectors where the 4-digit industries appeared to be related. Certain industries did not lend themselves to grouping and were analyzed separately. For example, the 4-digit SIC women's footwear industry was covered separately because other 4-digit footwear industries did not meet the threshold<sup>7</sup> and women's footwear could not readily be aggregated with any similar industries. Sector analyses relied primarily on U.S. trade data from the U.S. Bureau of the Census and labor data from the U.S. Bureau of Labor Statistics.

In addition to commodity trade, a summary of the effects of NAFTA on U.S. trade in services with NAFTA partners is presented at the end of chapter 6. Data on services industries are available only through 1995, the second year of NAFTA implementation.<sup>8</sup> Conclusions drawn from such limited data may present a distorted view of the effects of NAFTA on services industries because such data would largely reflect the devaluation of the peso in December 1994 and Mexico's depressed economy in 1995.

### Analytical Approach

The Commission was requested to determine for the USTR those industries in which U.S. trade flows with our NAFTA partners increased significantly, and whether such increases affecting trade and other performance indicators specified by the USTR occurred as a result of the NAFTA. The Commission staff used its industry-specific expertise to evaluate a wide variety of factors in determining whether increases in U.S. trade flows with Canada or Mexico were negligibly or significantly affected by NAFTA. These factors included the consideration of underlying trends in U.S. trade flows with both NAFTA and non-NAFTA partners; industry and regulatory developments, as well as structural factors, influencing trade; competitive factors and global competition affecting industries; and the provisions of NAFTA affecting specific industries. Commission analysts used their understanding of trade, tariff, and nontariff measures in specific industries, including services, to assess cross-border operations and investment as well as changes in the trade environment affected by NAFTA as compared to other macro- and microeconomic factors (discussed below).

Information was gathered from publicly available sources; submissions to, and transcripts of, hearings before Congress; Commission records; and other government documents. Further, the analyses considered information obtained in testimony from the Commission's public hearing held in connection with this investigation May 15-16, 1997, and official written statements submitted by interested parties to this investigation. In addition, analysts engaged in extensive contact with industry, government, and trade group officials in order to gain further perspectives on the effects of NAFTA and non-NAFTA factors on U.S. trade flows with NAFTA partners.

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<sup>7</sup> See the list of industries selected for analysis at the end of this chapter.

<sup>8</sup> The necessity for providing a broader examination of the services industries is due to data limitations (only available through 1995) and the generally incomplete collection of data on trade in services by the Bureau of Economic Analysis of the U.S. Department of Commerce (USDOD). The USDOD is in the process of redefining the SIC system to obtain greater detail on service industries in its 1997 quinquennial census. This effort is being undertaken with the cooperation of our NAFTA partners to the North American Industry Classification System (NAICS).

**Table 5-1**

**Total trade covered by the Commission analysis for U.S. imports for consumption and exports of domestic merchandise from Mexico and Canada, market share, change in value, and percentage change, 1993-96**

Trade flow/supplier	1993	1994	1995	1996	Absolute change 1993-96	Relative change, 1993-96
	<i>Value (million dollars)</i>					<i>Percent</i>
<b>U.S. trade:</b>						
U.S. imports from :						
World .....	574,863	657,885	739,660	790,470	215,607	37.5
Mexico .....	38,668	48,605	61,721	74,179	35,511	91.8
Canada .....	110,482	128,753	144,882	156,299	45,817	41.5
All others .....	425,713	480,526	533,057	559,992	134,279	31.5
U.S. exports to:						
World .....	439,295	481,887	546,465	582,137	142,842	32.5
Mexico .....	40,265	49,136	44,881	54,686	14,420	35.8
Canada .....	91,866	103,643	113,261	119,123	27,257	29.7
All others .....	307,164	329,108	388,323	408,328	101,165	32.9
<b>Trade covered in selected sectors:</b>						
U.S. imports from:						
Mexico .....	35,080	44,738	56,971	69,483	34,403	98.1
Canada .....	102,238	120,431	136,005	146,376	44,138	43.2
U.S. exports to:						
Mexico .....	35,068	43,255	40,460	49,535	14,465	41.3
Canada .....	79,366	91,571	100,566	106,364	27,216	34.0
<i>Percent of Total</i>						
<b>U.S. trade:</b>						
U.S. imports from:						
World .....	100.0	100.0	100.0	100.0	( <sup>1</sup> )	( <sup>1</sup> )
Mexico .....	6.7	7.4	8.3	9.4	( <sup>1</sup> )	( <sup>1</sup> )
Canada .....	19.2	19.6	19.6	19.8	( <sup>1</sup> )	( <sup>1</sup> )
All others .....	74.1	73.0	72.1	70.8	( <sup>1</sup> )	( <sup>1</sup> )
U.S. exports to:						
World .....	100.0	100.0	100.0	100.0	( <sup>1</sup> )	( <sup>1</sup> )
Mexico .....	9.2	10.2	8.2	9.4	( <sup>1</sup> )	( <sup>1</sup> )
Canada .....	20.9	21.5	20.7	20.5	( <sup>1</sup> )	( <sup>1</sup> )
All others .....	69.9	68.3	71.1	70.1	( <sup>1</sup> )	( <sup>1</sup> )
<b>Trade covered in selected sectors:</b>						
U.S. imports from:						
Mexico .....	90.1	92.0	92.3	93.7	( <sup>1</sup> )	( <sup>1</sup> )
Canada .....	92.5	93.5	93.9	93.7	( <sup>1</sup> )	( <sup>1</sup> )
U.S. exports to:						
Mexico .....	87.1	88.0	90.1	90.6	( <sup>1</sup> )	( <sup>1</sup> )
Canada .....	86.4	88.4	88.8	89.3	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not meaningful for purposes of comparison.

Source: Compiled by the staff of the U.S. International Trade Commission.

Upon determining that an increase in U.S. imports from or exports to Canada or Mexico was due in significant measure to NAFTA (criteria defined below), analysts then examined certain performance indicators specified by USTR, including wages, employment, productivity, investment, and changes in U.S. trade with third countries to determine whether NAFTA had a significant or negligible effect on changes from 1993 to 1996. These assessments accompany the nine industry sector analyses for which the increase in U.S. trade flows with Canada or Mexico were determined to be significantly affected by NAFTA.<sup>9</sup> Sectors in which the NAFTA effect on the increase in U.S. trade flows from 1993 to 1996 was determined to be negligible (criteria defined below) include the basis for this assessment in the summary of sector analysis. This summary highlights principal developments affecting trends in U.S. import and export trade as well as other factors of importance to trade with NAFTA partners.

### NAFTA Effects

Each sector was examined to determine whether NAFTA had a significant or negligible effect on the increased U.S. trade flows with NAFTA partners. For purposes of these sector analyses, the following criteria were used in assessing whether an increase in trade was a result of the NAFTA:

Significant--The increase in U.S. trade flows from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period. This definition was also applied in assessing the effect of NAFTA on performance indicators such as wages, employment, productivity, investment, and changes in U.S. trade with third countries.

Negligible--The increase in U.S. trade flows in from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA; any NAFTA effect on U.S. trade increases is insignificant or a minor influence. This definition was also applied in assessing the effect of NAFTA on performance indicators such wages, employment, productivity, investment, and changes in U.S. trade with third countries.

The sector analyses primarily assesses measurable changes in the trade and economic environment, such as reductions in tariffs, changes in NAFTA rules, investment liberalization, sectoral arrangements under NAFTA, and other factors as appropriate. Such an analysis, however, cannot fully differentiate the effects that NAFTA had on the psychological climate of doing business with NAFTA partners, especially Mexico, due to the lowering of business risk brought about by the Agreement. The guarantees provided by NAFTA regarding market access, procurement, and particularly investment, with the resultant change in business perceptions, in some instances have been an important factor influencing the production and investment decisions of individual firms,<sup>10</sup> even in instances where the change in industry performance indicators was due principally to factors other than NAFTA. These more intangible effects of NAFTA are difficult if not impossible to assess in a systematic manner.

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<sup>9</sup> These sectors include grains and oilseeds, raw cotton, textile mill products, apparel and other finished products, leather tanning and finishing, women's footwear (except athletic), household appliances, motor vehicles, and motor vehicle parts.

<sup>10</sup> Transcript of hearing, pp. 35, 37-38, 41, 206, 221-222.

As requested, the sector analyses considered a number of factors in assessing the effect of NAFTA on increased trade flows, and examined the effect of NAFTA on other industry performance indicators. In addition to the factors and effects noted in the letter from the USTR, the Commission included consideration of total trade, trade balance performance measures, and trade specialization. The factors and performance indicators are summarized in the following text box.

<i>Micro-and macroeconomic factors</i>	<i>Sector performance indicators to be examined</i>
<ul style="list-style-type: none"> <li>• Exchange-rate fluctuations, including the peso devaluation</li> <li>• Economic growth</li> <li>• Trade agreements, including:               <ul style="list-style-type: none"> <li>– U.S.-Canada Free Trade Agreement</li> <li>– Uruguay Round Agreement</li> </ul> </li> <li>• NAFTA-specific trade and tariff actions</li> </ul>	<ul style="list-style-type: none"> <li>• Increased U.S. trade flows</li> <li>• Wages</li> <li>• Employment</li> <li>• Productivity/production workers</li> <li>• Investment that occurred as a result of NAFTA</li> <li>• Changes in U.S. trade with third countries induced by NAFTA</li> <li>• Total trade and trade balance</li> <li>• Trade specialization</li> </ul>

### **Micro- and Macroeconomic Factors**

In examining the effect of NAFTA on trade increases in each sector, the request letter asked that the analyses consider relevant micro- and macroeconomic factors. The USTR also requested that the Commission consider the differences between U.S. tariffs applied to goods from our NAFTA trading partners and the tariff rate that would have applied to those goods in the absence of the Agreement.

#### *Foreign exchange rate fluctuations*

The major foreign exchange rate fluctuation considered in this analysis was the devaluation of the Mexican peso. The Canadian dollar declined slightly in value relative to the U.S. dollar and had a limited effect on U.S.-Canada trade in most sectors during 1993-96. The devaluation of the peso<sup>11</sup> had a major influence on U.S. trade levels with Mexico during 1995. The peso devaluation at the end of 1994 resulted in a sharp decline in demand in the Mexican domestic market for many products and reduced the cost of Mexican exports. As a result, many producers in Mexico, including maquiladora and other production-sharing operations, increased exports to the U.S. market to maintain production levels and gain foreign exchange. In addition, the devaluation of the peso resulted in lower Mexican labor costs relative to other low wage-rate countries, and therefore, may have encouraged some production shifts to Mexico.<sup>12</sup> In cases where production was established in Mexico, as exports of U.S.-made components rose to those facilities in Mexico so did imports of finished products into the United States. The financial crisis in Mexico made it difficult for industrial, commercial, and household consumers in Mexico to obtain credit, resulting in reduced sales in Mexico of both domestically produced and imported goods in 1995.

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<sup>11</sup> The devaluation of the peso is not considered a NAFTA effect. See chapter 3 for a discussion of the peso crisis.

<sup>12</sup> Transcript of the hearing, p. 454.

## *Economic Growth*

U.S. economic growth was a major factor affecting the increase in trade flows in many of the sector analyses. During 1993-96, strong U.S. economic growth was facilitated by low inflation, low interest rates, low unemployment, and rising consumer discretionary income. The low interest rate environment was beneficial to strong growth in capital goods, housing starts, consumer durables, and the motor vehicle industry.

## *Other Trade Agreements*

Both the CFTA and the URA were taken into account in the sectoral analyses. For many sectors, the most apparent effect of the CFTA was tariff reductions under this agreement, although some nontariff barriers (NTB's) facing manufactured products and services trade were eliminated. The tariff staging under the CFTA was largely unaffected by the NAFTA. Mexico's elimination of some barriers after its accession to the GATT in 1986 and subsequent unilateral liberalization measures, such as privatization of some state owned industries, resulted in fewer barriers to market access in Mexico prior to NAFTA. The URA agreements went beyond the NAFTA in some areas, especially in the agriculture and services sectors. The changes in the trading environment brought about by these various agreements are discussed more fully in chapter 2 of this report.

For each sector, effective U.S. ad valorem equivalents (AVEs)<sup>13</sup> are presented for U.S. imports from Mexico, Canada, and the rest of the world for 1993 to 1996. These data take into account duty reductions or eliminations under trade agreements (i.e., the CFTA; NAFTA; Automotive Products Trade Act (APTA) with Canada; Civil Aircraft Agreement; Florence Agreement; and the Uruguay Round Agreements,<sup>14</sup> including the Uruguay Round Concessions on Intermediate Chemicals for Dyes and the Agreement on Trade in Pharmaceutical Products); other tariff preference programs (i.e., Generalized System of Preferences (GSP)),<sup>15</sup> and duty-free tariff provisions, including trade under the production sharing provisions (HTS headings 9802.00.60, 9802.00.80, and 9802.00.90). Similar AVE data for U.S. and third country exports into Mexico and Canada, however, were not calculated since these data were not readily available.

With respect to tariff effects, the effective AVE calculated for each sector generally show lower effective U.S. AVEs for imports from Canada and Mexico relative to the effective U.S. AVE on imports collectively from non-NAFTA sources. In some sectors, the effective U.S. AVE increased rather than declined, either because of a shift in the imported product mix or a change in the use of tariff preferences among products in the sector. The effective U.S. AVE on imports from non-NAFTA sources could be

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<sup>13</sup> Calculated duties collected divided by total trade for the sector.

<sup>14</sup> As a result of the tariff concessions made by the United States under the Uruguay Round Agreement, tariffs on a number of goods from Mexico were readjusted; some goods became unconditionally free of duty on an MFN basis. See section G, Annex, Presidential Proclamation 6763 of Dec. 23, 1994, "To Implement the Trade Agreements Resulting From the Uruguay Round of Multilateral Trade Negotiations, and for Other Purposes," 60 F.R. 1008, 1684-1700, Jan. 4, 1995.

<sup>15</sup> GSP expired on July 4, 1993; it was renewed retroactively from July 4, 1993, through Sept. 30, 1994, in the Omnibus Budget Reconciliation Act of 1993; in the Uruguay Round Agreements Act it was renewed retroactively from Sept. 30, 1994, through July 31, 1995; and the last renewal occurred in the Small Business Job Protection Act of 1996 effective Oct. 1, 1996, through May 31, 1997. This last Act contained a provision that provided for retroactive duty-free treatment to July 31, 1995, for articles that would have been eligible for duty-free treatment under the GSP except for the expiration of the program, but that any refund due would not be made before Oct. 1, 1996.



viewed as a proxy of the effective U.S. AVE that would have been applied to goods from Mexico in the absence of NAFTA. However, there are several drawbacks that call into question the accuracy of this proxy. Not only is the composition of U.S./Mexico trade different from U.S./non-NAFTA trade, but the use of tariff preference programs differs for these trade flows as well.<sup>16</sup> This proxy likely overstates the effective AVE for U.S. imports from Mexico absent NAFTA, given that non-NAFTA tariff preference programs have historically been more widely applied to imports from Mexico than to imports in general.<sup>17</sup> The effective U.S. AVE on imports from Canada would probably be close to that shown in the sector analyses, since tariff reductions under the CFTA would have continued to be implemented in the absence of NAFTA.

### *NAFTA-Specific Trade and Tariff Actions*

The sector analyses summarize the important NAFTA-specific trade and tariff actions that have occurred in the United States. These actions primarily are changes in agricultural commodity import grades, and quality, sanitary, and phytosanitary requirements. In addition, the analyses reference actions taken under national trade laws, such as the antidumping, countervailing duty, and safeguard laws, that may have affected trade with our NAFTA partners in these sectors. The analyses also reference NAFTA binational panel (dispute settlement) reviews under NAFTA chapters 19 and 20 involving goods covered by the sectors. Final antidumping and countervailing duty actions are reviewable by binational panels established under NAFTA chapter 19 in lieu of judicial review. Most other actions are reviewable by panels established under NAFTA chapter 20. There have been numerous panel reviews under chapter 19 of actions by all 3 NAFTA members. Only one review has been completed under chapter 20 (concerning a U.S. challenge to Canadian poultry and dairy tariffs). Mexico has requested the establishment of a chapter 20 panel to review the recent U.S. global safeguard action on broom corn brooms (Mexico is the major source of U.S. imports of such brooms). Important NAFTA specific actions by our NAFTA trading partners are considered and identified in the sector assessments if such actions had an effect on U.S. exports to our NAFTA partners.

### **Sector Performance Indicators Examined**

The USTR requested that analyses examine a variety of effects on those U.S. industries exhibiting significant increases in trade. In addition to examining significant trade effects due to NAFTA, the analyses examined changes in wages, employment, productivity, and investment that have occurred as a result of NAFTA, and changes in U.S. trade with third countries.

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<sup>16</sup> A closer estimation of the tariff rates that would have been applied to goods from Mexico absent NAFTA involves several challenges. Such an estimation would necessitate assumptions regarding the amount of trade that would qualify for, and ultimately use, tariff preferences under the GSP and under production-sharing provisions of the HTS in order to derive trade-weighted aggregates. In addition, there would be great difficulty in ascertaining what trends in U.S.-Mexico trade would have occurred in the absence of NAFTA, which would be required to calculate weighted average tariffs for each sector.

<sup>17</sup>For example, in the years just prior to NAFTA, roughly 70 percent of Mexican manufactured exports to the United States took advantage of production sharing provisions.

### *Employment, Wages, and Labor Productivity*

For sectors where NAFTA was determined to have a significant effect on the increase in trade, assessments were made regarding the effects of NAFTA on employment and wages,<sup>18</sup> and labor productivity.<sup>19</sup> Trends in total- and production-worker employment were compared with Department of Labor data on job losses certified under the NAFTA-Transitional Adjustment Assistance (NAFTA-TAA) program to have been the result of production relocations to Mexico or Canada and/or increased imports from these countries.<sup>20</sup> However, NAFTA-TAA certification does not represent a verification that NAFTA was the cause of production relocation decisions or the reason for increased imports.<sup>21</sup> In assessing job-creation effects of the Agreement, there is little available government or private sector information or data.<sup>22</sup> However, an increasing body of anecdotal information is emerging indicating that numerous jobs have been created, both in manufacturing and in the service sector, while some have been lost as well. Information on labor productivity provided in the sector analyses was obtained primarily by applying standard productivity analysis methods to shipments and labor data, and also from contacts with industry officials (for a quantitative assessment of NAFTA effects on labor productivity, see chapter 4).

### *Investment*

Information on the relationship of NAFTA to U.S. investment in Mexico, and foreign or U.S. investment in the United States, is provided for all sector analyses as available.<sup>23</sup> In addition, the analyses include any available information concerning the effect of NAFTA on third-country investment in Mexico and Canada. There is an increasing number of foreign producers, both Asian and European, that have located production facilities in Mexico in order to take advantage of NAFTA rules of origin, U.S. and Canadian preferential tariffs, and lower-cost Mexican labor. In addition, firms have located in Mexico in order to gain access to the Latin American market through Mexico's participation in preferential trade agreements with

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<sup>18</sup> For most sectors, employment and wage data were compiled from official statistics of the U.S. Bureau of Labor Statistics. Where appropriate, wage data were weighted by the number of production hours worked expended in the various SIC industries comprising a sector. For many agricultural industries examined, reliable data are not available. For other industries, such as petroleum, labor data from other U.S. Government agencies were deemed to be more reliable and therefore used in the analysis.

<sup>19</sup> Productivity was calculated by dividing industry shipments by production work hours for 1993-95. Data was compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1994 and 1995. For some sectors, data from *Census Current Industrial Reports* and work hours of the U.S. Bureau of Labor Statistics were used.

<sup>20</sup> See North American Free Trade Agreement Implementation Act (Public Law 103-182, approved Dec. 8, 1993) sec. 250 (19 U.S.C. 2331).

<sup>21</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of production relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of production relocation decisions or the reason for the increase in imports.

<sup>22</sup> One case study examination of job creation due to NAFTA appears in Raul Hinojosa Ojeda, et al., *North American Integration Three Years After NAFTA: A Framework for Tracking, Modeling and Internet Accessing the National and Regional Labor Market Impacts*, North American Integration and Development Center, University of California, Los Angeles, Dec. 1996, pp. 52-63.

<sup>23</sup> Data on U.S. direct investment in Mexico are collected and compiled by the U.S. Department of Commerce, Bureau of Economic Analysis. However, such data are published for only broad industry groupings, since desegregated categories would reveal individual company data. A quantitative analysis of these data appear in chapter 4.

other Latin American countries.<sup>24</sup> Most of the non-North American companies that have established assembly plants on the Mexican side of the U.S.-Mexico border to supply the U.S. market typically purchase components and materials from U.S. producers.<sup>25</sup>

### *Changes in U.S. Trade with Third Countries*

In some sectors, NAFTA may have induced changes in U.S. trade with third countries. Referred to as trade diversion, such trade shifts can result from preferential trade agreements where the preferences or other economic measures would outweigh market forces and thus change trade patterns. Indications of trade diversion are discussed in sector analyses when evidence exists, and may be apparent by examining the data on U.S. import market shares,<sup>26</sup> which are presented in each sector analysis. Evidence of trade diversion is best illustrated in the analysis of apparel products, where there has been a significant increase in U.S. imports from NAFTA partners and a commensurate decrease in imports from Asian and Caribbean Basin countries between 1993 and 1996. In other industries, U.S. exports to NAFTA parties benefitted under the CFTA and NAFTA, at the expense of exports supplied by non-NAFTA countries to Canada and Mexico. For example, U.S. exports of cattle and beef to Mexico have gained an increasing share of the Mexican market at the expense of Mexican imports of cattle and beef from Australia and New Zealand. This was the case with U.S. exports to Mexico in 1995 in the aftermath of the peso devaluation. Mexico raised its MFN tariff rates on imports of many goods to its bound rates under the GATT, while placing U.S. and Canadian goods, and goods from other countries for which Mexico was obliged to provide preferential rates, at an advantage over goods from other countries.

### *Total Trade, Trade Balance Measures, and Trade Specialization*

The sector analyses include data and information on three measures that also may be used to assess the effects of NAFTA. These are total NAFTA trade, the trade balance, and the specialization of trade. Total NAFTA trade is an indication of the extent to which together all NAFTA parties are benefiting from the Agreement.<sup>27</sup> For each sector, data on total U.S. trade with the world, Canada, and Mexico are presented. Under NAFTA, U.S. trade with NAFTA partners may be expected to increase at a rate faster than U.S. trade with the world. Similarly, data on the trade balance in each sector is also provided. The U.S. trade balance may be affected by a number of factors, including the comparative advantages of one NAFTA partner to another in a particular sector, adverse weather conditions, or changes in governmental policy.

The analysis of trade specialization examines the international division of labor in which countries become efficient producers and exporters of certain articles, but importers of other articles where market forces provide a relative disadvantage in domestic production. As tariffs and other trade barriers are reduced or eliminated and domestic industries are forced to compete internationally, economic theory suggests that countries participating in such agreements will specialize in the production of those articles where they have a

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<sup>24</sup> See chapter 4 in U.S. International Trade Commission, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1992-1995* (investigation No. 332-237), USITC publication 3032, Apr. 1997.

<sup>25</sup> USITC, *Production Sharing*, USITC publication 3032, p. 4-8.

<sup>26</sup> This analysis is limited to U.S. imports because detailed Mexican and Canadian import statistics were not available in an electronic format to permit such broad sector analyses.

<sup>27</sup> See testimony of by Sidney Weintraub, transcript of hearing, p. 62, and Sidney Weintraub, *NAFTA at Three: A Progress Report*, The Center for Strategic & International Studies, Washington, DC, 1997, pp. 16-17.

comparative advantage.<sup>28</sup> Product specialization may be examined by looking at (1) intra-industry trade, (2) trade in intermediate products, and (3) production-sharing arrangements, such as the maquiladora industry in Mexico.<sup>29</sup> The sector analyses attempted to characterize intra-industry trade, including intra-firm trade and the extent of trade in intermediate products,<sup>30</sup> as measured by the extent to which U.S.-made components are used in foreign assembly. Foreign assembly of U.S. components is not limited to low-labor-cost countries, as a significant amount of foreign assembly of U.S. components also occurs in Canada.

The extent of trade specialization may also be illustrated by the use of production-sharing by U.S. companies. The extent of such operations are revealed by examining U.S. imports under the production sharing provisions (HTS headings 9802.00.60, 9802.00.80, and 9802.00.90). These provisions encourage companies with foreign assembly or production operations to use U.S.-made components or materials.<sup>31</sup> However, the use of U.S. components is also indicative of the extent to which assembly operations are located in Canada or Mexico, and the extent to which component production is located in the United States. Where relevant, such data are provided in the sector analyses. In some instances, foreign assembly operations have evolved into an important competitive strategy for many U.S. producers of low-cost labor-intensive articles. Such operations help preserve market share in the United States and abroad, which may enable companies to retain higher production and employment levels in the United States than might otherwise be possible.<sup>32</sup>

The following table presents the industry grouping definitions. These definitions are based upon 4-digit SIC industries. The findings for 68 groupings listed are discussed individually in chapter 6.

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<sup>28</sup> Ibid., p. 34.

<sup>29</sup> Official statistics of the Mexican Government on Mexican imports used in the maquiladora industry are another indicator of specialization. However, for the Commission's analyses, these data were not readily available. However, the official compilation of U.S. production sharing data was used. For added detail, see USITC, *Production Sharing*, USITC publication 3032.

<sup>30</sup> There is no system for classifying or reporting U.S. imports or U.S. exports as intermediate products.

<sup>31</sup> The principal provision involving "foreign-assembly" provides a U.S. duty exemption for U.S.-made components that are returned to the United States as parts of articles assembled abroad.

<sup>32</sup> For more detailed information and illustrations in various industry sectors, see USITC, *Production Sharing*, USITC publication 3032.

**Table 5-2**

**Sectors and industries selected for analysis with trade increases over \$50 million from 1993 to 1996 indicated by trade flow**

<i>ITC Group No.</i>	<i>Sector</i>	<i>SIC Industry No. and title<sup>1</sup></i>	<i>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</i>
1	Grains and oilseeds	0111—Wheat	15.1
		0115—Corn	
		0116—Soybeans	
		0119—Cash grains, n.e.c.	
2	Raw Cotton	0131—Cotton	13.0
3	Field crops	0139—Field crops, except cash grains, n.e.c.	30.3
4	Fresh vegetables and canned and frozen fruits and vegetables	0161—Vegetables and melons	46.0
		2033—Canned Fruits, vegetables, preserves, jams and jellies	
		2037—Frozen fruits, fruit juices, and vegetables	
5	Ornamental floriculture and nursery products	0181—Ornamental floriculture and nursery products	23.5
6	Meats and livestock	0211—Beef cattle feed lots (0212—Beef cattle, except feedlots)	35.6
		0213—Hogs	
		2011—Meat packing plants (2013—Sausages and other prepared meat products)	
7	Fish and shellfish	0273—Animal aquaculture	27.6
		0913—Shellfish (2092(pt.)—Prepared fresh or frozen fish and seafood)	
8	Iron ore	1011—Iron ore	70.7
9	Coal	1221—Bituminous coal and lignite surface mining (1222—Bituminous coal underground mining)	12.5
10	Crude petroleum, natural gas, and natural gas liquids	1311—Crude petroleum and natural gas	37.8
		1321—Natural gas liquids	
11	Animal feeds	2048—Prepared feeds and feed ingredients for animals and fowls, except dogs and cats	37.0

<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
12	Bakery products	2051—Bread and other bakery products, except cookies and crackers (2052—Cookie and crackers 2053—Frozen bakery products, except bread)	58.7
13	Chocolate and cocoa products	2066—Chocolate and cocoa products	42.4
14	Fats and oils	2076—Vegetable oil mills, except corn, cottonseed, and soybean	35.2
		2079—Shortening, table oils, margarine, and other edible fats and oils, n.e.c.	
15	Malt beverages	2082—Malt beverages	31.4
16	Bottled and canned soft drinks and carbonated waters	2086—Bottled and canned soft drinks and carbonated waters	46.5
17	Miscellaneous food preparations	2099—Food preparations, n.e.c.	27.9
18	Textile mill products	22—Textile mill products	32.3
		2824—Man-made organic fibers	
19	Apparel and other finished textile products	23—Apparel and other finished products made from fabrics and similar materials,	16.9
20	Solid wood products	2411—Logging	55.8
		2421—Sawmills and planing mills, general	
		2434—Wood kitchen cabinets	
		2431—Millwork	
		2435—Hardwood veneer and plywood	
		2439—Structural wood members, n.e.c.	
		2493—Reconstituted wood products	
		2499—Wood products, n.e.c.	
21	Furniture	2599—Furniture and fixtures, n.e.c. (2511—Wood household furniture, except upholstered 2512—Wood household furniture, upholstered 2519—Household furniture, n.e.c. 2521—Wood office furniture 2531—Public building and related furniture 2541—Wood office and store fixtures, partitions, shelving, and lockers)	52.5

<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
22	Paper products	2611—Pulp mills	54.8
		2621—Paper mills	
		2653—Corrugated and solid fiber boxes	
		2657—Folding paperboard boxes, including sanitary	
		2672—Coated and laminated paper, n.e.c.	
		2673—Plastics, foil, and coated paper bags	
		2676—Sanitary paper products	
		2678—Stationery, tablets, and related products	
23	Printed matter	2721—Periodicals: publishing, or publishing and printing	51.3
		2731—Books: publishing, or publishing and printing (2732—Book printing)	
		2752—Commercial printing, lithographic (2754—Commercial printing, gravure 2759—Commercial printing, n.e.c.)	
		2771—Greeting cards	
		2782—Blank books, looseleaf binders, and devices	
24	Alkalies and chlorine	2812—Alkalies and chlorine	27.7
25	Industrial inorganic chemicals	2816—Inorganic pigments	27.5
		2819—Industrial inorganic chemicals, n.e.c.	
26	Synthetic plastics, resins, and rubber	2821—Plastics materials, synthetic resins, and nonvulcanizable elastomers	38.8
		2822—Synthetic rubber (vulcanizable elastomers)	
27	Pharmaceutical preparations	2834—Pharmaceutical preparations	17.7
28	Soaps, detergents, and toiletries	2841—Soap and other detergents, except specialty cleaners	32.1
		2844—Perfumes, cosmetics, and other toilet preparations	
29	Paints and allied products	2851—Paints, varnishes, lacquers, enamels, and allied products	54.2

<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
30	Industrial organic chemicals	2865--Cyclic crudes and intermediates, and organic dyes and pigments	18.2
		2869--Industrial organic chemicals, n.e.c.	
31	Fertilizers, pesticides, and agricultural chemicals	2873--Nitrogenous fertilizers	26.3
		2874--Phosphatic fertilizers	
		2879--Pesticides and agricultural chemicals, n.e.c.	
32	Petroleum refinery products	2911--Petroleum refining	22.0
33	Plastic and rubber products	3011--Tires and inner tubes	40.2
		3052--Rubber and plastics hose and belting (3084--Plastics pipe)	
		3053--Gaskets, packing, and sealing devices	
		3069--Fabricated rubber products, n.e.c.	
		3081--Unsupported plastics film and sheet	
		3082--Unsupported plastics profile shapes	
		3089--Plastics products, n.e.c.	
34	Leather tanning and finishing	3111--Leather tanning and finishing	17.5
35	Women's footwear, except athletic	3144--Women's footwear, except athletic	3.5
36	Flat glass and glassware	3211--Flat glass	37.8
		3221--Glass containers	
		3229--Pressed and blown glass and glassware, n.e.c.	
		3231--Glass products, made of purchased glass	
37	Cement	3241--Cement, hydraulic	52.5
38	Vitreous china plumbing fixtures	3261--Vitreous china plumbing fixtures and china and earthenware fittings and bathroom accessories	55.8
39	Gypsum building products	3275--Gypsum products	70.4
40	Mineral wool	3296--Mineral wool	49.1



<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
41	Steel products	3312—Steel works, blast furnaces (including coke ovens) and rolling mills	35.2
		3321—Gray and ductile iron foundries (3322—Malleable iron foundries 3324—Steel investment foundries 3325—Steel foundries, n.e.c.)	
42	Nonferrous metals, unwrought	3331—Primary smelting and refining of coppers	37.0
		3334—Primary production of aluminum	
		3339—Primary smelting and refining of nonferrous metals, except copper and aluminum	
		3341—Secondary smelting and refining of nonferrous metals	
43	Nonferrous metals, wrought	3351—Rolling, drawing, and extruding of copper	50.2
		3353—Aluminum sheet, plate, and foil	
		3354—Aluminum extruded products	
		3357—Drawing and insulating of nonferrous wire	
44	Fabricated metal products	3429—Hardware, n.e.c.	43.3
		3441—Fabricated structural metal	
		3442—Metal doors, sash, frames, molding, and trim	
		3443—Fabricated plate work (boiler shops)	
		3452—Bolts, nuts, screws, rivets, and washers (3451—Screw machine products)	
		3466—Crowns and closures	
		3489—Ordnance and accessories, n.e.c.	
		3493—Steel springs, except wire (3495—Wire springs)	
		3494—Valves and pipe fittings, n.e.c. (3491—Industrial valves 3498—Fabricated pipe and pipe fittings)	
		3499—Fabricated metal products, n.e.c.	

<i>ITC Group No.</i>	<i>Sector</i>	<i>SIC Industry No. and title<sup>1</sup></i>	<i>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</i>
45	Industrial machinery	3511—Steam, gas, and hydraulic turbines and turbine generator set units 3519—Internal combustion engines, n.e.c. 3523—Farm machinery and equipment 3531—Construction machinery and equipment 3532—Mining machinery and equipment, except oil and gas field machinery and equipment 3535—Conveyors and conveying machinery 3537—Industrial trucks, tractors, trailers, and stackers 3541—Machine tools, metal cutting types 3542—Machine tools, metal forming types 3544—Special dies and tools, die-sets, jigs and fixtures, and industrial molds 3546—Power-driven hand tools 3547—Rolling mill machinery and equipment 3554—Paper industries machinery 3555—Printing trades machinery and equipment 3559—Special industrial machinery, n.e.c. 3561—Pumps and pumping equipment 3562—Ball and roller bearings 3564—Industrial and commercial fans and blowers and air purification equipment 3565—Packaging machinery 3566—Speed changers, industrial high-speed drives, and gears 3569—General industrial machinery and equipment, n.e.c. 3585—Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment 3593—Fluid power cylinders and actuators (3592—Carburetors, pistons, piston rings, and valves) 3599—Industrial and commercial machinery and equipment, n.e.c.	25.5

<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
46	Computers and computer peripheral equipment	3571—Electronic computers	16.0
		3577—Computer peripheral equipment, n.e.c. (3575—Computer terminals)	
47	Heavy electrical equipment	3612—Power distribution and specialty transformers	43.1
		3613—Switchgear and switchboard apparatus	
		3621—Motors and generators	
		3625—Relays and industrial controls	
48	Household appliances	3631—Household cooking equipment	37.2
		3632—Household refrigerators and farm freezers	
		3633—Household laundry equipment	
		3635—Household vacuum cleaners	
49	Electric lighting and wiring equipment	3641—Electric lamp bulbs and tubes	42.3
		3643—Current-carrying wiring devices	
		3644—Noncurrent-carrying wiring devices	
		3648—Lighting equipment, n.e.c. (3645—Residential electric lighting fixtures 3646—Commercial electric lighting fixtures)	
50	Radio and television equipment	3651—Household audio and video equipment	28.9
		3663—Radio and television broadcasting and communications equipment	
		3671—Electron tubes	
51	Communications equipment	3661—Telephone and telegraph apparatus	29.6
		3669—Communications equipment, n.e.c.	
52	Electronic components and accessories	3672—Printed circuit boards	17.2
		3674—Semiconductor and related devices	
		3675—Electronic capacitors	
		3676—Electronic resistors	
		3678—Electronic connectors	
		3679—Electronic components, n.e.c.	

<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
53	Miscellaneous electrical machinery, equipment, and supplies	3652—Phonograph records and prerecorded audio tapes and disks	17.8
		3692—Primary batteries, dry and wet	
		3695—Magnetic and optical recording media	
		3699—Electrical machinery, equipment, and supplies, n.e.c.	
54	Motor vehicles	3711—Motor vehicles and passenger car bodies (3716—Motor homes)	53.2
55	Motor vehicle parts	3691—Storage batteries	64.6
		3694—Electrical equipment for internal combustion engines	
		3714—Motor vehicle parts and accessories	
		3715—Truck trailers	
		3792—Travel trailers and campers	
56	Aircraft and aircraft parts	3721—Aircraft	11.5
		3724—Aircraft engines and engine parts	
		3728—Aircraft parts and auxiliary equipment, n.e.c.	
57	Boat building and repairing	3732—Boat building and repairing	47.4
58	Railroad equipment and parts	3743—Railroad equipment	70.6
59	Transportation equipment	3799—Transportation equipment, n.e.c.	48.3
60	Measuring, analyzing, and controlling instruments	3812—Search, detection, navigation, guidance, aeronautical and nautical systems, and instruments	26.7
		3822—Automatic controls for regulating residential and commercial environments and appliances	
		3823—Industrial instruments for measurement, display, and control of process variables; and related products	
		3824—Totalizing fluid meters and counting devices	
		3825—Instruments for measuring and testing of electricity and electrical signals	
		3827—Optical instruments and lenses	

<b>ITC Group No.</b>	<b>Sector</b>	<b>SIC Industry No. and title<sup>1</sup></b>	<b>Sector trade with NAFTA partners as a percentage of total sector trade, 1996</b>
61	Medical equipment	3841—Surgical and medical instruments and apparatus	14.9
		3842—Orthopedic, prosthetic, and surgical appliances and supplies	
		3845—Electromedical and electrotherapeutic apparatus	
62	Photographic equipment and supplies	3861—Photographic equipment and supplies	13.0
63	Jewelry, precious metal	3911—Jewelry, precious metal	7.4
64	Games, toys, and children's vehicles	3944—Games, toys, and children's vehicles, except dolls and bicycles	12.1
65	Sporting goods	3949—Sporting and athletic goods, n.e.c.	18.0
66	Miscellaneous industries, n.e.c.	3999—Miscellaneous industries, n.e.c.	10.9
67	Waste and scrap <sup>2</sup>	9100—Scrap and waste <sup>3</sup>	38.8
68	Miscellaneous trade	9800—Goods returned <sup>3</sup>	38.0
		9900—Special classifications <sup>3</sup>	
		3XXX—Manufactured articles not identified by kind <sup>3</sup>	

<sup>1</sup> SIC industries listed in parentheses indicate that Census included trade data for these products in the SIC industry preceding the parentheses.

<sup>2</sup> Sector will be assessed because trade flows are believed to have been affected by NAFTA, with upstream effects on certain service industries.

<sup>3</sup> SIC number does not appear in the Census *Standard Industrial Classification Manual 1987*, but is provided with Census CD-ROMs containing trade data and is also used on the Compro trade data system at NIH.

Source: Compiled by the staff of the U.S. International Trade Commission.



## CHAPTER 6

### SECTOR-BY-SECTOR ANALYSES

This chapter summarizes the findings of sector-by-sector analyses, and presents the 68 individual sector analyses<sup>1</sup> as well as the assessment of NAFTA effects on U.S. trade in services. The summary includes identifying (1) the major effects of NAFTA on sectors where NAFTA had a significant effect on the increase in U.S. trade flows, and (2) the non-NAFTA factors that predominated in sectors where NAFTA was determined to have had a negligible effect on increased trade flows.<sup>2</sup> Each sectoral analysis is then presented by ITC Group number, concluding with a summary of NAFTA and non-NAFTA effects on the services industries.<sup>3</sup>

For purposes of these sector analyses, the following criteria were used in assessing whether an increase in trade was a result of NAFTA:<sup>4</sup>

**Significant.**--The increase in U.S. trade flows from 1993 to 1996 is due in considerable measure to NAFTA, as compared with any other economic factor or industry development occurring during the period. This definition was also applied in assessing the effect of NAFTA on performance indicators such as wages, employment, productivity, investment, and changes in U.S. trade with third countries.

**Negligible.**--The increase in U.S. trade flows from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA; any NAFTA effect on U.S. trade increases is insignificant or a minor influence. This definition was also applied in assessing the effect of NAFTA on performance indicators such as wages, employment, productivity, investment, and changes in U.S. trade with third countries.

Challenges were encountered in isolating NAFTA effects given the dynamics of other very significant macroeconomic factors during the study period, such as the peso devaluation and a strong U.S. economy. The effect of NAFTA on the perceptions of business risk was also difficult to precisely identify. A more detailed discussion of the analytical methodology is contained in chapter 5.

### Comparison of Analytical Results

The results of these sector analyses may not correspond directly to the econometric results for each of the sectors in chapter 4 found to have a conclusive statistical link to the implementation of NAFTA. Although some of the econometric results may not appear to be consistent with the findings of these sector

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<sup>1</sup> See chapter 5 for a discussion of the methodology for industry selection and the analytical approach.

<sup>2</sup> As noted in chapter 5, a decline in imports or exports did not trigger consideration for analysis within the scope of this investigation.

<sup>3</sup> The analysis of trade in services is done on a broad basis because of data limitations. Data on the services industries are only available through 1995. Therefore, to a greater extent than commodity trade, analysis of NAFTA trade in services is distorted by the effects of the peso in late 1994 and throughout 1995. In addition, such analysis is also affected by GATT and WTO initiatives in harmonizing trade in services. The analysis presented herein provides a point of departure for any future examination of services under NAFTA.

<sup>4</sup> The analysis cannot fully differentiate less directly measurable effects of NAFTA such as changes in the business climate or business relationships, which in some instances have been important factors influencing production and investment decisions by individual firms. See chapter 5 for a more detailed exploration of factors considered in the industry assessments and the challenges of separating variables.

analyses, the conclusions are based on different standards. As such, any statistically significant results from the analysis conducted in chapter 4 cannot appropriately be compared to the determinations of NAFTA effects on a sector-by-sector basis in chapter 6. Chapter 1 explains the two analytical approaches in greater detail.

### **Sectors with Significant NAFTA Effects**

Based on the industry sector analysis performed by Commission staff, NAFTA appears to have had a significant effect on the 1993-96 increase in U.S. trade flows for nine of the 68 sectors analyzed, specifically ITC Group Nos.--

- 1: Grains and oilseeds
- 2: Raw cotton
- 18: Textile mill products
- 19: Apparel and other finished textile products
- 34: Leather tanning and finishing
- 35: Women's footwear, except athletic
- 48: Household appliances
- 54: Motor vehicles
- 55: Motor vehicle parts

The analyses for these individual sectors are presented in nonsequential order, as listed above, after this chapter introduction. The NAFTA effects in each of these sectors can be summarized as follows:

- ITC Group No. 1: Grains and oilseeds.--Mexican tariff reductions on grains, and the conversion of import licensing to tariffs or a tariff-rate quota, were largely responsible for the increased U.S. exports of grains to Mexico. In spite of increased exports that were due to NAFTA, employment on U.S. farms continued a long-term decline due to other factors.
- ITC Group No. 2: Raw cotton.--The growth in U.S. exports of raw cotton to Mexico partly reflected increased Mexican demand for the fiber used in the production of textile mill products (such as fabrics) for shipment to the United States under NAFTA. Data on changes in employment were not available, nor were investment data other than acreage planted in cotton, which increased by 24.6 percent between 1993 and 1996.
- ITC Group No. 18: Textile mill products.--NAFTA rules-of-origin stimulated demand in both Mexico and Canada for fabrics produced by U.S. textile mills to make apparel for the U.S. market. Job losses, possibly attributable to increased imports, have been at least partly offset by gains due to increased exports.
- ITC Group No. 19: Apparel and other finished textile products.--Increased U.S. apparel imports from Mexico were primarily due to NAFTA provisions that enable duty-free and quota-free entry for apparel (and other made-up textile goods) assembled in Mexico wholly from fabric that was made and cut in the United States. This provided a strong incentive for apparel firms to shift production to Mexico from Asian and Caribbean Basin countries. Employment in U.S. apparel manufacturing has declined since NAFTA, most likely reflecting in part a shift of some operations to Mexico.



- ITC Group No. 34: Leather tanning and finishing.--The increase in U.S. exports of leather (principally for use in motor vehicle seats) resulted, in part, from NAFTA changes in rules of origin related to motor vehicle export performance requirements and changes in Mexico's Maquiladora Decree that allowed shipments of car seats and/or car seat covers directly from maquiladora operations to vehicle assembly plants in Mexico. Employment in the leather tanning and finishing industry has declined despite increased exports as a result of the cyclical nature of the cattle/beef industry, closures in the face of environmental standards, and relocation of some facilities to low wage-rate countries.
- ITC Group No. 35: Women's footwear, except athletic.--Increases in women's footwear imports from Mexico, mostly under production-sharing provisions, largely reflected uncertainty over MFN renewal for China as well as preferential U.S. tariffs under NAFTA. Employment decreased by one-third from 1993 to 1996 due to these two factors.
- ITC Group No. 48: Household appliances.--Some leading U.S. appliance producers chose to expand production in Mexico to supply the growing Latin American market, with increased U.S. imports from Mexico reflecting rationalized production. Since employment grew in this sector it is difficult to qualitatively discern a negative employment effect. Overall, U.S. imports of household appliances from Mexico rose as a result of changes in Mexican investment laws that made it attractive to expand U.S.-Mexican joint ventures producing household appliances; changes in the Maquiladora Decree that enabled a phased-in increase in shipments from maquiladoras to the Mexican domestic market; and the 10-year staging of Mexican tariff reductions.
- ITC Group No. 54: Motor vehicles.--U.S. exports of motor vehicles to Mexico increased as a result of NAFTA-related reductions in trade balancing requirements and tariffs. NAFTA has had a positive effect on the increase in industry employment.
- ITC Group No. 55: Motor vehicle parts.--The sustained strength of the U.S. and Canadian motor vehicle markets, and investments in new plants and capacity expansions, have supported employment growth in the U.S. auto parts industry. Overall, U.S. imports of motor vehicle parts from Mexico rose in part because of NAFTA rules of origin requirements and a more liberalized foreign investment climate.

Data on services industries are available only through the second year of NAFTA implementation (1995). The effect of NAFTA on U.S. investment in financial services is regarded as significant. NAFTA has raised foreign investment ceilings, thereby facilitating greater investment by U.S. banking and security firms in Mexico.

#### **Sectors with Negligible NAFTA Effects**

For 59 of the 68 sectors analyzed, NAFTA was determined to have had a negligible effect on increased trade flows because other factors predominated, including the strong U.S. economy. In about half of the sectors examined, the major trade increases were with Canada, and were primarily due to non-NAFTA

factors; this is because U.S. import duties were already low<sup>5</sup> and the removal of nontariff barriers had generally been accomplished prior to NAFTA under the CFTA. In some sectors, U.S. and Canadian industries are extensively interrelated, with the parent company and subsidiaries in different countries. Such integration occurs, for example, in industries producing certain processed foods, chemicals, engines and other automobile parts, and electronics.

In those sectors examined that had an increase in U.S. imports from Mexico, the effects of NAFTA were generally minor because of the effect on the competitiveness of Mexican products due to the peso devaluation, low U.S. tariffs prior to NAFTA implementation, and/or the extensive use of Mexico's maquiladora program and U.S. production-sharing tariff treatment, which together encourage the use of assembly plants in Mexico by U.S. producers. In many sectors, U.S. exports to Mexico rose in 1994, but were then adversely affected by reduced demand stemming from the peso crisis in 1995, before trade in some sectors rebounded in 1996. Over the entire period, the change in the value of U.S. exports to Mexico was generally small as the peso crisis and associated exchange rate shifts significantly outweighed the effects of NAFTA.

Data on services industries are available only through the second year of NAFTA implementation (1995), and largely reflect the effects of the peso devaluation on Mexico's economy. Overall, the effects of NAFTA on U.S. services trade are believed to be negligible. Regulatory changes in large industries, such as the telecommunication and financial services industries, appear to have exerted a stronger influence on trade than did NAFTA. The effect of NAFTA on U.S. investment is believed to be negligible in nearly all services industries (except financial services).

### **Total NAFTA Trade for Sectors Examined**

Total trade (imports plus exports) with NAFTA partners is one indicator of how all NAFTA parties are benefiting from the Agreement. For each sector examined in this chapter, data on total U.S. trade with the world, Canada, and Mexico are presented. Several observations are apparent based on an aggregation of total trade for each sector (ITC Group Nos. 1-66<sup>6</sup> and services) into major commodity/services sector groupings (table 6-1).

Since 1993, total trade has increased, both with respect to NAFTA partners and the rest of the world, in all broadly combined commodity sectors and services groups. The percentage increase in commodity trade with NAFTA partners has exceeded the percentage growth in trade with non-NAFTA partners in all groups, with the exception of trade in agricultural and food products with Canada and forestry products, paper and printing with Mexico. Trade in services (through 1995), however, exhibits some contrasts. Services trade with Mexico has declined since 1993, driven primarily by a reduction in U.S. travel receipts from Mexican tourists. Services trade with Canada increased, but at a slower rate than trade with non-NAFTA partners.

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<sup>5</sup> Several important products traded between Canada and the United States, including motor vehicle equipment, aircraft, and semiconductors, were free of duty prior to the implementation of the CFTA, while duties on most remaining products were eliminated in five stages during 1989-94.

<sup>6</sup> Waste and scrap (ITC Group No. 67) and miscellaneous trade (ITC Group No. 68) are not included because they contain commodities that fall into multiple sector groupings.

**Table 6-1**  
**Total trade for each sector (ITC Group Nos. 1-66<sup>1</sup> and services) aggregated by major sector groupings, 1993 and 1996, absolute and percentage change 1993-96, for Mexico, Canada, and Rest-of-world**

Sector grouping/ trading partner	1993	1996	Absolute change <sup>2</sup>	Percentage change <sup>2</sup>
	<i>Million dollars</i>			<i>Percent</i>
<b>Agricultural and food products:</b>				
Mexico .....	5,042	7,780	2,738	54
Canada .....	7,543	9,980	2,437	32
Rest-of-world .....	36,836	50,443	13,598	37
<b>Chemicals and related products:</b>				
Mexico .....	6,172	10,052	3,880	63
Canada .....	17,025	25,977	8,951	53
Rest-of-world .....	62,567	90,751	28,184	45
<b>Extractive and related industries:</b>				
Mexico .....	7,954	13,715	5,761	72
Canada .....	21,924	31,146	9,221	42
Rest-of-world .....	60,625	72,945	12,319	20
<b>Forestry products, paper, and printing:</b>				
Mexico .....	2,376	2,978	602	25
Canada .....	18,586	25,305	6,720	36
Rest-of-world .....	19,413	24,474	5,061	26
<b>General manufacturing industries:</b>				
Mexico .....	5,400	8,485	3,084	57
Canada .....	9,287	13,557	4,270	46
Rest-of-world .....	46,781	59,962	13,181	28
<b>Machinery and equipment:</b>				
Mexico .....	39,469	67,977	28,507	72
Canada .....	103,469	141,744	38,275	37
Rest-of-world .....	323,761	434,669	110,908	34
<b>Textiles and apparel:</b>				
Mexico .....	4,544	8,500	3,955	87
Canada .....	3,513	5,386	1,873	53
Rest-of-world .....	49,768	58,150	8,382	17
<b>Services:</b>				
Mexico .....	16,610	<sup>3</sup> 14,791	<sup>4</sup> -1,814	<sup>4</sup> -11
Canada .....	28,100	<sup>3</sup> 30,327	<sup>4</sup> 2,227	<sup>4</sup> 8
Rest-of-world .....	238,445	<sup>3</sup> 280,948	<sup>4</sup> 42,503	<sup>4</sup> 18

<sup>1</sup> Waste and scrap (ITC Group No. 67) and miscellaneous trade (ITC Group No. 68) are not included because they contain commodities that fall into multiple sector groupings.

<sup>2</sup> Calculation based on unrounded numbers.

<sup>3</sup> The most recent data, shown here, is for 1995.

<sup>4</sup> Change between 1993 and 1995.

Source: Compiled by USITC staff based on official statistics of the U.S. Department of Commerce.

## ITC Group No. 1: Grain and Oilseeds<sup>1</sup>

Table 6-1-1

Grain and oilseeds: Summary of NAFTA effects on selected U.S. indicators, 1993-96

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$8 million (100 percent) to \$16 million.  Up \$288 million (58 percent) to \$782 million.	<u>Negligible.</u> <sup>1</sup> —Increased U.S. imports of grain and oilseeds from Canada and Mexico were not affected significantly by NAFTA. Factors beyond the NAFTA, such as government programs and rising U.S. demand for certain grains and oilseeds, were largely responsible for the increase in imports. U.S. imports from Canada rose sharply, but the decrease in already low rates of duty had little effect on this trade flow.
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$1.6 billion (154 percent) to \$2.7 billion.  Up \$45 million (23 percent) to \$236 million.	<u>Significant.</u> <sup>2</sup> —U.S. exports to Mexico of corn, wheat, and soybeans rose sharply, both in terms of volume and value. Under NAFTA, the conversion of import licensing to tariffs or a Mexican tariff-rate quota on grains, especially U.S. corn, and Mexican preferential access for U.S. wheat over non-NAFTA suppliers, aided U.S. grain sales to Mexico. The seasonal tariff on U.S. soybeans also declined. Two-thirds of U.S. exports to Canada consist of corn for which the Canadian tariff was already low under the CFTA; thus, NAFTA had only a negligible effect on U.S. exports and did little to reduce restrictive measures on U.S. wheat and barley in the Canadian market.
<b>Employment</b>	Down 34,000 (9 percent) to 360,000 farms.	<u>Negligible.</u> —Although employment data on U.S. cash grain farms are not available, the number of farms continued a long-term decline to an estimated 360,000 cash-grain farms in 1996. NAFTA had little effect on this decline.
<b>Average hourly wages</b>	Unknown.	<u>Negligible.</u> —No known effects. Wage data are not meaningful for U.S. farmers. Farm receipts from crops increased 23 percent from \$88 billion in 1993 to \$108 billion in 1996, according to data of the USDA. <sup>3</sup> Higher prices contributed a sizable portion of the increase.
<b>U.S. investment in Mexico</b>	Not available.	<u>Negligible.</u> —No known effects. <sup>4</sup>
<b>Investment in the United States</b>	Not available.	<u>Negligible.</u> —No known effects. <sup>4</sup>

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>3</sup> USDA, *Agricultural Outlook*, Jan.-Feb. 1997, p. 57.

<sup>4</sup> The NAFTA effect upon investment cannot be determined with confidence due to the lack of detailed investment data.

Source: Compiled by the staff of the U.S. International Trade Commission.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 0111, Wheat: 0115, Corn; 0116, Soybeans; and 0119, Cash Grain, Not Elsewhere Classified.

### Summary of Sector Analysis<sup>2, 3</sup>

U.S. grain and oilseed exports to Mexico have increased significantly from 1993 to 1996, particularly sales of corn, wheat, and soybeans. The creation under NAFTA of minimum market access in the form of a tariff-rate quota (TRQ) for U.S. corn entering Mexico, and lower preferential Mexican duties on U.S. wheat aided U.S. exports of grain to Mexico. Factors beyond NAFTA also stimulated U.S. exports: low supplies of domestic wheat and corn during 1994-96 encouraged the Mexican government to loosen TRQs affecting these grains. Drought and unfavorable growing conditions in Mexico during these years reduced Mexican output of corn, wheat, sorghum, and soybeans. This resulted in a significant increase in Mexican imports beyond what was expected in 1993.<sup>4</sup> However, U.S. exports of sorghum fell in part because of the higher U.S. shipments of corn to Mexico.<sup>5</sup>

Although U.S. imports from Canada increased substantially from 1993 to 1996, U.S. tariff changes resulting from NAFTA had little effect on U.S. imports from NAFTA partners as the prior tariff rates were quite low. Non-tariff measures were largely unaffected by NAFTA; changes in supply and demand conditions benefitted Canadian grain being sold in the U.S. market. Canada has largely failed to liberalize its non-tariff measures affecting U.S. grain exports to their market.

U.S. exports of grain and oilseeds to Canada did increase during 1993-96, but mostly as a result of higher prices of corn (the leading export) that were unrelated to NAFTA. The volume of U.S. corn exports to Canada rose by less than 6 percent during this period. The volume and value of U.S. exports of soybeans (the second leading export item) fell as Canadian soybean output rose.

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>4</sup> In 1993, the Commission estimated the tariff protection for Mexican corn was 112 percent AVE, and that the long-term elimination of this protection would increase U.S. exports of corn to Mexico by 381 percent.

<sup>5</sup> U.S. exports of corn and sorghum to Mexico both go largely into animal feed rations; thus, the higher corn exports in part reduced sorghum exports.

## Trade Flows

Total trade in the grain and oilseed sector grew by 59 percent (\$9.2 billion) to \$24.7 billion in 1996. Total U.S.-Canada trade for the sector increased by 49 percent (\$333 million) to \$1.0 billion in 1996, whereas U.S.-Mexico trade for the sector grew by 154 percent (\$1.6 billion) to \$2.7 billion in 1996.

**U.S. Imports** – Mexico, a substantial net importer of grain and oilseeds, supplied about 2 percent of U.S. imports. Imports from Mexico doubled from \$8.1 million 1993 to \$16.2 million in 1996.

Canada, along with the United States, the EU, Argentina, and Australia, is a leading world exporter of grain, particularly wheat and barley. From 1993 to 1996, Canada remained the dominant supplier of grain and oilseeds to the U.S. market. U.S. imports from Canada (composed mainly of wheat, barley, oats, flaxseed, and dried peas and lentils) rose 58 percent to \$782 million in 1996, accounting for 87 percent of total U.S. imports (table 6-1-2). NAFTA likely had little effect on U.S. imports from Canada since tariff rates were already substantially low because of the Canadian Free Trade Agreement (CFTA). Nontariff measures, particularly the influence of Canadian and U.S. agricultural support programs, have long played an important role in U.S. and Canadian grain trade. NAFTA had little effect on these programs.

On a volume basis, U.S. imports from Canada peaked in 1994, a year of low wheat and feed grain supplies in the United States. Rising U.S. prices and higher commensurate sales of Canadian minor grains and oilseeds contributed to increasing imports in 1995-96. Canadian exports of grain to the United States declined on a volume basis as U.S. production recovered in 1995 and 1996, and as a U.S. tariff-rate quota was imposed on wheat during 1994-95. Sales of specialty Canadian grains and oilseeds (such as oats, peas and lentils, and flaxseed) continued to rise in the U.S. market because of strong demand and lower U.S. production.

**U.S. Exports** – U.S. exports of grain and oilseeds to all countries reached a record \$24 billion in 1996, up 60 percent from 1993. Mexico became the third-leading market in 1996, behind Japan and the EU, passing Korea and Taiwan, which have traditionally been the third- and fourth-leading markets for these U.S. products. U.S. exports to Mexico, as a share of U.S. total world exports, rose from 7 percent in 1993 to 11 percent in 1996.

Mexico tightly controls and licenses imports of corn and wheat. Under NAFTA, the establishment of minimum access to the Mexican market with a tariff-rate quota (TRQ) for U.S. corn, and preferential access

## Key Provisions Affecting Sector

### Tariffs

U.S. average trade weighted tariff equivalents (AVEs) in 1993 and 1996 for imports from (in percent):

	<u>1993</u>	<u>1996</u>
Canada . . . . .	1.3	0.2
Mexico . . . . .	0.1	0.0
All other . . . . .	0.4	0.3

Phase-in period: Most tariffs with Canada were reduced under the CFTA. Most tariffs with Mexico were eliminated with the implementation of NAFTA.

### Post-NAFTA Border and other measures

U.S. end-use certificates<sup>1</sup> were imposed in 1995 affecting Canadian wheat and barley exports to the United States. A U.S. tariff-rate quota on wheat was imposed for 12 months under section 22 (crop year 1994/95). Canada maintains tariff-rate quotas on U.S. barley, and other restrictive measures on U.S. grain. Mexico converted import licensing to tariffs or a tariff-rate quota for grains.

<sup>1</sup> End-use certificates were required under section 321(f) of the NAFTA since Canada imposes similar restrictions on U.S. barley and wheat exports.

for U.S. wheat over non-NAFTA suppliers aided U.S. grain sales to Mexico.<sup>6</sup> Since 1994, the Mexican seasonal tariff on U.S. soybeans was reduced from 15 to 10 percent, and the dutiable period shortened.<sup>7</sup> This encouraged the increase in U.S. soybean exports. Moreover, U.S. corn and soybean exports to Mexico benefitted from lower Mexican supplies during 1994-96 as weather and poor growing conditions reduced Mexican production.

The Mexican crop shortfall increased U.S. grain and oilseed exports to Mexico beyond what was expected under NAFTA. The 1996 TRQ was 2.653 million metric tons (MMT) of U.S. corn, but Mexico allowed imports from the United States of 5.9 MMT. The U.S. Department of Agriculture projected that Mexico in 1996/97 will import 3.7 MMT of corn, 55 percent below 1996 imports because of rising Mexican corn and sorghum production.<sup>8</sup> The Mexican TRQ for corn rises under NAFTA to 2.73 MMT in 1997.

U.S. wheat and corn have gained an increasing share of the Mexican market, with the U.S. share of corn consumption rising from 8 percent in 1993 to 18 percent in 1996. U.S. wheat supplied virtually all Mexican imports in 1996 as Canadian wheat lost substantial market share. U.S. wheat shipped on rail enjoys a transportation advantage in central portions of Mexico, and the availability of USDA credit guarantees also reinforces U.S. competitiveness.

The \$45-million rise in U.S. exports of grain and oilseeds to Canada during 1993-96 (two-thirds of which was corn) was attributable to higher U.S. corn prices. Canadian duties on U.S. corn were already low (generally less than 2 percent AVE) prior to NAFTA. U.S. corn exports to Canada rose by \$62 million (63 percent) to \$160 million during 1993-96. U.S. exports of soybeans (the second leading export item) dropped by about \$34 million as Canadian soybean production rose sharply; U.S. soybeans have entered Canada duty-free for a number of years prior to NAFTA. U.S. exports of wheat and barley remained restricted through Canadian nontariff measures (these were unaffected by NAFTA), although U.S. exports of certified seed wheat did register an increase of \$16 million during 1993-96.

### **NAFTA Sector Specific Trade Actions**

There were several U.S. trade actions during 1994-96 that affected U.S.-Canadian grain trade. The USDA imposed on January 26, 1995 end-use certificates on Canadian barley and wheat entering the United States, under section 321(f) of NAFTA.<sup>9</sup> The United States imposed a TRQ on wheat entering from Canada and elsewhere from September 1994 to September 1995 under section 22 of the Agricultural Adjustment Act.<sup>10</sup> This TRQ expired in September 1995.

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<sup>6</sup> Stephen P. Dees, Farmland Industries, written submission to the USITC, May 12, 1997, p. 2.

<sup>7</sup> Mark Berg, American Soybean Association, written submission to the USITC, May 15, 1997, p. 1.

<sup>8</sup> Mexican corn imports during marketing year 1996/97, beginning October 1. U.S. Department of Agriculture, Foreign Agriculture Service, *Grain and Feed Annual*, U.S. Embassy, Mexico City, Mar. 11, 1997, p. 10.

<sup>9</sup> 60 F.R. 5087 (Jan. 25, 1995).

<sup>10</sup> See U.S. International Trade Commission, *Furfuryl Alcohol from China, South Africa and Thailand*, USITC publication 2794, July 1994.

**Table 6-1-2**  
**Grain and oilseeds: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	44,800.0	40,400.0	49,730.0	53,700.0	8,900.0	19.9
Consumption (million dollars) . . . . .	30,474.1	27,404.5	30,719.6	30,790.8	316.8	1.0
Trade data (million dollars):						
Exports:						
Total . . . . .	14,924.9	13,884.6	19,780.4	23,805.1	8,880.2	59.5
To Mexico . . . . .	1,056.0	1,467.6	1,335.6	2,686.2	1,630.1	154.4
To Canada . . . . .	191.4	135.6	190.0	236.0	44.6	23.3
To non-NAFTA countries . . . . .	13,677.5	12,281.3	18,254.9	20,883.0	7,205.5	52.7
Imports:						
Total . . . . .	599.0	889.1	770.0	896.0	297.0	49.6
From Mexico . . . . .	8.1	10.8	13.7	16.2	8.1	100.2
From Canada . . . . .	493.4	749.0	682.4	781.6	288.2	58.4
From non-NAFTA countries . . . . .	97.5	129.3	74.0	98.1	0.6	0.6
Trade balance:						
Total . . . . .	14,325.9	12,995.5	19,010.4	22,909.2	8,583.2	59.9
With Mexico . . . . .	1,047.9	1,456.8	1,321.9	2,669.9	1,622.0	154.8
With Canada . . . . .	-302.0	-613.4	-492.4	-545.6	-243.6	-80.7
With non-NAFTA countries . . . . .	13,580.0	12,152.0	18,180.9	20,784.8	7,204.8	53.1
Total trade:						
Total . . . . .	15,523.9	14,773.7	20,550.4	24,701.1	9,177.2	59.1
NAFTA partners . . . . .	1,748.9	2,363.0	2,221.5	3,720.0	1,971.1	112.7
With Mexico . . . . .	1,064.2	1,478.4	1,349.2	2,702.4	1,638.3	153.9
With Canada . . . . .	684.7	884.6	872.3	1,017.6	332.9	48.6
Import market share (percent):						
Total . . . . .	2.0	3.2	2.5	2.9	0.9	( <sup>2</sup> )
Mexico . . . . .	0.0	0.0	0.0	0.1	0.0	( <sup>2</sup> )
Canada . . . . .	1.6	2.7	2.2	2.5	0.9	( <sup>2</sup> )
Non-NAFTA countries . . . . .	0.3	0.5	0.2	0.3	0.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.1	( <sup>3</sup> )	( <sup>3</sup> )	0.0	-0.1	( <sup>2</sup> )
Canada . . . . .	1.3	1.2	0.5	0.2	-1.1	( <sup>2</sup> )
All other . . . . .	0.4	0.5	0.6	0.3	-0.1	( <sup>2</sup> )
U.S. industry indicators:						
Employees (1,000 farms) <sup>4</sup> . . . . .	394.0	383.0	372.0	360.0	-34.0	-8.6
Production workers (1,000 persons) . . . . .	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>6</sup> )	( <sup>6</sup> )
Average hourly wages of production workers . . . . .	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>6</sup> )	( <sup>6</sup> )

<sup>1</sup> Estimated by USITC staff.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Estimated number of cash grain farms (adjusted from the 1992 Census of Agriculture).

<sup>5</sup> Not available.

<sup>6</sup> Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.



## ITC Group No. 2: Raw Cotton<sup>1</sup>

Table 6-2-1

Raw cotton: Summary of NAFTA effects on selected U.S. indicators, 1993-96

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$16 million (6,187 percent) to \$17 million.  No imports from Canada.	<u>Negligible.</u> <sup>1</sup> —Increased imports from Mexico mainly reflected tight supplies and rising cotton prices in U.S. market. U.S. cotton quotas expanded for Mexico under NAFTA, allowing imports from Mexico to increase their share of the U.S. market to 0.4 percent.
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$68 million (33 percent) to \$277 million.  Up \$42 million (72 percent) to \$101 million.	<u>Significant.</u> <sup>2</sup> —Export growth to Mexico followed a large decline in Mexican cotton production in the early 1990s and, more recently, reflected increased Mexican demand for cotton as an input in the growing production of textile mill products for export to the United States under NAFTA.  Export growth to Canada, which does not grow cotton, reflected increased Canadian production of textile products for export to the U.S. market. Canada is now the United States' largest foreign supplier of textile articles such as yarn and fabric.
<b>Acreage</b>	Acreage planted rose by 3 million acres to 17 million.	<u>Negligible.</u> —U.S. production was affected by world prices, and supply and demand factors in countries like China and Egypt, not NAFTA partners.
<b>Average hourly wages</b>	Not available.	<u>Negligible.</u>
<b>U.S. investment in Mexico</b>	U.S. sector investment in Mexico is believed to be negligible.	<u>Negligible.</u> —NAFTA-related investment in textile mill production in Mexico has stimulated demand for U.S. cotton.
<b>Investment in the United States</b>	Sector capital expenditures believed to be small. There are extensive research and investment in pest-resistant cotton seeds and in expanded and improved uses of cotton in woven and non-woven applications.	<u>Negligible.</u>

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period.

Source: Compiled by the staff of the U.S. International Trade Commission.

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<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 0131, Cotton, which covers cotton and cottonseed. This sector analysis will focus on cotton, not carded or combed, since it accounts for the vast majority of U.S. sector trade. Cotton seed is a byproduct of cotton ginning and is used as an oilseed to produce edible oil.

## Summary of Sector Analysis<sup>2</sup>

The United States is the world's largest exporter of cotton, accounting for 28 percent of the world total in crop year 1995/96. It supplies the vast majority of the cotton used in Canada, which does not grow any of the fiber, and in Mexico, a small producer whose cotton output is just beginning to recover from the steep declines of the early 1990s. U.S. foreign trade in cotton before 1996 consisted almost entirely of U.S. exports, which reached a record \$3.7 billion in 1995 and then fell to \$2.8 billion in 1996. Prior to 1995, U.S. cotton imports were negligible largely because of import quotas in place under section 22 of the Agricultural Adjustment Act that were designed to protect the USDA price support program for cotton from import interference. In 1996, however, cotton imports totaled \$284 million, most of which came from Uzbekistan and Argentina.

The increase in U.S. cotton imports is mainly the result of two non-NAFTA related events: (1) the conversion in 1995 of U.S. cotton import quotas to a tariff-rate quota system in order to implement U.S. obligations in made in the Uruguay Round, and (2) legislation enacted in 1996 that allowed for the importation of additional cotton at in-quota tariff rates under the tariff-rate quota system. The World Trade Organization Agreement on Agriculture required the United States to convert its section 22 quotas to tariffs. The Uruguay Round Agreements Act (URAA) converted the section 22 quotas on cotton to a tariff-rate quota system beginning in 1995. Under this system, which is in effect a two-tiered tariff, a specified quantity of imported cotton (in-quota imports) is allowed to enter at one rate of duty, and additional (over-quota) imports enter at a higher rate of duty. The Federal Agricultural Improvement and Reform Act of 1996 (the FAIR Act) allows the importation of additional quantities of cotton at in-quota rates of duty when U.S. cotton prices exceed the price of cotton available to foreign textile mills. The intent of the legislation (and predecessor legislation) is to provide U.S. textile mills with access to raw cotton at prices equivalent to those paid by their foreign competitors. Under the FAIR Act and predecessor legislation, USDA is authorized to expand the quota level when U.S. cotton prices exceed the average price quotation of the world's five cheapest growths of cotton by more than 1.25 cents per pound for 10 consecutive weeks. According to USDA, as of May 8, 1997, "after 80 consecutive 10-week periods in which price conditions in the cotton market had caused import quotas to be announced weekly, U.S. price quotations have declined to the point that they have become competitive in world cotton trade."<sup>3</sup>

In-quota tariff rates set by the URAA range from zero to about 2 cents per pound, and apply to about 225,000 bales of imported cotton (plus about 49,000 bales allowed for Mexico under NAFTA), subject to restrictions on country of origin, staple length, and type of cotton; much higher over-quota tariffs apply to imports in excess of the amount subject to the in-quota tariffs. The in-quota amounts permitted will increase each year until 2000, when they will be capped at about 350,000 bales, which, with the NAFTA amount, yields a total of about 400,000 bales (equivalent to about 4 percent of 1996 U.S. mill consumption).<sup>4</sup>

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> U.S. Department of Agriculture, Farm Service Agency, "USDA Clarifies Status of Upland Cotton Special Import Quotas," press release No. 1493.97, May 8, 1997. Each of the quotas announced during those 80 weeks was about 200,000 bales in size, the amount of cotton estimated to be consumed by U.S. textile mills in 1 week's time.

<sup>4</sup> Carol Skelly and Janise Zygmunt, "Background and Perspective on U.S. Cotton Imports," *Cotton and Wool: Situation and Outlook Yearbook*, U.S. Department of Agriculture, Economic Research Service, CWS-1996, Nov. 1996, p. 18.

U.S. sector trade with Mexico consists almost entirely of U.S. exports; sector imports from Mexico in 1996 of almost \$17 million supplied less than 1 percent of the U.S. market. Sector exports to Mexico have grown rapidly during the 1990s, about doubling from \$71 million in 1991 to \$141 million in 1992 and then rising continually to a record \$277 million in 1996. The export growth in the early 1990s occurred as Mexico's cotton production was falling sharply. After totaling about 300,000 metric tons (MT) in crop year 1988/89, Mexican cotton output fell to 179,000 MT in crop year 1991/92 and to a low of 24,000 MT in crop year 1993/94, before rebounding to 99,000 MT a year later and to a forecasted 191,000 MT in crop year 1995/96. The decline in Mexican cotton output in the early 1990s was attributable to Mexico's land reforms, elimination of government input subsidies, and falling world cotton prices. As world cotton prices rebounded in 1994 and 1995, coupled with the introduction of a Mexican Government program to aid cotton farmers, Mexico's cotton production began to recover.

The growth in U.S. sector exports to Mexico also reflected increased Mexican demand for U.S. cotton. Trade sources report that several mills recently opened along the U.S.-Mexican border in Mexico and that managers of these mills were accustomed to processing U.S. cotton and tended to use it when the price, aided by proximity which reduces shipping costs, is advantageous. In addition, the increased demand for U.S. cotton in Mexico also reflected growing production of textile mill products there for shipment to the United States under NAFTA. Part of the growth in U.S. imports of textile mill products from Mexico since the enactment of NAFTA in 1994 may have come at the expense of shipments from Asia. For example, whereas U.S. imports of blue denim fabric from Mexico, a major end-use for cotton, rose from \$2 million in 1993 to \$107 million in 1996 (almost all of which entered free of duty under NAFTA), shipments from China fell from \$25 million to less than \$5 million. U.S. denim imports from Hong Kong and Taiwan, after rising to \$80 million and \$32 million in 1995, fell to \$61 million and \$27 million in 1996.

The growth in U.S. sector exports to Canada reflects increased demand for cotton, partly for the production of textiles for export to the United States. Canada is the United States' largest foreign supplier of textile articles such as yarn and fabric.

#### Trade Flows

Overall U.S. sector trade rose by nearly \$1.5 billion during 1993-96 to \$3 billion. U.S.-Mexico sector trade grew by \$85 million to \$294 million and U.S.-Canada trade (limited to U.S. exports) rose by \$42 million to \$101 million.

**U.S. Imports** – Overall U.S. sector imports rose from negligible levels in 1993-95 to \$284 million in 1996. Expanded tariff quotas under the FAIR Act allowed cotton imports in excess of the URAA-authorized tariff quota level to enter at the lower, in-quota tariff rates.

#### Key Provisions Affecting Sector

##### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports from (in percent):

	1993	1996
Canada . . . .	Not applicable	13.5
Mexico . . . .	0.82	0.00
All other . . .	0.51	0.01

Phase-in period: Most tariffs with Canada reduced under the CFTA. Most tariffs with Mexico eliminated with implementation of NAFTA.

##### Pre-NAFTA border and other measures

Weed and pest controls.

##### Post-NAFTA border and other measures

Chapter 7, Agriculture and Sanitary and Phytosanitary Measures, Section B, particularly possible reviews conducted in compliance with NAFTA Article 714 (Equivalence) and 715 (Risk Assessment and Appropriate Level of Protection). Phase in was immediate.

U.S. sector imports from Mexico in 1996 totaled almost \$17 million, or 6 percent of the total. Mexico was the fourth-largest source of U.S. sector imports after Uzbekistan, Argentina, and Australia.

*U.S. Exports* – Overall U.S. sector exports rose by \$1.2 billion during 1993-96 to almost \$2.8 billion. Sector exports to Mexico rose by 33 percent, or by \$68 million, during 1993-96 to \$277 million; most of the increase occurred in 1996. Mexico was the fourth-largest market for U.S. sector exports, with 10 percent of the 1996 total, trailing China, Japan, and Indonesia. U.S. sector exports to Canada, the sixth-largest export market for U.S. cotton, rose by 72 percent, or by \$42 million, during 1993-96, to just over \$100 million. Canada accounted for slightly less than 4 percent of total U.S. sector exports.

*Other factors* – Information on investment in the Mexican raw-cotton-producing sector is not available. According to the USDA and industry sources, however, a number of investments occurred in textile production facilities in Mexico. These were from U.S. and other sources seeking to benefit from the trade and investment liberalization of NAFTA. The new production facilities particularly favored the use of U.S. cotton.<sup>5</sup>

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<sup>5</sup> Cotton, Inc., 1996 10-K Report; according to Cotton Inc., more than 40 mills, manufacturers, and retailers in Mexico now use the Seal of Cotton for 100-percent cotton products, or the Natural Blend trademark for textile products containing at least 60 percent cotton.

**Table 6-2-2**  
**Raw cotton: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	4,521.0	6,797.0	6,551.0	6,524.0	2,003.0	44.3
Consumption (million dollars) . . . . .	2,962.5	4,108.2	2,831.8	4,049.8	1,087.3	36.7
Trade data (million dollars):						
Exports:						
Total . . . . .	1,559.3	2,695.7	3,730.0	2,758.2	1,198.9	76.9
To Mexico . . . . .	208.7	223.7	208.2	276.9	68.2	32.7
To Canada . . . . .	58.5	63.1	92.6	100.7	42.2	72.1
To non-NAFTA countries . . . . .	1,292.0	2,408.9	3,429.2	2,380.5	1,088.5	84.3
Imports:						
Total . . . . .	0.7	6.9	10.8	284.0	283.3	( <sup>2</sup> )
From Mexico . . . . .	0.3	0.0	2.6	16.6	16.3	( <sup>2</sup> )
From Canada . . . . .	0.0	( <sup>3</sup> )	0.0	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>4</sup> )
From non-NAFTA countries . . . . .	0.5	6.9	8.1	267.4	266.9	( <sup>2</sup> )
Trade balance:						
Total . . . . .	1,558.5	2,688.8	3,719.2	2,474.2	915.7	58.8
With Mexico . . . . .	208.5	223.7	205.5	260.3	51.9	24.9
With Canada . . . . .	58.5	63.1	92.6	100.7	42.2	72.1
With non-NAFTA countries . . . . .	1,291.5	2,402.0	3,421.1	2,113.1	821.6	63.6
Total trade:						
Total . . . . .	1,560.0	2,702.5	3,740.7	3,042.2	1,482.2	95.0
NAFTA partners . . . . .	267.5	286.8	303.4	394.3	126.7	47.4
With Mexico . . . . .	209.0	223.7	210.8	293.5	84.5	40.4
With Canada . . . . .	58.5	63.1	92.6	100.7	42.2	72.1
Import market share (percent):						
Total . . . . .	0.0	0.2	0.4	7.0	7.0	( <sup>4</sup> )
Mexico . . . . .	0.0	0.0	0.1	0.4	0.4	( <sup>4</sup> )
Canada . . . . .	0.0	( <sup>5</sup> )	0.0	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>4</sup> )
Non-NAFTA countries . . . . .	0.0	0.2	0.3	6.6	6.6	( <sup>4</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.8	( <sup>5</sup> )	0.0	0.0	-0.8	( <sup>4</sup> )
Canada . . . . .	( <sup>5</sup> )	( <sup>5</sup> )	3.7	13.5	13.5	( <sup>4</sup> )
All other . . . . .	0.3	0.1	0.1	( <sup>5</sup> )	-0.3	( <sup>4</sup> )
U.S. industry indicators: <sup>1</sup>						
Acreage planted (million) . . . . .	13.4	13.7	16.9	16.7	3.3	24.6
Production workers (1,000 persons) . . . . .	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>7</sup> )	( <sup>7</sup> )
Average hourly wages of production workers . . . . .	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>7</sup> )	( <sup>7</sup> )

<sup>1</sup> Compiled from official statistics of the U.S. Department of Agriculture.

<sup>2</sup> Over 1,000 percent.

<sup>3</sup> Less than \$50,000.

<sup>4</sup> Not meaningful for purposes of comparison.

<sup>5</sup> Less than 0.05 percent.

<sup>6</sup> Not available.

<sup>7</sup> Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

## ITC Group No. 18: Textile Mill Products<sup>1</sup>

Table 6-18-1

Textile mill products: Summary of NAFTA effects on selected U.S. indicators, 1993-96

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$466 million (247 percent) to \$655 million.  Up \$547 million (75 percent) to \$1.3 billion.	<u>Significant.</u> <sup>1</sup> —Import growth from Mexico reflects its competitive labor costs and reduced duties under NAFTA. Much of the increased imports from Canada is reported to be intrafirm trade.
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$452 million (63 percent) to \$1.2 billion.  Up \$556 million (37 percent) to \$2.1 billion.	<u>Significant.</u> — NAFTA has encouraged use of U.S. fabric in apparel made in Mexico for the U.S. market. The export increase to Canada reflected the economic recovery there and the inability of Canadian mills to meet local demand.
<b>Employment</b>	Down 49,200 (7 percent) to 683,000 employees.	<u>Negligible.</u> <sup>2</sup> —The increased use of U.S. fabrics in apparel made in Mexico for the U.S. market helped minimize the loss of textile mill employment. The U.S. Department of Labor has certified 3,409 workers eligible for trade adjustment assistance as a result of NAFTA. <sup>3</sup>
<b>Average hourly wages</b>	Up \$0.78 to \$9.93.	<u>Negligible</u>
<b>Labor productivity</b> <sup>4</sup>	Up 10 percent.	<u>Negligible</u>
<b>U.S. investment in Mexico</b>	Several U.S. firms have made significant investments to build or acquire manufacturing and distribution facilities in Mexico.	<u>Negligible.</u> —These investments are to supply the Mexican market, third countries with which Mexico has free trade agreements, and the U.S. market, but not to displace current U.S. production.
<b>Investment in the United States</b>	Up \$1.1 billion during 1993-95 to \$3.6 billion.	<u>Negligible.</u> —However, the increased use of U.S. fabrics in imports of apparel from Mexico has helped spur investment.

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to the NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> U.S. Department of Labor, NAFTA Office. Three-fourths of the workers in SIC 22 certified for trade adjustment assistance eligibility were employed by firms producing knitwear. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

<sup>4</sup> Productivity was calculated by dividing industry shipments by production worker hours for 1993-95. Data compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1994 and 1995.

Source: Compiled by the staff of the U.S. International Trade Commission.

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<sup>1</sup> Standard Industrial Classification (SIC) Major Group 22, Textile Mill Products, and SIC 2824, Manmade Organic Fibers. Among the products in SIC 22 is knitwear (SIC 225, Knitting Mills), such as hosiery, underwear, and sweaters made in mills in which the fabric was knitted. SIC 22 also includes industry Nos. 2211, Broadwoven Fabric Mills, Cotton; 2221, Broadwoven Fabric Mills, Manmade Fiber and Silk; 223, Broadwoven Fabric Mills, Wool; 224, Narrow Fabric and Other Smallwares Mills; 226, Dyeing and Finishing Mills; 2273, Carpets and Rugs; 228, Yarn and Thread Mills; and 229, Miscellaneous Textile Goods (such as coated fabrics, tire cord, and cordage).

## Summary of Sector Analysis<sup>2</sup>

U.S. sector trade with Canada and especially Mexico has increased significantly under NAFTA. Sector trade with Mexico doubled during 1993-96 and that with Canada rose by 49 percent. Most of the increased trade was in broadwoven fabrics, which dominate sector trade with the NAFTA partners, and manmade fibers. In addition, U.S. trade with Mexico in hosiery (a knitwear item in SIC 22) increased significantly.

The U.S. sector, especially producers of fabrics, has benefited from the increased use of U.S. fabric in apparel and other made-up textile goods assembled in production-sharing operations in Mexico. (This development is further described in the apparel section of this report.) The use of U.S. materials in imports of apparel and other textile goods assembled in Mexico from parts cut in the United States<sup>3</sup> doubled during 1993-96 to \$2.8 billion, more than twice the \$1.2 billion of textile mill products exported there in 1996.

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> These parts are classified in SIC 23.

## Trade Flows

Despite considerable growth in U.S. sector trade with Canada and Mexico, the U.S. sector trade surplus with each NAFTA partner changed by less than 3 percent during 1993-96. U.S. sector trade with the NAFTA partners rose by \$2.0 billion, or by 64 percent, while U.S. sector trade with the rest of the world grew by \$1.3 billion, or by 13 percent.

**U.S. Imports** – Canada was the leading source of U.S. sector imports during 1993-96, with its share of the total growing from 10 to 15 percent in the period. U.S. imports from Canada during 1993-96 rose by 75 percent, or by \$547 million. Two-thirds of the import increase consisted of broadwoven and circular knit fabrics, manmade fibers, and carpets and rugs. Much of the increased imports of the fibers and carpets are believed to be intrafirm trade.

U.S. sector imports from Mexico slightly more than tripled during 1993-96 to \$655 million. As a result, Mexico's share of sector imports grew from 3 percent of the total in 1993 to 8 percent in 1996, when it was the third-largest supplier after Canada and Korea. Broadwoven fabrics dominate U.S. imports from Mexico, both in absolute terms and in terms of growth. The other leading import from Mexico was manmade fibers, mainly involving intrafirm trade.

The growth in U.S. sector imports from Mexico also reflected a substantial increase in hosiery shipments, from \$1.6 million in 1993 to \$70.2 million in 1996. One-half of these imports consisted of hosiery knit in Mexico by U.S. hosiery producers, which stated that competitive labor costs in Mexico combined with reduced duties under

NAFTA are sufficient to allow them to benefit from sourcing part of their goods there.<sup>4</sup> The rest of the imports from Mexico was hosiery assembled in production-sharing operations (i.e., seaming, dyeing, and packaging) and returned to the United States duty-free under HTS heading 9802.00.90. Under NAFTA, apparel and other textile goods assembled in Mexico from U.S.-made and -cut fabric and dyed, bleached, or otherwise finished there may enter the United States free of duty under HTS heading 9802.00.90. For similar imports from other countries, such finishing constitutes further fabrication and disqualifies the goods from a partial duty exemption under heading 9802 even though they contain U.S. parts. Hosiery accounted for two-thirds of the sector's 1996 imports from Mexico under that tariff heading.

<sup>4</sup> Industry official, telephone interview by USITC staff, Mar. 6, 1997.

## Key Provisions Affecting Sector

### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports (in percent):

	<u>1993</u>	<u>1996</u>
Canada . . . . .	4.0	1.6
Mexico . . . . .	9.0	3.5
All other . . . . .	10.3	9.6

Phase-in period: Tariffs with Canada will be phased out by 1998 under the CFTA. Most tariffs with Mexico will be eliminated by 1999 and the remainder by 2003.

### Pre-NAFTA border and other measures

U.S. quotas on imports from Mexico.

### Post-NAFTA border and other measures

U.S. quotas on NAFTA-eligible items from Mexico eliminated in 1994; the rest are being eliminated over a 10-year period. Tariff Preference Levels (TPLs) permit limited quantities of goods from Mexico and Canada that are made from foreign materials to enter at NAFTA preferential tariffs. Canada's TPL for wool apparel is virtually all filled with tailored clothing such as suits. U.S. producers contend that since these garments do not contain U.S. fabric and that the imports have displaced U.S. production of tailored clothing, U.S. apparel firms and their fabric suppliers have incurred substantial loss of sales. (Carlos Moore, executive vice president, American Textile Manufacturers Institute, written submission to the USITC, May 20, 1997. Also see the apparel section in this report.)



**U.S. Exports** – Canada and Mexico were the principal markets for U.S. sector exports during 1993-96. In 1996, Canada accounted for 27 percent of sector exports and Mexico accounted for 15 percent. U.S. textile firms have expanded and are planning to add capacity solely to produce goods for export to the NAFTA partners.<sup>5</sup>

U.S. sector exports to Canada grew by 37 percent during 1993-96 to \$2.1 billion. The export growth was spread among several products. Spun yarns and coated fabrics showed the largest absolute gains, of \$59 million and \$58 million, respectively, reflecting the recovery of Canada's economy following the recession of the early 1990s and the inability of Canadian mills to meet local demand. Other products showing substantial increased shipments, also attributed to the improving Canadian economy, were broadwoven and circular knit fabrics, and carpets and rugs.<sup>6</sup> These products, along with manmade fibers, made up the largest shares of U.S. sector exports to Canada. The fabrics accounted for 33 percent of the 1996 total, manmade fibers for 20 percent, and carpets for 13 percent.

U.S. sector exports to Mexico grew by 63 percent during 1993-96 to \$1.2 billion. Most of the export growth occurred in broadwoven and circular knit fabrics, which accounted for 42 percent of sector shipments to Mexico in 1996. Much of these fabric shipments to Mexico are believed to be used in the production of apparel for the U.S. market, which benefit from NAFTA trade preferences.<sup>7</sup> Exports of manmade fibers to Mexico, which accounted for 11 percent of the 1996 total, were up by 56 percent, to \$132 million. Although making up a smaller share of trade, exports of spun yarn and sewing thread showed among the strongest percentage increases, up 322 and 287 percent, respectively. These articles are also largely believed to be used in the production of goods for the U.S. market.

U.S. exports of hosiery to Mexico fell from \$11 million in 1993 to \$6 million in 1995, and then increased to \$31 million in 1996. Industry sources say the 1996 increase in these exports consisted mainly of parts of pantyhose for assembly, dyeing, and packaging, and for subsequent return to the United States.<sup>8</sup> A small share of U.S. hosiery exports to Mexico consisted of socks sent by U.S. producers to Mexico for dyeing and other labor-intensive finishing processes and packaging. These socks are then returned to the U.S. market as NAFTA-eligible goods. Industry sources expect this trade to increase as U.S. tariff rates are phased out under NAFTA.

### **Other Factors**

USITC Investigation No. 332-373, *Advice on Providing Temporary Duty-Free Entry for Certain Suits and Suit-Type Jackets from Mexico*. HTS heading 9802.00.90 provides for duty-free entry for apparel and other textile goods assembled in Mexico from fabric wholly formed and cut in the United States. A loss of domestic supply of certain interlining fabrics used in the assembly of suits and suit-type jackets had precluded U.S. firms from importing the garments under this HTS provision. U.S. textile and apparel industry officials asked that the President authorize temporary duty-free entry for these suits and suit-type jackets until such

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<sup>5</sup> Carlos Moore (ATMI).

<sup>6</sup> In April 1992, Canada imposed antidumping duties of 12 percent on most imports of tufted carpets from the United States for 5 years. Subsequently, U.S. carpet exports to Canada declined from \$265 million in 1991 to \$213 million in 1993 and then gradually increased to \$253 million in 1996.

<sup>7</sup> U.S. imports of apparel and other made-up textile goods from Mexico under NAFTA that are not wholly made of fabric formed and cut in the United States rose from \$187 million in 1994 to \$671 million in 1996. See section of this report on apparel and other made-up textile goods.

<sup>8</sup> Industry officials report that U.S. hosiery exports to Mexico before NAFTA were mostly shipments by large U.S. retailers to stock the same brands in their Mexican stores as are in their U.S. stores.

interlining fabrics could be made in the United States.<sup>9</sup> On November 19, 1996, the United States Trade Representative (USTR) requested that the USITC provide advice on the probable effect on the U.S. industry, workers in the industry, and consumers, of providing temporary duty-free entry for certain suits and suit-type jackets from Mexico containing imported interlining fabrics. On January 27, 1997, the USITC released its report, advising that temporary duty-free entry for certain suits and suit-type jackets from Mexico would not affect U.S. shipments of similar domestically produced suits and suit-type jackets, associated U.S. employment, or prices to customers.<sup>10</sup>

On April 23, 1997, the interagency Committee for the Implementation of Textile Agreements (CITA) announced in the *Federal Register* that the United States intends to request consultations with Mexico and Canada under Section 7 (2) of Annex 300-B of NAFTA to consider amending the rules of origin for warp pile fabrics of manmade fibers classified in HTS subheading 5801.35. The consultations will focus on a short supply of NAFTA-eligible rayon filament yarns classified in HTS subheadings 5403.31 and 5403.32 and used in the production of the subject fabric.<sup>11</sup>

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<sup>9</sup> The loss of the ability to use the HTS 9802.00.90 provision affects the U.S. textile mill industry because it discourages the use of U.S. fabrics in the garments.

<sup>10</sup> U.S. International Trade Commission, *Advice on Providing Temporary Duty-Free Entry for Certain Suits and Suit-Type Jackets from Mexico* (investigation No. 332-373), USITC publication 3012, Jan. 1997.

<sup>11</sup> 62 F.R. 19739, Apr. 23, 1997.

**Table 6-18-2**  
**Textile mill products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	82,646.0	82,675.0	88,352.0	87,103.0	4,457.0	5.4
Consumption ( <i>million dollars</i> ) . . . . .	84,101.1	84,109.5	89,466.6	87,899.2	3,798.1	4.5
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	5,643.9	6,257.4	7,094.0	7,615.6	1,971.7	34.9
To Mexico . . . . .	721.2	898.9	881.1	1,172.8	451.6	62.6
To Canada . . . . .	1,520.3	1,688.5	1,909.5	2,075.9	555.5	36.5
To non-NAFTA countries . . . . .	3,402.4	3,670.1	4,303.4	4,367.0	964.6	28.3
Imports:						
Total . . . . .	7,099.0	7,691.9	8,208.6	8,411.8	1,312.8	18.5
From Mexico . . . . .	188.7	266.0	473.2	654.7	466.0	247.0
From Canada . . . . .	726.3	919.9	1,080.3	1,273.5	547.1	75.3
From non-NAFTA countries . . . . .	6,184.0	6,506.1	6,655.2	6,483.6	299.7	4.8
Trade balance:						
Total . . . . .	-1,455.1	-1,434.5	-1,114.6	-796.2	658.9	45.3
With Mexico . . . . .	532.5	632.9	407.9	518.0	-14.4	-2.7
With Canada . . . . .	794.0	768.6	829.2	802.4	8.4	1.1
With non-NAFTA countries . . . . .	-2,781.5	-2,836.0	-2,351.7	-2,116.6	664.9	23.9
Total trade:						
Total . . . . .	12,742.9	13,949.4	15,302.6	16,027.5	3,284.6	25.8
NAFTA partners . . . . .	3,156.5	3,773.2	4,344.0	5,176.8	2,020.3	64.0
With Mexico . . . . .	909.9	1,164.9	1,354.3	1,827.5	917.6	100.9
With Canada . . . . .	2,246.6	2,608.3	2,989.8	3,349.3	1,102.7	49.1
Import market share ( <i>percent</i> ):						
Total . . . . .	8.4	9.1	9.2	9.6	1.1	( <sup>1</sup> )
Mexico . . . . .	0.2	0.3	0.5	0.7	0.5	( <sup>1</sup> )
Canada . . . . .	0.9	1.1	1.2	1.4	0.6	( <sup>1</sup> )
Non-NAFTA countries . . . . .	7.4	7.7	7.4	7.4	0.0	( <sup>1</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	9.0	6.2	4.5	3.5	-5.5	( <sup>1</sup> )
Canada . . . . .	4.0	2.8	2.3	1.6	-2.4	( <sup>1</sup> )
All other . . . . .	10.3	10.2	9.6	9.6	-0.7	( <sup>1</sup> )
U.S. industry indicators: <sup>2</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	732.1	728.1	714.7	682.9	-49.2	-6.7
Production workers ( <i>1,000 persons</i> ) . . . . .	609.5	611.6	598.6	573.9	-35.6	-5.8
Average hourly wages of production workers . . . . .	\$9.15	9.38	9.67	9.93	0.78	8.5

<sup>1</sup> Not meaningful for purposes of comparison.

<sup>2</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

## ITC Group No. 19: Apparel and Other Finished Textile Products<sup>1</sup>

Table 6-19-1

Apparel and other finished textile products: Summary of NAFTA effects on selected U.S. indicators, 1993-96

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$2.2 billion (91 percent) to \$4.7 billion.  Up \$571 million (93 percent) to \$1.2 billion.	<u>Significant.</u> <sup>1</sup> —Growth in imports from Mexico reflects increased use of production sharing by U.S. firms as a result of preferential NAFTA treatment for garments assembled there from U.S.-formed and U.S.-cut fabric. Imports from major Asian producers, which seldom contain U.S. materials, have declined.
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$836 million (73 percent) to \$2.0 billion.  Up \$179 million (30 percent) to \$785 million.	<u>Significant.</u> —Growth in exports to Mexico, which consisted mostly of garment parts for assembly, reflects expansion of production-sharing trade, as noted above. Peso devaluation also enhanced price competitiveness of production sharing by reducing Mexican labor costs in dollar terms by almost one-half.
<b>Employment</b>	Down 138,100 (14 percent) to 851,300 employees. Number of production workers down 130,300 (16 percent) to 698,400.	<u>Significant.</u> —Ongoing employment decline has accelerated since NAFTA's enactment, reflecting a shift in assembly operations to Mexico. The U.S. Department of Labor has certified 21,768 workers for trade adjustment assistance under NAFTA. <sup>2</sup>
<b>Average hourly wages</b>	Up \$0.82 (12 percent) to \$7.89.	<u>Significant.</u> —Much of the increase is among higher-skilled and higher-paying cutting jobs; lower-paying sewing jobs are moving offshore, largely to Mexico and Caribbean Basin countries.
<b>Productivity<sup>3</sup></b>	Up 8.9 percent during 1993-95.	<u>Negligible</u> <sup>4</sup>
<b>U.S. investment in Mexico</b>	Not available.	<u>Significant.</u> —Trade sources indicate that U.S. apparel investment in Mexico has grown significantly due to NAFTA.
<b>Investment in the United States</b>	Up by \$233 million during 1993-95 to \$1.2 billion.	<u>Negligible.</u> —Cannot separate NAFTA investment from overall industry investment.

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>2</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

<sup>3</sup> Productivity was calculated by dividing industry shipments by production worker hours for 1993-95. Data compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1994 and 1995.

<sup>4</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

Source: Compiled by the staff of the U.S. International Trade Commission.

<sup>1</sup> Includes products classified in Standard Industrial Classification (SIC) 23, which includes establishments producing apparel and other textile products by cutting and sewing purchased fabrics and related materials, such as leather and fur. The nonapparel products included in SIC 23 are homefurnishings such as curtains, sheets, and towels; textile bags; canvas and related products; special pleating, stitching, and embroidery performed for the apparel trade; automotive and apparel trimmings; and fabricated textile products, such as automobile safety belts. Apparel products made in knitting mills, such as underwear and sweaters, are covered in the section of this report on textile mill products, SIC 22.

6-22

## Summary of Sector Analysis<sup>2</sup>

U.S. sector trade with Mexico has expanded substantially under NAFTA, as trade preferences under the pact, along with the devaluation of the Mexican peso, have enhanced the relative competitiveness of Mexico. From 1993 to 1996, U.S. sector imports from Mexico rose by 91 percent to \$4.7 billion and U.S. sector exports grew by 73 percent to \$2.0 billion. Most of the sector trade with Mexico involves production sharing, in which U.S. firms ship garment parts cut to shape in the United States to Mexico for assembly and subsequent return to the U.S. market. The acceleration of this trade in recent years largely reflected a provision in NAFTA implemented by HTS heading 9802.00.90, which provides duty-free entry to U.S. imports of apparel and other textile articles assembled in Mexico from fabric both made and cut in the United States.<sup>3</sup> These articles also enter free of quota under NAFTA. In addition, the 50-percent devaluation of the Mexican peso in December 1994-January 1995 further enhanced Mexico's competitive position by effectively reducing dollar prices of Mexican goods in the U.S. market.

NAFTA trade preferences, along with the peso devaluation, have contributed to a diversion of sector trade to Mexico from other low-cost areas. U.S. trade with the traditional major producers in Asia has declined since 1993. NAFTA has also encouraged U.S. investors to redirect new investment from the traditional Caribbean Basin Initiative (CBI) suppliers to Mexico. Employment in the U.S. apparel industry declined significantly during 1993-96, and part of this decline is attributable to U.S. apparel companies' moving assembly operations to Mexico and/or switching from using contractors in the United States to those in Mexico. Consequently, the lower-paying sewing jobs are moving offshore, while the higher-skilled and -paying cutting jobs remain in the United States.

U.S. sector trade with Canada also expanded significantly under NAFTA from 1993 to 1996. U.S. imports from Canada almost doubled to nearly \$1.2 billion during the period, in part because Canadian producers of tailored garments have better access to lower-cost wool fabric than do U.S. apparel producers. Meanwhile, U.S. exports to Canada grew by 30 percent to \$785 million, reflecting the competitive strength of U.S.-made towels, which are produced in highly-automated processes, and intracompany trade in motor vehicle seat belts.

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> Most U.S. sector imports from Mexico made of NAFTA-originating fabric--that is, fabric made in the United States, Mexico, or Canada--enter quota free and at reduced duties. Most sector imports from Mexico made of fabric originating in non-NAFTA countries are not eligible for any NAFTA preferential duty treatment. Quotas on nonoriginating sector goods will be phased out under NAFTA by 2004.

## Trade Flows

U.S. sector trade with the world rose by \$10.2 billion or by 25 percent from 1993 to 1996, while U.S. sector trade with NAFTA partners rose by \$3.8 billion or by 79 percent. U.S. sector trade with Mexico rose by \$3.1 billion or by 85 percent during 1993-96 and sector trade with Canada rose by \$749 million or by 61 percent. (U.S. sector trade with the rest of the world increased by \$6.4 billion or by 18 percent during the period.)

**U.S. Imports** – U.S. sector imports from Mexico grew by 91 percent from \$2.4 billion in 1993 to \$4.7 billion in 1996, fueled by the increased use of production-sharing operations by U.S. apparel companies as a result of preferential customs treatment under NAFTA. The growth in imports from Mexico was largely at the expense of the traditional Asian suppliers, as sector imports from Hong Kong declined by 1 percent from 1993 to 1996; those from Korea, by 39 percent; and those from Taiwan, by 11 percent. Sector imports from China rose by only 2 percent during the period. These four Asian countries' combined share of total sector imports fell from 44 percent in 1993 to 34 percent in 1996, while Mexico's share rose from 7 to 11 percent. In value terms, Mexico replaced Hong Kong as the second-largest supplier behind China.

The growth in Mexico's sector shipments to the United States also displaced imports from CBI countries. Traditionally, Mexico and CBI countries have competed with one another for assembly work from U.S. apparel firms.<sup>4</sup> The balance of apparel competition between the CBI countries and Mexico changed when NAFTA entered into force in 1994. In the 4 years before NAFTA, U.S. sector imports from the CBI countries and Mexico each grew by slightly more than 20 percent a year. Since 1994, imports from Mexico have consistently outpaced those from the CBI countries.<sup>5</sup> In 1996, the value of sector imports from Mexico rose by 27 percent over the 1995 level, while those from the CBI countries rose by only 11 percent. Whereas garments assembled in Mexico from "fabric

<sup>4</sup> The vast majority of apparel imports from Mexico and the CBI countries consist of garments assembled from U.S. components and entered under HTS headings 9802.00.90 and 9802.00.80, respectively. The use of production-sharing operations by U.S. apparel companies has grown rapidly in recent years as U.S. producers, faced with a highly competitive retail environment, have expanded their use of offshore assembly operations in Mexico and the CBI countries to cut costs in order to compete with Asian imports.

<sup>5</sup> Although not duty and quota free, most apparel production-sharing imports from CBI countries are eligible for preferential market access under liberal quotas and also benefit from reduced duties under HTS heading 9802.00.80.

## Key Provisions Affecting Sector

### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports from (in percent):

	1993	1996
Canada . . . . .	7.8	4.4
Mexico . . . . .	3.9	0.9
All other . . . . .	14.6	14.3

Phase-in period: Tariffs with Canada will be phased out by 1998 under the CFTA. Most tariffs with Mexico will be eliminated by 1998 and the remainder by 2003. Also for Mexico, tariffs were eliminated on January 1, 1994, for goods entering under HTS heading 9802.00.90.

### Pre-NAFTA border and other measures

U.S. quotas on imports from Mexico.

### Post-NAFTA border and other measures

U.S. quotas on all NAFTA-originating goods from Mexico, including those entering under HTS heading 9802.00.90, eliminated on January 1, 1994; the remainder are being eliminated over a 10-year period. Tariff preference levels (TPLs) on specified goods from both Mexico and Canada permit entry under NAFTA rates of duty for the goods to the amount specified in the TPL.

wholly formed and cut in the United States” enter free of duty and quota under NAFTA, similar products from CBI countries enter under liberal “guaranteed access levels” (GALs) but are still subject to duty on the value added offshore.<sup>6</sup> More recently, industry sources have indicated that with NAFTA, Mexico has a competitive advantage and is increasingly becoming the destination for new investment in production-sharing operations. The peso devaluation further affected the competitive balance between Mexico and CBI countries by effectively reducing dollar prices of Mexican goods in the U.S. market.

Production-sharing trade annually accounted for 85 to 90 percent of the total value of sector imports from Mexico during 1994-96. Just over 70 percent of these production-sharing imports consisted of apparel made of U.S.-formed and U.S.-cut fabrics and entered free of duty under NAFTA-created HTS heading 9802.00.90, as well as free of quota under NAFTA. Several U.S. apparel companies indicated that the duty-free and quota-free benefits under NAFTA had the most significant effect on their decision to assemble garments in Mexico.<sup>7</sup> NAFTA duty-free treatment for garments assembled in Mexico from U.S.-made and U.S.-cut fabric applies even if the garments undergo certain finishing processes in Mexico after assembly, such as stone-washing and wrinkle-free processing. For imports under HTS heading 9802.00.80 from CBI countries or any other country, treatment of apparel in any such manner constitutes further fabrication and disqualifies the treated garments from a partial duty exemption even though they contain U.S. parts.

NAFTA trade preferences have enhanced the position of Mexico in the U.S. apparel market. For men’s dress shirts of woven cotton fabric, table 6-19-2 shows the cost advantage of shipping U.S.-formed and U.S.-cut fabric to Mexico for assembly.<sup>8</sup> Of the three production scenarios, the average f.o.b. cost for the shirt from India is the lowest at \$4.91. However, when import costs<sup>9</sup> are added to arrive at the landed cost to the importer/retailer, the landed cost of the shirt assembled in Mexico of U.S. components is 13 percent lower than the landed cost of the shirt made in India and 28 percent lower than the cost of the U.S.-made shirt. Most of the cost difference between the f.o.b. costs and the landed costs of the shirts made in India and assembled in Mexico of U.S. components is the duty, freight and transportation costs, and inventory carrying costs.

**Table 6-19-2**  
**Cost comparison for a man’s cotton dress shirt made in the United States of U.S. fabric, made in India of Indian fabric, and assembled in Mexico of U.S.-made and U.S.-cut fabric**

Item	United States	India	U.S.-Mexico
Total f.o.b. cost/shirt	\$8.55	\$4.91	\$5.72
Import costs	0.00	\$2.18	\$0.47
Landed costs to retailer	\$8.55	\$7.09	\$6.19

Source: Werner International, Inc., New York.

<sup>6</sup> In general, duties on goods entered under HTS heading 9802.00.80 are assessed only on the value added offshore and not on the value of the U.S. components sent abroad for assembly.

<sup>7</sup> Industry officials, telephone interviews by USITC staff, Apr. 21, 1997.

<sup>8</sup> Raul Verret, Werner International Management Consultants, “Competitiveness: The International Challenge,” speech given at International Textile Manufacturers Federation (ITMF) Annual Conference, Washington, DC, Sept. 25, 1996, pp. 16-17.

<sup>9</sup> Import costs include land and freight costs, insurance, customs duties, customs clearance, agency and buying office fees, warehousing costs, extra refurbishing/separation costs, and inventory carrying costs.

U.S. imports of non-production-sharing apparel entering under NAFTA increased even more rapidly, by about 260 percent, from \$187 million in 1994 to \$671 million in 1996, and their share of sector imports from Mexico rose from 6 to 14 percent. More and more U.S. apparel producers are opting to send NAFTA-eligible fabric to Mexico for both cutting and sewing as a result of decreasing U.S. duties and quota-free treatment for such garments.

The textile and apparel sector, along with the electronics and transportation sectors, is one of the principal sectors in Mexico's production-sharing industry.<sup>10</sup> Of the three sectors, employment in Mexico's textile and apparel sector grew the fastest in 1996, rising by 37 percent. Employment in the Mexican textile and apparel sector, which totaled 124,500 workers during the first 8 months of 1996, has been increasing steadily since NAFTA became effective, growing by 16 percent in 1994 and by 27 percent in 1995.

U.S. sector imports from Canada rose by 93 percent during 1993-96 to \$1.2 billion. Although Canada also benefits from preferential market access under NAFTA, it is at a competitive disadvantage regarding labor costs.<sup>11</sup> Increases in sector imports from Canada occurred in several major product groups--namely, men's and boys' suits, coats, shirts, and trousers; children's outerwear; women's blouses and shirts; and fabricated textile products, such as automobile seat belts.

The U.S. textile and apparel industry has expressed concern over significant increases in imports of men's wool suits, suit-type jackets, and trousers from Canada. Members of the U.S. textile and apparel industry stated that they are at a competitive disadvantage because these garments from Canada do not contain U.S. fabrics and U.S. producers of tailored apparel must pay significantly higher rates of duty on the imported wool fabrics they use than Canadian tailored apparel producers. U.S. industry members contend that these imports from Canada have displaced U.S. production of tailored clothing and have caused a substantial loss of sales.<sup>12</sup> In general, for apparel to be eligible for preferential treatment, it must be made of North American fabric which, in turn, must be made of North American originating yarn -- a "yarn forward" rule. Canada was able to negotiate an exception to the rule in the form of a tariff preference level (TPL) for specified quantities of wool products that did not meet the stricter NAFTA origin rule. Under the TPL, Canada could export wool apparel to the United States at the preferential NAFTA rates even if the wool articles were made of fabric or yarn originating in non-NAFTA countries. With this preferential treatment, Canada replaced Italy as the leading foreign supplier of men's suits to the United States.<sup>13</sup> Both U.S. and Canadian producers of men's tailored clothing import a large portion of the wool fabrics used in their tailored suit production; however, Canada's tariff on non-North American wool fabric is 8 percent ad valorem, while the comparable 1997 U.S. tariff is 32.8 percent.

**U.S. Exports** -- U.S. sector exports to Mexico rose by 73 percent during 1993-96, to \$2.0 billion. Mexico was the largest country destination for U.S. sector exports; approximately two-thirds of these exports

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<sup>10</sup> "The Maquiladora Industry: Still Going Strong," *Business Frontier*, El Paso Branch, Federal Reserve Bank of Dallas, Issue 4-1996.

<sup>11</sup> Based on data for the summer of 1995, hourly labor costs in the apparel industry in Canada averaged \$10.07, compared with \$9.62 in the United States and \$1.61 in Mexico. Werner International Management Consultants, "Hourly Labor Cost In the Apparel Industry," information obtained directly from Werner International.

<sup>12</sup> Carlos Moore, Executive Vice President, American Textile Manufacturers Institute, written submission to the USITC, May 20, 1997.

<sup>13</sup> Canada filled 100 percent of the TPL for wool apparel in 1995, and filled 96 percent in 1996, based on Customs data as of Feb. 28, 1997.



consisted of garment parts for assembly there.<sup>14</sup> The growth in U.S. sector exports to Mexico slowed considerably in 1995, following the peso devaluation. Much of the 1995 slowdown reflected a decline in U.S. exports of finished apparel to Mexico, the prices for which almost doubled on average in the Mexican market as a result of the peso devaluation. Exports of garment parts to Mexico also declined in early 1995 as U.S. apparel producers remained cautious about the effects of the peso devaluation on the stability of the Mexican economy and the political climate. Ultimately, the peso devaluation enhanced the competitiveness of production-sharing operations in Mexico, as labor costs in dollar terms dropped by almost one-half.

Canada is the second-largest market for U.S. sector exports of finished sector goods (as opposed to garment parts), following Japan. U.S. exports to Canada rose by 30 percent during 1993-96 to \$785 million. During the period, between one-quarter and one-third of the total value of these exports consisted of textile products such as homefurnishings (largely towels) and automobile safety seat belts and parts thereof. The exports of automobile safety seat belts and parts thereof reflected intracompany trade between U.S. and Canadian plants of U.S. automobile companies. U.S. exports of apparel to Canada were concentrated in men's and boys' shirts and trousers and children's outerwear.

### Employment

U.S. sector employment has decreased for many years, but the decline has accelerated recently. Between 1993 and 1996, total employment declined by 138,100 persons (14 percent) to 851,300, and the number of production workers declined by 130,300 (16 percent) to 698,400 workers. By contrast, they each had declined by 5 percent during the previous 4-year period, 1990-93. The largest annual decreases occurred in 1996, when the total number of employees and the number of production workers each fell by 9 percent, the largest such declines in at least 10 years. Since January 1, 1994, the U.S. Department of Labor has certified 21,768 workers, which represent 16 percent of the lost jobs in the sector, to be eligible for trade adjustment assistance under NAFTA.

The recent decline in U.S. sector employment is attributable in part to U.S. apparel producers' shifting the assembly part of their production to Mexico and the CBI countries.<sup>15</sup> The trend is likely to continue. According to a recent press report, the Hagggar Corporation announced in early 1997 that it will be closing three U.S. sewing plants in order to compete with other apparel producers that have moved operations to foreign countries.<sup>16</sup> These plant closings will result in the lay off of 1,200 workers. Guess, Incorporated, a large Los Angeles apparel company, reportedly is shifting production from the United States to Mexico and South America.<sup>17</sup> Because Guess, Inc., does not own sewing plants, but uses independent sewing contractors, it can easily switch to sewing contractors in Mexico. Economists at the University of California in Los Angeles stated that growth in employment in apparel manufacturing in Southern California has slowed considerably. In 1996, annual growth in apparel manufacturing jobs slowed to 1,000, compared with increases of 11,000 jobs annually in 1994 and 1995.<sup>18</sup>

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<sup>14</sup> Most of the remaining sector exports to Mexico consisted of finished apparel and homefurnishings like sheets, towels, and curtains. The potential exists for increased shipments of homefurnishings since a major U.S. producer has acquired distribution facilities in Mexico. Carlos Moore (ATMI).

<sup>15</sup> See *Investment in Mexico* section below for more on the movement of apparel assembly to Mexico.

<sup>16</sup> Steven H. Lee, "Dallas-Based Hagggar Corp. to Halve Sewing Plant Workforce in Rio Grande Valley," *The Dallas Morning News*, NewsEDGE/LAN: Mar. 4, 1997.

<sup>17</sup> Stuart Silverstein, George White, and Mary Beth Sheridan, "Guess Will Shift Production to Mexico, South America," *Los Angeles Times*, NewsEDGE/LAN: Jan. 15, 1997.

<sup>18</sup> *Ibid.*

## **Wages**

The average hourly earnings in the U.S. industry increased by 12 percent from \$7.07 in 1993 to \$7.89 in 1996. This followed an 8-percent increase in average hourly earnings during 1990-93. Much of the 1993-96 increase reflected the increased concentration of relatively higher-skilled and higher-paying cutting jobs in the United States and the movement of lower-paying sewing jobs to Mexico and the CBI countries.

## **Investment**

### *Investment in the United States*

The available data on U.S. sector investment (SIC 23) indicate that new capital expenditures increased on an annual basis by 13 percent in 1994, to almost \$1.1 billion, and by 10 percent in 1995, to \$1.2 billion. These were the largest such annual increases in at least 5 years. The recent increase is attributable to several factors. To become more responsive to changes in the marketplace, U.S. apparel companies have been purchasing innovative technology to further develop quick response (QR) programs, streamline their distribution centers, and upgrade their U.S. cutting operations and other U.S. production processes. NAFTA is believed to have had only a negligible effect on these expenditures.

### *Investment in Mexico*

Data are not available on investment in Mexico's textile and apparel sector. However, U.S. sector investment in production-sharing operations in Mexico is likely to have increased significantly under NAFTA, given the rapid growth in sector imports from there. U.S. apparel producers have been shifting the assembly part of their production to Mexico in recent years. The shift slowed somewhat in early 1995 as U.S. companies awaited the effect of the peso devaluation on the stability of the Mexican economy. It picked up again in mid-1995 as reassured U.S. companies sought the labor cost advantages of Mexico's wage rates, which, in dollar terms, were cut almost in half by the peso devaluation. Stimulated by continued intense competition in the U.S. retail market and fueled by Mexico's low labor rates and NAFTA, U.S. apparel producers continue to move apparel production processes--primarily the sewing operations--to Mexico. Mexico's Investment Council President, Jaime Alatorre, stated that foreign investors are "rapidly regaining confidence in Mexico," and added that major flows of investment are expected for 1996-97, especially in automobiles, electronics, and textiles.<sup>19</sup>

## **Other Factors**

On October 20, 1995, a NAFTA binational panel affirmed the U.S. Department of Commerce's remand results in Commerce's administrative review of a countervailing duty order on leather wearing apparel from Mexico (NAFTA Secretariat File No. USA-94-1904-02). As a result, the Commerce Department amended the final results of its 1992 administrative review of the countervailing duty order on such apparel for purposes of the entries subject to the panel's review. The results of Commerce's 1992 administrative review had been challenged before the panel by Maquiladora Pielas Pitic and Finapiel de Mexico, exporters of the subject merchandise. In a remand order on July 19, 1995, the panel directed Commerce to conduct a review of the 1992 entries of the two firms. Commerce subsequently determined that the two companies did not receive any benefits during 1992 from the programs that it examined, and submitted the

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<sup>19</sup> "Mexico, Canada To Oppose a Helms-Burton Act On Three Fronts," *La Jornada* (in Spanish), Sept. 10, 1996, p. 41, FBIS-LAT-96-180.

results of its redetermination to the panel on September 19, 1995. For additional information, see the notice published by Commerce in the *Federal Register* of January 26, 1996 (61 F.R. 2492).

HTS heading 9802.00.90 provides for duty-free entry for apparel and other textile goods assembled in Mexico from fabric wholly made and cut in the United States. A loss of domestic supply of certain interlining fabrics used in the assembly of these suits and suit-type jackets in Mexico has precluded U.S. firms from importing the garments under this HTS provision. U.S. textile and apparel industry officials asked that the President authorize temporary duty-free entry for these suits and suit-type jackets from Mexico until such interlining fabrics could be made in the United States. On November 19, 1996, the United States Trade Representative (USTR) requested the USITC to provide advice on the probable effect on the U.S. industry, workers in the industry, and on consumers, of providing temporary duty-free entry for certain suits and suit-type jackets from Mexico containing imported interlining fabrics. On January 27, 1997, the USITC released its report,<sup>20</sup> finding that temporary duty-free entry for certain suits and suit-type jackets from Mexico would not affect U.S. shipments of similar domestically produced suits and suit-type jackets, associated U.S. employment, or prices to consumers. No action on the industry request had been taken as of May 7, 1997.

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<sup>20</sup> USITC Investigation No. 332-373, *Advice on Providing Temporary Duty-Free Entry for Certain Suits and Suit-Type Jackets from Mexico*, USITC publication 3012, Jan. 1997.

Table 6-19-3

## Apparel and other finished textile products: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Shipments <sup>1</sup> million dollars . . . . .	70,985.9	73,258.5	73,547.1	74,341.0	3,355.1	4.7
Consumption (million dollars) . . . . .	101,028.2	105,674.9	107,658.5	109,404.8	8,376.5	8.3
Trade data (million dollars):						
Exports:						
Total . . . . .	5,432.6	6,144.4	7,096.7	8,010.8	2,578.2	47.5
To Mexico . . . . .	1,139.0	1,411.3	1,566.9	1,974.6	835.6	73.4
To Canada . . . . .	606.0	671.7	768.4	784.5	178.5	29.5
To non-NAFTA countries . . . . .	3,687.6	4,061.4	4,761.4	5,251.7	1,564.1	40.7
Imports:						
Total . . . . .	35,474.9	38,560.8	41,208.1	43,074.6	7,599.6	21.4
From Mexico . . . . .	2,449.1	2,876.9	3,673.1	4,670.3	2,221.2	90.7
From Canada . . . . .	615.6	788.1	986.6	1,186.1	570.6	92.7
To non-NAFTA countries . . . . .	32,410.3	34,895.8	36,548.4	37,218.1	4,807.8	14.8
Trade balance:						
Total . . . . .	-30,042.3	-32,416.4	-34,111.4	-35,063.8	-5,021.4	-16.7
With Mexico . . . . .	-1,310.1	-1,465.6	-2,106.2	-2,695.7	-1,385.6	-105.8
With Canada . . . . .	-9.5	-116.4	-218.2	-401.6	-392.1	( <sup>2</sup> )
Non-NAFTA countries . . . . .	-28,722.7	-30,834.4	-31,787.0	-31,966.4	-3,243.7	-11.3
Total trade:						
Total . . . . .	40,907.5	44,705.2	48,304.8	51,085.4	10,177.8	24.9
NAFTA partners . . . . .	4,809.7	5,748.1	6,995.0	8,615.6	3,805.9	79.1
With Mexico . . . . .	3,588.1	4,288.2	5,240.0	6,644.9	3,056.8	85.2
With Canada . . . . .	1,221.6	1,459.8	1,755.0	1,970.6	749.1	61.3
Import market share (percent):						
Total . . . . .	35.1	36.5	38.3	39.4	4.3	( <sup>3</sup> )
Mexico . . . . .	2.4	2.7	3.4	4.3	1.8	( <sup>3</sup> )
Canada . . . . .	0.6	0.7	0.9	1.1	0.5	( <sup>3</sup> )
Non-NAFTA countries . . . . .	32.1	33.0	33.9	34.0	1.9	( <sup>3</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	3.9	3.6	1.5	0.9	-3.0	( <sup>3</sup> )
Canada . . . . .	7.8	6.7	5.8	4.4	-3.4	( <sup>3</sup> )
All other . . . . .	13.8	13.6	13.1	12.6	-1.2	( <sup>3</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	989.4	974.1	930.4	851.3	-138.1	-14.0
Production workers (1,000 persons) . . . . .	828.7	815.0	771.6	698.4	-130.3	-15.7
Average hourly wages of production workers . . . . .	\$7.07	7.32	7.62	7.89	0.82	11.6

<sup>1</sup> Shipments data are compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, by adding up all 4-digit SIC totals.

<sup>2</sup> The trade deficit worsened by more than 1,000 percent.

<sup>3</sup> Not meaningful for purposes of comparison.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

**ITC Group No. 34: Leather Tanning and Finishing<sup>1</sup>**

**Table 6-34-1**

**Leather tanning and finishing: Summary of NAFTA effects on selected U.S. indicators, 1993-96**

<b>Performance indicator</b>	<b>Performance measure during 1993-96</b>	<b>NAFTA effect</b>
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$24 million (73 percent) to \$57 million.  Up \$11 million (49 percent) to \$34 million.	<u>Negligible.</u> <sup>1</sup> —The increase in tanned leather imports from Mexico was the result of the devaluation of the peso in December 1994. The devaluation reduced Mexican labor costs at tanneries and made such leather more price-competitive in the U.S. market. The increase in imports from Canada was in response to retail and fashion trends.
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$77 million (113 percent) to \$145 million.  Down \$9 million (16 percent) to \$48 million.	<u>Significant.</u> <sup>2</sup> —U.S. exports of upholstery leather increased because certain U.S. producers of leather car seat furniture and components have shifted their leather seat-cover-cutting operations to Mexico in order to meet the export performance requirements as outlined in NAFTA for the automobile industry. U.S. exports to Canada declined because of a drop in Canadian demand for U.S.-origin full grained leather.
<b>Employment</b>	Down 2,500 to 13,000 for all employees.	<u>Negligible.</u> —The increase in U.S. exports of upholstery leather to Mexico had a negligible impact on stemming the decline in U.S. employment of the leather tanning industry because there was no increase in the production of tanned leather. U.S.-made upholstery leather that was formerly shipped to U.S. facilities of car seat producers was redirected to their subsidiaries in Mexico. Employment in the leather tanning and finishing industry has declined despite increased exports as a result of the cyclical nature of the cattle/beef industry, plant closures in the face of environmental standards, and the relocation of some facilities to low wage-rate countries.
<b>Average hourly wages</b>	Up \$1.57 (16 percent) to \$11.51	<u>Negligible.</u> —NAFTA had only a negligible effect on the wages of the U.S. leather tanning industry.

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>1</sup> SIC Industry No. 3111, Leather Tanning and Finishing, includes most types of leather.

Performance indicator	Performance measure during 1993-96	NAFTA effect
Labor productivity	Up by 4.0 percent from 1993 to 1995.	<u>Negligible.</u> —NAFTA had a negligible effect on the productivity of U.S. producers of tanned leather. Increases in productivity were the result of large-volume hide packers using wet-blue processing for hides. The wet-blue process eliminates both the brine curing and fleshing process traditionally performed by tanneries.
U.S. investment in Mexico	Less than \$10 million	<u>Negligible.</u> —Investment in Mexico by U.S. leather tanneries has been in cutting and labor-intensive sewing operations to supply motor vehicle seat producers that have assembly operations in Mexico.
Investment in the United States	Less than \$1 million.	<u>Negligible.</u> —Most investment in the United States is not NAFTA-related, but is oriented to the development of relatively new markets, such as supplying leather to footwear producers in Asia, and compliance with environmental regulations.

Source: Compiled by the staff of the U.S. International Trade Commission.

### Summary of Sector Analysis

NAFTA had a significant effect on increasing U.S. exports to Mexico of upholstery leather during 1993-1996 because certain U.S. automobile furniture manufacturers<sup>2</sup> have shifted some of their leather cutting operations to subsidiaries in Mexico in order to meet the performance requirements as outlined in NAFTA.<sup>3</sup> As a result, the destination for a portion of U.S. shipments of upholstery leather shifted from domestic car seat factories to facilities in Mexico. The increase in U.S. exports of upholstery leather had no effect on production, employment, or productivity in the U.S. tanning industry. The decline in U.S. employment was the result of the following three factors: (1) the cyclical nature of the beef industry which expands or contracts the number of cattle slaughtered in response to changes in beef prices; (2) several tanning firms closing because they could not afford to retrofit plants to meet strict environmental standards; and (3) the relocation of a number of facilities to countries with low-cost labor.<sup>4</sup>

NAFTA had a negligible effect on the increase in U.S. imports of leather from NAFTA partners during 1993-1996. Growth in total U.S. sector imports was principally the result of increased U.S. demand for upholstered leather furniture and a shift in U.S. production to higher-priced leather footwear. Non-NAFTA partners accounted for the largest part of the growth in sector imports. The increase in U.S. imports from

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<sup>2</sup> Car seats account for the bulk of the leather used in the production of motor vehicle furniture and interiors. Car seat production has three stages. First, the pieces of a seat cover are cut from cloth, leather, or vinyl. The pieces are then sewn into a seat cover. Lastly, the sewn seat cover is fitted over a foam upholstered, metal-seat frame and thereby transformed into a complete car seat. The sewing of the seat cover is the most labor intensive stage of production. The seat cover accounts for over half of the total value of the complete seat. A car seat can be completely cut, sewn, and assembled at one location (usually near a car assembly location) or done in three distinct stages (i.e., fabric cutting in the United States, sewing seat covers in Mexico, and final assembly in Canada, the United States, or Mexico).

<sup>3</sup> By meeting the performance requirements as outlined in NAFTA for the motor vehicle industry, U.S. vehicle producers with assembly plants in Mexico are allowed to sell more cars in Mexico.

<sup>4</sup> U.S. International Trade Commission, *Industry and Trade Summary on Hides, Skins, and Leather*, USITC publication 3015, Feb. 1997, p. 8.

Mexico was the result of certain Mexican tanneries seeking new U.S. markets to offset reduced demand on the part of Mexican shoe manufacturers. Shoe manufacturers in Mexico had lost market share to imports from China in 1994 and saw consumer demand erode as a result of the devaluation of the peso in December 1994 and the ensuing economic downturn in 1995.

### Trade Flows

Total U.S. sector trade in tanned leather rose by \$96 million (6 percent) to \$1.6 billion during 1993-1996. Growth in total U.S.-Canada trade for the sector rose at a somewhat slower rate, by \$2 million (3 percent) to \$82 million during this period, while such trade with Mexico doubled to \$202 million.

**U.S. Imports**—U.S. sector imports of tanned leather rose by \$173 million (23 percent) to \$910 million from 1993 to 1996. Non-NAFTA partners accounted for most of the increase as such U.S. imports rose by \$138 million (20 percent) to \$830 million during 1993-96 in response to growing demand and industry adjustments. U.S. imports from Mexico rose by \$24 million during the period to \$57 million as a result of both the increase in U.S. demand for upholstery leather for use in furniture and the U.S. footwear industry shifting from low-priced mass-produced footwear to higher-priced, better-quality footwear that incorporates more shoe upper leather.<sup>5</sup> Although U.S. tariffs on most qualifying goods of Mexico were immediately eliminated under NAFTA, the effect of the tariff reductions was negligible because prior to NAFTA, the trade-weighted effective average rate of duty on imports from Mexico was only 0.7 percent. Eighty-five percent of imports from Mexico entered free of duty under the GSP in 1993.

U.S. imports of leather from Canada was principally for footwear soles in 1994 and for apparel in 1996. The increase in imports of leather for these markets was due, in part, to growing U.S. consumption of leather apparel, reflecting increased personal income and retail and fashion trends.

The trade-weighted effective average rate of duty on sector imports from Canada before NAFTA was 0.02 percent. Most tariffs on leather from Canada were either already free on an MFN basis prior to NAFTA, or were reduced to zero under the CFTA.

**U.S. Exports**—NAFTA had a significant effect on increasing U.S. exports to Mexico of tanned upholstery leather for use in the production of car seat covers. U.S. exports of upholstery leather rose by \$73 million (223 percent) to \$105 million during 1993-96 and accounted for virtually all of the increase in total sector exports to Mexico. Exports rose as certain manufacturers of motor vehicle furniture and interiors, important customers for tanners of upholstery leather, shifted some of their leather seat-cover-cutting operations to Mexico, allowing U.S. vehicle producers in Mexico to meet the export performance requirements as outlined in NAFTA for the motor vehicle industry (Annex 300(a)).

### Key Provisions Affecting Sector

#### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports (in percent):

	1993	1996
Canada . . . . .	0.02	0.05
Mexico . . . . .	0.72	0.08
All other . . . . .	2.70	2.12

Phase-in period: tariffs with Canada will be eliminated by 1998 under CFTA. Most tariffs with Mexico will be eliminated by 2003 and the rest by 2008 under NAFTA.

#### Pre-NAFTA Border and other measures

None.

#### Post-NAFTA Border and other measures

Mexico plans to limit the importation of footwear and footwear parts to certain ports of entry.

<sup>5</sup> Upper leather is shoe leather used for the upper portions of the shoe.

By cutting the leather in Mexico, instead of the United States, before sewing the cut pieces into car seat covers in Mexico, the U.S.-origin leather undergoes a change in tariff classification and allows the car seat covers to be considered goods of Mexican origin. Because NAFTA allows maquiladoras to sell an increasing portion of their production directly to customers in Mexico, the seat covers (or complete seats) can be shipped to motor vehicle assembly plants in Mexico. U.S. vehicle producers with assembly plants in Mexico can include the cost of the seat cover (or the complete seat) in the calculation of the portion of their vehicle's total production cost that is accounted for by Mexican-origin inputs. By meeting the value-added criteria of Mexico's export performance requirements under NAFTA, U.S. motor vehicle producers are allowed to sell more cars in Mexico.<sup>6</sup>

U.S. exports to Canada rose by \$8 million in 1994 to \$65 million due to a sharp increase in exports of upholstery leather, but declined by one-quarter to \$47 million in 1995. The decrease in exports in 1995 reflected a contraction in the Canadian market for various types of full grain leather. Full grained leather is further processed into upholstery leather.<sup>7</sup> U.S. exports to Canada are largely determined by demand by the Canadian footwear and personal leather goods industries, which follows retail and fashion trends.

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<sup>6</sup> See discussion of motor vehicle furniture, ITC Group No. 21.

<sup>7</sup> Full grained leather is the hair side of a split hide and contains the natural leather grain.



Table 6-34-2

## Leather tanning and finishing: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	3,217.9	3,064.3	3,121.3	2,813.0	-404.9	-12.6
Consumption (million dollars) . . . . .	3,188.4	3,231.3	3,391.3	3,033.4	-155.0	-4.9
Trade data (million dollars):						
Exports:						
Total . . . . .	777.6	700.5	684.0	700.5	-77.1	-9.9
To Mexico . . . . .	67.9	68.3	109.9	144.7	76.8	113.1
To Canada . . . . .	56.9	65.3	47.1	47.6	-9.2	-16.3
To Non-NAFTA countries . . . . .	652.8	566.9	527.0	508.2	-144.6	-22.1
Imports:						
Total . . . . .	748.1	867.5	954.0	920.9	172.8	23.1
From Mexico . . . . .	32.8	55.4	67.7	56.8	24.0	73.3
From Canada . . . . .	22.9	29.6	34.9	34.2	11.3	49.3
From non-NAFTA countries . . . . .	692.4	782.5	851.4	829.9	137.5	19.9
Trade balance:						
Total . . . . .	29.5	-167.0	-270.0	-220.4	-249.9	( <sup>2</sup> )
With Mexico . . . . .	35.1	12.8	42.2	87.8	52.7	150.2
With Canada . . . . .	34.0	35.7	12.2	13.4	-20.5	-60.4
With non-NAFTA countries . . . . .	-39.6	-215.6	-324.4	-321.6	-282.1	-712.6
Total trade:						
Total . . . . .	1,525.7	1,568.0	1,638.0	1,621.4	95.7	6.3
NAFTA partners . . . . .	180.4	218.6	259.6	283.3	102.8	57.0
With Mexico . . . . .	100.7	123.7	177.6	201.5	100.8	100.1
With Canada . . . . .	79.7	94.9	82.0	81.8	2.0	2.5
Import market share (percent):						
Total . . . . .	23.5	26.8	28.1	30.4	6.9	( <sup>2</sup> )
Mexico . . . . .	1.0	1.7	2.0	1.9	0.8	( <sup>2</sup> )
Canada . . . . .	0.7	0.9	1.0	1.1	0.4	( <sup>2</sup> )
Non-NAFTA countries . . . . .	21.7	24.2	25.1	27.4	5.6	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.7	0.1	0.1	0.1	-0.6	( <sup>2</sup> )
Canada . . . . .	( <sup>3</sup> )	0.1	0.1	0.1	0.1	( <sup>2</sup> )
All other . . . . .	2.7	2.6	2.2	2.1	-0.6	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	15.5	14.8	13.7	13.0	-2.5	-16.1
Production workers (1,000 persons) . . . . .	12.7	12.3	11.3	10.6	-2.1	-16.5
Average hourly wages of production workers . . . . .	\$9.94	10.63	11.07	11.51	1.57	15.8

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

**ITC Group No. 35: Women's Footwear, Except Athletic<sup>1</sup>**

**Table 6-35-1**

**Women's footwear, except athletic: Summary of NAFTA effects on selected U.S. indicators, 1993-96**

<b>Performance indicator</b>	<b>Performance measure during 1993-96</b>	<b>NAFTA effect</b>
<b>U.S. imports:</b> <b>From Mexico</b>	Up \$67 million (144 percent) to \$113 million.	<u>Significant.</u> <sup>1</sup> —NAFTA tariff reductions contributed to increased imports from Mexico, but Mexico is a small, higher cost supplier than China, the major supplier.
<b>From Canada</b>	Up \$21 million (88 percent) to \$44 million.	
<b>U.S. exports:</b> <b>To Mexico</b>	Down \$3 million (71 percent) to \$0.8 million.	<u>Negligible.</u> <sup>2</sup> —Export decline mirrors overall export performance of U.S. sector.
<b>To Canada</b>	Down \$0.8 million (4 percent) to \$21 million.	
<b>Employment</b>	Down 7,000 (33 percent) to 14,300 employees.	<u>Significant.</u> —Ongoing decline accelerated since NAFTA's enactment. Almost 2,500 workers certified for trade adjustment assistance. <sup>3</sup>
<b>Average hourly wages</b>	Up \$0.47 (7 percent) to \$7.09.	<u>Negligible.</u> —Wage gain was down slightly from the 8-percent gain in the 3-year pre-NAFTA period.
<b>Labor productivity</b>	Up 10 percent, based on constant dollar output per employee hour.	<u>Negligible.</u> —Sector has restructured extensively in recent years, with many firms now focusing on global sourcing, niche markets, and retailing.
<b>U.S. investment in Mexico</b>	Not available, but believed to be negligible.	<u>Negligible.</u> —Industry sources contend that such investment will grow in the near future.
<b>Investment in the United States</b>	Down 36 percent to \$7 million in 1994 from \$11 million a year in the 3-year pre-NAFTA period.	<u>Negligible</u>

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to the NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

Source: Compiled by the staff of the U.S. International Trade Commission.

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<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3144, Women's Footwear, Except Athletic. It includes women's dress, casual, and work shoes, except those with rubber or plastic soles vulcanized or molded to fabric uppers. It does not include leather and vinyl athletic shoes (SIC 3149, Footwear, Except Rubber, Not Elsewhere Classified) or women's fabric-upper footwear with rubber or plastic soles vulcanized or molded to uppers and rubber and plastic protective footwear (SIC 3021, Rubber and Plastics Footwear).

## Summary of Sector Analysis

The U.S. industry producing women's nonrubber footwear, like the overall U.S. footwear industry, has been declining in size for many years as a result of competition from imports, which accounted for 86 percent of the domestic market in 1996. From 1993 to 1996, U.S. producers' sector shipments fell by 24 percent, whereas U.S. sector imports rose. Most sector imports come from China, which supplies about 60 percent of the overall U.S. footwear market. U.S. sector exports are small and declining.

The growth in U.S. sector imports from Canada, which occurred mostly in higher-priced leather footwear, is attributable in part to preferential U.S. tariffs under the CFTA. The increased imports from Mexico mainly reflected larger shipments under HTS heading 9802.00.80.<sup>2</sup> Industry sources attribute the growth in these 9802 imports to uncertainty over MFN renewal for China and preferential U.S. tariffs under NAFTA.<sup>3</sup> In addition, the recent devaluation of the Mexican peso has effectively reduced Mexico's labor costs in dollar terms, enabling U.S. firms engaged in production-sharing arrangements in Mexico to improve the price competitiveness of their goods in the U.S. market vis-a-vis low-cost imports from Asia.

### Trade Flows

U.S. sector trade with Mexico and Canada is marked by widening bilateral deficits as a result of rising U.S. imports and falling U.S. exports. From 1993 to 1996, overall U.S. sector trade increased by \$909 million (22 percent) to \$5.1 billion. Sector trade with Mexico rose by \$64 million (127 percent) to \$114 million and that with Canada grew by \$20 million (44 percent) to \$65 million.

**U.S. Imports** — U.S. sector imports from Mexico and Canada have risen more rapidly than overall sector imports in recent years, but together the NAFTA partners supply just 3 percent of total sector imports. From 1993 to 1996, imports from Mexico rose by 144 percent to \$113 million and those from Canada grew by 88 percent to \$44 million. Overall sector imports rose by 22 percent. The principal sources, China, Brazil, Italy, and Spain, supplied 87 percent of the 1996 total.

Mexico became the sixth-largest source of U.S. sector imports in 1996, up from ninth in 1993. Preferential NAFTA tariffs contributed to the import growth from Mexico, as did the peso devaluation, which effectively reduced dollar prices of Mexican goods in the U.S. market.

The peso devaluation also cut Mexican labor costs in dollar terms, spurring the use of production-sharing in Mexico, as evidenced by the rapid growth in sector imports from there under HTS chapter 98.

### Key Provisions Affecting Sector

#### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports (in percent):

	1993	1996
Canada . . . . .	5.9	2.7
Mexico . . . . .	11.6	7.0
All other . . . . .	10.6	10.2

Phase-in period: Tariffs with Canada will be eliminated by 1998 under CFTA. Most tariffs with Mexico will be eliminated by 2003 and the rest by 2008 under NAFTA.

#### Pre-NAFTA border and other measures

None.

#### Post-NAFTA border and other measures

Mexico plans to limit the importation of footwear and footwear parts to certain ports of entry.

<sup>2</sup> Heading 9802.00.80 of the *Harmonized Tariff Schedule of the United States* provides a partial duty exemption for articles assembled abroad of U.S.-fabricated components. In general, the duty is assessed on the value added abroad (mainly the cost of stitching the shoe parts together), and not on the value of the U.S. components.

<sup>3</sup> Fawn K. Evenson, president, Footwear Industries of America, telephone interview by USITC staff, Mar. 6, 1997.

The largest absolute increase in sector imports from Mexico during 1993-96 occurred in dress and casual shoes with leather uppers, which rose by \$49 million. Other sector goods showing significant import gains from Mexico were open-toe and open-heel casual shoes with rubber and plastic soles and textile uppers, which rose by \$24 million, and leather boots, which rose by \$10 million. Most of the textile-upper casual shoes entered under the 9802 provision.

*U.S. Exports* – U.S. sector exports to both NAFTA partners, like overall sector exports, have fallen in recent years. Shipments to Mexico declined by 79 percent to \$0.8 million, owing to the peso devaluation, and those to Canada fell by 4 percent to \$21 million. As a result, the U.S. sector trade deficit widened by \$70 million with Mexico and by \$21 million with Canada. Canada remained the principal market for U.S. sector exports, accounting for 38 percent of the total in 1996, up from 35 percent in 1993. Mexico's share of U.S. exports declined from 7 percent in 1993, when it was the third-largest export market, to 2 percent in 1996, when it was the 17th largest.

### **Employment**

The ongoing decline in U.S. sector employment has accelerated since NAFTA's enactment, falling by 33 percent during 1993-96, compared with a 20-percent decrease in the 3 years before NAFTA. The decline during 1993-96 is attributable in part to higher productivity as a result of extensive restructuring in the sector. It is difficult to measure the impact of NAFTA on U.S. sector employment because Mexico accounts for a small share of sector imports (2 percent in 1996) and because a major portion of the increased imports from Mexico since 1993 has occurred in production-sharing trade under HTS chapter 98.

**Table 6-35-2**  
**Women's footwear, except athletic: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	1,183.0	1,194.0	951.0	900.0	-283.0	-23.9
Consumption ( <i>million dollars</i> ) . . . . .	5,276.1	5,681.1	5,685.8	5,915.0	638.9	12.1
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	61.6	57.5	56.7	55.0	-6.6	-10.7
To Mexico . . . . .	3.8	3.2	1.2	0.8	-3.0	-79.3
To Canada . . . . .	21.7	22.8	22.3	20.8	-0.8	-3.9
To Non-NAFTA countries . . . . .	36.1	31.5	33.2	33.4	-2.7	-7.6
Imports:						
Total . . . . .	4,154.7	4,544.6	4,791.5	5,070.1	915.3	22.0
From Mexico . . . . .	46.1	45.2	69.9	112.6	66.5	144.1
From Canada . . . . .	23.2	38.3	37.8	43.7	20.5	88.4
From non-NAFTA countries . . . . .	4,085.4	4,461.1	4,683.8	4,913.7	828.3	20.3
Trade balance:						
Total . . . . .	-4,093.1	-4,487.1	-4,734.8	-5,015.0	-921.9	-22.5
With Mexico . . . . .	-42.3	-42.0	-68.7	-111.8	-69.5	-164.1
With Canada . . . . .	-1.5	-15.5	-15.5	-22.9	-21.4	-1,387.0
With non-NAFTA countries . . . . .	-4,049.2	-4,429.6	-4,650.6	-4,880.3	-831.1	-20.5
Total trade:						
Total . . . . .	4,216.3	4,602.1	4,848.2	5,125.1	908.8	21.6
NAFTA partners . . . . .	94.8	109.5	131.1	177.9	83.1	87.7
With Mexico . . . . .	49.9	48.4	71.1	113.4	63.5	127.1
With Canada . . . . .	44.9	61.1	60.0	64.6	19.7	43.9
Import market share ( <i>percent</i> ):						
Total . . . . .	78.7	80.0	84.3	85.7	7.0	( <sup>2</sup> )
Mexico . . . . .	0.9	0.8	1.2	1.9	1.0	( <sup>2</sup> )
Canada . . . . .	0.4	0.7	0.7	0.7	0.3	( <sup>2</sup> )
Non-NAFTA countries . . . . .	77.4	78.5	82.4	83.1	5.6	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	11.6	10.2	9.7	7.0	-4.6	( <sup>2</sup> )
Canada . . . . .	5.9	4.9	3.9	2.7	-3.2	( <sup>2</sup> )
All other . . . . .	10.6	11.0	10.7	10.2	-0.4	( <sup>2</sup> )
U.S. industry indicators: <sup>1</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	21.4	19.2	17.4	14.3	-7.1	-33.2
Production workers ( <i>1,000 persons</i> ) . . . . .	18.4	16.4	14.4	11.6	-6.8	-37.0
Average hourly wages of production workers . . . . .	\$6.62	6.95	7.04	7.09	0.47	7.1

<sup>1</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

<sup>2</sup> Not meaningful for purposes of comparison.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

## ITC Group No. 48: Household Appliances<sup>1</sup>

**Table 6-48-1**

**Household appliances: Summary of NAFTA effects on selected U.S. indicators, 1993-96**

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	<p>Up \$181 million (43 percent) to \$605 million.</p> <p>Up \$201 million (121 percent) to \$368 million.</p>	<p><u>Significant.</u><sup>1</sup>—Liberalized Mexican regulations regarding foreign investment under NAFTA and NAFTA's staged increase in the access of maquiladoras to the domestic market in Mexico encouraged three of the five leading U.S. manufacturers of major household appliances to expand previous investments in Mexico, leading to a significant (43 percent—\$181 million) increase in imports of appliances from their Mexican operations following the implementation of NAFTA.</p> <p>The CFTA, which preceded NAFTA, was largely responsible for a significant (121 percent—\$201 million) increase in U.S. imports of household appliances from Canada. The lowering of tariffs between the United States and Canada has resulted in increased integration of U.S.-owned production in the two countries. U.S.-owned plants in Canada are now more specialized, producing a more limited range of products, but more often supplying both markets with household appliances. Virtually all U.S.-Canadian trade in household appliances presently enters free of duty, with the trade-weighted average duty on U.S. imports from Canada dropping from 1.2 percent to 0.5 percent during 1993-96.</p>
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	<p>Down \$85 million (35 percent) to \$157 million.</p> <p>Up \$45 million (7 percent) to \$678 million.</p>	<p><u>Negligible.</u><sup>2</sup>—Exports to Mexico decreased by \$85 million from 1993 to 1996 largely as a result of the devaluation of the Mexican peso in late 1994 and the ensuing high interest rates in 1995 which made it difficult for Mexicans to purchase consumer durables. On the other hand, a modest increase of \$45 million in U.S. exports of household appliances to Canada from 1993 to 1996 was largely the result of the integration of the major household appliance industry in North America. The three largest Canadian producers of these products are all related to major U.S. appliance producers.</p>

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

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<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3631, Household Cooking Equipment; 3632, Household Refrigerators and Farm Freezers; 3633, Household Laundry Equipment; and 3635, Household Vacuum Cleaners.

<b>Performance indicator</b>	<b>Performance measure during 1993-96</b>	<b>NAFTA effect</b>
<b>Employment</b>	Up 2,000 to 76,000 persons (3 percent) for the entire industry.	<u>Negligible</u> .--Because of a robust U.S. economy, U.S. producers of major household appliances were able to shift some of their labor-intensive operations to Mexico without causing a major loss of employment in the overall appliance industry in the United States.
<b>Average hourly wages</b>	Up \$1.76 to \$12.94 (16 percent) per hour.	<u>Negligible</u> .--Industry wages increased by 16 percent during the period of 1993-96. NAFTA had a minor effect on wages. High volume production coupled with heavy capital investment in production technology raised productivity and stimulated increases in hourly wages.
<b>Labor productivity<sup>3</sup></b>	Up by 3.2 percent from 1993 to 1995.	<u>Negligible</u> .--NAFTA did not have a direct impact on U.S. labor productivity. Since NAFTA, the U.S. household appliance industry has been able to increase productivity because of major investment in new plant and equipment due to the low cost of capital, high stock prices, and slow growth in prices of machinery and computer equipment.
<b>U.S. investment in Mexico</b>	Not available.	<u>Significant</u> .--Two leading U.S. producers of household appliances significantly expanded their investments in joint ventures and/or maquiladora operations in Mexico because of three factors related to NAFTA. (1) NAFTA increased the extent to which U.S. companies could own production facilities in Mexico. (2) NAFTA increased the portion of a company's maquiladora production that could be sold into the Mexican market. (3) NAFTA provided a 10-year phase-in period for the elimination of Mexico's relatively high tariffs on imports of appliances from the United States. These factors were important considerations in the decisions of the two U.S. producers to furnish certain types and models of appliances from production facilities in Mexico instead of exporting them to Mexico from the United States.
<b>Investment in the United States</b>	Not available.	<u>Negligible</u> .--However, one Canadian household and commercial freezer producer increased U.S. investment because of NAFTA.

<sup>3</sup> Productivity was calculated by dividing industry shipments by production worker hours for 1993-95. Data compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1994 and 1995

Performance indicator	Performance measure during 1993-96	NAFTA effect
Other NAFTA-related investment	Not available.	<u>Negligible.</u> —Major Asian household appliance producers have increased maquiladora plant capacity, or have recently established household appliance production in Mexico, as a result of rules of origin provisions established under NAFTA. Major Asian household appliance producers (e.g., Sanyo, Daewoo) primarily serve the compact and mid-size U.S. household appliance market and do not directly compete with appliances produced in the United States.

Source: Compiled by the staff of the U.S. International Trade Commission.

### Summary of Sector Analysis

From 1993 to 1996, Canada and Mexico became two of the three principal U.S. trading partners for household appliances, reflecting increased integration of North American household appliance production and marketing. Canada and Mexico accounted for 50 percent of the increase in total U.S. imports of household appliances, principally gas stoves, ranges, refrigerators, and vacuum cleaners.

Tariff reductions pursuant to NAFTA had a negligible impact on U.S. trade with Canada and Mexico during 1994-96. By 1994, U.S. and Canadian tariffs on appliances originating from the other country had been reduced to almost zero under the CFTA. As a result, the effective U.S. tariff ad valorem equivalent on U.S. imports from Canada decreased by only 0.7 percentage point during 1993-96 (from 1.2 percent to 0.5 percent). Meanwhile, trade-weighted average U.S. tariffs on appliances from Mexico dropped by only 1.2 percentage points (from 1.3 percent to 0.1 percent), reflecting GSP eligibility for most appliance categories prior to 1994 and the use of HTS tariff provision 9802.00.80.

Three factors related to NAFTA had a significant impact on the 43 percent (\$181 million) rise in U.S. imports from Mexico. (1) Amendments to Mexican investment laws allowing a greater U.S. ownership of Mexican companies encouraged U.S. producers with joint ventures in Mexico to increase their investments and expand production capacity in Mexico. (2) Changes in the Maquiladora Decree pursuant to NAFTA, permitting assembly plants operating under the Maquiladora Program to sell an increasing portion of their production directly into the Mexican market, led some U.S. appliance producers to invest in greater production capacity in their maquiladora operations. (3) The long phase-in period in Mexico for the elimination of tariffs on U.S.-origin appliances under NAFTA influenced some U.S. appliance producers to supply the Mexican market from joint ventures in Mexico, or from maquiladora operations, rather than to export to Mexico from their U.S. factories. These three factors led to a rationalization of production and increased U.S. imports, with smaller-scale major household appliances (designed specifically for the Latin American market, but also applicable to small apartments in the United States) produced in Mexico, and larger-scale appliances made in the United States.<sup>2</sup>

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<sup>2</sup> U.S. imports of appliances from Mexico grew by 17 percent (\$72 million) in the first year of NAFTA, but only 2 percent (\$12 million) in 1995, following the devaluation of the peso. The data support the conclusion that increased investment in Mexico to supply the Mexican market and rationalize North American production of certain types of appliances had a greater influence on increased imports from Mexico than the devaluation of the peso.



The industry is dominated by five major corporations that produce complete lines of basic major household appliances.<sup>3</sup> In addition, there are numerous smaller producers of major and small appliances. The U.S. industry is a world leader in major household appliance production through its product technology and productivity. The industry is relatively mature and can be characterized by intense price competition among well-capitalized companies that make heavy capital investments in plant and equipment to achieve high volume production.

To remain competitive and to serve the growing Mexican domestic market, two of the five largest U.S. producers established joint-venture agreements with Mexican producers of major household appliances (General Electric-MABE<sup>4</sup> and Whirlpool Corp-Vitro<sup>5</sup>) prior to NAFTA. A third major producer, Maytag via its subsidiary Hoover Corp., also opted to establish a production-sharing facility in Mexico to assemble vacuum cleaners prior to NAFTA.

Since NAFTA, both General Electric and Whirlpool Corp. have increased production capacity in Mexico to supply the growing domestic appliance market, and to export to North and South American markets. A major devaluation of the Mexican peso in December 1994 resulted in Whirlpool Corp. shifting use of much of its additional Mexican production capacity to service other Latin American markets that have entered into free trade agreements with Mexico in recent years.<sup>6</sup>

During the period of 1993 to 1996, the three major U.S. producers with subsidiaries in Mexico accounted for the bulk of U.S. imports of household appliances. Most major household appliance imports from Mexico (e.g., refrigerators under 19 cubic feet) compete at the low end of the U.S. market.<sup>7</sup> Industry sources indicate that these products do not typically compete directly with U.S.-produced refrigerators. Goods made by other major household appliance firms such as Amana do not compete directly with imports from Mexico as they predominantly serve the middle- to high-end appliance market.<sup>8</sup> The major household appliance industry requires large economies of scale to be able to compete in particular market areas (e.g., China and India). Since the implementation of NAFTA, this industry has further integrated production in North America and has begun to focus on international growth markets.

### **Trade Flows**

The trade effects of NAFTA have been felt most in the trend in U.S. imports from Mexico. NAFTA has not had a significant effect on total U.S. trade in the household appliance industry. The U.S. household appliance

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<sup>3</sup> Whirlpool Corp., Benton Harbor, MI; General Electric Co., Louisville, KY; Frigidaire, Dublin, OH, Division of AB Electrolux of Sweden; Amana, Division of Raytheon Co., Welham, MA; and Maytag Co., Newton, IA.

<sup>4</sup> General Electric and Mexican-owned major appliance producer MABE established a joint-venture company to manufacture gas ranges, refrigerators, and laundry equipment for the North American market. The arrangement with MABE is currently GE's most significant joint-venture in Latin America.

<sup>5</sup> Whirlpool Corp. and Mexican-owned Vitro Corp. formed a joint venture company in 1987. Whirlpool Corp. holds a 49 percent interest in Vitromatic (subsidiary of Vitro Corp). Vitromatic produces ranges, refrigerators, and laundry equipment for the Mexican and export markets under the Whirlpool, Acros, Supermatic, Crolls, and Philips brand names. Vitromatic also serves as the exclusive Mexican distributor for a full line of Whirlpool, KitchenAid, and Roper products built in the United States.

<sup>6</sup> Officials of Whirlpool Corp., interview by USITC staff, Jan. 7, 1997.

<sup>7</sup> The major appliance market share by company in the United States in 1996 was as follows: Whirlpool Corp., 35 percent; GE, 29 percent; Maytag, 14 percent; Frigidaire Co. (Electrolux of Sweden), 14 percent; Amana (Raytheon), 6 percent; other, 2 percent. *Appliance Manufacturer*, Apr. 1997.

<sup>8</sup> Officials of Amana, interview by USITC staff, Feb. 27, 1997.

industry trade grew by 26 percent (\$989 million) during 1993-96, rising to \$4.9 billion (table 48-2). Total U.S.-Mexico trade for the sector grew by 15 percent (\$97 million) during 1993-96; while such trade from Canada rose by 31 percent (\$246 million).<sup>9</sup>

**U.S. Imports** – Mexico and Canada continued to be the principal suppliers of household appliances during the period, ranking first and third, respectively. During the period covering 1993 to 1996, Mexico emerged as the leading supplier of refrigerators and freezers, and vacuum cleaners, accounting for 43 percent and 29 percent, respectively, of total U.S. imports. Mexico was the second-leading U.S. supplier of stoves and ranges, accounting for 19 percent of total imports.

Canada was the second-leading supplier of freezers and refrigerators, and laundry equipment in 1996, accounting for 21 and 19 percent respectively, of U.S. imports in these segments of the appliance market. Additionally, Canada was the third-leading supplier of vacuum cleaners to the United States in 1993. U.S. trade with both Mexico and Canada largely reflects the highly rationalized nature of North American production for household appliances, a trend that has been aided with respect to Mexico by NAFTA's liberalized investment rules and increased access to the Mexican market for companies operating in the Maquiladora Program. Increased imports from Canada, which surpassed the growth in imports from Mexico during 1993-96, reflect the results of investments made in Canada by U.S. appliance producers following the implementation of the CFTA and can not be attributed to NAFTA.

**U.S. Exports** – U.S. exports to Mexico decreased by 35 percent (\$85 million) to \$157 million from 1993 to 1996, reflecting suppressed sales in Mexico immediately following the devaluation of the peso. Exports to Mexico increased in 1994, but fell dramatically in 1995, and were slow to recover in 1996. Expanded joint venture operations, as well as some shipments to the Mexican market directly from assembly plants in Mexico, have led to some substitution of direct U.S. exports by assembly and production in Mexico. The prolonged staging period for the elimination of Mexico's relatively high tariff rates for these products encourages U.S. producers to sell to the Mexican market from their local production and assembly plants rather than to export from the United States. Leading U.S. appliance firms

### Key Provisions Affecting Sector

#### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports from (in percent):

	1993	1996
Canada . . . . .	1.2	0.5
Mexico . . . . .	1.3	0.1
All other . . . . .	2.6	1.9

NAFTA immediately eliminated Mexican tariffs on approximately 17 percent of exports of appliances from the United States. Tariffs on another 17 percent of U.S. exports of these products will be phased out over 5 years. Mexican tariffs on all household appliances imported from the United States will be eliminated within 10 years.

**Phase-in period:** Most U.S. tariffs with Canada were reduced under the CFTA. Most U.S. tariffs on household appliances from Mexico (85 percent) were eliminated with implementation of NAFTA. Additionally, the trade-weighted average U.S. rate of duty on appliances from Mexico was only 1.3 percent prior to the implementation of NAFTA.

#### Border and other measures

Since 1994, several prominent Asian appliance producers have either expanded production capacity or established household appliance production facilities in Mexico to be able to meet NAFTA rules of origin requirements.

<sup>9</sup> The relatively strong growth in U.S. trade with non-NAFTA partners during the period, by 26 percent (\$646 million), indicates that NAFTA did not result in significant trade diversion in this sector.

have established joint ventures in Mexico to produce major household appliances and presently dominate the Mexican market with nearly 90 percent market share.<sup>10</sup> These joint-ventures are the leading exporters of appliances from Mexico to the United States and Latin America and are also the leading importers of U.S.-made appliance parts into Mexico. A substantial percentage of the material content of the appliances produced by these joint ventures is of U.S. origin. U.S. exports of appliance parts are likely to increase at a rate close to that of the production increases in U.S.-affiliated Mexican plants. U.S. exports to Canada increased by 7 percent from 1993 to 1996, largely as the result of continued household appliance integration in North America. Additionally, effective January 1, 1998, all remaining household appliance tariffs under CFTA will be eliminated.

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<sup>10</sup> "GE Appliances: The Dollar Approach," *Appliance Manufacturer*, Feb. 1997, pp. 22-23.

**Table 6-48-2**  
**Household appliances: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	12,786.0	14,274.0	13,999.0	14,699.0	1,913.0	15.0
Consumption (million dollars) . . . . .	12,852.8	14,519.1	14,499.8	15,310.6	2,457.8	19.1
Trade data (million dollars):						
Exports:						
Total . . . . .	1,900.9	1,986.5	1,949.5	2,122.7	221.9	11.7
To Mexico . . . . .	241.1	271.3	119.0	157.4	-83.7	-34.7
To Canada . . . . .	633.1	621.9	604.0	678.1	45.0	7.1
To Non-NAFTA countries . . . . .	1,026.7	1,093.3	1,226.6	1,287.2	260.5	25.4
Imports:						
Total . . . . .	1,967.7	2,231.5	2,450.3	2,734.3	766.6	39.0
From Mexico . . . . .	424.0	496.0	508.0	605.2	181.3	42.8
From Canada . . . . .	166.5	208.6	329.4	367.8	201.3	120.8
From non-NAFTA countries . . . . .	1,377.2	1,526.9	1,612.9	1,761.3	384.1	27.9
Trade balance:						
Total . . . . .	-66.8	-245.1	-500.8	-611.6	-544.8	-815.7
With Mexico . . . . .	-182.9	-224.7	-389.0	-447.9	-265.0	-144.9
With Canada . . . . .	466.6	413.2	274.6	310.3	-156.2	-33.5
With non-NAFTA countries . . . . .	-350.5	-433.6	-386.3	-474.0	-123.6	-35.3
Total trade:						
Total . . . . .	3,868.6	4,218.0	4,399.9	4,857.1	988.5	25.6
NAFTA partners . . . . .	1,464.6	1,597.7	1,560.4	1,808.5	343.9	23.5
With Mexico . . . . .	665.0	767.2	627.0	762.6	97.6	14.7
With Canada . . . . .	799.6	830.5	933.4	1,045.9	246.3	30.8
Import market share (percent):						
Total . . . . .	15.3	15.4	16.9	17.9	2.6	( <sup>2</sup> )
Mexico . . . . .	3.3	3.4	3.5	4.0	0.7	( <sup>2</sup> )
Canada . . . . .	1.3	1.4	2.3	2.4	1.1	( <sup>2</sup> )
Non-NAFTA countries . . . . .	10.7	10.5	11.1	11.5	0.8	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.3	0.4	0.1	0.1	-1.2	( <sup>2</sup> )
Canada . . . . .	1.2	0.9	0.7	0.5	-0.7	( <sup>2</sup> )
All other . . . . .	2.6	2.7	2.4	1.9	-0.7	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	74.0	76.0	76.0	76.0	2.0	2.7
Production workers (1,000 persons) . . . . .	60.0	65.0	64.0	63.0	3.0	5.0
Average hourly wages of production workers . . . . .	\$11.18	11.61	12.35	12.94	1.76	15.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

## ITC Group No. 54: Motor Vehicles<sup>1</sup>

**Table 6-54-1**

**Motor vehicles: Summary of NAFTA effects on selected U.S. indicators, 1993-96**

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$7.1 billion (153 percent) to \$11.7 billion.  Up \$6.9 billion (26 percent) to \$33.9 billion.	<u>Negligible.</u> <sup>1</sup> — Increased U.S. imports from Mexico are principally a function of the increasing integration and interdependence of the U.S. and Mexican automotive industries, the peso crisis which caused the Mexican market to collapse in 1995, and the strong U.S. market during the period.
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$655 million (128 percent) to \$1.2 billion.  Up \$1.1 billion (10 percent) to \$12.2 billion.	<u>Significant.</u> <sup>2</sup> — Increased U.S. exports of motor vehicles to Mexico during the period were a direct result of the reduction in Mexican trade-balancing requirements and tariff reductions agreed to under NAFTA.
<b>Employment</b>	Up 36,200 to 374,500 employees.	<u>Negligible.</u> — According to industry sources, NAFTA had a positive effect on employment in the industry, but was not the leading cause of this nearly 11-percent increase.
<b>Average hourly wages</b>	Up \$1.16 to \$20.04.	<u>Negligible.</u> — NAFTA had little, if any, effect on wages.
<b>Labor productivity<sup>3</sup></b>	Up by 9 percent from 1993 to 1995.	<u>Negligible.</u> — Trends in auto industry labor productivity resulted from domestic industry structural changes and investment in retooling.
<b>U.S. investment in Mexico</b>	\$2 billion plus.	<u>Negligible.</u> — Investments made by the U.S. Big Three prior to NAFTA indicate that they regard Mexico as an attractive production site for reasons unrelated to NAFTA. Big Three investments subsequent to NAFTA have been focused on modernizing existing plants. In addition, assembly of certain vehicles has been discontinued to improve economies of scale. There has also been some investment in the heavy truck and bus sectors by U.S. producers.

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to the NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>3</sup> Productivity was calculated dividing industry shipments by production worker hours for 1993-95. Data compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1994 and 1995.

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<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3711, Motor Vehicles and Motor Vehicle Equipment, and 3716, Motor Homes. This industry is made up of establishments engaged primarily in manufacturing or assembling complete passenger automobiles, trucks, commercial cars and buses, special motor vehicles for highway use, motor homes, and vans.

Performance indicator	Performance measure during 1993-96	NAFTA effect
Investment in the United States	\$40 billion plus invested by U.S., Japanese, and European automakers.	<u>Negligible.</u> —The combination of high national productivity and the relative decrease in the value of the dollar against the yen and the deutsche mark has made the United States a more attractive manufacturing site for foreign automakers.
Other NAFTA-related investment	<p>\$2 billion plus in Mexico.</p> <p>\$600 million plus by Japanese automakers in Canada.</p> <p>U.S. automaker Ford has invested in its Canada operations during the period, and Chrysler has announced intentions to expand its Bramalea plant.</p>	<p><u>Negligible.</u>—A number of European and Japanese motor vehicle producers have announced new investment in Mexico since the signing of NAFTA, at least partly as a result of the liberalized investment structure of the Mexican auto industry. However, the peso crisis delayed some investment plans. Production from these ventures is primarily for the Mexican and Latin American markets. (North American content requirements prevent many of these makers from exporting to the United States duty free). This investment may result in increased sales for U.S. parts makers located in Mexico. Mexico's arrangements with other countries, e.g., Chile, are also a factor in the decision of non-U.S. automakers to invest in Mexico.</p> <p>Japanese expansion in Canada is largely due to favorable government and workforce conditions, such as a business-friendly provincial government in Ontario, and highly skilled workers earning relatively lower wages.</p>

Source: Compiled by the staff of the U.S. International Trade Commission.

### Summary of Sector Analysis<sup>2</sup>

Developments in the U.S. motor vehicle industry are driven by a number of significant factors, including the strength of the U.S. economy, efforts by manufacturers to enhance competitiveness by lowering production costs and improving production efficiencies, internationalization of production to serve foreign markets from local manufacturing bases, and continued integration and rationalization by U.S. automakers of their North American operations. In addition, the peso crisis and the implementation of NAFTA contributed to changes in the Mexican economic environment which have influenced trade patterns and industry conditions among the NAFTA partners. NAFTA, in particular, has altered the economic and business climate in Mexico. Measurable changes resulting from NAFTA that are significant to the motor vehicle sector include implementation of North American rules-of-origin requirements, reduction in Mexican trade-balancing requirements, tariff reductions, and foreign investment liberalization. Intangible NAFTA effects, such as the impact on the psychological climate of conducting business with NAFTA partners because of reduced business risk, are difficult, if not impossible, to assess but could be an important factor in manufacturers' trade and investment decisions.

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

The rationalization of U.S. automotive production vis-a-vis Canada, spurred decades ago by the Automotive Products Trade Act of 1965 (APTA), resulted in significant intraindustry trade and trade in intermediate goods. Similar rationalization with Mexico has taken place through production-sharing arrangements. The gradual removal of Mexican import barriers under NAFTA allows U.S. automakers to pursue rationalization strategies by shipping vehicles to Mexico that are more efficiently produced in the United States or Canada. Therefore, U.S. automakers in Mexico have invested in modernizing their existing operations, and have streamlined the number of models assembled to improve economies of scale. While it is this industry rationalization and respective domestic economic and market conditions, i.e., weak market conditions in Mexico and Canada, which were primarily responsible for the trend in U.S. imports during the period, increased U.S. exports to Mexico can be attributed to the trade-liberalizing effects, e.g., the reduced trade-balancing requirements, of NAFTA.

**Trade Flows**

Overall U.S. motor vehicle trade and trade with Canada and Mexico increased over the period. Total U.S. motor vehicle trade increased 23 percent from 1993 to 1996, or \$20.5 billion, to a total of \$110.9 billion in 1996. Total U.S. motor vehicle trade with Mexico increased 151 percent during the period, or \$7.7 billion, to a total of \$12.9 billion. Total U.S. motor vehicle trade with Canada increased at a slower rate, by 21 percent (\$8 billion) over the period to \$46.1 billion in 1996.

**U.S. Imports** – U.S. imports from Mexico increased 153 percent from 1993 to 1996, from \$4.6 billion in 1993 to \$11.7 billion in 1996 (table 6-54-2). Mexico ranked as the third-leading source of U.S. motor vehicle imports in 1996, displacing Germany in 1995. Mexico’s share of the U.S. motor vehicle import market grew from about 7 percent in 1993, to approximately 13 percent in 1996.

NAFTA had a negligible impact on the increase in U.S. imports from Mexico and Canada. Increased

**Key Provisions Affecting Sector**

**Tariffs**

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports from (in percent):

	<u>1993</u>	<u>1996</u>
Canada . . . . .	0.1	0.1
Mexico . . . . .	2.7	0.6
All other . . . . .	2.9	2.7

Phase-in period: Tariffs with Canada were eliminated under the Automotive Products Trade Act in 1965. Mexican tariffs on automobiles and light-duty trucks were reduced by 50 percent immediately upon NAFTA’s implementation and will be phased out over 5 years for light-duty trucks and 10 years for automobiles.

**Pre-NAFTA border and other measures**

Mexican trade-balancing requirements: \$1.75 in exports for every \$1.00 of imports; local content and investment barriers.

**Post-NAFTA border and other measures**

Annex 300-A covers trade and investment in the auto industry sector. Rules-of-origin requirements staging for motor vehicles: 50 percent at start of agreement, 56 percent as of Jan. 1, 1998 (55 percent for trucks), and 62.5 percent as of Jan. 1, 2002 (60 percent for trucks). Trade-balancing requirements reduced to \$0.74 of exports for every \$1.00 imported in 1996; Mexican Auto Decrees to be phased out by Jan. 1, 2004.

U.S. imports from Mexico<sup>3</sup> are principally a function of the increasing integration and interdependence of the U.S. and Mexican automotive industries, the weak condition of the Mexican market as a result of the devaluation of the peso in December 1994,<sup>4</sup> and the strong U.S. market during the period. According to industry sources, many U.S. auto facilities have been operating at capacity, and production from Mexican facilities has been needed to meet U.S. market demand.<sup>5</sup> U.S. motor vehicle imports from Mexico entering under NAFTA provisions are increasing at the expense of imports under HTS heading 9802.00.80, primarily because the automakers receive duty savings on the entire vehicle, instead of just on the U.S.-component value, and, according to industry sources, because of the less onerous regulatory requirements of NAFTA.<sup>6</sup> U.S. motor vehicle imports from Mexico contain a significantly higher proportion of U.S.-made components than do imports from third countries; for example, imports from Mexico may contain up to twice the amount of U.S. components that comparable imports from Asia contain.<sup>7</sup>

U.S. imports from Canada rose 26 percent during the period, from \$26.9 billion in 1993 to \$33.9 billion in 1996. In 1996, Canada ranked as the largest source of U.S. motor vehicle imports, displacing Japan in 1995. Canada's 39-percent share of the U.S. motor vehicle import market remained relatively steady throughout the period.<sup>8</sup>

**U.S. Exports** – U.S. exports to Mexico increased substantially, from \$513 million in 1993 to \$1.2 billion in 1996, a 128-percent increase. Mexico moved from the eighth-leading market for U.S. exports in 1993 to the fourth-leading market in 1996. U.S. motor vehicle exports to Mexico as a share of total exports increased from less than 3 percent in 1993 to 5 percent in 1996. Increased U.S. exports of new vehicles to Mexico during the period were a direct result of the reduction in Mexican trade-balancing requirements<sup>9</sup> and tariff reductions agreed to in the NAFTA. While domestic economic conditions in Mexico contributed to erratic trade activity in 1994 and 1995, U.S. industry sources report that the openness of the Mexican economy under NAFTA made for a quick recovery and a resumption of U.S. automotive export growth.<sup>10</sup>

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<sup>3</sup> The preponderance of U.S. motor vehicle imports from Mexico enter under NAFTA provisions, with production-sharing imports under HTS 9802 decreasing. In 1994, motor vehicle imports under NAFTA provisions accounted for 81 percent of total sector imports from Mexico; in 1996, NAFTA provisions applied to 97 percent of such imports.

<sup>4</sup> According to one source, the Mexican market will not be able to absorb the growing production capacity in the near future, causing Mexico to become a perpetual net exporter to the United States. Steve Beckman, International Economist, International Union, United Automobile, Aerospace, and Agricultural Implement Workers of America (UAW), testimony before the USITC, May 16, 1997.

<sup>5</sup> Andrew H Card, President and CEO, American Automobile Manufacturers Association, testimony before the USITC, May 16, 1997.

<sup>6</sup> Association of International Automobile Manufacturers, Inc., statement submitted to the USITC during investigation No. 332-237, *Production Sharing: Use of U.S. Components and Materials In Foreign Assembly Operations, 1992-1994*, Sept. 1996.

<sup>7</sup> "North American Auto Industry Expanding Markets Under NAFTA," *NAFTA Works*, July 1996, p. 2.

<sup>8</sup> The preponderance of imports from Canada in the motor vehicle sector traditionally entered under provisions of the Automotive Products Trade Act of 1965 (APTA). However, beginning in 1995, imports increasingly entered under NAFTA provisions instead. In 1995, NAFTA imports from Canada accounted for 53 percent of total sector imports from Canada, and in 1996, for 77 percent. In 1994, NAFTA imports accounted for just 17 percent of total motor vehicle imports from Canada, with APTA accounting for 82 percent.

<sup>9</sup> Requirements for \$1.75 in exports from Mexico for every \$1.00 of imports in 1993 were reduced by 1996 to \$0.74 in exports from Mexico for every \$1.00 of imports, thereby allowing U.S. automakers to export more U.S. production to Mexico.

<sup>10</sup> Andrew H. Card, testimony before the USITC, May 16, 1997.



U.S. exports to Mexico more than doubled in 1994 as a result of strong Mexican demand and the implementation of NAFTA. However, the Mexican automotive market was negatively affected by the devaluation of the peso in late 1994 and early 1995; sales of vehicles in Mexico fell 70 percent in 1995, with sales of cars and light trucks dropping by 69 percent and sales of medium and heavy trucks falling by 84 percent. The Mexican operations of the U.S. Big Three shifted a considerable amount of their local production to export markets, including the U.S. market, in 1995; about 80 percent of the vehicles produced by the Big Three in Mexico in 1995 were for export, compared with 48 percent in 1994.<sup>11</sup>

In an effort to increase domestic sales, the Mexican Government announced the temporary removal of the sales tax on new cars and light trucks, and a reduction in taxes on commercial-use cars and light trucks in late 1995. These changes were effective throughout 1996. Moreover, purchasers of new commercial-use cars and light trucks were granted a tax deduction of up to 71 percent of the total value of the vehicle over a 4-year period. These tax incentives improved the market for U.S. exports to Mexico, particularly of luxury and sports cars.<sup>12</sup>

U.S. exports to Canada increased by 10 percent during the period, from \$11.1 billion in 1993 to \$12.2 billion in 1996. Canada was been the leading market for U.S. motor vehicle exports throughout the period. The Canadian share of U.S. motor vehicle exports remained steady at approximately 53 percent. U.S. automotive trade with Canada was liberalized through APTA, and thus was largely unaffected by NAFTA. The U.S.-Canadian auto industry is fully integrated, and the U.S. Big Three consider the United States and Canada as a single unit for production-planning purposes. Canada's sluggish economy prompted a 12-year low in consumer spending on new motor vehicles in 1995, resulting in a 13-percent decline in U.S. exports to Canada in 1995 over the previous year, and an 8-percent increase in U.S. imports from Canada.<sup>13</sup> Canada's market rebounded in 1996, with a 3-percent gain in new vehicle sales for the year.<sup>14</sup>

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<sup>11</sup> "Mexico Beckons: NAFTA, Recessions Give Foreign Suppliers the Edge," *Ward's Auto World*, July 1996, p. 69.

<sup>12</sup> U.S. Department of Commerce, International Trade Administration, *Impact of the North American Free Trade Agreement on U.S. Automotive Exports to Mexico, Second Annual Report to Congress - July 1996*, found at Internet <http://www.ita.doc.gov/industry/basic/nafta/html>.

<sup>13</sup> On average, 85 percent of Canada's motor vehicle shipments are exported to the United States; however, in 1995, a record 92 percent were exported to the United States. Canadian sources report that motor vehicle exports to the United States fell to 83 percent of total Canadian shipments in 1996.

<sup>14</sup> "Surging Canadian Market Shakes Off Eight-Year Doldrums," *Ward's Automotive Reports*, Mar. 17, 1996, p. 1 (special insert).

Table 6-54-2

## Motor vehicles: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . .	166,764.	198,617.1	201,331.4	196,285.0	29,521.0	17.7
Consumption ( <i>million dollars</i> ) . .	215,289.	254,774.1	264,235.1	260,565.8	45,275.3	21.0
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	20,915.9	23,709.7	21,934.2	23,305.6	2,389.8	11.4
To Mexico . . . . .	513.3	1,082.5	372.0	1,168.3	655.0	127.6
To Canada . . . . .	11,147.1	13,280.0	11,489.4	12,238.7	1,091.5	9.8
To non-NAFTA countries . .	9,255.4	9,347.2	10,072.8	9,898.7	643.3	7.0
Imports:						
Total . . . . .	69,441.8	79,866.7	84,837.9	87,586.4	18,144.6	26.1
From Mexico . . . . .	4,625.6	5,837.0	8,385.6	11,713.8	7,088.2	153.2
From Canada . . . . .	26,917.6	31,092.0	33,499.4	33,853.8	6,936.2	25.8
From non-NAFTA countries	37,898.6	42,937.7	42,953.0	42,018.8	4,120.2	10.9
Trade balance:						
Total . . . . .	-48,525.9	-56,157.0	-62,903.8	-64,280.8	-15,754.8	-32.5
With Mexico . . . . .	-4,112.3	-4,754.5	-8,013.6	-10,545.5	-6,433.2	-156.4
With Canada . . . . .	-15,770.5	-17,812.1	-22,010.0	-21,615.1	-5,844.7	-37.1
With non-NAFTA countries .	-28,643.2	-33,590.4	-32,880.2	-32,120.1	-3,477.0	-12.1
Total trade:						
Total . . . . .	90,357.7	103,576.4	106,772.1	110,892.0	20,534.4	22.7
NAFTA partners . . . . .	43,203.7	51,291.5	53,746.4	58,974.6	15,770.9	36.5
With Mexico . . . . .	5,138.9	6,919.6	8,757.6	12,882.1	7,743.2	150.7
With Canada . . . . .	38,064.8	44,372.0	44,988.7	46,092.5	8,027.8	21.1
Import market share ( <i>percent</i> ):						
Total . . . . .	32.3	31.3	32.1	33.6	1.4	( <sup>1</sup> )
Mexico . . . . .	2.1	2.3	3.2	4.5	2.3	( <sup>1</sup> )
Canada . . . . .	12.5	12.2	12.7	13.0	0.5	( <sup>1</sup> )
Non-NAFTA countries . . . . .	17.6	16.9	16.3	16.1	-1.5	( <sup>1</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	2.7	0.9	0.9	0.6	-2.1	( <sup>1</sup> )
Canada . . . . .	0.1	0.0	0.0	0.1	0.0	( <sup>1</sup> )
All other . . . . .	2.9	3.0	2.9	2.7	-0.2	( <sup>1</sup> )
U.S. industry indicators: <sup>2</sup>						
Employees ( <i>1,000 persons</i> ) . .	338.3	361.3	380.6	374.5	36.2	10.7
Production workers ( <i>1,000 persons</i> ) . . . . .	244.5	261.7	286.1	289.0	44.5	18.2
Average hourly wages of production workers . . . . .	\$18.88	17.91	20.01	20.04	1.16	6.1

<sup>1</sup> Not meaningful for purposes of comparison.

<sup>2</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

## ITC Group No. 55: Motor Vehicle Parts<sup>1</sup>

Table 6-55-1

Motor vehicle parts: Summary of NAFTA effects on selected U.S. indicators, 1993-96

Performance indicator	Performance measure during 1993-96	NAFTA effect
<b>U.S. imports:</b> <b>From Mexico</b>  <b>From Canada</b>	Up \$3.5 billion (94 percent) to \$7.1 billion.  Up \$1.7 billion (21 percent) to \$9.5 billion.	<p><u>Significant</u>.<sup>1</sup>—Imports from Mexico were stimulated by several factors, including: investments in new plants and capacity expansions by U.S. and foreign firms attracted by NAFTA rules-of-origin requirements and liberalization of foreign investment regulations; the strength of the U.S. motor vehicle market; the collapse of the Mexican market; relatively lower labor costs in assembly operations; and continued integration efforts by U.S. automakers.</p> <p>Imports from Canada reflect expansions in assembly operations and the integrated nature of the U.S. and Canadian industries.</p>
<b>U.S. exports:</b> <b>To Mexico</b>  <b>To Canada</b>	Up \$70 million (2 percent) to \$4.8 billion.  Up \$5.7 billion (47 percent) to \$17.6 billion.	<p><u>Negligible</u>.<sup>2</sup>—Exports to Mexico exhibited little growth principally because of the effect of the peso devaluation on the automotive market and the increasing share of sales permitted from maquiladoras to the Mexican market.</p> <p>Exports to Canada were spurred by expansions in vehicle and parts assembly operations which use higher-valued U.S. parts, and the high degree of integration between the U.S. and Canadian industries.</p>
<b>Employment</b>	Up 88,000 (15 percent) to 660,000 employees.	<u>Negligible</u> .—The continued strength of the U.S. and Canadian motor vehicle markets and investments in greenfield plants and capacity expansions have supported employment growth in the U.S. auto parts industry.
<b>Average hourly wages</b>	Up \$1.53 (11 percent) to \$15.67 per hour.	<u>Negligible</u> .—NAFTA had little, if any, effect on wages.

<sup>1</sup> The change in specified performance indicators from 1993 to 1996 is due in considerable measure to NAFTA as compared with any other economic factor or industry development occurring during the period.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

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<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3691, Storage Batteries; 3694, Electrical Starting and Ignition Equipment for Internal Combustion Engines; 3714, Motor Vehicle Parts and Accessories; 3715, Truck Trailers; and 3792, Travel Trailers and Campers. The motor vehicle parts and accessories segment of this sector accounted for 78 percent of U.S. imports and 88 percent of U.S. exports in 1996.

Performance indicator	Performance measure during 1993-96	NAFTA effect
Labor productivity <sup>3</sup>	Up 10 percent during 1993-95.	<u>Negligible</u> .—Cost-cutting strategies implemented by U.S. auto parts manufacturers accounted in large part for improved labor productivity.
U.S. investment in Mexico	The U.S. Big Three invested a total of \$2.9 billion in the motor vehicle and parts industries during the period. <sup>4</sup> Data on investment in the auto parts sector by independent U.S. component manufacturers are unavailable.	<u>Negligible</u> .—Investments in Mexico by the U.S. automotive industry are designed to further integrate North American production capacity and to supply U.S.-owned assembly facilities; to gain access to Mexican and Latin American markets; to benefit from NAFTA-related changes to Mexico's Auto Decree liberalizing foreign investment restrictions in the auto sector; to improve competitiveness with the use of lower cost labor (especially in more labor-intensive assembly operations); and to modernize existing plants.
Investment in the United States	Reported planned U.S. and foreign investments exceeded \$5.5 billion.	<u>Negligible</u> .—Although U.S. and foreign investment in the U.S. industry has been considerable, most has been driven by non-NAFTA factors such as protection from currency rate fluctuations; bilateral trade pressures; efforts to lower production costs; plant modernizations and expansions; strength of the U.S. motor vehicle market; and globalization of foreign automakers and their suppliers.
Other NAFTA-related investment	Reported planned foreign investments exceeded \$500 million.	<u>Significant</u> .—Major investments in new capacity and plant expansions in Mexico by Japanese, German, and Italian auto parts producers benefit from NAFTA-related changes to Mexico's Auto Decree liberalizing foreign investment restrictions in the auto sector, and provide access to Mexican and Latin American markets. Foreign auto parts manufacturers are also pursuing globalization strategies to supply their automotive customers in overseas markets (e.g., Nissan and Volkswagen in Mexico).  Investment in the Canadian auto parts industry has reportedly been considerable. This investment is primarily driven by the integration and rationalization of the U.S.-Canadian automotive industries, and capacity expansions by U.S. and Japanese automakers, rather than NAFTA-related considerations. However, Japanese component manufacturers have recently been reported to be increasing investments in Canada, in part because of NAFTA-related rules of origin requirements.

<sup>3</sup> Productivity was calculated by dividing industry shipments by production worker hours for 1993-95. Data compiled from the U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1994 and 1995.

<sup>4</sup> American Automobile Manufacturers Association, post-hearing statement, p. 2.

Source: Compiled by the staff of the U.S. International Trade Commission.

## Summary of Sector Analysis<sup>2</sup>

Developments in the U.S. motor vehicle parts industry are driven by a number of significant factors, including the strength of the U.S. economy and motor vehicle market, efforts by manufacturers to enhance competitiveness by lowering production costs and improving production efficiencies, greater internationalization of auto parts makers to supply their automotive customers in overseas markets, and continued integration by U.S. automakers in their North American operations. In addition, the peso crisis and the implementation of NAFTA have recently contributed to changes in the Mexican economic environment which have influenced trade patterns and industry conditions among the NAFTA partners. NAFTA, in particular, has altered the economic and business climate in Mexico. Measurable changes resulting from NAFTA significant to the auto parts sector include implementation of North American rules of origin requirements and foreign investment liberalization. Intangible NAFTA effects, such as the impact on the psychological climate of conducting business with NAFTA partners because of reduced business risk, are difficult, if not impossible, to assess but could be an important factor in manufacturers' trade and investment decisions.

The U.S. and Canadian industries are highly integrated and dominated by U.S.-owned motor vehicle manufacturers, with bilateral motor vehicle and original equipment parts trade previously liberalized under the Automotive Products Trade Pact (APTA) implemented in 1965. Although Japanese transplant automakers Toyota and Honda are integral players in the Canadian motor vehicle industry,<sup>3</sup> Japanese component manufacturers have yet to develop as large a presence in the Canadian auto parts market.

The Big Three U.S. automakers are among the top motor vehicle and parts producers in Mexico, with considerable investments in the Mexican industry pre-dating NAFTA. Integration between the U.S. and Mexican industries, however, has been constrained by extensive Mexican regulations on investment and trade outlined in its 1983 Auto Decree, parts of which were liberalized with the implementation of the 1989 Auto Decree.<sup>4</sup> As a result, maquiladora operations have historically represented the principal means by which U.S. and other foreign auto parts manufacturers have gained a presence in the Mexican market. Under NAFTA, the Mexican Auto Decree will gradually be phased out by January 1, 2004, and regulations limiting the sales of maquiladora operations to the Mexican market will also be eliminated by 2001. In addition, liberalization of foreign investment regulations has enhanced prospects for greater foreign participation in the Mexican market. Mexico has become a more attractive investment site for U.S. and foreign motor vehicle manufacturers and their parts suppliers seeking lower cost production facilities and access to Latin American motor vehicle markets. Moreover, Mexico has also concluded trade agreements with Chile and other Latin American countries providing local producers preferential access to these markets. Benefits accrue not only

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> Japanese transplant automakers accounted for close to 20 percent of 1996 Canadian motor vehicle production.

<sup>4</sup> The 1989 Auto Decree, for example, modified the conditions under which manufacturers qualify as a "national supplier" or an "enterprise of the autoparts industry;" relaxed national value-added rules for parts that must be purchased from national parts producers; reduced trade balancing requirements for domestic automakers; and eased limitations on imports of vehicles based on sales in the Mexican market. The full title of the Auto Decree is The Decree for Development and Modernization of the Automotive Industry; its implementation legislation is entitled the Resolution That Establishes Rules for the Implementation of the Auto Decree. See U.S. Department of State telegram No. 013696, "Foreign Investment Report, 1996-1997," prepared by U.S. Embassy, Mexico City, Oct. 1996, and U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, investigation No. 332-337, USITC publication 2596, Jan. 1993.

to U.S. and other foreign manufacturers, but to the Mexican auto parts industry as well, which greatly depends on the technological know-how and engineering and design skills offered by foreign component manufacturers.<sup>5</sup> Planned U.S. and foreign investment in the Mexican auto parts industry exceeds a reported \$450.0 million for 1996-97.<sup>6</sup>

### Trade Flows

Total trade in motor vehicle parts increased by 36 percent during 1993-96 to \$60.5 billion. Comparable trade for the United States and Canada grew by 37 percent to \$27.1 billion, and by 42 percent to \$12.0 billion for the United States and Mexico. Canada and Mexico accounted for nearly 65 percent of total U.S. trade in this sector in 1996, reflecting the high degree of integration of the North American automotive industry and the market liberalizations resulting from NAFTA.

**U.S. Imports** – Although Canada remains the leading U.S. supplier of automotive parts, accounting for 32 percent of U.S. imports in 1996, imports from Mexico increased by 94 percent during 1993-96 to \$7.1 billion, representing 24 percent of total automotive parts imports. Mexico surpassed Japan in 1996 to become the second-leading U.S. supplier of motor vehicle parts.<sup>7</sup> This substantial growth reflects, in part, investment in Mexican auto parts facilities by U.S. and foreign vehicle producers (both prior to and after NAFTA); the collapse of the Mexican market in 1995; and the continued strength of the U.S. motor vehicle market. NAFTA partners increased their share of U.S. parts imports during the period, rising from 51 percent to 56 percent in 1996.

### Key Provisions Affecting Sector

#### Tariffs

U.S. average trade-weighted tariff equivalents (AVEs) in 1993 and 1996 for imports from (in percent):

	1993	1996
Canada . . . .	0.16	.46
Mexico . . . .	1.7	.41
All other . . .	2.94	2.7

Phase-in period: Most tariffs with Canada reduced under the CFTA. Most tariffs with Mexico eliminated with implementation of NAFTA.

#### Pre-NAFTA border and other measures

Trade-balancing requirements: \$1.75 of exports for every \$1.00 of imports; local content and investment barriers.

#### Post-NAFTA border and other measures

Annex 300-A covers trade and investment in the automotive industry. Trade-balancing requirements reduced to \$0.77 of exports for every \$1.00 imported in 1995; Mexican Auto Decrees to be phased out by Jan. 1, 2004; maquiladora sales restrictions to be lifted by 2001; liberalization of requirements for “national supplier” and “enterprise of the autoparts industry” status. Implementation of NAFTA rules of origin requirements for preferential duty treatment.

<sup>5</sup> Deebe Ferris, “Mexico Beckons: NAFTA, Recession Give Foreign Suppliers the Edge,” *Ward’s Auto World*, July 1996, p. 69.

<sup>6</sup> Investment data for the motor vehicle parts industry provided in this analysis are based on published reports of planned investments in Mexico, the United States, and Canada collected from a number of industry publications; as such, these figures indicate potential levels of investment and do not represent absolute levels of investment undertaken.

<sup>7</sup> During the period covered by the study, Japanese transplant automakers increased their purchases of U.S.-made auto parts from U.S. and Japanese transplant parts suppliers -- rather than import from Japan -- partly in response to U.S. pressure to boost U.S. content.

Production sharing operations have been a significant factor affecting trade between the United States and Mexico and, to a much lesser extent, Canada.<sup>8</sup> U.S. imports from Mexico reported under HTS provisions 9802.00.60, 9802.00.80, and 9802.00.90 increased by 43 percent during 1993-96 to \$4.0 billion, representing more than one-half of motor vehicle parts imports from Mexico. U.S. content accounted for approximately 57 percent of production sharing imports from Mexico in 1996, unchanged from the 1993 level. With the implementation of NAFTA, the foreign value added to the subject imports enters free of duty or at reduced duties when satisfying origin requirements. In 1996, 84 percent of the foreign value added to these imports entered under NAFTA.

Engines accounted for about 20 percent of U.S. motor vehicle part imports from Mexico in 1996. Several U.S. and foreign automakers, including the Big Three, Nissan, and Volkswagen, started production of engines in Mexico in the 1980s to gain cost advantages from lower wage rates.<sup>9</sup> Mexican operations now supply engines for a range of U.S. vehicle models.

**U.S. Exports** – Canada consolidated its position as the leading U.S. market for motor vehicle parts exports, as U.S. exports to Canada rose by 47 percent during 1993-96 to \$17.6 billion and accounted for 58 percent of total parts exports. The expansion of assembly and parts facilities that use high-valued U.S. parts as components, as well as the considerable links between the U.S. and Canadian industries, contributed to this growth. The sharp contraction of the Mexican automotive market in 1995 because of the peso devaluation and the increasing share of sales permitted from maquiladoras to the Mexican market<sup>10</sup> led to stagnant U.S. export levels for motor vehicle parts to Mexico, as exports increased by only 2 percent during 1993-96 to \$4.8 billion. Although Mexico retained its position as the second-leading U.S. export market, its share of U.S. exports fell from 21 percent in 1993 to 16 percent in 1996. However, the share of U.S. exports represented by NAFTA partners remained relatively stable at about 75 percent during the period due to the increased Canadian share of total U.S. exports.

## Investment

### *Other Significant Investment*

Ongoing liberalizations in the Mexican economy and foreign investment environment have enhanced opportunities for foreign automakers and their suppliers seeking lower-cost operations in North America.<sup>11</sup> In many cases foreign auto parts suppliers are following their domestic customers -- automakers such as

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<sup>8</sup> For more information on production sharing, see U.S. International Trade Commission, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1992-95 (U.S. Imports Under Production-Sharing Provisions of Harmonized Tariff Schedule Heading 9802)*, investigation No. 332-237, USITC publication 3032, Apr. 1997.

<sup>9</sup> *NAFTA, The First Year: A View from Mexico*, David R. Dávila Villers, ed. (University Press of America, Inc., Lanham, MD, 1996), p. 65.

<sup>10</sup> World Wide Web, retrieved Oct. 10, 1996, [www.ita.doc.gov](http://www.ita.doc.gov), *Impact of the North American Free Trade Agreement on U.S. Automotive Exports of Mexico: Second Annual Report to Congress - July 1996*, U.S. Department of Commerce, International Trade Administration, p. 7.

<sup>11</sup> According to the American Automobile Manufacturers Association (AAMA), some significant large investments have occurred in the Mexican auto parts industry since the implementation of NAFTA. Andrew Card, AAMA, hearing transcript, May 16, 1997, p. 403.

Nissan and Volkswagen -- as they expand and globalize their operations.<sup>12</sup> Japanese, Italian, and German auto parts manufacturers have reportedly committed to investments in excess of \$330.0 million in the Mexican auto parts industry since 1996. Many of these investments are focused on the manufacture and assembly of engines and engine parts.<sup>13</sup> Foreign automakers' expansions in the Mexican market have also provided new sales opportunities for U.S. auto parts makers.<sup>14</sup> For example, Honda started Mexican production of Accord sedans in late 1995 at a new assembly plant, and 121 U.S. parts producers are now supplying components for this operation.<sup>15</sup>

In the Mexican automotive market, Auto Decree requirements, such as the conditions necessary to qualify as a national supplier or enterprise of the autoparts industry in Mexico, are being liberalized to conform with NAFTA provisions. During this transition period, manufacturers must still meet a substantial national value-added requirement that provides an incentive to invest in the Mexican industry.<sup>16</sup> Although NAFTA local content requirements for motor vehicles may impede foreign automakers' immediate duty-free access to the North American market, their investments can serve as platforms to enter the Mexican automotive market and thus several Latin American markets, such as Chile, that have concluded trade agreements with Mexico.<sup>17</sup> As with NAFTA, a minimum level of local content in vehicles exported to partner countries is required, providing impetus to the Mexican motor vehicle parts industry.

The Canadian automotive parts industry has reportedly attracted significant investment in recent years. Although the amount of such investment in the auto parts industry is unknown, much of this investment is believed to originate from U.S. and Japanese automakers,<sup>18</sup> as well as U.S. and Canadian parts producers.

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<sup>12</sup> For example, about 80 German auto parts firms have reportedly established Mexican production bases in recent years to enable Volkswagen to meet NAFTA's rules of origin requirements for duty-free treatment. With production of the new Beetle, Volkswagen expects another 40 firms to set up operations in Mexico. According to a Volkswagen official, "the advantage of NAFTA is that we changed our supplier base from Europe to the North American region." Mary Beth Sheridan, "For Mexico, NAFTA Means That Giant Job-Plucking Sound," received by NEWS/EDGE LAN, Dec. 6, 1996.

<sup>13</sup> For examples of announced engine investment projects, see "Viag Unit in Engine Venture," *Automotive News*, Oct. 28, 1996, p. 40C, "Mexico Update," *Twin Plant News*, Jan. 1996, p. 9, and U.S. Department of State telegram, "Monterrey: Northern NAFTA Notes," message reference No. 000124, prepared by U.S. Embassy, Monterrey, Jan. 1997.

<sup>14</sup> According to the United Auto Workers (UAW), increased U.S. exports of auto parts to Mexico do not always benefit workers in the U.S. automotive industry. In the case of the Ford Escort plant in Mexico, for example, U.S. parts output was directed to the Mexico plant which replaced one of Ford's U.S. operations, resulting in an overall loss of jobs in the U.S. automotive sector. Steve Beckman, UAW, hearing transcript, May 15, 1997, pp. 164-165.

<sup>15</sup> *Impact of the North American Free Trade Agreement on U.S. Automotive Exports of Mexico: Second Annual Report to Congress - July 1996*, p. 5.

<sup>16</sup> Foreign ownership of auto parts firms has already increased. Foreign-owned suppliers accounted for nearly 33 percent of all registered auto parts companies in Mexico as of July 1995, up from 6 percent in 1992. This growth primarily came at the expense of Mexican-owned suppliers, whose share fell from 52 percent to 33 percent during the same period. Maquiladoras accounted for the remaining -- and declining -- share of Mexican auto parts firms. Information from the National Foreign Direct Investment Commission, Banxico, and Secofi, as presented in Ferris, "Mexico Beckons: NAFTA, Recession Give Foreign Suppliers the Edge," p. 69.

<sup>17</sup> *Impact of the North American Free Trade Agreement on U.S. Automotive Exports of Mexico: Second Annual Report to Congress - July 1996*, p. 4.

<sup>18</sup> For example, Ford invested \$134 million Canadian in new equipment for production of V-8 and V-10 engines at its Windsor, Ontario facility for use in its F-series pickups, certain sport utility vehicles, and Econoline vans assembled in the United States. "Machine for Ford Engine Plant Expansion Arrives on World's Largest Aircraft," received by

(continued...)



Japanese component manufacturers currently account for a small portion of these investments,<sup>19</sup> but this situation may be changing. A recent report indicates that Japanese component manufacturers consider Canada to be an attractive investment site because of its relatively inexpensive yet skilled labor force, the duty-free advantages of NAFTA-based production, and the capacity expansions of both Toyota and Honda at their Canadian assembly operations.<sup>20</sup>

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<sup>18</sup> (...continued)

NEWS/EDGE LAN, Apr. 21, 1997. Chrysler Canada recently announced plans to invest \$1.3 billion Canadian to upgrade its Canadian auto plants (auto parts were not specifically cited as part of this investment). U.S. Department of State telegram No. 000604, "Summary of Canadian Economic and EST Developments, February 7-13, 1997," prepared by U.S. Embassy, Ottawa, Feb. 1997.

<sup>19</sup> "Japanese Source Canada More, Not Enough," *Ward's Automotive Reports*, July 29, 1996, p. 2, and "Canadian Parts Makers Push for More Japan Business, But So Far It's Slow Going," *The Japan Automotive Digest*, July 22, 1996, pp. 1 and 6.

<sup>20</sup> "Sumitomo Will Start Up Canadian Wire Harness Factory," *The Japan Automotive Digest*, Apr. 7, 1997, p. 7.

**Table 6-55-2**  
**Motor vehicle parts: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	102,622.4	117,685.4	125,082.4	138,091.0	35,468.6	34.6
Consumption (million dollars) . . . . .	102,927.5	118,894.0	124,053.9	137,959.9	35,032.5	34.0
Trade data (million dollars):						
Exports:						
Total . . . . .	22,071.6	25,264.8	29,154.9	30,303.3	8,231.7	37.3
To Mexico . . . . .	4,776.4	5,116.9	4,747.0	4,846.3	69.9	1.5
To Canada . . . . .	11,936.5	14,224.7	17,179.5	17,597.6	5,661.2	47.4
To non-NAFTA countries . . . . .	5,358.7	5,923.2	7,228.4	7,859.3	2,500.6	46.7
Imports:						
Total . . . . .	22,376.6	26,473.4	28,126.4	30,172.3	7,795.6	34.8
From Mexico . . . . .	3,657.1	5,109.7	6,381.3	7,107.2	3,450.1	94.3
From Canada . . . . .	7,864.4	8,441.7	8,336.8	9,545.4	1,681.0	21.4
From non-NAFTA countries . . . . .	10,855.2	12,922.0	13,408.3	13,519.7	2,664.5	24.5
Trade balance:						
Total . . . . .	-305.1	-1,208.6	1,028.5	131.1	436.1	( <sup>2</sup> )
With Mexico . . . . .	1,119.4	7.3	-1,634.3	-2,260.9	-3,380.2	( <sup>2</sup> )
With Canada . . . . .	4,072.0	5,782.9	8,842.7	8,052.2	3,980.2	97.7
With non-NAFTA countries . . . . .	-5,496.5	-6,998.8	-6,179.9	-5,660.3	-163.9	-3.0
Total trade:						
Total . . . . .	44,448.2	51,738.2	57,281.3	60,475.6	16,027.4	36.1
NAFTA partners . . . . .	28,234.4	32,893.0	36,644.6	39,096.6	10,862.2	38.5
With Mexico . . . . .	8,433.5	10,226.6	11,128.3	11,953.6	3,520.1	41.7
With Canada . . . . .	19,800.9	22,666.4	25,516.3	27,143.1	7,342.2	37.1
Import market share (percent):						
Total . . . . .	21.7	22.3	22.7	21.9	0.1	( <sup>2</sup> )
Mexico . . . . .	3.6	4.3	5.1	5.2	1.6	( <sup>2</sup> )
Canada . . . . .	7.6	7.1	6.7	6.9	-0.7	( <sup>2</sup> )
Non-NAFTA countries . . . . .	10.5	10.9	10.8	9.8	-0.7	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.7	1.7	0.8	0.4	-1.3	( <sup>2</sup> )
Canada . . . . .	0.2	0.3	0.4	0.5	0.3	( <sup>2</sup> )
All other . . . . .	2.9	3.0	2.9	2.7	-0.2	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	572.1	627.4	667.1	660.1	88.0	15.4
Production workers (1,000 persons) . . . . .	454.4	504.0	535.3	528.6	74.2	16.3
Average hourly wages of production workers . . . . .	\$14.14	14.80	15.37	15.67	1.53	10.8

<sup>1</sup> For a discussion of the effects of the NAFTA reciprocal access provisions for trucking services on U.S. truck trailer shipments, see the section on land transportation services in the Services chapter.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

ITC Group No. 3: Field Crops<sup>1</sup>

Table 6-3-1  
Field crops: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	15,870.0	16,470.0	16,570.0	17,030.0	1,160.0	7.3
Consumption (million dollars) . . . . .	15,628.2	16,277.4	16,292.8	16,834.8	1,206.5	7.7
Trade data (million dollars):						
Exports:						
Total . . . . .	549.0	628.9	733.1	715.7	166.7	30.4
To Mexico . . . . .	31.3	44.7	34.6	52.6	21.3	68.1
To Canada . . . . .	110.0	110.4	136.7	148.5	38.5	35.0
To non-NAFTA countries . . . . .	407.7	473.8	561.8	514.6	106.9	26.2
Imports:						
Total . . . . .	307.2	436.3	455.9	520.5	213.3	69.4
From Mexico . . . . .	35.5	38.7	31.1	32.3	-3.1	-8.8
From Canada . . . . .	78.2	153.7	105.1	140.6	62.4	79.8
From non-NAFTA countries . . . . .	193.6	243.8	319.7	347.5	153.9	79.5
Trade balance:						
Total . . . . .	241.8	192.6	277.2	195.2	-46.5	-19.2
With Mexico . . . . .	-4.2	5.9	3.6	20.3	24.4	( <sup>2</sup> )
With Canada . . . . .	31.8	-43.3	31.6	7.9	-23.9	-75.2
With non-NAFTA countries . . . . .	214.1	229.9	242.1	167.1	-47.1	-22.0
Total trade:						
Total . . . . .	856.2	1,065.2	1,189.0	1,236.2	380.0	44.4
NAFTA partners . . . . .	255.0	347.5	307.6	374.1	119.2	46.7
With Mexico . . . . .	66.7	83.4	65.7	84.9	18.2	27.3
With Canada . . . . .	188.2	264.1	241.8	289.2	101.0	53.6
Import market share (percent):						
Total . . . . .	2.0	2.7	2.8	3.1	1.1	( <sup>2</sup> )
Mexico . . . . .	0.2	0.2	0.2	0.2	0.0	( <sup>2</sup> )
Canada . . . . .	0.5	0.9	0.6	0.8	0.3	( <sup>2</sup> )
Non-NAFTA countries . . . . .	1.2	1.5	2.0	2.1	0.8	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.2	( <sup>3</sup> )	0.2	0.2	0.0	( <sup>2</sup> )
Canada . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
All other . . . . .	0.4	0.4	0.9	0.9	0.5	( <sup>2</sup> )
U.S. industry indicators:						
Employees (1,000 persons) . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Production workers (1,000 persons) . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Average hourly wages of production workers . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Not available.

<sup>5</sup> Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 0139, Field Crops, Except Cash Grains, Not Elsewhere Classified. Domestic shipments are composed chiefly of hay and alfalfa (80 percent of domestic shipments), field and garden seeds (12 percent), and peanuts (6 percent). Other crops are hops, canola seed (rapeseed), mint leaves, and herbs, among others.

## Summary of Sector Analysis<sup>2, 3</sup>

**U.S. Imports** – NAFTA had a negligible<sup>4</sup> effect on U.S. imports from NAFTA partners of these various field crops.<sup>5</sup> U.S. imports from Canada increased 80 percent to \$141 million in 1996, principally to meet higher U.S. demand for rapeseed or canola seed (used in producing canola oil). Such products of Canadian origin enter the United States mostly free of duty or at rates of less than 4 percent ad valorem. The tariffs were free prior to NAFTA on U.S. imports of Canadian rapeseed and fescue seed, which accounted for two-thirds of sector products imports from Canada.

From 1993 to 1996, imports from Mexico declined by 9 percent to \$32 million in 1996, in part because of a lower sesame seed crop in Mexico owing to adverse weather conditions in Mexico. There was a \$2 million increase in U.S. imports of shelled peanuts from Mexico. U.S. peanut imports are restricted through tariff-rate quotas, while imports eligible under NAFTA are either free of duty or subject to tariff-rate quotas. U.S. imports of broom corn from Mexico fell from \$13 million in 1993 to \$6 million in 1996. Broom corn from Mexico is used to make brooms in the United States, and U.S. broom production fell during this period.<sup>6</sup> U.S. tariffs on broomcorn from Mexico were eliminated under NAFTA. U.S. sesame seed imports were duty-free prior to NAFTA.

**U.S. Exports** – NAFTA had a negligible effect on U.S. exports of sector products although the agreement did aid exports of certain U.S. products to Mexico, such as shelled peanuts and grass seed. U.S. exports to Mexico rose by 68 percent from \$31 million in 1993 to \$53 million in 1996, being boosted by strong demand in Mexico.

U.S. exports of field crops to Canada rose steadily during the period to \$149 million in 1996, or by \$38 million. The increase in U.S. exports to Canada consisted primarily of rapeseed and peanuts. Canada does not grow peanuts, but processes peanuts from the United States and elsewhere into prepared or preserved peanut products.<sup>7</sup>

**Other Factors** – From 1993 to 1996, total U.S. trade in field crops rose by 44 percent to \$1.2 billion; much of the increased trade occurred because of higher prices increasing the value of trade. Total U.S.-Mexico trade for the sector grew by 27 percent (\$18 million), to \$85 million in 1996. Likewise, total U.S.-Canada sector trade increased by 54 percent (\$101 million), to \$289 million in 1996.

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>4</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>5</sup> The leading sector products traded internationally are peanuts, canola seed, grass and other seeds, and hops.

<sup>6</sup> For more information about the U.S. broom corn broom industry and the effects of imports of brooms from Mexico, see U.S. International Trade Commission, *Broom Corn Brooms* (investigation Nos. TA-201-65 and NAFTA 302-1), USITC publication 2984, Aug. 1996, pp. II-4--II-5.

<sup>7</sup> These processed products are not included in this sector.

Generally, there is little foreign direct investment in this industry which mostly consists of farming operations. There is little foreign ownership of farmland in the NAFTA countries.

The prior U.S. requirement that alfalfa and red clover seed imported from Mexico be stained red for identification was removed in 1994.<sup>8</sup>

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<sup>8</sup> 59 F.R. 655, Jan. 6, 1994.

## ITC Group No. 4: Fresh Vegetables, and Canned and Frozen Fruits and Vegetables<sup>1</sup>

**Table 6-4-1**

**Fresh vegetables, and canned and frozen fruits and vegetables: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	6,998.0	7,950.0	8,916.0	8,092.0	1,094.0	15.6
Consumption ( <i>million dollars</i> ) . . . . .	7,659.0	8,609.4	9,623.8	9,468.7	1,809.6	23.6
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	2,345.6	2,578.2	2,848.0	2,815.6	470.1	20.0
To Mexico . . . . .	82.4	112.0	46.8	74.8	-7.6	-9.3
To Canada . . . . .	1,066.3	1,019.1	1,139.6	1,132.3	66.0	6.2
To non-NAFTA countries . . . . .	1,196.8	1,447.1	1,661.6	1,608.5	411.7	34.4
Imports:						
Total . . . . .	3,006.6	3,237.6	3,555.8	4,192.3	1,185.7	39.4
From Mexico . . . . .	1,101.6	1,213.8	1,447.5	1,642.0	540.3	49.0
From Canada . . . . .	199.3	225.4	287.6	375.1	175.8	88.2
From non-NAFTA countries . . . . .	1,705.7	1,798.3	1,820.7	2,175.2	469.5	27.5
Trade balance:						
Total . . . . .	-661.0	-659.4	-707.8	-1,376.7	-715.6	-108.3
With Mexico . . . . .	-1,019.2	-1,101.9	-1,400.6	-1,567.2	-548.0	-53.8
With Canada . . . . .	867.1	793.7	851.9	757.2	-109.8	-12.7
With non-NAFTA countries . . . . .	-508.9	-351.2	-159.1	-566.8	-57.9	-11.4
Total trade:						
Total . . . . .	5,352.1	5,815.8	6,403.8	7,007.9	1,655.8	30.9
NAFTA partners . . . . .	2,449.6	2,570.4	2,921.5	3,224.2	774.6	31.6
With Mexico . . . . .	1,184.1	1,325.8	1,494.3	1,716.8	532.7	45.0
With Canada . . . . .	1,265.6	1,244.5	1,427.2	1,507.4	241.9	19.1
Import market share ( <i>percent</i> ):						
Total . . . . .	39.3	37.6	36.9	44.3	5.0	(2)
Mexico . . . . .	14.4	14.1	15.0	17.3	3.0	(2)
Canada . . . . .	2.6	2.6	3.0	4.0	1.4	(2)
Non-NAFTA countries . . . . .	22.3	20.9	18.9	23.0	0.7	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	9.7	5.7	6.0	4.9	-4.8	(2)
Canada . . . . .	4.2	3.3	2.4	1.5	-2.7	(2)
All other . . . . .	10.3	10.6	6.0	6.6	-3.7	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	132.2	131.5	128.8	119.9	-12.3	-9.3
Production workers ( <i>1,000 persons</i> ) . . . . .	112.3	111.5	108.7	101.4	-10.9	-9.7
Average hourly wages of production workers . . . . .	\$9.84	10.01	10.42	10.84	1.00	10.2

<sup>1</sup> Production or utilized production from U.S. Department of Agriculture, National Agricultural Statistical Service and the Economic Research Service for SIC 0161. Data for SIC 2033 and SIC 2037 are from 1995 *Annual Survey of Manufactures and Ward's Manufacturing USA*.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Data are for SIC 2033 and SIC 2037 only, as reliable data for SIC 0161 are not available. Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 0161, Vegetables and Melons; 2033, Canned Fruits, Vegetables, Preserves, Jams, and Jellies (including catsup, salsa, sauces, juices, and concentrates); and 2037, Frozen Fruits, Fruit Juices, and Vegetables.

## Summary of Sector Analysis<sup>2, 3</sup>

**U.S. Imports** - NAFTA had a negligible effect on the increases in U.S. imports from Mexico and Canada of products in this sector. The United States currently imports 11 percent of its total vegetable supply, with Mexico as its major supplier.<sup>4</sup> Before NAFTA, imports accounted for about 8 percent of the fresh vegetable supply. Products imported from NAFTA partners include melons, frozen concentrated orange juice, and canned and fresh vegetables and certain condiments, among other products. Per capita consumption in 1996 rose to the highest levels since the mid-1940s, at about 153 pounds per person, attributable to consumer health benefits and access to off-season supply. Import penetration is highest for eggplant (43 percent), cucumbers (37 percent), asparagus (35 percent), and tomatoes (37 percent).<sup>5</sup>

The increase in imports from Mexico (table 6-4-2) is due largely to increased demand by consumers in the United States for fresh fruits and vegetables. Additional factors contributing to the increased imports include technological advances in the vegetable growing industries in Mexico and damaging frosts in Florida, which disrupted the supply of domestic winter tomatoes harvested from 1993-96. Winter vegetables are the largest portion of imports from Mexico in this sector, accounting for \$672 million of a total \$1.6 billion in 1996.<sup>6</sup>

**Table 6-4-2**  
**U.S. fresh vegetable imports from Mexico, by volume 1993-1996**

(Metric tons)

Type	1993	1994	1995	1996
Tomatoes	400,493	376,034	593,065	685,681
Cucumbers	204,422	228,229	238,986	293,753
Bell peppers	101,234	96,713	116,173	143,734
Squash	89,285	99,257	113,217	135,440
Eggplant	17,941	21,020	24,104	29,780
Asparagus	23,061	17,826	21,753	18,441
Snap beans	10,746	9,623	15,524	17,124

Source: Bureau of the Census, Department of Commerce

Increased imports of sector products from Canada occurred in tomatoes, carrots, jams, frozen blueberries, frozen french fries, and other frozen potatoes and condiments. The increased imports of tomatoes were due in large part to growing U.S. demand for tomatoes, and increased Canadian production and export of hothouse

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>4</sup> USDA, Economic Research Service (ERS).

<sup>5</sup> Ibid.

<sup>6</sup> Under NAFTA-Trade Adjustment Assistance, 2,126 workers in the fresh vegetable sector (principally snap beans, asparagus, artichokes) were certified as eligible to apply for benefits due to job losses during 1994-96. U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

tomatoes. The increase in imports of frozen french fries from Canada is due in part to increased contracting between Canadian potato processors and U.S. fast food restaurants. The imports of blueberries, tomato juices, and ketchup rose principally in 1996. Overall, the effective AVE on imports from Canada declined from 4.2 percent ad valorem in 1993 to 1.5 percent ad valorem in 1996.

*Tomatoes and other winter vegetables*

U.S. imports of tomatoes from Mexico accounted for the largest share of the value of imports in this sector, rising from \$304 million (400 thousand metric tons) to \$580 million (686 thousand metric tons) during 1993-96. Imports of tomatoes have increased steadily from Mexico both before NAFTA and since the implementation of NAFTA. The principal tomato-growing area in Mexico is along the western Mexican coast, particularly in the state of Sinaloa. The bulk of tomato imports from Mexico enter the United States at Nogales, Arizona. Imports tend to be at their highest level in February and March, when they are most competitive with tomatoes grown in Southern Florida. Imports of tomatoes, eggplants, and squash are subject to a tariff rate quota (table 6-4-3).

**Table 6-4-3**  
**U.S. tariff rate quotas for Mexican vegetables, tariff rate quota volume or actual trade if quota was not filled**

(Kilograms)			
Type	1994	1995	1996
Tomatoes, 3/1 - 7/14	165,500,000	170,465,000	175,579,000
	141,883,302	filled 5/16	filled 4/25
Tomatoes, 11/15-2/28 or 29	Not available.	172,300,000	177,469,000
	Not available.	filled 2/27	filled 2/12
Eggplant, 4/1 - 6/30	3,700,000	3,811,000	3,925,000
	filled 5/23	filled 6/5	filled 5/3
Squash, 10/1 - 6/30	Not available.	120,800,000	124,424,000
	Not available.	104,939,592	filled 5/6

Source: USDA/FAS

The increased imports from Mexico of these commodities reflect in part the use of improved seed varieties, including extended shelf life varieties, better storage facilities, and improved physical access to the U.S. market via a relatively new toll road between the principal growing area in Mexico and the U.S. border. Mexican growers can be affected by adverse weather conditions such as frosts and excess rain or flooding, but are believed to be less susceptible to such conditions than growers in Florida. Some members of the domestic industry also attribute the increase in imports of Mexican tomatoes, and the concomitant declines in domestic tomato production, to the peso devaluation.<sup>7</sup> Other industry participants, however, do not believe that currency exchange rates or devaluations have a large impact on the price or production of Mexican tomatoes, since a large part of the production inputs to tomato production in Mexico are imported from the United States; much of the seed, fertilizer, and chemicals used by Mexican tomato growers is imported from the United States.<sup>8</sup> Other factors contributing to the increase in tomatoes from Mexico include the “slight

<sup>7</sup> Reginald L. Brown, Florida Fruit and Vegetable Association, representing Florida growers, transcript of the hearing, May 15, 1997, pp. 303-305.

<sup>8</sup> Lee Frankel, Fresh Produce Association, representing produce importers, estimated that 70 percent of production input costs in Mexico are denominated in U.S. dollars, transcript of the hearing, May 15, 1997, pp. 252-253.



drop in the tariff on fresh tomatoes under NAFTA.<sup>9</sup> However, the tariff reductions may have had less effect on tomato imports than the increase in U.S. demand for tomatoes from Mexico, because the majority of imports entered at the over-quota tariff rate.<sup>10</sup> Tariffs on imports of fresh vegetables from Mexico are presented in table 6-4-4.

**Table 6-4-4**  
**U.S. Tariffs on imports of fresh vegetables from Mexico**

(Cents per kilogram)

Type	1993	1994	1995	1996	Phase-out period in years
<b>Tomatoes, fresh</b>					
3/1-7/14	4.60	4.14	3.68	3.22	10
7/15- 8/31	3.30	2.64	1.98	1.32	5
9/1-11/14	4.60	3.68	2.76	1.84	10
11/5 - 2/28 or 29	3.30	2.97	2.64	2.31	5
<b>Tomatoes, cherry</b>					
5/1 - 11/30	3.30	2.64	1.98	1.32	5
12/1 - 4/30	3.30	0.00	0.00	0.00	immediate
<b>Bell peppers</b>					
6/1 - 10/31	5.50	4.40	3.30	2.20	5
11/1 - 5/31	5.50	4.95	4.40	3.85	10
<b>Cucumbers</b>					
3/1 - 5/31	6.60	6.16	5.72	5.28	15
6/1 - 6/30	6.60	5.28	3.96	2.64	5
7/1 - 8/31	3.30	0.00	0.00	0.00	immediate
9/1 - 9/30	6.60	5.28	3.96	2.64	15
10/1 - 11/30	6.60	6.16	5.72	5.28	5
12/1 - 2/28 or 29	4.90	0.00	0.00	0.00	immediate
<b>Squash</b>					
7/1 - 9/30	2.40	1.92	1.44	0.96	5
10/1 - 6/30	2.40	2.16	1.92	1.68	10
<b>Eggplant</b>					
4/1 - 6/30	3.30	2.97	2.64	2.31	10
7/1 - 9/30	3.30	0.00	0.00	0.00	immediate
10/1 - 11/30	3.30	2.97	2.64	2.31	10
12/1 - 3/31	2.40	0.00	0.00	0.00	immediate
<b>Snap Beans</b>					
6/1 - 10/31	7.70	6.16	4.62	3.08	5
11/1 - 5/31	7.70	6.93	6.16	5.39	10

Source: USDA/FAS.

<sup>9</sup> U.S. International Trade Commission, *Fresh Tomatoes from Mexico* (investigation No. 731-TA-747 (preliminary)), USITC publication 2967, May 1996, p. VII-1.

<sup>10</sup> The difference in the tariff level for products under the tariff rate quota and for those over the tariff rate quota is less than 0.1¢ per kilogram.

Since 1993, U.S. tomato growers have filed two safeguard petitions under section 202 of the Trade Act of 1974 and an antidumping petition under the Tariff Act of 1930 with respect to imports of tomatoes. Growers of bell peppers joined in the second of the two safeguard petitions. The U.S. International Trade Commission instituted the first safeguard investigation, No. TA-201-64, Fresh Winter Tomatoes, on March 29, 1995, in response to a petition filed by the Florida Tomato Exchange, et al. The Commission made a negative determination in the provisional relief phase of the investigation; the petition was subsequently withdrawn on May 4, 1995, and the investigation was terminated without a final determination.<sup>11</sup> On March 11, 1996, the Commission instituted a second safeguard investigation, No. TA-201-66, Fresh Tomatoes and Bell Peppers, at the request of the Florida Fruit and Vegetable Association, et al., and in July made a negative injury determination; accordingly no relief was provided.<sup>12</sup> In response to a petition filed by the Florida Tomato Growers Exchange, et al., an antidumping investigation was instituted by the Commission on April 4, 1996,<sup>13</sup> and initiated by the U.S. Department of Commerce (Commerce) on April 25, 1996.<sup>14</sup> In October 1996, following Commerce's announcement of a preliminary finding of dumping margins ranging from 4.16 percent to 188.45 percent, Commerce and Mexican growers entered into a suspension agreement. To ensure that there will be no undercutting or suppression of prices, the agreement sets a reference price, which can be adjusted after one year if market conditions undergo significant changes. The agreement also suspended the antidumping duty investigation.<sup>15</sup> Domestic farm groups contend that the suspension agreement is not being enforced and that Mexican tomato imports are disrupting the domestic market,<sup>16</sup> whereas Florida tomato growers and packers express related concerns.<sup>17</sup>

Section 316 of the NAFTA Implementation Act directs the U.S. International Trade Commission (USITC) to monitor imports of fresh or chilled tomatoes and fresh or chilled peppers, other than chili peppers until January 1, 2009. To perform such monitoring, the USITC instituted investigation No 332-350, Monitoring of U.S. Imports of Tomatoes (59 F.R. 1763, January 12, 1994), and investigation No. 332-351, Monitoring of U.S. Imports of Peppers (59 F.R. 1762, January 12, 1994). The USITC published reports on the results of such monitoring in 1994 and 1995 but published no report in 1996, the year in which it conducted safeguard and antidumping investigations.

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<sup>11</sup> U.S. International Trade Commission, *Fresh Winter Tomatoes* (investigation No. TA-201-64), USITC publication 2881, Apr. 1995.

<sup>12</sup> 61 F.R. 42652, Aug. 16, 1996. See also U.S. International Trade Commission, *Fresh Tomatoes and Bell Peppers* (investigation No. TA-201-66), USITC publication 2974, Aug. 1996.

<sup>13</sup> 61 F.R. 15968, Apr. 10, 1996.

<sup>14</sup> 61 F.R. 18377, Apr. 25, 1996.

<sup>15</sup> 61 F.R. 18377, Apr. 25, 1996. 61 F.R. 56617, Nov. 1, 1996. 61 F.R. 58217, Nov. 13, 1996. See U.S. International Trade Commission, *Fresh Tomatoes from Mexico* (investigation No. 731-TA-747 (preliminary)), USITC publication 2967, May 1996.

<sup>16</sup> See for example, Dean Kleckner, president American Farm Bureau, "A statement Regarding Review of NAFTA with Canada and Mexico, the House Agriculture Committee, U.S. House of Representatives, Apr. 17, 1997, p.3.

<sup>17</sup> According to a representative of the Florida tomato growers and packers, "This appeared to be a solution to the problem, and worked quite well in the beginning, but changes in the terms of the enforcement of the suspension agreement by the Commerce Department months after it already had been approved, have and will undoubtedly continue to weaken the final results." Wayne Hawkins, Florida Tomato Exchange, transcript of the hearing, May 15, 1997, pp. 296, 298.

In response to concerns expressed by the Florida growers about imports of tomatoes from Mexico, the United States Trade Representative in November 1995 proposed to allocate on a weekly basis the seasonal tariff-rate quota for fresh tomatoes established under NAFTA,<sup>18</sup> but this proposal was not implemented.

### *Melons*

U.S. imports of melons from Mexico rose from \$49 million in 1993 (129 percent) to \$112 million in 1996. Total U.S. imports of melons grew in 1993 from \$128 million (60 percent) to \$205 million in 1996. Two factors make it difficult to discern a significant effect of NAFTA on melons at this point: the increased per capita consumption of melons (attributable to consumer health concerns and greater availability of off-season supplies), and the fact that U.S. duties on melons had been temporarily suspended during the 1980s and early 1990s, prior to implementation of NAFTA, allowing imports to enter duty free. The U.S. ad valorem equivalent (AVE) duty on imports of melons from Mexico fell from 20.4 percent in 1993 to 4.9 percent in 1994 and 1995, and to 2.8 percent in 1996 as a result of NAFTA.<sup>19</sup> Such duty suspensions expired in mid-1993 when duties reverted to the MFN rates. In 1992, the United States imported \$67 million of melons from Mexico, but imports declined to \$49 million in 1993 when the higher duties were in effect. It was not until 1995 that the value of imports exceeded the 1993 level. Industry sources state that the reduction of duties under NAFTA on melons, including cantaloupes, provided an incentive for producers and exporters of melons to shift operations from Central America to Mexico; in addition, producers and exporters gained closer proximity to U.S. markets and U.S. ports for export to Asia.<sup>20</sup> Mexican producers are able to compete more effectively with imports from Central America in the U.S. market, although imports from the top three suppliers after Mexico either increased or remained steady between 1993 and 1996.

During the period 1995-96, per capita consumption of melons and fresh vegetables increased by 5 percent to 153 pounds per person, the highest level since the mid-1940s. The increase is dominated by watermelons and cantaloupe. The increased consumption of watermelons began in 1992 when the industry simultaneously began to heavily promote watermelon, and new seedless and ice box varieties became available.<sup>21</sup>

### *Orange juice*

U.S. imports of orange juice, principally frozen concentrated orange juice (FCOJ),<sup>22</sup> rose from \$14.3 million in 1993 to \$62.7 million in 1995, and then declined to \$54.8 million in 1996. The increase in imports during 1993-94 was largely due to price (unit value) increases for FCOJ rather than increased U.S. consumption. Increases in 1995 reflected sustained U.S. consumption during a period of relatively tight supplies due to lower domestic crop yields. Prices (unit values) rose in 1996, but quantity declined due to a decrease in Mexican production. As a result of NAFTA, the effective AVE on imports of orange juice from Mexico fell from 50.5 percent ad valorem to 18 percent ad valorem in 1994, before rising to 24.7 percent in 1995, then falling to 17.6 percent in 1996. The increase in the AVE in 1995 occurred because of the imposition of the

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<sup>18</sup> 61 F.R. 64131-64132, Dec. 14, 1995.

<sup>19</sup> See, for example, Harmonized Tariff Schedule (HTS) of the United States, 1992, supplement I, HTS subheading 9902.08.07, providing for duty-free treatment for certain melons. This provision, however, expired in mid-1993.

<sup>20</sup> Official, Fresh Produce Association of the Americas, telephone interview by USITC staff, May 8, 1997.

<sup>21</sup> USDA, ERS.

<sup>22</sup> In May 1987, an antidumping duty order on frozen concentrated orange juice from Brazil was issued by the Commerce Department, and remains outstanding. See Commerce investigation No. A-351-605.

snapback<sup>23</sup> tariff provision on FCOJ. While the changes in the AVE on orange juice appear to be significant, it is too early to determine if such changes and the resulting increase in imports from Mexico are attributable to a significant NAFTA effect. U.S. imports of orange juice have not shown a consistent pattern of increase by volume or value before or since the implementation of NAFTA. During the period 1990-96, the volume of imports of FCOJ into the United States from Mexico was in a narrow range and averaged about 170 kiloliters per year except in 1993, when imports amounted to 76.9 kiloliters. Most of the Mexican orange production goes to the fresh market in Mexico so the processing industry faces limited supplies of competitively priced oranges. Because FCOJ is traded in a near-term futures market, U.S. imports of Mexican FCOJ must be competitively priced at world market prices which are driven in large part by Brazil, the world's largest producer and exporter of FCOJ.

Under NAFTA two different tariff rate quotas (TRQs) exist for orange juice. In the period 1994 to 1996 these TRQs remained unfilled except for 1995 when the TRQ for FCOJ was effectively filled. The TRQ for FCOJ is 40 million gallons, and the TRQ for fresh orange juice is 4 million gallons. On January 1, 1994, when NAFTA entered into force, the tariffs on in-quota imports were reduced by half, from 9.25 cents per liter for FCOJ and 5.3 cents for fresh juice, to 4.6 and 2.7 cents, respectively. U.S. imports from Mexico that exceed the quotas (over-quota imports) are subject to the MFN tariffs. The TRQs have not increased but the in-quota and over-quota tariffs will be equalized over the 15 year phase out and will be equalized in year 13.

Brazil has been the traditional primary supplier of imported FCOJ to the United States, with Mexico holding less than a 5 percent market share of total imports. Concerns about transshipment of Brazilian FCOJ were addressed by NAFTA provisions requiring 100-percent origin in orange juice.

#### *Frozen vegetables*

U.S. imports of frozen vegetables (asparagus, broccoli, and cauliflower) from Mexico remained relatively stable, ranging from \$107 million to \$111 million annually during 1993-96. Frozen vegetable companies use multiple foreign and domestic sources for the vegetable products, to ensure a year-round supply of fresh harvested vegetables.

#### *Grapes*

U.S. imports of grapes for juice and juice concentrates rose from \$2.6 million in 1993 to \$6.2 million in 1996. These imports have been increasing as U.S. wineries shift to less expensive imported grape juice used for making jug wines, as California grapes have commanded higher prices.

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<sup>23</sup> Under section 309(a) of the NAFTA Implementation Act, a temporary duty (snapback) is imposed on imports of Mexican frozen concentrated orange juice when certain conditions exist. The snapback provision is one of the safeguards under NAFTA for certain agricultural commodities, including FCOJ. Under this provision, certain price conditions must exist before the United States can apply a snapback duty on imports of Mexican frozen concentrated orange juice. The condition for the imposition of the snapback provision occurs, when for each period of 5 consecutive days the daily closing price on the New York Cotton Exchange for frozen concentrated orange juice is less than the trigger price. In addition, such imports must exceed specified amounts before the snapback duty can be applied. The Foreign Agricultural Service of the USDA administers the snapback program.

Under the snapback provisions, the temporary duty was imposed in June 1994 (59 F.R. 35309, July 11, 1994), and in Dec. 1995 was removed (60 F.R. 61682, Dec. 1, 1995). It was imposed again in Aug. 1996 (61 F.R. 44037-44038, Aug. 27, 1996), and in Sept. 1996 was removed (61 F.R. 46617, Sept. 4, 1996). In Oct. 1996, the temporary duty was again imposed (61 F.R. 51258, Oct. 1, 1996).

*U.S. Exports* – U.S. exports of sector products to Canada remained relatively steady during 1993-96, as stable economic growth in Canada led to few changes in Canadian consumption patterns of sector products. In 1996, U.S. exports of fresh vegetables totaled \$643 million; canned and preserved vegetables and fruits totaled \$222 million; and frozen foods totaled \$267 million. Although U.S. exports of fresh vegetables declined by \$46 million during 1993-96, exports of canned and preserved vegetables rose by \$35 million, and frozen vegetables, fruits, and juices rose by \$77 million. The greatest growth occurred in U.S. exports of orange juice, which doubled from \$36 million to \$72 million during 1993-96.

U.S. exports of products in this sector to Mexico rose in 1994 after the implementation of NAFTA, but sharply declined by 58 percent in 1995, before rebounding by 60 percent in 1996. The decline in U.S. exports in 1995 was due to the devaluation of the peso. The devaluation resulted in declining personal incomes and rising prices adversely affecting sales of consumer foods. U.S. exports recovered slightly in 1996 as the Mexican economy began to recover. In 1996, the mix of products in this grouping was almost equally divided between fresh vegetables, canned and preserved foods, and frozen foods. The leading U.S. exports of sector products were lettuce and shallots; cereals; canned or preserved tomato sauces and juice; and frozen french fries and other potatoes.

*Other Factors* – Total sector trade grew by 31 percent (\$1.7 billion) during 1993-96 to \$7.0 billion. Total U.S.-Canada trade for the sector grew by 19 percent (\$242 million) to \$1.5 billion and total U.S.-Mexico trade for the sector grew by 45 percent (\$533 million) to \$1.7 billion.

U.S. investment in the fresh vegetable industry in Mexico has been both direct and indirect though figures are not available. Some U.S. producers of tomatoes have invested in Mexican production, distribution, or marketing operations to sell Mexican tomatoes in the United States. In 1995-96, U.S. investment in fresh vegetable production or financing for production was sought by Mexican producers because the peso devaluation resulted in dramatic increases in Mexican interest rates. Mexican producers were faced with a lack of readily available credit. Large U.S. food producers have also invested in produce distribution operations in Mexico, as well as in the production of vegetables, such as fresh asparagus. NAFTA reportedly did have a positive effect on U.S. exports of seeds and other inputs used in the production of sector products.<sup>24</sup>

In March 1996, the Agricultural Marketing Service of the USDA adopted a Final Rule that exempts imported fresh fruit, vegetable, and specialty crop commodities from grade, size, quality, and maturity requirements if those commodities are to be used for specific purposes, generally other than commercial sales. The rule applies to tomatoes and onions, as well as to other crops. The rule was implemented in accordance with section 8e of the Agricultural Marketing Agreement Act of 1937. The intent of the revision is “to make the import regulations more consistent with applicable domestic marketing order exemptions and with the provisions of NAFTA.” The rule gives exemptions to uses including, but not limited to, processing, livestock feed, and donation to charity.<sup>25</sup>

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<sup>24</sup> Official of the Fresh Produce Association of the Americas, telephone interview by USITC staff, Apr. 16, 1997.

<sup>25</sup> 61 F.R. 13051, Mar. 26, 1996.

## ITC Group No. 5: Ornamental Floriculture and Nursery Products<sup>1</sup>

**Table 6-5-1**

**Ornamental floriculture and nursery products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	(1)	(1)	(1)	(1)	(2)	(2)
Consumption ( <i>million dollars</i> ) . . . . .	(2)	(2)	(2)	(2)	(2)	(2)
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	337.2	350.6	363.9	372.9	35.7	10.6
To Mexico . . . . .	49.1	53.0	53.6	63.5	14.4	29.3
To Canada . . . . .	111.2	111.9	112.6	108.2	-3.0	-2.7
To non-NAFTA countries . . . . .	176.9	185.6	197.7	201.3	24.4	13.8
Imports:						
Total . . . . .	774.4	830.0	982.9	1,107.2	332.7	43.0
From Mexico . . . . .	32.3	30.4	40.6	40.6	8.4	26.0
From Canada . . . . .	82.5	91.5	112.4	135.6	53.1	64.4
From non-NAFTA countries . . . . .	659.7	708.0	829.9	931.0	271.3	41.1
Trade balance:						
Total . . . . .	-437.2	-479.4	-618.9	-734.2	-297.0	-67.9
With Mexico . . . . .	16.9	22.6	13.0	22.9	6.0	35.6
With Canada . . . . .	28.7	20.4	0.3	-27.4	-56.1	(3)
With non-NAFTA countries . . . . .	-482.8	-522.4	-632.2	-729.7	-246.9	-51.1
Total trade:						
Total . . . . .	1,111.6	1,180.5	1,346.8	1,480.1	368.5	33.1
NAFTA partners . . . . .	275.1	286.9	319.2	347.9	72.8	26.5
With Mexico . . . . .	81.4	83.5	94.2	104.2	22.8	28.0
With Canada . . . . .	193.7	203.5	225.0	243.7	50.0	25.8
Import market share ( <i>percent</i> ):						
Total . . . . .	(2)	(2)	(2)	(2)	(2)	(2)
Mexico . . . . .	(2)	(2)	(2)	(2)	(2)	(2)
Canada . . . . .	(2)	(2)	(2)	(2)	(2)	(2)
Non-NAFTA countries . . . . .	(2)	(2)	(2)	(2)	(2)	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	2.3	2.1	1.6	0.9	-1.4	(3)
Canada . . . . .	1.3	1.0	0.8	0.6	-0.7	(3)
All other . . . . .	1.3	1.3	1.1	1.0	-0.3	(3)
U.S. industry indicators:						
Employees ( <i>1,000 persons</i> ) . . . . .	(1)	(1)	(1)	(1)	(2)	(2)
Production workers ( <i>1,000 persons</i> ) . . . . .	(1)	(1)	(1)	(1)	(2)	(2)
Average hourly wages of production workers . . . . .	(1)	(1)	(1)	(1)	(2)	(2)

<sup>1</sup> Aggregate data are not available due to the diversity of products covered in this sector.

<sup>2</sup> Not applicable.

<sup>3</sup> Not meaningful for purposes of comparison.

Source: Compiled from official statistics of the U.S. Department of Commerce.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 0181, Ornamental Floriculture and Nursery Products. Products in this industry includes cut flowers, foliage for floral arrangements, miscellaneous decorative plants, and flowers and vegetables for planting.

## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** – NAFTA appears to have had a negligible<sup>3</sup> effect on rising U.S. imports of ornamental floriculture and nursery products from NAFTA partners. Trade in this diverse sector has expanded rapidly during the past 4 years and total U.S. imports grew by 43 percent from all sources during 1993-96 to \$1.1 billion. Imports from Mexico (dominated by cut flowers) grew by \$8 million to \$41 million in 1996.<sup>4</sup> Despite the 26 percent growth during the period, imports from Mexico accounted for only 4 percent of total U.S. sector imports in 1996. The increase in imports from Mexico was due to both the growth in the U.S. economy, which enhanced consumers' discretionary spending on such items as flowers and foliage for special occasions,<sup>5</sup> and the devaluation of the peso, which made Mexican flowers less expensive for importers.<sup>6</sup> U.S. imports from Canada (dominated by miscellaneous plants and ornamental foliage) grew by 64 percent during 1993-96 to \$136 million in 1996, when they accounted for 12 percent of total sector imports. The increase in imports from Canada,<sup>7</sup> resulted largely from the growth in housing starts and home improvements in the United States, increasing the demand for imported trees and foliage for use in landscaping.

As a result of tariff reductions under NAFTA beginning in 1994, the effective U.S. ad valorem equivalent (AVE) tariff on the products in this category from Mexico fell from 2.3 percent ad valorem to less than 1 percent from 1993 to 1996. The effective U.S. AVE on goods from Canada fell from 1.3 percent ad valorem to almost one-half-of-one percent during 1993-96.

**U.S. Exports** – NAFTA also had a negligible effect on U.S. exports of sector products. During this period, exports to Mexico (dominated by seeds for sowing vegetables) registered a 29 percent increase to \$64 million in 1996. The growth in seed exports to Mexico was due primarily to sustained demand for productive vegetable varieties that are grown by Mexican vegetable producers for export to the United States. Mexican tariffs on seeds from the United States were free before NAFTA. As a result of NAFTA, however, Mexico eliminated the import licensing requirements for seeds, a nontariff barrier which limited the importation of seeds.<sup>8</sup> U.S. exports to Canada (dominated by cut flowers and foliage and miscellaneous plants) decreased by 3 percent to \$108 million in 1996.

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> On Oct. 26, 1995, two Mexican firms requested a NAFTA binational panel review of the final results of an antidumping administrative review made by the U.S. Department of Commerce (Commerce), respecting fresh-cut flowers from Mexico. On Dec. 16, 1996, a binational panel remanded the action to Commerce with instructions concerning the rate of duty to be assigned. Commerce filed its determination in response to the remand on Jan. 29, 1997, NAFTA Secretariat File No. USA-95-1904-05. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* on Apr. 23, 1997. 62 F.R. 19736.

<sup>5</sup> Official, USDA/FAS, telephone interview by USITC staff, May 12, 1997.

<sup>6</sup> *Ibid.*

<sup>7</sup> An antidumping duty order on U.S. imports of fresh cut flowers from Canada, issued on Mar. 18, 1987, was revoked by the U.S. Department of Commerce (Commerce investigation A-122-604), on June 18, 1993.

<sup>8</sup> Official of the Fresh Produce Association of the Americas, telephone interview by USITC staff, Apr. 16, 1997.

**Other Factors** — Total U.S. trade in horticulture products grew by 33 percent during 1993-96 from \$1.1 billion to nearly \$1.5 billion. Trade between the United States and Canada and trade between the United States and Mexico grew at rates less than total U.S. trade during the comparable time period. During this period, total U.S.-Canada trade in these products increased by 26 percent from \$194 million in 1993 to \$244 million in 1996. Likewise, total U.S.-Mexico trade in these products increased 28 percent from \$81 million in 1993 to \$104 million in 1996.

Information about investments in this group of products in Mexico, the United States, or Canada resulting from NAFTA is not readily available.

Under the NAFTA-TAA, 40 workers were certified eligible for relief as a result of imports from unspecified countries during 1994-96.<sup>9</sup>

The U.S. Department of Commerce and the Animal and Plant Health Inspection Service of the USDA have proposed to amend the cut flowers regulations<sup>10</sup> eliminating the import permit, and notice of arrival requirements, for certain types of flowers. No final rule has yet been issued.

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<sup>9</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

<sup>10</sup> 61 F.R. 40362, Aug. 2, 1996.



## ITC Group No. 6: Meats and Livestock<sup>1</sup>

**Table 6-6-1**  
**Meats and livestock: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	49,410.0	46,545.0	46,723.0	46,500.0	-2,910.0	-5.9
Consumption (million dollars) . . . . .	49,016.7	45,241.2	44,478.1	44,127.2	-4,889.6	-10.0
Trade data (million dollars):						
Exports:						
Total . . . . .	4,862.2	5,501.3	6,439.4	6,388.2	1,526.0	31.4
To Mexico . . . . .	558.5	761.3	370.5	580.8	22.3	4.0
To Canada . . . . .	565.0	631.9	619.6	597.9	32.9	5.8
To non-NAFTA countries . . . . .	3,738.8	4,108.1	5,449.3	5,209.6	1,470.8	39.3
Imports:						
Total . . . . .	4,469.0	4,197.5	4,194.6	4,015.4	-453.6	-10.1
From Mexico . . . . .	450.1	376.0	572.5	149.2	-300.9	-66.8
From Canada . . . . .	1,826.3	1,759.0	1,914.6	2,373.1	546.9	29.9
From non-NAFTA countries . . . . .	2,192.6	2,062.5	1,707.5	1,493.1	-699.5	-31.9
Trade balance:						
Total . . . . .	393.3	1,303.8	2,244.9	2,372.8	1,979.6	503.4
With Mexico . . . . .	108.3	385.4	-202.0	431.6	323.2	298.4
With Canada . . . . .	-1,261.3	-1,127.0	-1,295.0	-1,775.2	-514.0	-40.7
With non-NAFTA countries . . . . .	1,546.2	2,045.5	3,741.8	3,716.5	2,170.3	140.4
Total trade:						
Total . . . . .	9,331.2	9,698.8	10,634.0	10,403.7	1,072.5	11.5
NAFTA partners . . . . .	3,399.9	3,528.2	3,477.2	3,701.1	301.2	8.9
With Mexico . . . . .	1,008.6	1,137.3	943.0	730.0	-278.6	-27.6
With Canada . . . . .	2,391.3	2,390.9	2,534.2	2,971.1	579.8	24.2
Import market share (percent):						
Total . . . . .	9.1	9.3	9.4	9.1	0.0	(2)
Mexico . . . . .	0.9	0.8	1.3	0.3	-0.6	(2)
Canada . . . . .	3.7	3.9	4.3	5.4	1.7	(2)
Non-NAFTA countries . . . . .	4.5	4.6	3.8	3.4	-1.1	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.2	(3)	(3)	(3)	-1.2	(2)
Canada . . . . .	(3)	(3)	(3)	(3)	(3)	(2)
All other . . . . .	1.5	1.6	1.6	1.6	0.1	(2)
U.S. industry indicators:						
Employees (1,000 persons) . . . . .	(4)	(4)	(4)	(4)	(5)	(5)
Production workers (1,000 persons) . . . . .	(4)	(4)	(4)	(4)	(5)	(5)
Average hourly wages of production workers <sup>6</sup> . . . . .	\$9.26	9.44	9.60	9.77	0.51	5.5

<sup>1</sup> Shipments data for 1996 are for SIC 2011 and exclude live animals, and are estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Not available.

<sup>5</sup> Not applicable.

<sup>6</sup> Data are for SIC 2011 only. Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 0211, Beef Cattle Feedlots; 0213, Hogs; and 2011, Meat Packing Plants.

## Summary of Sector Analysis<sup>2, 3</sup>

**U.S. Imports** – NAFTA had a negligible<sup>4</sup> effect on U.S. imports of meat and livestock from NAFTA countries, compared to other factors such as the peso devaluation, drought in Northern Mexico, and the contraction phase of the U.S. cattle and beef business cycles. Overall, total U.S. imports of sector products decreased by 10 percent from 1993 to 1996 from \$4.5 billion to \$4.1 billion. Imports from Mexico declined by 67 percent from \$450 million to \$149 million over this period, despite peak imports of \$572 million in 1995. Imports from Mexico declined sharply (74 percent) in 1996, compared to the previous year's level, as drought in Northern Mexico adversely impacted the supply of feeder calves. In contrast, imports from Canada rose 30 percent from 1993 to 1996 from \$1.8 billion to \$2.4 billion.

Prior to the implementation of NAFTA, U.S. imports of meat and livestock from all sources received trade weighted average duties of less than 2 percent ad valorem. Most sector product imports from Canada received a duty rate of "Free" as a result of the CFTA, and imports of quota-type meats were excluded from quantitative restrictions under the Meat Import Act of 1979. The Meat Import Act quotas were converted to tariff-rate quotas and the Act was repealed effective January 1, 1995, to bring U.S. treatment of meat into conformity with U.S. obligations under the World Trade Organization on Agriculture.

As a result of the NAFTA, U.S. imports of most sector products from Mexico received a duty rate of "Free" although such duties were already relatively low. Also, imports of quota-type meats from Mexico were excluded from quantitative restrictions under the Meat Import Act of 1979.

**U.S. Exports** – Since NAFTA implementation, U.S. sector exports to non-NAFTA countries have grown 39 percent, whereas exports to Mexico and Canada have grown 4 percent and 5.8 percent, respectively. The increase in U.S. exports to non-NAFTA countries reflects, in part, the opening of Korean and Japanese markets for beef. In terms of U.S. exports to NAFTA partners, Commission analysis indicates that non-NAFTA events had a far more important effect on the level of U.S. sector exports than NAFTA. The drop in exports to Mexico over 1995-96 from a peak in 1994 was due largely to a drop in real Mexican consumer income and higher prices of imported meat caused by the devaluation of the peso, rather than NAFTA. U.S. sector exports to Canada were already duty free under the CFTA.

However, NAFTA has enhanced certain U.S. beef exports;<sup>5</sup> preferential tariff treatment enjoyed by the United States following NAFTA has expanded the U.S. market share in Mexico at the expense of Australian, New Zealand, and EU suppliers. Moreover, U.S. export levels in 1995-96 would likely have been even lower

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>4</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>5</sup> Live cattle for immediate slaughter and fresh, chilled, or frozen beef. These items account for less than 50 percent of the value of sector exports.

without the NAFTA duty reductions.<sup>6</sup> Mexican duties for beef imports from NAFTA partners declined to zero from ad valorem rates of 25 percent (frozen beef), 20 percent (fresh or chilled beef), and 15 percent (live cattle). Mexican tariffs for most pork products declined from 10 percent; pork is now subject to tariff rate quotas with most in-quota quantities entering Mexico free of duty.

**Other Factors** – Total U.S.-world trade in meat and livestock grew 12 percent from 1993 to 1996 to \$10.4 billion. Total U.S.-Canada trade in these products grew almost \$0.6 billion to nearly \$3 billion in 1996, a 24 percent increase over 1993 levels of \$2.4 billion. In contrast, total U.S.-Mexico trade shrank by 28 percent (\$0.3 billion) from 1993 levels of \$1 billion to \$0.7 billion in 1996.

There is a lack of detailed data on U.S. investment in Mexico and Canada, investment in the United States, and other NAFTA-related investments. Although there are two U.S.-owned,<sup>7</sup> large-volume beef slaughtering and processing plants that reportedly account for 50 percent of Canada's cattle slaughter, additional foreign investment is believed to be minor and investment patterns were not altered noticeably by NAFTA.

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service, terminated its in-bond program for feeding Mexican feeder cattle in the United States, because the U.S. Customs Service, in order to comply with NAFTA, discontinued its collection of duties and bonds on cattle imported from Mexico.<sup>8</sup>

In September 1995, a Binational Panel Review affirmed the Commerce Department's final affirmative countervailing duty administrative review. The Panel Review, Live Swine from Canada (USA-94-1904-01), was brought by Canadian producers of swine in March 1994.<sup>9</sup>

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<sup>6</sup> For further explanation see USITC investigation, *Cattle and Beef: Impact of the NAFTA and Uruguay Round Agreements on U.S. Trade*, currently scheduled for completion in July 1977.

<sup>7</sup> The two U.S. parent companies are Cargill, a large-volume multi-national agricultural company, and IBP, Inc., a large-volume slaughterer and processor of cattle and hogs.

<sup>8</sup> 60 F.R. 13896, Mar. 15, 1996.

<sup>9</sup> 60 F.R. 31448, June 15, 1995.

**ITC Group No. 7: Fish and Shellfish<sup>1</sup>**

**Table 6-7-1**

**Fish and shellfish: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	2,133.3	2,046.1	2,090.0	2,105.0	-28.3	-1.3
Consumption (million dollars) . . . . .	4,715.1	5,291.4	5,403.1	5,322.5	607.4	12.9
Trade data (million dollars):						
Exports:						
Total . . . . .	727.2	731.8	653.4	634.1	-93.1	-12.8
To Mexico . . . . .	20.2	23.1	11.7	12.4	-7.8	-38.8
To Canada . . . . .	125.0	142.2	166.4	180.2	55.2	44.2
To non-NAFTA countries . . . . .	582.0	566.5	475.3	441.5	-140.5	-24.1
Imports:						
Total . . . . .	3,309.0	3,977.1	3,966.5	3,851.6	542.6	16.4
From Mexico . . . . .	227.8	282.2	375.8	373.5	145.7	64.0
From Canada . . . . .	535.6	655.2	651.2	672.6	137.1	25.6
From non-NAFTA countries . . . . .	2,545.7	3,039.7	2,939.5	2,805.5	259.8	10.2
Trade balance:						
Total . . . . .	-2,581.8	-3,245.3	-3,313.1	-3,217.5	-635.7	-24.6
With Mexico . . . . .	-207.5	-259.1	-364.1	-361.1	-153.6	-74.0
With Canada . . . . .	-410.6	-513.0	-484.8	-492.4	-81.8	-19.9
With non-NAFTA countries . . . . .	-1,963.7	-2,473.2	-2,464.2	-2,364.0	-400.3	-20.4
Total trade:						
Total . . . . .	4,036.2	4,708.9	4,619.9	4,485.6	449.4	11.1
NAFTA partners . . . . .	908.5	1,102.7	1,205.1	1,238.7	330.2	36.3
With Mexico . . . . .	248.0	305.3	387.6	385.9	137.9	55.6
With Canada . . . . .	660.5	797.4	817.6	852.8	192.3	29.1
Import market share (percent):						
Total . . . . .	70.2	75.2	73.4	72.4	2.2	( <sup>2</sup> )
Mexico . . . . .	4.8	5.3	7.0	7.0	2.2	( <sup>2</sup> )
Canada . . . . .	11.4	12.4	12.1	12.6	1.3	( <sup>2</sup> )
Non-NAFTA countries . . . . .	54.0	57.4	54.4	52.7	-1.3	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	( <sup>3</sup> )	0.1	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
Canada . . . . .	0.2	0.1	0.1	0.1	-0.1	( <sup>2</sup> )
All other . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
U.S. industry indicators:						
Employees (1,000 persons) . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Production workers (1,000 persons) . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Average hourly wages of production workers . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )

<sup>1</sup> Shipments data for 1995 and 1996 estimated by USITC staff. Thus, the 1995 and 1996 calculated consumption figures, as well as percentage changes in both shipments and consumption, are estimates.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Not available as reliable data are not collected.

<sup>5</sup> Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce.

**Summary of Sector Analysis**

**U.S. Imports** – NAFTA had a negligible effect on rising U.S. imports of fish and shellfish from NAFTA countries. Most U.S. tariffs on the fish and shellfish covered herein were free prior to NAFTA, particularly

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 0273, Animal Aquaculture; 0913, Shellfish; and 2092(pt.), Prepared Fresh or Frozen Fish and Seafoods.

on the vast majority of articles imported from Mexico and Canada. The U.S. ad valorem equivalent for imports from Mexico and Canada was almost nil from 1993 to 1996. Much of the increase in imports was due to increased production of farm-raised salmon in Canada,<sup>2</sup> increased private investment in the Mexican shrimp fleet that allowed for bigger catches of wild shrimp, and, especially between 1994 and 1995, the peso devaluation. Overall, total U.S. imports of sector products from all source countries rose by 16 percent from 1993 to 1996, while imports from NAFTA partners rose by 37 percent over the same period. U.S. imports from Canada rose by \$137 million (26 percent) to \$673 million from 1993 to 1996, and consisted primarily of live or frozen lobsters and frozen lobster meat, farmed Atlantic salmon, farmed chinook, snow crabs, and clams. U.S. imports from Mexico rose by \$146 million (64 percent) to \$374 million from 1993 to 1996.<sup>3</sup> Almost 80 percent of the increase in imports from Mexico was frozen shrimp and prawns, and the remaining 20 percent comprised rock lobsters, crabs, scallops, and octopus. Approximately 88 percent of Mexico's fishery exports went to the United States in 1995.<sup>4</sup> Mexico's shrimp aquaculture is still quite nascent, but growing, fueled largely by demand in the large U.S. market, where domestic production is at maximum capacity.

**U.S. Exports** — NAFTA also had negligible<sup>5</sup> effect on U.S. exports of sector products to NAFTA partners. Overall, U.S. exports world wide declined by \$93 million (13 percent) to \$634 million from 1993 to 1996. U.S. exports to Mexico fell by \$8 million (39 percent) to \$12.4 million, principally due to the devaluation of the peso which raised the cost of Mexican imports from the United States, and the downturn in the Mexican economy. In contrast, U.S. exports to Canada rose by \$55 million (44 percent) to \$180 million from 1993 to 1996. Most of the increase in U.S. exports to Canada was of live lobsters and is attributable to a common practice, where U.S. and Canadian seafood wholesalers send live lobsters to lobster pounds prior to retail distribution. The use of either U.S. or Canadian lobster pounds is governed by the supply of available space at the pounds.

**Other Factors** — Total U.S.-world trade in fish and shellfish grew by \$449 million (11 percent) to \$4.5 billion from 1993 to 1996. Total U.S.-Canada trade in these products increased by \$192 million (29 percent) to nearly \$853 million and total U.S.-Mexico trade in these products rose by \$138 million (56 percent) to \$386 million.

There is little information on investment in this sector. Prior to 1992, when Mexico amended its National Fisheries Law to improve the financial health of the industry, investment in Mexico's shrimp fisheries industry was limited to government chartered cooperatives, which were often under-capitalized and inefficient.<sup>6</sup> After 1992, most of Mexico's shrimp fleet was privatized, as shrimp fleet assets were bought

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<sup>2</sup> Official of U.S. Department of Commerce, National Oceanographic and Atmospheric Administration, telephone interview by USITC staff, May 5, 1997.

<sup>3</sup> This analysis does not cover tuna fish, found in SIC 0912, Finfish, upon which the United States has imposed primary and secondary embargoes against Mexico, and those countries that buy Mexican yellowfin tuna that are harvested in a manner that is injurious to dolphins and other marine mammals.

<sup>4</sup> U.S. Department of State telegram, "Annual Fisheries Report for Mexico: 1995," message reference No. 000117, prepared by U.S. Embassy, Mexico City, D.F., Jan. 7, 1997, p. 3.

<sup>5</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>6</sup> U.S. Department of State telegram, "SRP 0404: Mexico Fisheries Report 1994," message reference No. 007247, 6 of 13, prepared by U.S. Embassy, Mexico City, D.F., June 4, 1996, p. 3.

from bankrupt fisherman's cooperatives and lending bank auctions.<sup>7</sup> In November 1995, Mexico's largest exporter of shrimp and lobster to the United States, Ocean Garden Products, Inc., a U.S. registered company wholly owned by the Government of Mexico and based in San Diego, CA, was put up for sale by the Government of Mexico for the third time.<sup>8</sup> This effort did not succeed, and the Government of Mexico has withdrawn its offer to sell the company from the market.

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<sup>7</sup> Ibid.

<sup>8</sup> U.S. Department of State telegram, "Fisheries: GOM to Privatize Ocean Garden Products, San Diego," message reference No. 000117, prepared by U.S. Embassy, Mexico City, D.F., Nov. 14, 1995, p. 2.

## ITC Group No. 8: Iron Ore<sup>1</sup>

**Table 6-8-1**  
**Iron ore: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	1,578.5	1,655.0	1,771.2	1,700.4	121.9	7.7
Consumption (million dollars) . . . . .	1,826.7	2,002.4	2,072.6	2,024.6	197.9	10.8
Trade data (million dollars):						
Exports:						
Total . . . . .	166.8	162.5	184.5	231.7	64.9	38.9
To Mexico . . . . .	0.2	0.2	0.3	0.9	0.6	296.3
To Canada . . . . .	165.4	162.2	184.0	230.1	64.7	39.1
To non-NAFTA countries . . . . .	1.2	0.1	0.2	0.7	-0.5	-39.9
Imports:						
Total . . . . .	415.1	509.9	485.8	556.0	140.9	33.9
From Mexico . . . . .	0.0	0.0	0.0	0.1	0.1	(2)
From Canada . . . . .	237.8	317.6	277.7	325.5	87.7	36.9
From non-NAFTA countries . . . . .	177.2	192.2	208.2	230.3	53.1	29.9
Trade balance:						
Total . . . . .	-248.3	-347.4	-301.4	-324.3	-76.0	-30.6
With Mexico . . . . .	0.2	0.2	0.2	0.7	0.5	250.0
With Canada . . . . .	-72.4	-155.5	-93.7	-95.4	-23.0	-31.8
With non-NAFTA countries . . . . .	-176.0	-192.1	-207.9	-229.6	-53.6	-30.4
Total trade:						
Total . . . . .	581.9	672.4	670.3	787.7	205.8	35.4
NAFTA partners . . . . .	403.4	480.0	461.9	556.6	153.2	38.0
With Mexico . . . . .	0.3	0.2	0.3	1.0	0.7	233.0
With Canada . . . . .	403.2	479.8	461.7	555.6	152.4	37.8
Import market share (percent):						
Total . . . . .	22.7	25.5	23.4	27.5	4.7	(2)
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
Canada . . . . .	13.0	15.9	13.4	16.1	3.1	(2)
Non-NAFTA countries . . . . .	9.7	9.6	10.0	11.4	1.7	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
Canada . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
All other . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	8.9	8.5	8.4	8.3	-0.6	-6.7
Production workers (1,000 persons) . . . . .	6.8	7.1	7.0	6.9	0.1	1.5
Average hourly wages of production workers . . . . .	\$16.67	17.87	18.49	18.67	2.00	12.0

<sup>1</sup> Estimated by the staff of the U.S. International Trade Commission based on data from the U.S. Bureau of the Mines, *Mineral Commodity Summaries, 1997*.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

### Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible<sup>2</sup> effect on increased U.S. imports of Canadian iron ore from 1993 to 1996. U.S. tariffs on imports of iron ore were free on an MFN basis prior to NAFTA. Increased U.S.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry No. 1011, Iron Ores.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence

imports of iron ore were due to rising U.S. steel production as a result of strong demand in the capital goods and consumer durables markets from 1993 to 1996. The high operating rates at steel mills contributed to the revitalization of the U.S. iron ore industry as domestic production increased significantly and facilities were expanded and re-opened.<sup>3</sup> As demand increased, prices rose from about \$28 per ton to \$34 per ton from 1993 to 1996.<sup>4</sup>

Canada supplied over one-half of U.S. needs for iron ore from 1993 to 1996. Canadian iron ore typically is shipped by freighter to integrated steel producers located along the Great Lakes, thus taking advantage of low cost transportation to U.S. pelletizing plants. Similar to the United States, Canadian iron ore operations expanded their extraction operations, at times canceling their traditional summer shutdown. There were virtually no U.S. imports of iron ore from Mexico because of captive consumption by Mexican steelmakers.

*U.S. Exports* --NAFTA had a negligible effect on U.S. exports of iron ore to NAFTA partners during 1993-96. U.S. iron ore exports (mostly pellets) to Canada were due to increased production by Canadian steel producers to meet strong steel demand in the U.S. and Canadian economies. In the United States, most iron ore is mined and pelletized in Minnesota, and can be easily transported by freighter to Canadian integrated steel producers located along the Great Lakes. Both U.S. and Canadian steel producers usually purchase iron ore based on price and availability. Canadian tariffs on imports of iron ore were free on an MFN basis prior to NAFTA.

U.S. exports of iron to Mexico during the period were quite small. It is difficult for the United States to participate and compete in the international iron ore and pellets market because of the inland location of its mines and high labor and energy costs. For Mexico's steel mills it is more cost-effective to import iron ore and pellets from Brazil and Peru. Mexican tariffs on iron ore, which were 10 percent ad valorem prior to NAFTA, were eliminated as a result of NAFTA.

*Other Factors* -- Total U.S.-world trade in iron ores expanded by \$206 million to \$788 million during 1993-96. Total U.S.-Canada trade in sector products rose by \$153 million to \$557 million. In contrast, total U.S.-Mexico trade rose by \$0.7 million to \$1.0 million. Despite the reactivation of an estimated 5.6 million tons of pellet capacity in 1995 and 1996, and an average 98 percent capacity utilization during the 1994-96 period,<sup>5</sup> investment in the North American iron ore industry was negligible.

During the period, however, North Limited (an Australian company) reached an agreement to acquire a 59 percent interest in the Iron Ore Company of Canada (IOC). The majority stake in IOC was purchased from Bethlehem Steel Corp. and National Steel Corp. IOC is the largest Canadian iron ore producer, and one of the world's largest pellet producers.

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<sup>3</sup> In the United States, extracting operations such as Eveleth were expanded, and pelletizing plants re-started at National Steel and North Shore.

<sup>4</sup> Based on United States Geological Survey value and volume data. Data for 1996 were estimated.

<sup>5</sup> Wallace Huskonen, "Suppliers Say Higher Prices Would Assure Ore Supplies," 33 *Metal Producing*, Jan. 1997, p. 78.



## ITC Group No. 9: Coal<sup>1</sup>

**Table 6-9-1**  
**Coal: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	18,624.7	19,908.9	19,537.5	19,991.2	1,366.5	7.3
Consumption (million dollars) . . . . .	15,775.1	17,302.4	16,262.4	16,583.6	808.6	5.1
Trade data (million dollars):						
Exports:						
Total . . . . .	3,059.8	2,824.9	3,521.6	3,643.0	583.1	19.1
To Mexico . . . . .	9.9	10.0	30.6	60.2	50.3	507.4
To Canada . . . . .	291.5	288.7	305.6	371.4	79.9	27.4
To non-NAFTA countries . . . . .	2,758.4	2,526.2	3,185.4	3,211.3	452.9	16.4
Imports:						
Total . . . . .	210.2	218.4	246.5	235.5	25.3	12.0
From Mexico . . . . .	<sup>(2)</sup>	0.0	<sup>(2)</sup>	0.2	0.2	485.7
From Canada . . . . .	33.7	36.5	49.9	54.5	20.8	61.6
From non-NAFTA countries . . . . .	176.5	181.9	196.6	180.7	4.2	2.4
Trade balance:						
Total . . . . .	2,849.6	2,606.5	3,275.1	3,407.5	557.9	19.6
With Mexico . . . . .	9.9	10.0	30.6	60.0	50.1	504.9
With Canada . . . . .	257.8	252.3	255.7	316.9	59.2	23.0
With non-NAFTA countries . . . . .	2,582.0	2,344.3	2,988.8	3,030.6	448.6	17.4
Total trade:						
Total . . . . .	3,270.1	3,043.3	3,768.2	3,878.4	608.4	18.6
NAFTA partners . . . . .	335.1	335.2	386.1	486.4	151.3	45.1
With Mexico . . . . .	9.9	10.0	30.6	60.5	50.6	509.9
With Canada . . . . .	325.2	325.2	355.6	425.9	100.7	31.0
Import market share (percent):						
Total . . . . .	1.3	1.3	1.5	1.4	0.1	<sup>(3)</sup>
Mexico . . . . .	<sup>(4)</sup>	0.0	<sup>(4)</sup>	0.0	<sup>(4)</sup>	<sup>(3)</sup>
Canada . . . . .	0.2	0.2	0.3	0.3	0.1	<sup>(3)</sup>
Non-NAFTA countries . . . . .	1.1	1.1	1.2	1.1	0.0	<sup>(3)</sup>
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	<sup>(3)</sup>
Canada . . . . .	0.0	0.0	0.0	0.0	0.0	<sup>(3)</sup>
All other . . . . .	0.0	0.0	0.0	0.0	0.0	<sup>(3)</sup>
U.S. industry indicators: <sup>5</sup>						
Employees (1,000 persons) . . . . .	100.9	104.3	98.4	93.7	-7.2	-7.1
Production workers (1,000 persons) . . . . .	79.9	83.8	79.6	76.6	-3.3	-4.1
Average hourly wages of production workers . . . . .	\$17.48	17.23	18.69	18.93	1.45	8.3

<sup>1</sup> Compiled from official statistics of the U.S. Department of Energy, National Energy Information Center, *Annual Energy Review*, 1995.

<sup>2</sup> Less than \$50,000.

<sup>3</sup> Not meaningful for purposes of comparison.

<sup>4</sup> Less than 0.05 percent.

<sup>5</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 1221, Bituminous Coal and Lignite Surface Mining; 1222, Bituminous Coal Underground Mining.

## Summary of Sector Analysis

**U.S. Imports** – The effect of NAFTA on U.S. coal imports from Mexico and Canada was negligible<sup>2</sup> during 1993-96. U.S. imports of coal from Canada increased by \$21 million (62 percent) from 1993 to 1996, with more than 65 percent consisting of bituminous coals,<sup>3</sup> used by U.S. electric utility plants (these coals are referred to as steam coals). The remaining 35 percent consisted of blends of bituminous coals (referred to as metallurgical coals) used in a few key industrial areas such as steel, cement, and chemicals. Canadian coal producers utilize inexpensive waterborne transportation along the Great Lakes to ship coal to U.S. markets. U.S. imports of coal from Mexico were negligible during 1993-96. Mexican coal generally contains high levels of sulfur and, when burned, yields relatively high levels of air pollution and ash residue. U.S. tariffs on imports of coal were free on an MFN basis prior to the CFTA and NAFTA.

**U.S. Exports** – The effect of NAFTA on U.S. coal exports to NAFTA partners was negligible. U.S. exports of coal to Mexico increased from \$10 to \$60 million during 1993-96. Most of the increase occurred in 1995 and 1996 when they rose by \$21 and \$29 million, respectively. In 1995 and 1996, approximately 60 percent of U.S. coal exports to Mexico were steam coal and 40 percent were metallurgical coal.<sup>4</sup> While NAFTA provided some economic incentive for coal trade between the United States and Mexico by removing the previous taxes and duties levied on coal trade,<sup>5</sup> non-NAFTA developments drove the export increase. The primary reason for the increase in U.S. exports is that Mexico, in its effort to gain hard currency, switched oil-fired power plants to coal to increase exports of the bunker fuels used in the oil-fired boilers. Mexico also constructed new electricity-generating capacity based on blends of Mexican and U.S. coals that reduce air pollution and ash residues. Also, with the privatization and modernization of Mexico's steel industry, Mexican steel producers no longer were required to purchase lower quality, higher priced Mexican coal.<sup>6</sup>

In 1995 and 1996, approximately 60 percent of U.S. exports of coal to Canada were metallurgical coal and 40 percent were steam coal.<sup>7</sup> U.S. exports of metallurgical coal to Canada rose from \$117 million in 1995 to \$216 million in 1996, following the steel production cycle in Canada and the United States. Similarly, U.S. exports of steam coal increased from \$116 million in 1995 to \$140 million in 1996, as Canadian electric power producers increased their use of cleaner burning U.S. bituminous coal to meet stricter environmental regulations. Canadian tariffs on imports of coal were free on an MFN basis prior to NAFTA.

**Other Factors** – Total U.S.-world trade in coal expanded by \$608 million to \$3.9 billion during 1993-96. Total U.S.-Canada trade in sector product rose by \$101 million to \$426 million. In contrast, total U.S.-Mexico trade rose by \$50 million to \$61 million. During 1993-96, despite high activity in company mergers and sales, NAFTA-related investment remained negligible.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Coal is classified by rank, which includes anthracite coal, bituminous coal, sub-bituminous coal, and lignite, based on fixed carbon, volatile matter, and heating value. Bituminous coal is the most common coal and is used primarily for generating electricity, making coke (for use in steel production), and space heating. Bituminous is often referred to as either steam coal, which is used in boilers to generate steam to produce electricity, or metallurgical coal, which requires the blending of two or more bituminous coals and is used to make coke.

<sup>4</sup> U.S. Department of Energy, Energy Information Administration, *Quarterly Coal Reports*, various issues.

<sup>5</sup> U.S. Department of Energy, Energy Information Administration, *International Energy Outlook 1996*, Apr. 1997, p. 72.

<sup>6</sup> Official of Jim Walters Resources, telephone interview with USITC staff, Apr. 28, 1997.

<sup>7</sup> U.S. Department of Energy, Energy Information Administration, *Quarterly Coal Reports*, various issues.

**ITC Group No. 10: Crude Petroleum, Natural Gas, and Natural Gas Liquids<sup>1</sup>**

**Table 6-10-1**

**Crude petroleum, natural gas, and natural gas liquids: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Production <sup>1</sup> (million dollars) . . . . .	45,958.0	41,620.0	46,031.0	42,554.0	-3,404.0	-7.4
Consumption (million dollars) . . . . .	89,241.5	85,993.2	93,796.4	95,819.8	6,578.3	7.4
Trade data (million dollars):						
Exports:						
Total . . . . .	587.9	575.8	729.3	1,196.8	608.9	103.6
To Mexico . . . . .	215.1	183.2	301.8	288.8	73.7	34.3
To Canada . . . . .	142.5	178.6	139.9	350.1	207.6	145.7
To non-NAFTA countries . . . . .	230.4	214.0	287.6	557.9	327.5	142.2
Imports:						
Total . . . . .	43,871.4	44,949.0	48,494.7	54,462.6	10,591.2	24.1
From Mexico . . . . .	4,237.6	4,671.7	5,729.6	7,309.5	3,071.9	72.5
From Canada . . . . .	9,006.2	9,737.2	10,793.3	13,111.7	4,105.5	45.6
From non-NAFTA countries . . . . .	30,627.6	30,540.1	31,971.7	34,041.4	3,413.8	11.1
Trade balance:						
Total . . . . .	-43,283.5	-44,373.2	-47,765.4	-53,265.8	-9,982.3	-23.1
With Mexico . . . . .	-4,022.5	-4,488.5	-5,427.8	-7,020.7	-2,998.2	-74.5
With Canada . . . . .	-8,863.7	-9,558.6	-10,653.4	-12,761.6	-3,897.9	-44.0
With non-NAFTA countries . . . . .	-30,397.2	-30,326.1	-31,684.1	-33,483.5	-3,086.2	-10.2
Total trade:						
Total . . . . .	44,459.3	45,524.8	49,224.0	55,659.3	11,200.0	25.2
NAFTA partners . . . . .	13,601.4	14,770.7	16,964.6	21,060.1	7,458.7	54.8
With Mexico . . . . .	4,452.7	4,854.9	6,031.4	7,598.3	3,145.7	70.6
With Canada . . . . .	9,148.7	9,915.8	10,933.2	13,461.7	4,313.1	47.1
Import market share (percent):						
Total . . . . .	49.2	52.3	51.7	56.8	7.7	( <sup>2</sup> )
Mexico . . . . .	4.7	5.4	6.1	7.6	2.9	( <sup>2</sup> )
Canada . . . . .	10.1	11.3	11.5	13.7	3.6	( <sup>2</sup> )
Non-NAFTA countries . . . . .	34.3	35.5	34.1	35.5	1.2	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.5	0.5	0.4	0.3	-0.2	( <sup>2</sup> )
Canada . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
All other . . . . .	0.6	0.6	0.6	0.4	-0.2	( <sup>2</sup> )
U.S. industry indicators: <sup>1</sup>						
Employees (1,000 persons) . . . . .	350.0	337.0	318.0	308.0	-42.0	-12.0
Production workers (1,000 persons) . . . . .	171.0	162.0	150.0	143.0	-28.0	-16.4
Average hourly wages of production workers . . . . .	\$20.00	20.00	20.00	20.00	0.00	0.0

<sup>1</sup> Compiled from official statistics of the U.S. Department of Energy. It should be noted that the quantity of production decreased from 1994 to 1995 but because the price of crude petroleum increased, value data show a contradictory trend.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 1311, Crude Petroleum and Natural Gas; and 1321, Natural Gas Liquids.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible<sup>2</sup> effect on increased U.S. imports of crude petroleum, natural gas, and natural gas liquids from NAFTA partners during the period. The primary factor affecting imports was a change in demand. In terms of quantity, U.S. imports from Mexico rose by 30 percent, most of which was crude petroleum, which supplemented a temporary decline in U.S. production resulting from the shut-down of some offshore wells for routine maintenance, and from Canada by 7 percent; in terms of value, U.S. imports from Mexico increased 73 percent to \$7.3 billion, while imports from Canada rose 46 percent to \$13.1 billion because of increased crude petroleum prices that rose by \$5-\$6 per barrel in 1996, during the period. The United States has historically maintained a trade deficit in energy products, and is the major market for Mexican crude petroleum, and Canadian crude petroleum and natural gas. In 1996, U.S. imports from Mexico increased by 28 percent compared with the 1995 level. The gradual revival of Mexico's economy led to a 3 to 7 percent increase in crude petroleum production, all of which was slated for export for much-needed hard currency. Canada has historically been a major supplier of U.S. imports of crude petroleum and natural gas because of the shared border and an intricate system of interconnected pipelines, whereby large multinational companies operating in both nations often exchange product easily across the border.

**U.S. Exports** – U.S. exports to Mexico, which primarily consist of natural gas, increased by \$74 million (34 percent) during the period due largely to Petroleos Mexicanos' (PEMEX)<sup>3</sup> inability to satisfy increased domestic demand. Historically, for reasons of national security, U.S. exports of crude petroleum have been prohibited, except to Canada under the provisions of a commercial exchange agreement approved by the U.S. Government, whereby U.S. exports of crude petroleum are exchanged for imports of refined petroleum products.<sup>4</sup> As of May 1996, the President authorized U.S. exports of only crude petroleum produced in the

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Under the provisions of the Mexican Constitution, all aspects of Mexico's petroleum, natural gas, and basic petrochemicals industries (including exploration, drilling, production, refining, distribution, pipeline transmission, trade, and oilfield services) are under the sole purview of PEMEX. These Constitutional provisions were not affected by the NAFTA. In Mexico, the Petroleum Regulatory Law provides that only the State (i.e., PEMEX) can carry out activities that constitute these industries. (See *Constitution of the United Mexican States*, arts. 25 and 27; *Regulatory Law of Constitutional Article 27 in the Area of Petroleum*, *Diario Oficial*, Nov. 29, 1958; and *Law of Petroleos Mexicanos*, *Diario Oficial*, Feb. 6, 1971.)

Historically, PEMEX allowed for only limited foreign investment in Mexico's secondary petrochemical industry; petrochemicals deemed secondary continue to be defined by PEMEX. Article 1102 of the investment chapter of NAFTA required Mexico to open its petrochemicals sector, other than "basic" petrochemicals, which remain under the sole purview of PEMEX to foreign investment and eliminated the 40-percent limitation on foreign investment in "secondary" petrochemicals (See *Law on the Promotion of Mexican Investment and The Regulation of Foreign Investment*, art. 5, *Diario Oficial*, Mar. 9, 1973); there is no limit with regard to other classifications of petrochemicals (See *Regulation of the Law on the Promotion of Mexican Investment and The Regulation of Foreign Investment*, *Diario Oficial*, May 16, 1989). In addition, to the elimination of investment restrictions on nonbasic petrochemicals, certain basic petrochemicals were reclassified, leaving only 8 petrochemicals classified as basic (See *1989 Resolution Reclassifying Specified Petrochemical Products as Basic or Secondary Petrochemicals*, *Diario Oficial*, Aug. 15, 1989 and *Resolution Reclassifying Specified Petrochemical Products as Basic or Secondary Petrochemicals*, *Diario Oficial*, Aug. 17, 1992).

<sup>4</sup> The export of crude petroleum can be restricted at any time by the President under sec. 103 of *The Energy Policy and Conservation Act*, Public Law 94-163, Dec. 22, 1975. In matters of export control of crude petroleum, the President acts through the Secretary of Commerce, who imposes such restrictions necessary to be consistent with the

(continued...)

Alaskan North Slope to any MFN country.<sup>5</sup> These exports (about 1 percent of total U.S. production in 1996) have gone to markets in Japan and the Pacific Rim.

*Other Factors* – Under the provisions of the Mexican Constitution, all aspects of Mexico’s petroleum and natural gas industries, including exploration, production, distribution, and trade, are under the sole purview of PEMEX. Foreign investment in Mexico’s energy industry is prohibited by the Constitution. NAFTA did not affect the Constitutional provision prohibiting foreign investment (or any private investment) in Mexico’s petroleum and natural gas industries. In Mexico, only state-owned PEMEX can import crude petroleum, natural gas, and natural gas liquids. PEMEX has historically imported these products as it deemed necessary, regardless of tariff rates. Total U.S.-Mexican trade increased by \$3.1 billion (71 percent) to \$7.6 billion from 1993 to 1996. However, the U.S. trade balance with Mexico in terms of these products deteriorated by 75 percent during that same period, primarily because of fluctuations in the price of crude petroleum.

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<sup>4</sup> (...continued)

national interest and the purposes of the act. The Secretary enforces this provision of the act through the requirement of validated export licenses. The rules governing these exports are set forth in sec. 377.6, *Petroleum and Petroleum Products*, U.S. Department of Commerce, *Export Administration Regulations*, Dec. 7, 1981.

U.S. exports of crude petroleum can also be controlled by three other acts: *Export Administration Act of 1979*, Public Law 96-72, Sept. 29, 1979; *The Naval Petroleum Reserves Production Act of 1976*, Public Law 94-258, Apr. 5, 1976; and *The Trans-Alaska Pipeline Authorization Act*, Public Law 93-153, Nov. 16, 1973.

<sup>5</sup> *Exports of Alaskan North Slope (ANS) Crude Oil*, President Documents, memorandum of April 28, 1996, as published in the *Federal Register* of May 2, 1996 (61 F.R. 19507), pursuant to section 28(s) of the *Mineral Leasing Act*, as amended, 30 U.S.C. 185.

## ITC Group No. 11: Animal Feeds<sup>1</sup>

**Table 6-11-1**  
**Animal feeds: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	13,741.6	13,744.7	14,885.0	14,950.0	1,208.4	8.8
Consumption (million dollars) . . . . .	13,242.3	13,316.9	14,438.7	14,601.2	1,358.9	10.3
Trade data (million dollars):						
Exports:						
Total . . . . .	634.4	602.3	648.8	591.8	-42.7	-6.7
To Mexico . . . . .	54.5	73.6	42.7	43.6	-10.9	-20.1
To Canada . . . . .	102.0	111.0	123.3	105.4	3.4	3.3
To non-NAFTA countries . . . . .	477.9	417.7	482.7	442.8	-35.1	-7.4
Imports:						
Total . . . . .	135.1	174.5	202.5	242.9	107.8	79.8
From Mexico . . . . .	0.3	0.1	0.3	0.2	-0.2	-53.5
From Canada . . . . .	71.0	98.2	113.7	159.3	88.3	124.4
From non-NAFTA countries . . . . .	63.8	76.3	88.5	83.4	19.6	30.8
Trade balance:						
Total . . . . .	499.3	427.8	446.3	348.8	-150.5	-30.1
With Mexico . . . . .	54.2	73.5	42.4	43.4	-10.8	-19.9
With Canada . . . . .	31.0	12.9	9.6	-53.9	-84.9	(2)
With non-NAFTA countries . . . . .	414.1	341.4	394.3	359.3	-54.8	-13.2
Total trade:						
Total . . . . .	769.6	776.8	851.3	834.7	65.1	8.5
NAFTA partners . . . . .	227.9	282.9	280.1	308.5	80.6	35.4
With Mexico . . . . .	54.9	73.7	43.0	43.8	-11.1	-20.3
With Canada . . . . .	173.0	209.2	237.0	264.7	91.7	53.0
Import market share (percent):						
Total . . . . .	1.0	1.3	1.4	1.7	0.6	(2)
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
Canada . . . . .	0.5	0.7	0.8	1.1	0.6	(2)
Non-NAFTA countries . . . . .	0.5	0.6	0.6	0.6	0.1	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	2.7	0.0	0.0	0.0	-2.7	(2)
Canada . . . . .	(3)	(3)	(3)	(3)	(3)	(2)
All other . . . . .	0.3	0.3	0.3	0.4	0.1	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	42.2	42.4	42.6	42.5	0.3	0.7
Production workers (1,000 persons) . . . . .	27.1	26.8	26.7	26.7	-0.4	-1.5
Average hourly wages of production workers . . . . .	\$10.17	10.50	10.94	11.05	0.88	8.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2048, Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats.

## Summary of Sector Analysis<sup>2</sup>

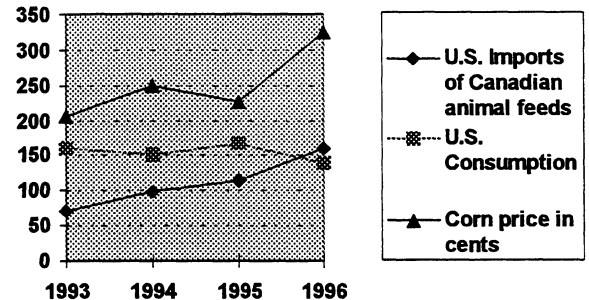
**U.S. Imports** – NAFTA had negligible<sup>3</sup> effect on U.S. imports from its NAFTA partners during 1993-96. U.S. imports of animal feeds<sup>4</sup> from Canada increased 124 percent, from \$71 million in 1993 to \$159 million in 1996. Most of the increase in imports from Canada was prepared feeds for dairy and other cattle, feeds for animals other than livestock, both of which were free under the U.S. MFN rate of duty prior to NAFTA; and other feeds (which were free under the CFTA).

Imports of animal feeds play a negligible role in the United States. Imports from Canada in 1996 were only about 1 percent of U.S. consumption, and total imports were less than 2 percent of U.S. consumption. Imports of animal feeds from Canada are a sign of active border trade. For 1993-96, NAFTA was not the primary operating factor in the U.S. animal feeds market. The increase in imports of Canadian animal feeds parallels the increase in the domestic price of U.S. feed grains which is represented in the figure 6-11-1 by corn, the principal grain. When U.S. prices exceed world prices, imports from Canada are expected to increase.

Animal feeds tend to be very bulky, value-added products prepared largely from by-products. They have variable formulations based on local availability, price, and nutritional requirements. Animal feeds tend to not be major intercontinental trade items. Rather, they tend to be prepared regionally from available supplies, which is why about 66 percent of all imports of animal feeds into the United States originate in Canada. There may also be problems of rancidity with shipping animal feeds over long distances. U.S. imports of animal feeds from Mexico are low. Mexico ranks as the 25th most important source of animal feeds imports for the U.S. From 1993 to 1996, imports of feed from Mexico fluctuated between \$0.3 million and \$0.1 million.

**U.S. Exports** – NAFTA also had a negligible effect on U.S. exports of sector products to NAFTA partners during the period. Total U.S. exports declined \$32 million from 1993 to 1994, dipping to \$602 million.

**Figure 6-11-1**  
**Animal feeds: Imports from Canada, price and consumption**



Note: Consumption is in million metric tons; price is in cents per bushel; imports are in millions of dollars.  
Source: Official statistics of the U.S. Department of Agriculture.

<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> These products are used by those who feed ovine, bovine, equine, porcine, and avian animals, as well as all forms of pets. Included are by-products, such as "Bran, sharps (middlings) and other residues"; "Oilcake and other residues," which come from the grains, oilseeds, vegetable processing, and rendering industries; forage items, such as hay or alfalfa, which may be cubed or pelletized; and prepared animal feeds, including pet foods, and animal feeds containing milk or milk derivatives.

They then rose \$47 million only to decline by \$57 million to \$592 million in 1996, for an overall 1993-96 decline of \$43 million (7 percent).

U.S. exports to Mexico grew substantially during 1993-94, but fell during 1995 largely as a result of the peso devaluation and remained flat in 1996. Prior to NAFTA, Mexican tariff rates ranged from 10 percent ad valorem to 20 percent ad valorem. Under NAFTA, some of the tariffs were eliminated, while others were scheduled to be phased out in stages over a period of 5 to 10 years. The increase in U.S. exports of feeds in 1994 was partly the result of Mexican tariff reductions under NAFTA. However, in the subsequent period from 1994 to 1996, the peso crisis and concomitant decrease in Mexican purchasing power had a more significant effect than the reduced tariffs. For example, in 1994, U.S. exports of "preparations of a kind used in animal feeding" (HTS 2309.90.10), the largest single animal feed export category to Mexico, totaled \$47 million, but decreased by almost half to \$24 million in 1995 owing to the peso crisis, as the discretionary purchase of imported feed became a luxury.

**Other Factors** – Total sector trade grew by 9 percent to \$835 million from 1993 to 1996. Total U.S.-Canada trade for the sector grew by \$92 million to \$265 million during the period, while total U.S.-Mexico trade for the sector declined by \$11 million to \$44 million.

The NAFTA effect upon investment cannot be determined with confidence due to lack of detailed investment data on U.S. investment in Mexico, Mexican investment in the United States, and any other NAFTA-related investments. However, it is believed that the effects were negligible. Most U.S. animal feeds are prepared from the by-products of cereal grain and oilseed processing plants located for the most part in the U.S. cornbelt, thus rendering the cornbelt the most likely focus for U.S. investment. Mexico, however, has invested in its own agricultural production system. For further growth in Mexican feed exports, much investment is still needed in the Mexican transportation infrastructure.<sup>5</sup>

Farmland Industries, a large soybean and corn exporter to Mexico, did indicate in testimony that it is investing in feed manufacturing in Mexico to supply growing demand for animal feed in Mexico.<sup>6</sup>

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<sup>5</sup> "Nevertheless transportation remains a significant bottleneck that could be broken with additional infrastructure investment, paving the way for exports of U.S. farm commodities and food processing technology." Federal Reserve Bank of Kansas City, *Economic Review*, vol. 81, No. 3, "Global Infrastructure to Shape U.S. Export Boom," Alan Barkema and Mark Drabenstott, in the on line edition of *Feedstuffs*, May 5, 1997, vol. 69, No. 18 (<http://www.feedstuffs.com/subscrip/1997/f10s6903.htm>).

<sup>6</sup> Stephen P. Dees, Farmland Industries, written submission to the USITC, May 12, 1997, p. 2, and testimony before the Commission, May 16, 1997.



## ITC Group No. 12: Bakery Products<sup>1</sup>

**Table 6-12-1**  
**Bakery products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	25,357.1	26,777.3	27,659.8	28,489.6	3,132.5	12.4
Consumption (million dollars) . . . . .	25,486.1	26,950.9	27,899.0	28,772.6	3,286.5	12.9
Trade data (million dollars):						
Exports:						
Total . . . . .	338.6	366.1	359.4	374.4	35.9	10.6
To Mexico . . . . .	38.7	43.5	14.5	13.2	-25.5	-65.9
To Canada . . . . .	183.5	197.3	218.1	227.5	43.9	23.9
To non-NAFTA countries . . . . .	116.4	125.3	126.8	133.8	17.4	14.9
Imports:						
Total . . . . .	467.5	539.7	598.6	657.4	189.9	40.6
From Mexico . . . . .	34.3	52.9	61.3	73.2	38.9	113.4
From Canada . . . . .	199.9	228.6	262.1	291.4	91.6	45.8
From non-NAFTA countries . . . . .	233.4	258.2	275.2	292.8	59.4	25.5
Trade balance:						
Total . . . . .	-129.0	-173.6	-239.2	-283.0	-154.0	-119.4
With Mexico . . . . .	4.4	-9.4	-46.8	-60.0	-64.3	(2)
With Canada . . . . .	-16.3	-31.3	-44.0	-64.0	-47.6	-291.3
With non-NAFTA countries . . . . .	-117.0	-132.9	-148.3	-159.0	-42.0	-35.9
Total trade:						
Total . . . . .	806.1	905.8	958.0	1,031.8	225.7	28.0
NAFTA partners . . . . .	456.4	522.3	556.0	605.3	148.9	32.6
With Mexico . . . . .	72.9	96.4	75.8	86.4	13.4	18.4
With Canada . . . . .	383.4	425.9	480.2	518.9	135.5	35.3
Import market share (percent):						
Total . . . . .	1.8	2.0	2.1	2.3	0.5	(2)
Mexico . . . . .	0.1	0.2	0.2	0.3	0.1	(2)
Canada . . . . .	0.8	0.8	0.9	1.0	0.2	(2)
Non-NAFTA countries . . . . .	0.9	1.0	1.0	1.0	0.1	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	4.0	(3)	(3)	0.0	-4.0	(2)
Canada . . . . .	0.1	0.1	0.1	(3)	-0.1	(2)
All other . . . . .	0.1	0.2	0.1	0.1	-0.1	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	210.6	212.0	209.2	202.5	-8.1	-3.9
Production workers (1,000 persons) . . . . .	135.9	138.9	139.9	136.1	0.2	0.2
Average hourly wages of production workers . . . . .	\$11.71	11.19	11.87	12.17	0.46	3.9

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 2051, Bread and Other Bakery Products, Except Cookies and Crackers; 2052, Cookies and Crackers; and 2053, Frozen Bakery Products, Except Bread.

## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** – NAFTA had a negligible<sup>3</sup> effect on increasing U.S. imports from its NAFTA partners during 1993-96. Imports from Mexico rose because some U.S. producers of baked goods have located production in Mexico for export to the United States before and after NAFTA, in part to take advantage of lower (nonsubsidized) sugar prices<sup>4</sup> in Mexico. In addition, some of the increase was in taco shells and tostada shells, which rose by 111 percent, from \$13.8 million in 1993 to \$29 million in 1996. NAFTA tariffs were reduced on these items from 10 percent to zero. Imports from Mexico were concentrated in sweet biscuits, waffles, and wafers, other than frozen; pastries, cakes, and similar sweet baked products; and other baked products, including toasted products (taco shells and tostada shells). U.S. import tariffs on all bakery products were free prior to NAFTA, with the exception of “other baked products, including toasted products” (HTS subheading 1905.90.90), which had an MFN tariff of 10 percent ad valorem. Under NAFTA, this duty was eliminated on qualifying goods. Imports from Mexico under HTS subheading 1905.90.90 were mostly taco shells and tostada shells produced for restaurant use.<sup>5</sup>

Imports from Canada increased substantially in 1995 and 1996, in part because the cost of sugar is lower in Canada than in the United States, providing a cost advantage to Canadian producers. During 1992-96, most U.S. imports from Canada entered under HTS subheadings where the MFN tariff rate was already free. Less than 2 percent of U.S. imports from Canada entered under HTS subheading 1905.90.90; in 1993 the U.S. tariff under the CFTA was 5 percent ad valorem, which under NAFTA fell to 2 percent ad valorem.

**U.S. Exports** -- NAFTA had a negligible effect on U.S. exports of sector products to Mexico and Canada during 1993-96. During this period, exports to Mexico fell by 66 percent to \$13 million, as the devaluation of the peso reduced consumers' real incomes and resulted in price increases for imported baked products, the consumption of which is price sensitive. Exports to Canada increased moderately by 24 percent to \$228 million in 1996, which reflected higher consumption levels as well as a continuation of the trend towards increased cross-border trade in this sector.<sup>6, 7</sup>

**Other Factors** – Total U.S.-world trade in bakery products expanded by 28 percent to \$1 billion from 1993 to 1996. During this period, total U.S.-Canada trade in these products rose by 35 percent to \$519 million and total U.S.-Mexico trade rose by 18 percent to \$86 million in 1996.

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> Official of the Independent Bakers Association, telephone interview by USITC staff, Mar. 10, 1997.

<sup>5</sup> For example, see U.S. Customs ruling letter HQ 954758, Feb. 28, 1994.

<sup>6</sup> Official of American Bakers Association, telephone interview by USITC staff, Mar. 10, 1997.

<sup>7</sup> Official of the Independent Bakers Association, telephone interview by USITC staff, Mar. 10, 1997. Some industry officials noted that perhaps there is more trade across the Canadian border because Canada has become more flexible with formerly problematic labeling restrictions concerning folic acid. Canada has adopted an interim order to allow the entrance of folic acid-enriched baked goods (per the U.S. enrichment requirement that has not yet been approved in Canada).

Many producers of sweet baked goods have been moving from the United States into Mexico because of relatively lower sugar prices. Under the NAFTA-TAA, 146 workers were certified as a result of muffin production being shifted to Mexico.<sup>8</sup>

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<sup>8</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

## ITC Group No. 13: Chocolate and Cocoa Products<sup>1</sup>

**Table 6-13-1**

**Chocolate and cocoa products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	3,154.9	3,311.4	3,211.1	3,300.0	145.1	4.6
Consumption ( <i>million dollars</i> ) . . . . .	3,415.6	3,579.3	3,584.1	3,719.1	303.6	8.9
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	398.3	382.4	355.5	400.0	1.7	0.4
To Mexico . . . . .	49.8	56.0	41.8	47.3	-2.5	-5.0
To Canada . . . . .	146.9	134.1	149.9	182.2	35.3	24.0
To non-NAFTA countries . . . . .	201.6	192.3	163.8	170.5	-31.1	-15.4
Imports:						
Total . . . . .	658.9	650.3	728.5	819.1	160.2	24.3
From Mexico . . . . .	16.8	15.2	24.9	25.7	8.9	53.0
From Canada . . . . .	164.5	178.1	221.9	261.5	97.0	59.0
From non-NAFTA countries . . . . .	477.6	457.0	481.7	531.9	54.3	11.4
Trade balance:						
Total . . . . .	-260.7	-267.9	-373.0	-419.1	-158.5	-60.8
With Mexico . . . . .	32.9	40.9	16.9	21.6	-11.4	-34.6
With Canada . . . . .	-17.6	-44.0	-72.0	-79.4	-61.8	-350.7
With non-NAFTA countries . . . . .	-276.0	-264.7	-317.9	-361.3	-85.4	-30.9
Total trade:						
Total . . . . .	1,057.2	1,032.7	1,084.1	1,219.1	161.9	15.3
NAFTA partners . . . . .	378.1	383.5	438.5	516.8	138.7	36.7
With Mexico . . . . .	66.6	71.2	66.7	73.0	6.4	9.7
With Canada . . . . .	311.5	312.2	371.8	443.7	132.3	42.5
Import market share ( <i>percent</i> ):						
Total . . . . .	19.3	18.2	20.3	22.0	2.7	(2)
Mexico . . . . .	0.5	0.4	0.7	0.7	0.2	(2)
Canada . . . . .	4.8	5.0	6.2	7.0	2.2	(2)
Non-NAFTA countries . . . . .	14.0	12.8	13.4	14.3	0.3	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	0.1	0.2	0.0	0.0	-0.1	(2)
Canada . . . . .	2.6	2.0	1.6	1.1	-1.5	(2)
All other . . . . .	1.5	1.6	1.8	1.7	0.2	(2)
U.S. industry indicators:						
Employees ( <i>1,000 persons</i> ) . . . . .	(3)	(3)	(3)	(3)	(3)	(4)
Production workers ( <i>1,000 persons</i> ) . . . . .	(3)	(3)	(3)	(3)	(3)	(4)
Average hourly wages of production workers . . . . .	(3)	(3)	(3)	(3)	(3)	(4)

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Not available.

<sup>4</sup> Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry No. 2066, Chocolate and Cocoa Products. Products in this industry are chocolate and chocolate-type confectionary products and coatings, and miscellaneous chocolate and cocoa products.

## Summary of Sector Analysis<sup>2</sup>

*U.S. Imports* – NAFTA had a negligible<sup>3</sup> effect on rising U.S. imports of chocolate and cocoa products from Mexico and Canada.<sup>4</sup> U.S. imports from Mexico rose \$9 million during the period to \$26 million, accounting for less than 3 percent of all U.S. imports of chocolate and cocoa products. Apparent consumption during the period rose by \$304 million (9 percent) to \$3.7 billion. Almost all sector products entered from Mexico prior to NAFTA entered under tariff provisions for which the MFN rate of duty is free because the articles are not produced in the United States. The imported products were primarily cocoa butter, fat, and oil, which were derived from Mexican-grown cocoa. Neither the United States nor Canada produces cocoa. Cocoa products that have undergone a minimum of processing are allowed duty-free entry into the United States under NAFTA. Most of the growth in imports from Mexico in 1995 and 1996 was of miscellaneous confectionary or food preparations containing cocoa, which entered free of duty under NAFTA. U.S. tariffs on most other products are either free for NAFTA goods from Mexico or are subject to tariff-rate quotas (TRQ), such as sugar-containing or dairy-containing products.

The average effective U.S. tariff ad valorem equivalents on imports from Canada was 2.6 percent before NAFTA. U.S. imports from Canada rose 59 percent to \$262 million from 1993 to 1996, reflecting lower sugar costs in Canada than the United States. Most of the products entering from Canada were chocolate or certain filled confectionary. Cocoa inputs in this category are processed into intermediate chocolate and confectionary products in Canada where sugar, at world prices,<sup>5</sup> is added, and the intermediate or finished products can generally be imported into the United States. Major U.S. producers, including Kraft General Foods and Hershey Food Corporation, process intermediate chocolate or food preparations containing cocoa in Canada. The operations of these and other U.S. producers in Canada were established well before NAFTA.

*U.S. Exports* – NAFTA also had a negligible effect on U.S. exports of sector products to NAFTA countries. Exports to Mexico decreased by 5 percent during 1993-96 to \$47 million due to the economic downturn in 1995. Reduced real incomes of consumers, rising unemployment, and price increases in 1995 lead to reduced discretionary spending by Mexican consumers. Most of the decline in exports to Mexico occurred in certain filled confectionary and a miscellaneous category of confectionary and other products used in the production of sweets. U.S. exports of chocolate and other food preparations put up for retail sale to Mexico are minimal, because, like all sector products, they are subject to high Mexican tariffs. Under NAFTA, Mexican tariffs of 20 percent ad valorem are being reduced over 10 years. Hershey Food Corp., a major U.S. manufacturer of chocolate and chocolate products, established production facilities in Mexico several years before NAFTA.

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> U.S. trade in sector products is dominated by raw cocoa and cocoa-butter ingredients used to produce candy and other chocolate products.

<sup>5</sup> Sugar prices in the United States are generally higher than those in the rest of the world because of U.S. control of the import of sugar under the TRQs. The United States does have partial duty refund provisions for the re-export of sugar containing products made with imported sugar.

Exports to Canada increased by 24 percent to \$182 million in 1996, with most of the growth occurring in 1996. U.S. exports of chocolate and other food preparations containing cocoa put up for retail sale increased substantially, but was offset by a large decline in exports of the miscellaneous category of “other” confectionary and chocolate or food preparations containing cocoa. The mix of products exported to Canada has been shifting since 1995 to products not previously exported in notable quantities.

*Other Factors* – Total U.S. trade in chocolate and cocoa products grew by 15 percent from 1993 to 1996 from \$1 billion to \$1.2 billion. During this period, total U.S.-Canada trade in these products grew 43 percent from \$311 million in 1993 to \$444 million in 1996. Likewise, total U.S.-Mexico trade grew by 10 percent from \$67 million to \$73 million in 1996.

Because of duty-free treatment for nearly all sector imports from Mexico prior to NAFTA, and because of substantial investments in Canada by U.S. food processors before 1994, it is unlikely that NAFTA has had much, if any, effect on investment in the United States, Canada, or Mexico with regard to sector products.

## ITC Group No. 14: Fats and Oils<sup>1</sup>

**Table 6-14-1**  
**Fats and oils: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	6,709.9	6,457.0	6,653.4	6,300.0	-409.9	-6.1
Consumption (million dollars) . . . . .	7,138.6	6,966.7	7,087.3	7,189.1	50.5	0.7
Trade data (million dollars):						
Exports:						
Total . . . . .	453.4	566.0	886.3	679.6	226.2	49.9
To Mexico . . . . .	78.4	88.6	157.0	147.6	69.2	88.3
To Canada . . . . .	58.2	72.8	71.7	106.0	47.8	82.0
To non-NAFTA countries . . . . .	316.8	404.6	657.6	426.0	109.2	34.5
Imports:						
Total . . . . .	882.1	1,075.7	1,320.2	1,568.7	686.6	77.8
From Mexico . . . . .	10.6	7.6	14.7	19.3	8.7	82.1
From Canada . . . . .	272.0	369.9	417.1	517.4	245.4	90.2
From non-NAFTA countries . . . . .	599.5	698.2	888.4	1,032.0	432.5	72.1
Trade balance:						
Total . . . . .	-428.7	-509.7	-433.9	-889.1	-460.4	-107.4
With Mexico . . . . .	67.8	81.0	142.3	128.3	60.5	89.2
With Canada . . . . .	-213.8	-297.1	-345.4	-411.4	-197.6	-92.5
With non-NAFTA countries . . . . .	-282.7	-293.6	-230.8	-606.0	-323.3	-114.3
Total trade:						
Total . . . . .	1,335.5	1,641.7	2,206.5	2,248.3	912.8	68.3
NAFTA partners . . . . .	419.2	538.9	660.5	790.3	371.1	88.5
With Mexico . . . . .	89.0	96.2	171.7	166.9	77.9	87.5
With Canada . . . . .	330.2	442.7	488.8	623.4	293.2	88.8
Import market share (percent):						
Total . . . . .	12.4	15.4	18.6	21.8	9.5	(2)
Mexico . . . . .	0.1	0.1	0.2	0.3	0.1	(2)
Canada . . . . .	3.8	5.3	5.9	7.2	3.4	(2)
Non-NAFTA countries . . . . .	8.4	10.0	12.5	14.4	6.0	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	3.8	4.0	3.2	1.5	-2.3	(2)
Canada . . . . .	0.1	0.1	0.1	(3)	-0.1	(2)
All other . . . . .	1.4	1.1	0.7	0.6	-0.8	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	32.0	33.0	34.0	32.0	0.0	0.0
Production workers (1,000 persons) . . . . .	21.0	22.0	23.0	22.0	1.0	4.8
Average hourly wages of production workers . . . . .	\$11.03	11.45	11.86	12.21	1.18	10.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data for SIC 207.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) industry Nos. 2076, Vegetable Oil Mills, Excluding Corn, Cottonseed, and Soybean; and 2079, Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, Not Elsewhere Classified. Note further that establishments producing corn oil, classified under SIC Industry No. 2046, Wet Corn Milling, and 2075, Soybean Oil Mills, are not included in this product sector.

## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** – NAFTA had a negligible<sup>3</sup> effect on increasing U.S. imports of fats and oils from Mexico and Canada during 1993-96. Mexico is a net importer of fats and oils, and exports a relatively small fraction of its output. Mexican exports recovered in 1996 from the low levels of 1993-95 affected by drought that reduced production of safflower seed oil, the leading Mexican export. The United States is a net importer of fats and oils from Canada, and Canadian producers have made sharp gains in the U.S. market for their principal product, canola oil, for which there is rising demand as a cooking oil. Most of this increase occurred because of higher prices for vegetable oil.

U.S. tariffs were reduced by 2.3 percentage points during 1993-96 on sector imports (principally safflower oil and sesame oil) from Mexico under NAFTA. U.S. duties on Canadian fats and oils were generally low or free prior to NAFTA, principally due to tariff reductions under the CFTA.

**U.S. Exports** – NAFTA had a negligible effect on U.S. exports of fats and oils to NAFTA countries. Lower Mexican production and higher worldwide prices of vegetable oil were the principal reasons behind the rise in the dollar value of U.S. exports to Mexico. The volume of U.S. vegetable oil exports rose by 59 percent.<sup>4</sup> Furthermore, although U.S. sector exports to Mexico benefited from marginally lower import duties (Mexican tariffs ranged from 10 percent ad valorem to 20 percent ad valorem in 1993 with staged reductions over 10 years under NAFTA), this was offset in 1995 by a 15 percent value-added tax on vegetable oil. Adverse growing conditions reduced domestic oilseed supplies in this period.

U.S. exports to Canada rose to \$106 million in 1996, 83 percent above the \$58 million level in 1993. Although sales of U.S. vegetable oil in Canada benefited from lower import duties, a price rise contributed substantially to the increased U.S. vegetable oils exports. Higher valued, refined U.S. vegetable oil products did make some inroads into the Canadian market.

**Other Factors** – Total U.S. trade in fats and oils grew by 68 percent (\$913 million) to \$2.2 billion from 1993 to 1996. During this period, total U.S.-Canada trade for the sector grew by \$293 million to \$623 million, and total U.S.-Mexico trade for the sector by \$78 million to \$167 million in 1996.

The amount of U.S. investment in Mexico is unknown but is believed to be increasing, although still limited. A number of U.S. companies initially expressed interest in the Mexican oilseed sector, but the recession in 1995 cooled U.S. investors' plans as the Mexican oilseed industry remains financially vulnerable. However in 1997, one U.S. oilseed crushing plant will open in Mexico.<sup>5</sup> Under the NAFTA-TAA, 50 workers that produced vegetable oils were certified during 1994-96.<sup>6</sup>

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> U.S. exports rose from 138,000 to 220,000 metric tons during 1993-96.

<sup>5</sup> "Cargill crushing plant to open ahead of schedule in Mexico," *Feedstuffs*, Feb. 3, 1997, p. 8.

<sup>6</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.



**ITC Group No. 15: Malt Beverages<sup>1</sup>**

**Table 6-15-1**  
**Malt beverages: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	16,628.6	16,713.9	17,100.9	17,785.3	1,156.7	7.0
Consumption (million dollars) . . . . .	17,355.5	17,395.6	17,766.9	18,672.8	1,317.3	7.6
Trade data (million dollars):						
Exports:						
Total . . . . .	233.7	390.8	525.6	453.2	219.5	93.9
To Mexico . . . . .	19.8	29.3	22.8	12.0	-7.7	-39.1
To Canada . . . . .	21.2	25.8	32.4	37.1	16.0	75.4
To non-NAFTA countries . . . . .	192.7	335.7	470.5	404.0	211.3	109.6
Imports:						
Total . . . . .	960.6	1,072.5	1,191.6	1,340.7	380.1	39.6
From Mexico . . . . .	163.1	187.9	238.2	306.7	143.6	88.0
From Canada . . . . .	168.1	201.4	196.6	208.2	40.1	23.9
From non-NAFTA countries . . . . .	629.4	683.2	756.9	825.8	196.4	31.2
Trade balance:						
Total . . . . .	-726.9	-681.7	-666.0	-887.5	-160.6	-22.1
With Mexico . . . . .	-143.3	-158.6	-215.4	-294.6	-151.3	-105.6
With Canada . . . . .	-147.0	-175.6	-164.2	-171.1	-24.1	-16.4
With non-NAFTA countries . . . . .	-436.7	-347.5	-286.3	-421.8	14.8	3.4
Total trade:						
Total . . . . .	1,194.3	1,463.3	1,717.3	1,793.9	599.6	50.2
NAFTA partners . . . . .	372.2	444.3	489.9	564.1	191.9	51.6
With Mexico . . . . .	182.9	217.2	260.9	318.7	135.8	74.3
With Canada . . . . .	189.3	227.1	229.0	245.4	56.1	29.6
Import market share (percent):						
Total . . . . .	5.5	6.2	6.7	7.2	1.6	( <sup>2</sup> )
Mexico . . . . .	0.9	1.1	1.3	1.6	0.7	( <sup>2</sup> )
Canada . . . . .	1.0	1.2	1.1	1.1	0.1	( <sup>2</sup> )
Non-NAFTA countries . . . . .	3.6	3.9	4.3	4.4	0.8	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	2.0	1.5	1.5	1.3	-0.7	( <sup>2</sup> )
Canada . . . . .	1.5	1.1	0.8	0.5	-1.0	( <sup>2</sup> )
All other . . . . .	1.5	1.5	1.3	1.1	-0.4	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	39.5	37.1	35.8	34.9	-4.6	-11.6
Production workers (1,000 persons) . . . . .	24.2	24.3	23.7	22.6	-1.6	-6.6
Average hourly wages of production workers . . . . .	\$20.00	20.51	21.09	21.07	1.07	5.4

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2082, Malt Beverages.

## Summary of Sector Analysis

**U.S. Imports** -- The effect of NAFTA on rising U.S. imports from NAFTA partners of malt beverages was negligible.<sup>2</sup> Consumer preferences and the relative strength of the U.S. dollar were the main factors driving malt-beverage imports from 1993 to 1996. Total U.S. malt beverage imports from all sources worldwide rose by 40 percent from nearly \$1.0 billion in 1993 to just over \$1.3 billion in 1996, with the rise in imports from several non-NAFTA countries exceeding that from the NAFTA partners.<sup>3</sup> Imports from Mexico rose each year to \$307 million in 1996. During this same period, imports from Canada were up \$40 million, despite being relatively flat since 1994.<sup>4</sup> This rise in imports from NAFTA partners is due primarily to the trend in U.S. consumer preference for imported beer, despite their price premium over domestic beer. In 1995, U.S. domestic beer sales dropped 1.0 percent but import sales rose 5.3 percent.<sup>5</sup> The top five imported beers in 1994-1995 were *Heineken*, *Corona Extra*, *Molson Ice*, *Beck's*, and *Molson Golden*.<sup>6</sup> Sales of *Corona* have also been supported heavily by the large Hispanic market in the United States.<sup>7</sup> Furthermore, the peso devaluation and a favorable Canadian-dollar exchange rate contributed to the increase in U.S. beer-imports, which reduced the cost of these products in the United States.

NAFTA tariff reductions did not significantly affect the U.S. malt-beverage trade. During 1993-96, trade-weighted average tariff rates on imports of these products did not decrease significantly. The effective U.S. ad valorem equivalent (AVE) on malt beverages from Canada decreased two-thirds from 1.5 percent ad valorem to 0.5 percent ad valorem. Likewise, the AVE on malt beverages from Mexico decreased by nearly a third from 2 percent ad valorem to 1.3 percent ad valorem.

**U.S. Exports** -- The effect of NAFTA on U.S. exports of sector products to Canada and Mexico was negligible. During 1993-96, there was a 94 percent increase in total U.S. beer exports to all countries worldwide from \$234 million to \$453 million, with the rise in exports to several non-NAFTA countries exceeding that to the NAFTA partners.<sup>8</sup> Beer exports to Mexico declined by 59 percent from \$24 million to \$12 million from 1994-1996 due to the Mexican recession and the peso devaluation, which raised the price of U.S. beer in peso terms. Beer exports to Canada rose continuously to \$37 million in 1996, a 75-percent

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> For example, U.S. imports were up 87 percent from \$2.9 million in 1993 to \$5.4 million in 1996 from Belgium, up 108 percent from \$769,000 in 1993 to \$1.6 million in 1996 from Venezuela, up 447 percent from \$1.9 million in 1993 to \$10.3 million in 1996 from the Dominican Republic, and up 71 percent from \$50.4 million in 1993 to \$86.0 million in 1996 from the United Kingdom during this same period.

<sup>4</sup> On Jan. 4, 1995, Canadian beer producers filed a request for a NAFTA binational panel to review the recision of the injury determination made by the Canadian International Trade Tribunal (CITT) respecting certain malt beverages from the United States. 60 F.R. 2942, Jan. 12, 1995. On Nov. 15, 1995, a panel affirmed the determination of the CITT. NAFTA Secretariat File No. CDA-95-1904-01.

<sup>5</sup> Rick Lyke, "The Top Ten Imported Beers," *Market Watch*, June 1996, vol. 15, No. 4, p. 53.

<sup>6</sup> *Ibid.*, p. 55. The origins of these five beers are, respectively, the Netherlands, Mexico, Canada, Germany, and Canada.

<sup>7</sup> *Ibid.*, p. 56.

<sup>8</sup> For example, U.S. exports were up 223 percent from \$9.9 million in 1993 to \$32.0 million in 1996 to Taiwan, up 184 percent from \$10.3 million in 1993 to \$29.3 million in 1996 to the United Kingdom, up 394 percent from \$5.5 million in 1993 to \$26.9 million in 1996 to Ireland, and up 780 percent from \$2.7 million in 1993 to \$23.4 million in 1996 to Paraguay during this same period.

increase over the \$21 million level in 1993 because the removal of tariff and nontariff barriers under GATT made it easier to export to Canada, rather than just licensed Canadian brewers.<sup>9</sup>

*Other Factors* – During 1993-96, total U.S.-world trade in malt-beverage products grew 50 percent from \$1.2 billion to \$1.8 billion. Total U.S.-Mexico trade for the sector grew by 74 percent from \$183 million in 1993 to \$319 million in 1996. Likewise, total U.S.-Canada sector trade grew 30 percent from \$189 million in 1993 to \$245 million in 1996.

NAFTA has resulted in the increased acquisition of equity in the Mexican malt-beverage industry by U.S. and Canadian interests. Since 1993, both U.S. and Canadian breweries have invested in Mexico. Since 1993, Anheuser-Busch has had a direct and indirect equity interest of almost 18 percent in Diblo, S.A. de C.V., the operating subsidiary of Mexico's largest brewer, Grupo Modelo, S.A. de C.V. In September 1994, Cerveceria Cuauhtemoc Moctezuma formed a strategic alliance with the Canadian brewery, John Labatt, Ltd., under which Labatt acquired 22 percent of FEMSA Cerveza, S.A. de C.V., Moctezuma's parent company. In the United States, Labatt USA owns the Latrobe Brewing Company. Labatt produces two beers for Anheuser-Busch, Budweiser and Bud Light, for sale in Canada under license. Also in Canada, Molson, a subsidiary of Phillip Morris, owns equity in Molson, the Canadian brewery. Prior to this equity investment, Molson produced beer for Coors Brewing Co. Under the NAFTA-TAA, 970 workers were certified as a result of increased beer imports from unspecified countries during 1993-96.<sup>10</sup>

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<sup>9</sup> In Aug. 1993, after a GATT panel decision against Canadian restrictions on beer imports, the United States and Canada reached an agreement that opened Canada's beer market to imports. As part of the Aug. 5, 1993 Memo of Understanding (MOU) between the United States and Canada, the Canadian CFTA duty on beer from the United States was eliminated. Canada also agreed to give U.S. producers more direct access to provincial retail outlets, dismantle its inter-provincial barriers, reduce minimal retail prices, and eliminate other non-tariff barriers. From June 1991 to Dec. 1994, Canada changed antidumping duties on beer brewed by Heileman, Strohs, and Pabst and imported into British Columbia.

<sup>10</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

**ITC Group No. 16: Bottled and Canned Soft Drinks and Carbonated Waters<sup>1</sup>**

**Table 6-16-1**

**Bottled and canned soft drinks and carbonated waters: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	23,946.1	26,217.8	28,689.1	31,000.0	7,053.9	29.5
Consumption (million dollars) . . . . .	23,999.1	26,212.8	28,695.3	31,161.6	7,162.5	29.8
Trade data (million dollars):						
Exports:						
Total . . . . .	196.7	325.4	313.1	226.4	29.7	15.1
To Mexico . . . . .	62.2	92.2	19.3	6.0	-56.2	-90.3
To Canada . . . . .	39.5	58.7	68.4	67.1	27.7	70.1
To non-NAFTA countries . . . . .	95.0	174.5	225.4	153.2	58.2	61.3
Imports:						
Total . . . . .	249.7	320.4	319.3	387.9	138.2	55.4
From Mexico . . . . .	25.7	33.3	40.3	51.9	26.2	101.8
From Canada . . . . .	76.4	120.4	121.1	160.9	84.5	110.6
From non-NAFTA countries . . . . .	147.6	166.7	158.0	175.2	27.6	18.7
Trade balance:						
Total . . . . .	-53.0	5.0	-6.2	-161.6	-108.6	-204.9
With Mexico . . . . .	36.5	58.8	-21.0	-45.9	-82.4	( <sup>2</sup> )
With Canada . . . . .	-36.9	-61.6	-52.7	-93.7	-56.8	-153.9
With non-NAFTA countries . . . . .	-52.6	7.8	67.5	-21.9	30.6	58.3
Total trade:						
Total . . . . .	446.4	645.8	632.4	614.3	167.9	37.6
NAFTA partners . . . . .	203.8	304.6	249.0	285.9	82.1	40.3
With Mexico . . . . .	88.0	125.5	59.5	57.9	-30.1	-34.2
With Canada . . . . .	115.8	179.1	189.5	228.0	112.1	96.8
Import market share (percent):						
Total . . . . .	1.0	1.2	1.1	1.2	0.2	( <sup>2</sup> )
Mexico . . . . .	0.1	0.1	0.1	0.2	0.1	( <sup>2</sup> )
Canada . . . . .	0.3	0.5	0.4	0.5	0.2	( <sup>2</sup> )
Non-NAFTA countries . . . . .	0.6	0.6	0.6	0.6	-0.1	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.3	0.2	0.2	0.2	-0.1	( <sup>2</sup> )
Canada . . . . .	0.1	0.1	0.0	0.0	-0.1	( <sup>2</sup> )
All other . . . . .	0.8	0.8	0.7	0.7	-0.1	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	94.2	94.0	92.1	93.7	-0.5	-0.5
Production workers (1,000 persons) . . . . .	35.3	36.3	36.0	38.3	3.0	8.5
Average hourly wages of production workers . . . . .	\$11.97	12.33	12.53	12.88	0.91	7.6

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2086, Bottled and Canned Soft Drinks and Carbonated Waters, consisting of establishments primarily engaged in the manufacture of non-alcoholic beverages.

## Summary of Sector Analysis

*U.S. Imports* – NAFTA had a negligible<sup>2</sup> effect on rising U.S. imports from its NAFTA partners (and most important trading partners of sector products) during 1993-96. Pre-NAFTA duty rates on sector products were low and post-NAFTA duties did not fall far enough to have a large effect on imports. During 1993-96, effective duties on imports from Canada fell from 0.10 percent ad valorem to zero, and those on imports from Mexico fell from 0.28 percent ad valorem to 0.21 percent ad valorem.

Imports increased because of the falling peso and rising cross-border trade in beverage products. Because transportation costs determine competitiveness in regional markets, much of the international trade in these products is through plants located near the borders between the NAFTA partners. Imports from Mexico more than doubled to \$52 million due to higher U.S. consumption levels. Some of the increase in imports from Mexico was of miscellaneous categories of beverages that appear to have benefited from increased cost-competitiveness of Mexican products in the U.S. market associated with the devaluation of the peso. U.S. imports from Canada also more than doubled to \$161 million. The increase was principally in mineral or bottled waters, and bottled waters with either sweeteners or flavorings rather than carbonated soft drinks. The increase in consumption of these types of beverages is due to rising health consciousness, as consumers look at such characteristics as caffeine and sodium content.

*U.S. Exports* – NAFTA also had a negligible effect on U.S. exports of sector products to Mexico and Canada during 1993-96. During this period, exports to Mexico fell 90 percent to \$6 million, due largely to the devaluation of the peso in late 1994 and 1995, which contributed to decreased Mexican consumer demand associated with declining real incomes, rising unemployment, and price increases by vendors to offset rising costs. Most of the decline was in carbonated soft drinks and bottled waters with either sweeteners or flavorings. Exports to Canada increased significantly by 70 percent to \$67 million. Such exports were of a miscellaneous group of beverages that include nonalcoholic beer. Demand for nonalcoholic beer is driven by consumer desire for non-alcohol drinks due to health concerns or moral convictions. Canadian MFN tariffs on most sector products were reduced somewhat in 1995, under unilateral tariff reductions undertaken by Canada outside of NAFTA or the GATT.

*Other Factors* – Total U.S.-world trade in bottled and canned soft-drinks and carbonated water expanded 38 percent during 1993-96, from \$446 million to \$614 million. During this period, total U.S.-Canada trade in these products nearly doubled (a 97 percent increase) from \$116 million to \$228 million. In contrast, total U.S.-Mexico trade contracted 34 percent, from \$88 million in 1993 to \$58 million in 1996.

The major U.S. carbonated bottled drink producers have affiliates or financial interests in carbonated beverage bottlers in Canada and Mexico. NAFTA has had little, if any, effect on investment in the bottled and canned soft drinks and carbonated waters industry in Mexico, Canada, or the United States.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA impact on performance indicators is insignificant or a minor influence.

## ITC Group No. 17: Miscellaneous Food Preparations<sup>1</sup>

**Table 6-17-1**

**Miscellaneous food preparations: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	14,708.3	14,323.1	15,165.9	15,900.0	1,191.7	8.1
Consumption ( <i>million dollars</i> ) . . . . .	14,612.2	14,051.6	15,116.5	15,737.5	1,125.3	7.7
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	920.1	1,178.6	1,064.0	1,282.3	362.2	39.4
To Mexico . . . . .	60.1	78.3	49.7	53.1	-7.0	-11.6
To Canada . . . . .	281.6	453.0	330.9	340.4	58.8	20.9
To non-NAFTA countries . . . . .	578.4	647.3	683.4	888.9	310.4	53.7
Imports:						
Total . . . . .	824.1	907.1	1,014.7	1,119.9	295.8	35.9
From Mexico . . . . .	31.0	31.1	36.0	48.0	17.0	54.8
From Canada . . . . .	193.0	198.4	235.6	229.8	36.8	19.1
From non-NAFTA countries . . . . .	600.1	677.7	743.1	842.1	242.1	40.3
Trade balance:						
Total . . . . .	96.1	271.5	49.4	162.5	66.4	69.1
With Mexico . . . . .	29.1	47.2	13.7	5.1	-24.0	-82.3
With Canada . . . . .	88.6	254.6	95.3	110.6	22.0	24.8
With non-NAFTA countries . . . . .	-21.6	-30.3	-59.7	46.7	68.4	(2)
Total trade:						
Total . . . . .	1,744.2	2,085.7	2,078.7	2,402.2	658.0	37.7
NAFTA partners . . . . .	565.7	760.8	652.2	671.2	105.5	18.7
With Mexico . . . . .	91.1	109.4	85.7	101.1	10.0	11.0
With Canada . . . . .	474.6	651.4	566.5	570.2	95.5	20.1
Import market share ( <i>percent</i> ):						
Total . . . . .	5.6	6.5	6.7	7.1	1.5	(2)
Mexico . . . . .	0.2	0.2	0.2	0.3	0.1	(2)
Canada . . . . .	1.3	1.4	1.6	1.5	0.1	(2)
Non-NAFTA countries . . . . .	4.1	4.8	4.9	5.4	1.2	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	1.5	1.3	0.6	2.7	1.2	(2)
Canada . . . . .	2.2	2.1	1.5	1.0	-1.2	(2)
All other . . . . .	2.7	2.7	2.3	2.3	-0.4	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	66.8	69.0	67.3	67.4	0.6	0.9
Production workers ( <i>1,000 persons</i> ) . . . . .	48.8	49.9	48.6	47.9	-0.9	-1.8
Average hourly wages of production workers . . . . .	\$10.16	10.36	10.59	10.88	0.72	7.1

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2099, Food Preparations, Not Elsewhere Classified. Products in this industry include sweetening syrups, desserts, yeast and baking powder, vinegar and cider, herb tea in consumer packages, peanut butter, spices, dry food mixes, and perishable prepared food items.

## Summary of Sector Analysis<sup>2</sup>

*U.S. Imports* – NAFTA likely had negligible<sup>3</sup> effects on rising U.S. imports of miscellaneous food preparations from Mexico and Canada.<sup>4</sup> Imports from Mexico were concentrated in dried pepper products,<sup>5</sup> pectic substances, and active yeasts, which for the most part are inputs to processed food products. Although not presented in the accompanying table, in 1992 imports from Mexico of sector products totaled \$38 million. The decline in imports in 1993 was largely because of production shortfall of peppers due to drought in Mexico. Much of the overall increase in imports occurred in 1996, primarily in peppers and active yeasts, as Mexican pepper crops rebounded and as Mexican yeast producers began to export more to the U.S. market. The effective U.S. ad valorem equivalent for all sector products imported from Mexico actually increased in 1996, as the import product mix shifted to product classifications with higher tariffs.

U.S. imports from Canada rose appreciably in 1995, principally due to the low value of the Canadian dollar relative to the U.S. dollar that made Canadian products more price competitive in the U.S. market. The increase in 1995 occurred largely in beverage bases and miscellaneous food preparations used as ingredients in other products. Overall, imports from Canada were concentrated in unblended maple sugar and syrup, canned pasta, pizza and quiche, peanut butter, sweetened instant tea, active yeasts, food preparations of gelatin, and miscellaneous food preparations. This mix of products is used by processed foods manufacturers, and retail consumers, whose purchase decisions are largely based on price and brand name. Tariffs on goods of Canada were negligible.

*U.S. Exports* – NAFTA had a negligible effect on U.S. exports to NAFTA countries in this sector. Although exports to Mexico rose in 1994, they declined by 36 percent in 1995, before rebounding by 7 percent in 1996. This was largely due to the devaluation of the peso, which reduced real incomes as the prices increased for food products. During this period, exports to Mexico, dominated by beverage bases and food thickening agents used in processed foods production, declined, as Mexican consumers reduced spending on processed foods.

U.S. exports to Canada rose dramatically in 1994. In 1993, United States exports to Canada in this category were \$282 million which rose to \$453 million in 1994, declining to \$331 in 1995. Total U.S. exports in this category also rose in 1994 and declined in 1995. The increase in exports of miscellaneous food products occurred because of an increase in demand for consumer-ready products. This increase in demand for

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<sup>2</sup> Under NAFTA, the market access provisions of the U.S.-Canada Free Trade Agreement continue to be in effect. NAFTA did establish bilateral market access provisions between the United States and Mexico and contains trilateral provisions on domestic support, export subsidies, rules of origin, safeguards, and phytosanitary standards for these products.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> This sector is represented by a diverse cross section of products including but not limited to dried pastas, rice, potatoes, and other like dried products; spices, cider, vinegar, powdered sugar, fried noodles, sauce mixes, beverage bases, pectin, pizza, popcorn, and syrups. Imports from Mexico in this category are dominated by yeast, seasonings, and thickening agents. Imports from Canada include beverage bases, peanut butter, and active yeasts.

<sup>5</sup> Products classified under HS 0904, pepper of the genus *Piper*, genus *Capsicum*, or genus *Pimenta*.

consumer-ready products is world wide. U.S. exports to Canada were dominated by beverage bases, herb teas, breakfast cereals and other miscellaneous prepared food items such as stuffed pasta, pizza and quiche.

*Other Factors* – Total U.S. trade in miscellaneous food preparations grew by \$658 million to \$2.4 billion during 1993-96. Total U.S.-Canada trade in these products increased by \$96 million to \$570 million and total U.S.-Mexico trade in sector products rose by \$10 million to \$101 million.

There is little, if any information on U.S. investment in Mexico related to sector products. However, U.S. multinational companies have had subsidiaries in Canada producing processed food products for sale in Canada and for export to the United States for many years before NAFTA.



## ITC Group No. 20: Solid Wood Products<sup>1</sup>

**Table 6-20-1**  
**Solid wood products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	68,169.0	73,601.0	72,923.0	79,300.0	11,131.0	16.3
Consumption ( <i>million dollars</i> ) . . . . .	69,938.2	77,033.3	76,028.4	84,161.4	14,223.2	20.3
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	6,712.3	6,646.6	6,828.8	6,743.0	30.7	0.5
To Mexico . . . . .	388.5	335.5	219.2	207.5	-181.0	-46.6
To Canada . . . . .	1,041.2	1,160.2	1,240.1	1,181.3	140.2	13.5
To non-NAFTA countries . . . . .	5,282.6	5,150.9	5,369.5	5,354.1	71.5	1.4
Imports:						
Total . . . . .	8,481.5	10,078.9	9,934.1	11,604.4	3,123.0	36.8
From Mexico . . . . .	318.6	300.1	297.4	377.4	58.8	18.4
From Canada . . . . .	5,982.4	7,269.2	6,925.0	8,465.6	2,483.2	41.5
From non-NAFTA countries . . . . .	2,180.5	2,509.6	2,711.7	2,761.5	581.0	26.6
Trade balance:						
Total . . . . .	-1,769.2	-3,432.3	-3,105.4	-4,861.4	-3,092.2	-174.8
With Mexico . . . . .	69.9	35.4	-78.3	-169.8	-239.7	(2)
With Canada . . . . .	-4,941.2	-6,109.1	-5,684.9	-7,284.2	-2,343.1	-47.4
With non-NAFTA countries . . . . .	3,102.1	2,641.3	2,657.9	2,592.6	-509.4	-16.4
Total trade:						
Total . . . . .	15,193.7	16,725.5	16,762.9	18,347.4	3,153.7	20.8
NAFTA partners . . . . .	7,730.6	9,065.0	8,681.7	10,231.8	2,501.2	32.4
With Mexico . . . . .	707.1	635.6	516.6	584.9	-122.2	-17.3
With Canada . . . . .	7,023.5	8,429.4	8,165.2	9,646.9	2,623.4	37.4
Import market share ( <i>percent</i> ):						
Total . . . . .	12.1	13.1	13.1	13.8	1.7	(2)
Mexico . . . . .	0.5	0.4	0.4	0.4	0.0	(2)
Canada . . . . .	8.6	9.4	9.1	10.1	1.5	(2)
Non-NAFTA countries . . . . .	3.1	3.3	3.6	3.3	0.2	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	0.3	0.2	(3)	0.1	-0.2	(2)
Canada . . . . .	0.1	0.1	0.1	(3)	-0.1	(2)
All other . . . . .	3.3	3.0	2.5	2.3	-1.0	(2)
U.S. industry indicators: <sup>4</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	522.7	552.3	554.5	550.2	27.5	5.3
Production workers ( <i>1,000 persons</i> ) . . . . .	425.8	449.8	452.0	446.7	20.9	4.9
Average hourly wages of production workers . . . . .	\$9.95	10.05	10.29	10.54	0.59	5.9

<sup>1</sup> Estimated by USITC staff.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics: 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 2411, Logging; 2421, Sawmills and Planing Mills, General; 2431, Millwork; 2434, Wooden Kitchen Cabinets; 2435, Hardwood Veneer and Plywood; 2439, Structural Wood Members, Not Elsewhere Classified; 2493, Reconstituted Wood Products; and 2499, Wood Products, Not Elsewhere Classified.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible effect<sup>2</sup> on rising U.S. imports of solid wood products from Mexico and Canada. Most of the products traded in this sector entered the United States free of duty even before the implementation of NAFTA. Likewise, the tariff rates on wood products imported into Canada and Mexico were low, with most below 5 percent ad valorem.

Canada, with large forest reserves, historically has been the major source of U.S. imports, and Mexico, which lacks such reserves, has been a small supplier. Total U.S. sector imports rose 37 percent, from \$8.5 billion in 1993 to \$11.6 billion in 1996, due to increased demand for lumber in new home construction<sup>3</sup> and due to higher lumber prices.<sup>4</sup> Likewise, to meet this demand, domestic shipments of wood and wood products<sup>5</sup> also grew 16 percent during the period, from \$68.2 billion in 1993 to an estimated \$79.3 billion in 1996. The upturn in demand for new homes was influenced by a combination of improving general economic conditions and declining interest rates on home mortgages. Imports from Mexico were up 18 percent, to \$377 million, although Mexico is neither a significant producer nor a significant exporter of wood products. However, Mexico does import wood products for remanufacture and reexport. For some SIC industries within this sector,<sup>6</sup> the volume of Mexico's remanufactured exports is notable, but is only a small portion of the sector trade as a whole. Likewise, imports from Canada were up 42 percent, to \$8.5 billion in 1996, and accounted for 73 percent of all imports in this sector. Lumber from Canada accounted for 59 percent of all U.S. wood imports. Canada ranks a close second to the United States as a global exporter; softwood lumber dominates Canada's exports, and the majority of its exports of this product are shipped to the United States.

**U.S. Exports** -- The effect of NAFTA on U.S. exports of sector products to Canada and Mexico was negligible; strong domestic demand, high prices, and exchange-rate effects were the main factors in dampening exports during 1993-96. The United States is the world's leading producer and consumer of wood and wood products,<sup>7</sup> as well as the world's leading exporter of these products, accounting for between 15 and 20 percent of world exports between 1993 and 1996.<sup>8</sup> Total U.S. exports worldwide remained relatively stable at \$6.7 billion to \$6.8 billion from 1993 to 1996. However, exports to Mexico declined 47 percent between 1993 and 1996 to \$208 million, due to higher relative prices for U.S. wood products in the Mexican market coupled with weakened Mexican domestic demand due to the peso devaluation. In contrast, exports to Canada were up 14 percent to \$1.2 billion.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than the NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Single and multi-family home construction accounts for about 80 percent of lumber consumption. In 1996, housing starts totaled nearly 1.5 million units, the highest since 1988. U.S. Department of Commerce, "Housing Starts", publication C20/97-1, Jan., 1997.

<sup>4</sup> Lumber prices in 1996, as measured by the "Random Lengths Framing Lumber Composite Price," at \$401 per thousand board-feet, were 16 percent higher than in the previous year. Random Lengths, *1996 Yearbook* (Eugene, OR: Random Lengths Publications, Inc., 1997). It might be noted that the value of lumber trade is often affected by price swings (affected by supply and demand conditions) and are often not proportional to quantities shipped.

<sup>5</sup> Lumber and other sawn wood accounted for 35 percent of domestic shipments in 1996.

<sup>6</sup> Millwork (SIC 2431) and Wood Products, Not Elsewhere Classified (SIC 2499).

<sup>7</sup> Principally roundwood (logs), sawnwood (lumber), and wood-based panels (veneer, plywood, and reconstituted wood panels).

<sup>8</sup> U.S. exports consist primarily of roundwood, but also include large volumes of lumber and plywood.

*Other Factors* – During 1993-96, total U.S. trade in solid wood products grew 21 percent, from \$15.2 billion to \$18.3 billion. However, in the same period, total U.S.-Mexico sector trade dropped 17 percent (\$122 million) to \$585 million. In contrast, total U.S.-Canada trade grew 37 percent (\$2.6 billion) to \$9.6 billion in 1996.

Comprehensive investment information is not available for this sector. Both U.S. and Canadian wood-products firms invested readily in each others' production facilities both before and after the implementation of NAFTA. U.S. and Mexican firms also made cross-border investments, but the magnitude was small compared with U.S.-Canadian cross-investment. Under the NAFTA-TAA, 2,578 workers were certified during 1994-96.<sup>9</sup>

In 1992, the Government of Canada, certain Canadian Provincial Governments, and certain Canadian commercial interests requested the establishment of binational panels under the United States-Canada Free Trade Agreement to review the final affirmative countervailing duty determination by the U.S. Department of Commerce and the final affirmative injury determination of the U.S. International Trade Commission concerning softwood lumber from Canada (ITC investigation No. 701-TA-312 (Final)). Commerce had found that certain Canadian Provincial Governments were providing countervailable subsidies to producers and exporters of certain softwood lumber products. Two panels were established, one to review the Commerce determination, and one to review the ITC determination. The panel reviewing the Commerce determination remanded the determination to Commerce and ordered it to find that no countervailable subsidies were being provided to softwood lumber producers or exporters by the Canadian provincial governments. Commerce filed an amended redetermination, which the panel affirmed. The panel's decision became final on March 17, 1994 (59 F.R. 12584). On April 6, 1994, the United States requested that an Extraordinary Challenge Committee be convened to review the panel's decision. On August 3, 1994, the Extraordinary Challenge Committee affirmed the panel's order affirming the determination on remand. In a notice published on August 16, 1994, Commerce revoked its countervailing duty order effective March 17, 1994, and subsequently refunded the duties that had been collected. NAFTA Secretariat File No. USA-92-1904-01. For additional information, see the *Federal Register* of August 16, 1994 (59 F.R. 42029).

In July 1993, the panel reviewing the ITC injury determination affirmed in part and remanded in part the ITC's determination. The panel subsequently partially remanded the ITC's determination two additional times (on January 28, 1994, and July 6, 1994). The panel dismissed its review of the ITC determination on January 27, 1995, after Commerce revoked its countervailing duty order. NAFTA Secretariat File No. USA-92-1904-02. For additional information, see the *Federal Register* of March 20, 1995 (60 F.R. 14733).

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<sup>9</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

## ITC Group No. 21: Furniture<sup>1</sup>

**Table 6-21-1**  
**Furniture: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	27,817.2	30,590.1	32,958.2	35,000.0	7,182.8	25.8
Consumption (million dollars) . . . . .	30,637.1	34,249.0	37,218.0	39,996.0	9,358.9	30.5
Trade data (million dollars):						
Exports:						
Total . . . . .	2,524.5	2,811.5	2,870.9	3,047.8	523.3	20.7
To Mexico . . . . .	645.4	654.0	536.3	563.3	-82.1	-12.7
To Canada . . . . .	1,123.1	1,239.3	1,372.0	1,353.9	230.8	20.6
To non-NAFTA countries . . . . .	755.9	918.2	962.6	1,130.6	374.6	49.6
Imports:						
Total . . . . .	5,344.3	6,470.3	7,130.7	8,043.8	2,699.4	50.5
From Mexico . . . . .	804.6	1,020.2	1,077.4	1,356.5	551.9	68.6
From Canada . . . . .	1,422.2	1,819.1	2,155.1	2,552.3	1,130.1	79.5
From non-NAFTA countries . . . . .	3,117.5	3,631.1	3,898.2	4,135.0	1,017.5	32.6
Trade balance:						
Total . . . . .	-2,819.9	-3,658.9	-4,259.8	-4,996.0	-2,176.1	-77.2
With Mexico . . . . .	-159.2	-366.2	-541.1	-793.2	-634.0	-398.3
With Canada . . . . .	-299.1	-579.8	-783.1	-1,198.4	-899.3	-300.7
With non-NAFTA countries . . . . .	-2,361.6	-2,712.9	-2,935.6	-3,004.4	-642.8	-27.2
Total trade:						
Total . . . . .	7,868.8	9,281.8	10,001.5	11,091.6	3,222.8	41.0
NAFTA partners . . . . .	3,995.4	4,732.6	5,140.8	5,826.0	1,830.7	45.8
With Mexico . . . . .	1,450.1	1,674.2	1,613.7	1,919.8	469.7	32.4
With Canada . . . . .	2,545.3	3,058.4	3,527.1	3,906.3	1,360.9	53.5
Import market share (percent):						
Total . . . . .	17.4	18.9	19.2	20.1	2.7	(2)
Mexico . . . . .	2.6	3.0	2.9	3.4	0.8	(2)
Canada . . . . .	4.6	5.3	5.8	6.4	1.7	(2)
Non-NAFTA countries . . . . .	10.2	10.6	10.5	10.3	0.2	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.2	0.4	0.3	(3)	-0.2	(2)
Canada . . . . .	0.1	0.1	0.1	0.1	0.0	(2)
All other . . . . .	2.7	2.6	1.9	1.4	-1.3	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	349.0	361.0	363.0	360.0	11.0	3.2
Production workers (1,000 persons) . . . . .	283.0	292.0	293.0	291.0	8.0	2.8
Average hourly wages of production workers . . . . .	\$9.18	8.65	9.77	10.05	0.87	9.5

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Most furniture of metal or plastics has been excluded from this sector. The Standard Industrial Classification (SIC) industries are No. 2511, Wood Household Furniture, Except Upholstered; 2512, Wood Household Furniture, Upholstered; 2519 Household Furniture, Not Elsewhere Classified; 2521, Wood Office Furniture; 2531, Public Building and Related Furniture; 2541, Wood Office and Store Fixtures, Partitions, Shelving and Lockers; and 2599, Furniture and Fixtures, Not Elsewhere Classified. SIC 2599 includes car seats and their components, bar furniture, hospital beds, and other miscellaneous furniture.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible impact<sup>2</sup> on the increase in imports of furniture during 1993-96.<sup>3</sup> The tariff reductions provided by the Agreement on U.S. sector imports of furniture from Canada and Mexico were negligible as the U.S. average trade-weighted tariff equivalents for furniture before the Agreement were 0.07 percent and 0.18 percent, respectively. Car seats<sup>4</sup> accounted for 75 percent of the increase in sector imports from Mexico and 27 percent of the increase of sector imports from Canada during 1993-96. Trade in car seats is the result of the highly rationalized nature of North American automobile production. U.S. automobile production showed an overall increase from 10.9 million units in 1993 to 11.7 million units in 1996. U.S. imports of car seats from Mexico, which are assembled in maquiladora operations, qualify for reduced rates of duty under the production-sharing provisions of HTS 9802. Prior to NAFTA, U.S. imports of car seats assembled in Mexico that met local value-added requirements were eligible for duty-free entry under the GSP. Prior to CFTA, car seats assembled in Canada entered duty free under APTA.

The increase in U.S. imports of the remaining sector products (principally wood furniture) was also not related to NAFTA. Because of proximity, Canada and Mexico are the largest trading partners of the United States in furniture. Canadian wood furniture producers provide furniture to the U.S. market at lower prices than do their European competitors, in part due to access to less expensive lumber and significantly lower transportation costs. Canadian furniture producers that survived the industry shakeout caused by increased U.S. competition as a result of the implementation of CFTA have been able to achieve significant increases in productivity. The Mexican wood furniture industry's competitive strength lies in its highly skilled yet low-cost labor force and its proximity to the United States. In addition, a number of U.S. producers relocated their production operations to Mexico to avoid stringent air-quality standards in California.<sup>5</sup> The devaluation of the peso in December 1994 further reduced labor costs in Mexico, and has made furniture produced in Mexico increasingly price competitive in the U.S. market. A healthy U.S. economy also encouraged U.S. imports of wood furniture from Canada and Mexico during 1993-96.

**U.S. Exports** – NAFTA had a negligible effect on the increase in exports of furniture to Canada from 1993-96 and although the Agreement had a significant effect on the decline in exports to Mexico, the impact on U.S. employment, productivity, and investment was negligible, as noted below. The increase in U.S. sector exports to Canada and the decline in exports to Mexico<sup>6</sup> was largely accounted for by car seats and components.<sup>7</sup>

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<sup>2</sup> The change in the specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Total U.S. imports of furniture rose by \$2.7 billion (51 percent) to \$8 billion from 1993 to 1996. Canada and Mexico were the largest source of U.S. imports of furniture in 1996. Sector imports from Canada rose by \$1.1 billion (80 percent) to \$2.6 billion during 1993 to 1996; those from Mexico rose by \$552 million (69 percent) to \$1.4 billion.

<sup>4</sup> All seating, including car seats, is considered furniture.

<sup>5</sup> General Accounting Office, *U.S.-Mexico Trade: Some U.S. Wood Furniture Firms Relocate from Los Angeles*, NSIAD-91-191, Apr. 1991, p. 1.

<sup>6</sup> Canada and Mexico were the most significant markets for U.S. furniture exports in 1996. U.S. exports to Canada were \$1.4 billion in 1996; those to Mexico were \$563 million.

<sup>7</sup> Car seat manufacturing is highly suited to the rationalization of production because each stage of production (cutting, sewing, and assembly) is distinct and can be performed in different locations. The production of car seats is as follows: first, the pieces of a seat cover are cut from cloth, leather, or vinyl. The pieces are then sewn into a seat cover. Lastly, the sewn seat cover is fitted over a foam-upholstered metal seat frame and thereby transformed into a complete car seat.

(continued...)

Relocation of certain U.S. leather and fabric car-seat-cover cutting operations to Mexico, stemming from changes to the Maquiladora Decree and Mexico's export performance requirements for the auto industry under NAFTA, has resulted in two offsetting shifts in trade with Mexico. U.S. exports of cut leather and fabric seat cover components have been reduced, while at the same time, exports from the leather tanning and finishing industry (ITC group no. 34) and the textile mill products industry (ITC group no. 18) of the uncut leather and fabric used in seat covers have increased.

Car seat covers accounted for all of the decline in exports to Mexico during this period, falling by \$108 million (24 percent) to \$338 million. Certain U.S. producers of car seat covers have shifted their fabric and leather cutting operations to Mexico. By cutting the leather and fabric in Mexico instead of the United States before sewing the cut pieces into car seat covers in Mexico, the U.S.-origin leather undergoes a change in tariff classification and allows the car seat covers to be considered goods of Mexican origin. Because NAFTA allows maquiladoras to sell an increasing portion of their production directly to customers in Mexico, the seat covers (or complete seats) can be shipped to motor vehicle assembly plants in Mexico. U.S. automobile producers with assembly plants in Mexico can include the cost of the seat cover (or the complete seat) in the calculation of the portion of their vehicle's total production cost that is accounted for by Mexican-origin inputs. By meeting the value-added criteria of Mexico's export performance requirements under NAFTA, U.S. motor vehicle producers are allowed to sell more cars in Mexico.

The shifting of U.S. leather and fabric car-seat-cover cutting operations to Mexico has had a negligible effect on U.S. employment and investment because such operations are highly automated and the cutting machines can be transferred from U.S. operations to maquiladora facilities with little loss of employment in the United States and no investment in new machinery.<sup>8</sup> Further, the operations that have been relocated in Mexico use imported U.S.-origin leather or fabric in their car seat covers.<sup>9</sup> Seat-cover-cutting operations involve low levels of investment because they use low-technology, vacuum-compression cutting machines. Laser cutters are being gradually incorporated into the production process.<sup>10</sup>

Johnson Controls and Lear Seating--the two largest U.S. car seat manufacturers--accounted for roughly two-thirds of North American car seat production in 1995. Delphi Interior and Magna International Inc.,<sup>11</sup> the next largest independent suppliers, accounted for close to 10 percent of such shipments in 1995.<sup>12</sup> In order to supply the North American car market (chiefly the U.S. Big Three and Japanese transplants), U.S. seat manufacturers established subsidiary seat assembly operations in both Mexico and Canada. For the last decade, these seat operations have assembled car seats mostly from U.S.-made parts. Relocating certain seat-

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<sup>7</sup> (...continued)

The sewing of the seat cover is the most labor-intensive stage of production. The seat cover accounts for over half of the total value of the complete seat. A car seat can be completely cut, sewn, and assembled at one location (usually near a car assembly location) or done in three distinct stages (i.e., fabric or leather cutting in the United States, sewing seat covers in Mexico, and final assembly in Canada, the United States, or Mexico).

<sup>8</sup> Beth Pincura, Executive Director, Johnson Controls, telephone interview by USITC staff, Feb. 19, 1997.

<sup>9</sup> Seat covers (cut and sewn) account for 50 percent of the total cost of a complete car seat. In terms of the total cost of producing a car, car seats (front and back) are second only to the engine among the various component costs.

<sup>10</sup> Kathy Karal, Export Division, Honda American Manufactures, telephone interview by USITC staff, Feb. 27, 1997.

<sup>11</sup> Magna is a Canadian-owned company.

<sup>12</sup> In contrast to the early 1980's, when virtually all U.S. car seat production was done in-house by the Big Three U.S. car manufacturers, currently only Delphi is associated with a car manufacturer; Delphi is a captive supplier of General Motors (GM). Industry representatives at GM state that Delphi competes with independent car seat producers for car seat contracts through the competitive-bid process.

fabric-cutting operations to Mexico since implementation of NAFTA has resulted in reduced U.S. exports to Mexico of seat cover components comprised of cut leather and fabric.

*Other Factors* – Total U.S. trade for sector products increased \$3.2 billion (41 percent) to \$11.1 billion from 1993 to 1996. Meanwhile, total U.S.-Mexico trade increased \$470 million (32 percent) to \$1.9 billion during this period. U.S.-Canada total trade rose \$1.4 billion (54 percent) to \$3.9 billion.

The output of U.S. producers was not affected by the shifting of certain leather and fabric seat-cover-cutting operations to Mexico. U.S. production of car seats is concentrated in either assembling complete seats for installation into U.S.-made vehicles or the cutting and sewing of mid-to-upper-priced car seat covers.

NAFTA had a negligible impact on U.S. investment in both car-seat-cover operations and wood furniture operations in Mexico. Car-seat-cover assembly facilities were established in Mexico's maquiladora operations a decade before NAFTA. These operations have been able to absorb the increased volume in seat-cover cutting. U.S. manufacturers that have established wood furniture operations in Mexico since the implementation of NAFTA have done so to take advantage of lower labor costs, especially after the devaluation of the Mexican peso in December 1994. Under the NAFTA-TAA, 430 workers were certified during 1993-95.<sup>13</sup>

On December 13, 1996, Mexico raised its duties on U.S. imports of wooden furniture and seven other U.S. products (fructose, wine, wine coolers, brandy, Tennessee whiskey, flat glass, and notebooks ) in retaliation for a U.S. safeguard action that raised U.S. duties on imports of broom corn brooms. Then Acting USTR Charlene Barshefsky expressed the view that Mexico's response was "excessive" and that it failed to meet the NAFTA test that self-compensation be "substantially equivalent" to the U.S. safeguard action.<sup>14</sup> On January 14, 1997, following imposition of the U.S. safeguard action, Mexico asked for the establishment of a NAFTA chapter 20 binational panel to review the U.S. action. As of early May 1997, a panel was in the process of being established.

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<sup>13</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

<sup>14</sup> Written response dated Jan. 29, 1997, of Acting U.S. Trade Representative Charlene Barshefsky to Sen. Phil Gramm, reprinted in *Inside NAFTA*, Feb. 6, 1997, p. 4.

## ITC Group No. 22: Paper Products<sup>1</sup>

**Table 6-22-1**

**Paper products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	92,783.0	99,085.0	119,881.0	108,000.0	15,217.0	16.4
Consumption (million dollars) . . . . .	94,148.7	99,742.5	121,582.3	108,631.8	14,483.1	15.4
Trade data (million dollars):						
Exports:						
Total . . . . .	8,917.2	10,446.9	14,290.9	13,276.2	4,359.0	48.9
To Mexico . . . . .	1,249.6	1,591.8	1,640.9	1,671.4	421.8	33.8
To Canada . . . . .	1,689.0	1,926.9	2,453.5	2,546.7	857.7	50.8
To non-NAFTA countries . . . . .	5,978.6	6,928.2	10,196.5	9,058.1	3,079.5	51.5
Imports:						
Total . . . . .	10,282.9	11,104.3	15,992.2	13,908.0	3,625.1	35.3
From Mexico . . . . .	96.1	121.6	279.9	209.2	113.1	117.7
From Canada . . . . .	7,735.9	8,284.4	11,971.2	10,483.1	2,747.1	35.5
From non-NAFTA countries . . . . .	2,450.9	2,698.3	3,741.1	3,215.7	764.8	31.2
Trade balance:						
Total . . . . .	-1,365.7	-657.5	-1,701.3	-631.8	733.9	53.7
With Mexico . . . . .	1,153.5	1,470.2	1,361.0	1,462.1	308.7	26.8
With Canada . . . . .	-6,046.9	-6,357.5	-9,517.6	-7,936.4	-1,889.5	-31.2
With non-NAFTA countries . . . . .	3,527.7	4,229.9	6,455.3	5,842.4	2,314.7	65.6
Total trade:						
Total . . . . .	19,200.1	21,551.2	30,283.1	27,184.2	7,984.0	41.6
NAFTA partners . . . . .	10,770.6	11,924.8	16,345.5	14,910.3	4,139.7	38.4
With Mexico . . . . .	1,345.7	1,713.5	1,920.8	1,880.6	534.9	39.8
With Canada . . . . .	9,424.9	10,211.3	14,424.7	13,029.7	3,604.8	38.2
Import market share (percent):						
Total . . . . .	10.9	11.1	13.2	12.8	1.9	(2)
Mexico . . . . .	0.1	0.1	0.2	0.2	0.1	(2)
Canada . . . . .	8.2	8.3	9.8	9.7	1.4	(2)
Non-NAFTA countries . . . . .	2.6	2.7	3.1	3.0	0.4	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.3	0.1	(3)	(3)	-0.3	(2)
Canada . . . . .	0.1	(3)	(3)	(3)	-0.1	(2)
All other . . . . .	1.7	1.8	1.5	1.5	-0.2	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	428.0	428.0	431.0	431.0	3.0	0.7
Production workers (1,000 persons) . . . . .	324.0	328.0	331.0	331.0	7.0	2.2
Average hourly wages of production workers . . . . .	\$14.57	14.77	15.16	15.50	0.93	6.4

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 2611, Pulp Mills; 2621, Paper Mills; 2653, Corrugated and Solid Fiber Boxes; 2657, Folding Paper Boxes, Including Sanitary; 2672, Coated and Laminated Paper, Not Elsewhere Classified; 2673, Plastics, Foil, and Coated Paper Bags; 2676, Sanitary Paper Products; and 2678, Stationery, Tablets, and Related Products.



## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** – The effect of NAFTA on increased U.S. imports of paper products from Mexico and Canada was negligible,<sup>3</sup> as import levels of these products are significantly more sensitive to commodity price fluctuations than to NAFTA effects. Total U.S. sector imports from sources worldwide rose 35 percent during this period from \$10.3 billion to \$13.9 billion. Although imports of these products from Mexico were up 118 percent to \$209 million in 1996, that amount was less than 2 percent of all U.S. imports of paper products in that year. Mexico has never been a significant source of paper products, and its papermaking capacity is only about 4 percent as large as that of the United States.<sup>4</sup> Further, Mexico is an emerging market and Mexican demand for paper will probably grow at a higher rate than that of the United States. Canada has traditionally supplied about three-quarters of all U.S. paper product imports.<sup>5</sup> Imports from Canada increased 36 percent to \$10.5 billion in 1996, but most of this increase is attributable to rising pulp, printing/writing paper, and newsprint prices.<sup>6</sup>

Newsprint, pulp, and waste paper entered the United States free of duty before NAFTA. Less than 1 percent of all paper products were subject to a duty prior to the implementation of NAFTA, and the average duty was less than 4 percent for Canada and Mexico. Mexican tariffs on U.S. pulp covered in HTS chapter 47 were split between free and 5 percent ad valorem prior to NAFTA implementation, and as a result of NAFTA the remaining tariffs were eliminated. For paper products in HTS chapter 48, Mexican tariffs were generally either 10 percent ad valorem or free prior to NAFTA. As a result of NAFTA, existing tariffs were eliminated or staged over 5 or 10 years, with Mexican tariffs on hygienic paper products (HS 4818) as a group having the longest staging of 10 years. Canadian printing/writing papers imports were subject to tariffs ranging from free to 3.5 percent ad valorem (generally around 2 percent ad valorem) prior to NAFTA, but beginning in 1994 Canadian tariffs on U.S.-origin products under HTS chapters 47 and 48 were free.

**U.S. Exports** – NAFTA had a negligible effect on U.S. exports to its NAFTA partners; exports were principally affected by relatively low Mexican per-capita consumption of sector products, and by an existing world-class industry and mature sector-demand patterns in Canada. Traditionally, the United States exported a wide range of paper products.<sup>7</sup> During 1993-96, U.S. paper-product exports to some 30 country markets, including Canada and Mexico, increased 49 percent from \$8.9 billion to \$13.3 billion. During this period, exports to Mexico were up 34 percent to \$1.7 billion. However, Mexico's per capita consumption of paper

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> Mexico's total forested land is about 13 percent the size of that in the United States.

<sup>5</sup> Since the 1920s, Canada supplied between 50 percent and 60 percent of all U.S. newsprint consumption. During 1992-96, Canada's newsprint exports to the United States averaged about \$3.8 billion annually. Canada also supplied about \$2.1 billion in pulp and \$1.7 billion in printing/writing papers annually to the United States during this period.

<sup>6</sup> Between 1993 and 1996, the price per ton of U.S. imports of Canadian pulp increased by 30 percent; the price per kilogram of U.S. imports of Canadian printing/writing paper imports increased by 28 percent; and the price per ton of U.S. imports of Canadian newsprint increased by 26 percent.

<sup>7</sup> Globally, the United States is very competitive in pulp, linerboard (the facing material for corrugated containers), printing/writing papers, solid bleach sulfate board (bleached high-quality packaging application), and boxes. In 1996, these products represented about 60 percent of all U.S. exports of paper products.

was only about 11 percent of the combined U.S. and Canadian level in 1996.<sup>8</sup> Exports to Canada rose 51 percent over this period to \$2.5 billion in 1996.

*Other Factors* – Total U.S. trade increased by 42 percent (\$8.0 billion) to \$27.2 billion in 1996. During this period, total U.S. trade with Mexico in paper products increased by \$535 million or 40 percent to \$1.9 billion in 1996. Likewise, total U.S. trade with Canada increased by \$3.6 billion or 38 percent to \$13.0 billion. NAFTA appears to have had little, if any, effect upon U.S. investment in Mexico, investment in the United States, as any other NAFTA-related investments. The U.S. and Canadian paper industries were integrated prior to NAFTA. In addition, two U.S. paper producers, Kimberly-Clark Corp. and Sonoco Products Co., produce certain types of paper products in Mexico, and had located there prior to NAFTA. Under the NAFTA-TAA, 2,077 workers were certified during 1994-96.<sup>9</sup>

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<sup>8</sup> U.S. exports of boxes, converted paper products, pulp, printing/writing papers, and sanitary paper products together accounted for about three-quarters of all U.S. exports of paper products to Mexico in 1996.

<sup>9</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

ITC Group No. 23: Printed Matter<sup>1</sup>

Table 6-23-1  
Printed matter: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	74,251.0	75,638.0	80,268.0	82,274.0	8,023.0	10.8
Consumption (million dollars) . . . . .	73,229.3	74,845.4	79,462.1	81,449.4	8,220.1	11.2
Trade data (million dollars):						
Exports:						
Total . . . . .	2,160.5	2,127.2	2,428.0	2,486.6	326.1	15.1
To Mexico . . . . .	157.1	212.1	195.6	227.5	70.5	44.9
To Canada . . . . .	962.5	1,011.6	1,157.8	1,164.3	201.8	21.0
To Non-NAFTA countries . . . . .	1,040.9	903.5	1,074.6	1,094.8	53.8	5.2
Imports:						
Total . . . . .	1,138.9	1,334.6	1,622.1	1,662.0	523.2	45.9
From Mexico . . . . .	60.2	85.1	120.2	167.2	107.0	177.9
From Canada . . . . .	365.3	432.8	521.5	570.4	205.1	56.1
From non-NAFTA countries . . . . .	713.4	816.7	980.5	924.5	211.1	29.6
Trade balance:						
Total . . . . .	1,021.7	792.6	805.9	824.6	-197.1	-19.3
With Mexico . . . . .	96.9	127.0	75.4	60.4	-36.5	-37.7
With Canada . . . . .	597.2	578.8	636.4	593.9	-3.3	-0.6
With non-NAFTA countries . . . . .	327.6	86.8	94.1	170.3	-157.3	-48.0
Total trade:						
Total . . . . .	3,299.4	3,461.8	4,050.1	4,148.6	849.2	25.7
NAFTA partners . . . . .	1,545.1	1,741.6	1,995.1	2,129.4	584.3	37.8
With Mexico . . . . .	217.2	297.2	315.8	394.7	177.5	81.7
With Canada . . . . .	1,327.9	1,444.4	1,679.3	1,734.7	406.8	30.6
Import market share (percent):						
Total . . . . .	1.6	1.8	2.0	2.0	0.5	( <sup>2</sup> )
Mexico . . . . .	0.1	0.1	0.2	0.2	0.1	( <sup>2</sup> )
Canada . . . . .	0.5	0.6	0.7	0.7	0.2	( <sup>2</sup> )
Non-NAFTA countries . . . . .	1.0	1.1	1.2	1.1	0.2	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.2	0.4	0.3	0.2	-1.0	( <sup>2</sup> )
Canada . . . . .	0.1	0.1	( <sup>3</sup> )	( <sup>3</sup> )	-0.1	( <sup>2</sup> )
All other . . . . .	2.2	2.3	1.9	1.8	-0.5	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	548.0	560.4	563.2	557.7	9.7	1.8
Production workers (1,000 persons) . . . . .	343.7	347.6	348.2	345.4	1.7	0.5
Average hourly wages of production workers . . . . .	\$12.02	12.22	12.41	12.71	0.69	5.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 2721, Periodicals: Publishing, or Publishing and Printing; 2752, Commercial Printing, Lithographic; 2771, Greeting Cards; and 2782, Blankbooks, Looseleaf Binders, and Devices.

## Summary of Sector Analysis

**U.S. Imports** – The effect of NAFTA was negligible<sup>2</sup> on increased U.S. imports of printed matter from Canada and Mexico during 1993-96. Imports from Mexico were valued at \$167 million in 1996, up \$107 million (178 percent) from 1993 levels. In 1996, 62 percent of imports from Mexico were concentrated in SIC 2782 (Blankbooks, Looseleaf Binders, and Devices).<sup>3</sup> Canada is the largest source of printed matter, with U.S. imports totaling \$570 million in 1996, up 56 percent from 1993 levels. Most U.S. sector imports from Canada were concentrated in SIC 2752 (Commercial Printing, Lithographic),<sup>4</sup> accounting for 65 percent of printed matter imported from Canada. This rise in the level of imports from Canada is due to the increased U.S. demand for SIC 2752 products.

U.S. ad valorem equivalent rates on imports from NAFTA partners historically have been low. Imports from Mexico were subject to AVE duty rates of 1.74 percent in 1991, which declined to 0.19 percent in 1996. U.S. AVE rates on printed matter from Canada were 0.44 percent in 1991, declining to 0.02 percent in 1996.

**U.S. Exports** -- NAFTA also had a negligible effect on U.S. exports of printed matter to Canada and Mexico. During this same period, exports to Mexico increased 45 percent, to \$228 million in 1996. Most U.S. exports of printed matter to Mexico are also concentrated in SIC 2752, commercial printing, which accounted for 67 percent of the total sector exports to Mexico. Canada is the largest market for U.S. printed matter with U.S. exports totaling \$1.2 billion in 1996, up \$202 million (21 percent) from 1993 levels. On December 13, 1996, Mexico raised its duties on imports of U.S. notebooks and seven other U.S. products in retaliation for a U.S. safeguard action that raised U.S. duties on imports of broom corn brooms. Notebooks are classified under HTS 4820 and SIC 2782. This analysis includes SIC 2782. Then-Acting USTR Charlene Barshefsky expressed the view that Mexico's response was "excessive" and that it failed to meet the NAFTA test that self-compensation be "substantially equivalent" to the U.S. safeguard action.<sup>5</sup> On January 14, 1997, following imposition of the U.S. safeguard action, Mexico asked for the establishment of a NAFTA Chapter 20 binational panel to review the U.S. action. As of early May 1997, a panel was in the process of being established.

**Other Factors** – Total U.S. trade in printed matter products from 1993 to 1996 increased nearly 26 percent, to \$4.1 billion. Total U.S. trade with Mexico increased 82 percent, to \$395 million in 1996. Likewise, total U.S.-Canada trade in these products grew 31 percent, to \$1.7 billion, during this period.

Since the English language is common to both countries, U.S.-Canada trade in printed matter, especially periodicals, benefits from this commonality. However, Canada restricts or prohibits the importation of

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Blankbooks have pages that do not contain any printed information. Some examples are diaries, accounting books, and scrapbooks.

<sup>4</sup> This SIC category includes items such as maps, calendars, or trading stamps that have been printed by the lithographic process.

<sup>5</sup> Written response dated Jan. 29, 1997, of Acting U.S. Trade Representative Charlene Barshefsky to Sen. Phil Gramm, reprinted in *Inside NAFTA*, Feb. 6, 1997, p. 4.

certain foreign periodicals and provides favorable postage rates to certain domestic periodicals.<sup>6</sup> The United States has challenged Canada's practices in the WTO.<sup>7</sup>

The magnitude of foreign investment in the United States is unknown, but is believed to be extremely small. Likewise, new NAFTA-related investments in Canada and Mexico are unknown but believed to be minimal. The U.S. industry has expressed an interest in developing exclusively Spanish-language editions of popular U.S. periodicals to be printed in Mexico.

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<sup>6</sup> American Embassy, Ottawa Cable 000873.

<sup>7</sup> "World Trade Body Opposes Canadian Magazine Tariffs," *New York Times*, Jan. 20, 1997.

## ITC Group No. 24: Alkalies and Chlorine<sup>1</sup>

**Table 6-24-1**

**Alkalies and chlorine: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	3,117.8	3,190.2	4,134.2	4,626.0	1,508.2	48.4
Consumption (million dollars) . . . . .	2,644.8	2,746.4	3,446.1	3,845.6	1,200.8	45.4
Trade data (million dollars):						
Exports:						
Total . . . . .	599.5	594.6	900.0	970.8	371.3	61.9
To Mexico . . . . .	35.9	42.0	48.6	59.7	23.8	66.2
To Canada . . . . .	83.7	81.7	122.2	145.4	61.6	73.6
To non-NAFTA countries . . . . .	479.9	470.9	729.2	765.8	285.9	59.6
Imports:						
Total . . . . .	126.5	150.8	211.9	190.4	63.9	50.5
From Mexico . . . . .	2.2	5.3	6.6	6.6	4.4	202.0
From Canada . . . . .	77.2	85.8	110.8	110.4	33.2	43.0
From non-NAFTA countries . . . . .	47.2	59.7	94.5	73.4	26.3	55.8
Trade balance:						
Total . . . . .	473.0	443.8	688.1	780.4	307.4	65.0
With Mexico . . . . .	33.7	36.7	42.0	53.1	19.4	57.4
With Canada . . . . .	6.6	-4.1	11.5	35.0	28.4	433.7
With non-NAFTA countries . . . . .	432.7	411.2	634.7	692.3	259.6	60.0
Total trade:						
Total . . . . .	726.0	745.4	1,111.9	1,161.2	435.2	59.9
NAFTA partners . . . . .	199.0	214.8	288.3	322.0	123.0	61.8
With Mexico . . . . .	38.1	47.3	55.2	66.2	28.1	73.9
With Canada . . . . .	160.9	167.5	233.0	255.7	94.8	58.9
Import market share (percent):						
Total . . . . .	4.8	5.5	6.1	5.0	0.2	(2)
Mexico . . . . .	0.1	0.2	0.2	0.2	0.1	(2)
Canada . . . . .	2.9	3.1	3.2	2.9	0.0	(2)
Non-NAFTA countries . . . . .	1.8	2.2	2.7	1.9	0.1	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	(3)	0.0	0.0	0.0	(3)	(2)
Canada . . . . .	0.1	0.1	(3)	(3)	-0.1	(2)
All other . . . . .	0.2	0.2	0.1	0.1	(3)	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	12.7	11.8	10.1	10.0	-2.7	-21.3
Production workers (1,000 persons) . . . . .	8.2	7.5	6.5	6.5	-1.7	-20.7
Average hourly wages of production workers . . . . .	\$18.03	18.64	19.41	19.99	1.96	10.9

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 2812, Alkalies and Chlorine and part of SIC 1474, Potash, Soda, and Borate Minerals. SIC 2812 covers establishments producing chlorine and alkali by synthetic means, including chlorine, caustic soda (sodium hydroxide), caustic potash (potassium hydroxide), synthetic soda ash (sodium carbonate or disodium carbonate not produced in mines), sodium bicarbonate, potassium carbonate, and potassium bicarbonate. Products covered by this write-up included in SIC 1474 primarily include mined soda ash (sodium carbonate or disodium carbonate), but also include other mined alkali.

## Summary of Sector Analysis

*U.S. Imports* – The impact of NAFTA on rising U.S. imports of sector products from Mexico and Canada during 1993-96 was negligible.<sup>2</sup> U.S. imports of sector products from Canada increased by 43 percent to \$110 million in 1996, while sector imports from Mexico rose \$4 million to just under \$7 million). The implementation of NAFTA did not have a large impact on the increased level of U.S. imports from NAFTA partners, primarily because U.S. tariffs on sector products from Mexico and Canada either entered free of duty or at low rates of duty prior to NAFTA. In 1993, about 82 percent of the sector trade from Canada entered free of duty under the MFN and the remainder were tariff items that had been reduced under the CFTA to zero or, in the case of disodium carbonate, to 0.6 percent. In 1993, virtually all imports of these sector products from Mexico entered free of duty either under the MFN or the GSP; thereafter, U.S. tariffs remained free under NAFTA. The negligible U.S. duties paid in 1993 on U.S. imports from both Canada and Mexico were reflected in the U.S. trade-weighted duty averages for this product sector, which amounted to only 0.11 percent and 0.01 percent, respectively.

Three products accounted for almost all (about 97 percent) sector imports from Canada during 1993-96: chlorine, sodium hydroxide in aqueous solution, and disodium carbonate (soda ash). During 1993-96, sector imports from Canada increased by 43 percent, reflecting increased U.S. demand spurred by growth in the U.S. economy. Most of this rise was accounted for by increased shipments of the co-products chlorine and caustic soda, reflecting increased demand for polyvinyl chloride (PVC) plastic made from chlorine and increased use of caustic soda in environmental or industrial applications in the northern States.<sup>3</sup> PVC output growth is closely tied to construction and housing applications and is, therefore, affected by fluctuations of the general economy. Caustic soda is used principally in the production of other chemicals, and its use tends to be more independent of economic fluctuations than is chlorine. The low level of sector imports from Mexico (\$6.6 million in 1996) reflected the limited export capacity of the Mexican chlorine and alkali industry.

*U.S. Exports* -- NAFTA also had a negligible impact on increased U.S. exports to NAFTA partners during 1993-96. The impact of NAFTA was greater for U.S. exports of sector products to Mexico than to Canada, because, in contrast to Canada, most of the sector products exported in significant amounts from the United States to Mexico experienced duty reductions resulting from implementation of NAFTA. With the exception of disodium carbonate (soda ash), all the products in this sector, including aqueous sodium hydroxide (the principal sector product exported from the United States to Canada), entered Canada duty-free prior to NAFTA and thereafter.

During 1993-96, total U.S. sector exports to Canada rose by 74 percent to \$145 million. Altogether, sector products that did not experience duty reductions under NAFTA during 1993-96 accounted for 86 percent of the increase in these U.S. exports to Canada. The increase was attributed to developments not related to NAFTA, including growth in Canadian demand spurred by growth in the Canadian economy and because U.S. chlorine/caustic soda producers, faced with an excess of caustic soda, increased shipments to Canada and

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Chlorine and caustic soda are co-products produced in roughly equal amounts from the electrolysis of brine. Because of the fixed chemical ratio of the two co-products, an increase in demand for the product in greater demand results in increased production of the other co-product, regardless of its demand. In recent years, chlorine demand has exceeded that of caustic soda leading to the production of excess caustic soda.

other export markets. U.S. exports of disodium carbonate to Canada increased during 1993-96 by 66 percent, to \$22 million. Although disodium carbonate was subject to a duty reduction under NAFTA, industry sources do not believe that the reduction in duties under NAFTA during 1993-96 was large enough to have caused U.S. exporters to increase their exports of soda ash to Canada (Canada has staged reductions of the tariff on disodium carbonate over 10 years under the WTO). According to these sources, U.S. exports of soda ash to Canada increased during 1993-96 primarily for the same reason that most U.S. exports of other chemicals increased to Canada during that period--the growth in Canadian demand for chemicals spurred by growth in the Canadian economy and other non-NAFTA-related influences.

During 1993-96, U.S. sector exports to Mexico rose by 66 percent to \$60 million, primarily as a result of increased product demand in Mexico, enhanced by recovery of the Mexican economy in 1996. Sodium hydroxide and soda ash accounted for the majority of the increase. As a secondary effect, the impact of duty reductions under NAFTA is likely to have some impact, although the impact of these reductions was likely minor compared to the much larger impact of the peso devaluation. All of the products in this sector that were exported from the United States to Mexico in significant quantities were subject to staged duty reductions under NAFTA, from either 10 percent or 5 percent ad valorem to free over a 10-year period. Although the impact of these duty reductions on U.S. sector exports is likely to be significant over the entire 10-year NAFTA duty reduction staging period, the duty reductions for the significant sector exports during 1994-96, or approximately 1.5 to 3 percent ad valorem, were too small to have been a significant factor in the increase of U.S. sector exports to Mexico.

Although minor in impact, an industry source notes that NAFTA might have been a contributory factor towards increased U.S. exports of soda ash to Mexico. According to this source,<sup>4</sup> a natural soda ash plant in Mexico was shut down in 1993, in part because of general environmental concerns raised in anticipation of NAFTA about pollution associated with plants in Mexico. The markets formerly supplied by this plant are now supplied by soda ash imported from the United States. The duty-reduction provisions in NAFTA also are contributing to increased U.S. exports of soda ash to Mexico (much of which is used in glass production), by allowing Mexican glass producers to increase their purchases of U.S.-origin soda ash for use in the production of glass bottles, which are then, in turn, exported to the United States.

*Other Factors* -- During 1993-96, total U.S.-world trade in alkalis and chlorine expanded by \$435 million to almost \$1.2 billion. During this period, total U.S.-Canada trade in these products rose by \$95 million to \$256 million; total U.S.-Mexico trade rose by \$28 million to \$66 million. Although there is limited U.S. investment in Mexico to produce chlorine and caustic soda, as well as other alkalis, there is some trade, especially of caustic soda, between related producers of alkalis and chlorine in Canada and the United States. NAFTA, however, has had little, if any, effect on investment in North America for the production of sector products.

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<sup>4</sup> Industry representative, telephone interview by USITC staff, May 5, 1997.



## ITC Group No. 25: Industrial Inorganic Chemicals<sup>1</sup>

**Table 6-25-1**

**Industrial inorganic chemicals: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentag e change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	14,251.0	15,147.0	16,536.0	(1)	(1)	(1)
Consumption ( <i>million dollars</i> ) . . . . .	13,909.3	14,803.6	16,412.3	(1)	(1)	(1)
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	4,224.9	4,607.3	5,127.4	5,163.7	938.8	22.2
To Mexico . . . . .	273.2	353.5	343.8	470.2	197.0	72.1
To Canada . . . . .	686.0	768.0	898.2	901.4	215.4	31.4
To non-NAFTA countries . . . . .	3,265.7	3,485.8	3,885.4	3,792.1	526.4	16.1
Imports:						
Total . . . . .	3,883.2	4,264.0	5,003.6	5,710.9	1,827.7	47.1
From Mexico . . . . .	158.3	164.0	185.3	257.9	99.6	63.0
From Canada . . . . .	901.7	1,071.2	1,195.0	1,361.8	460.1	51.0
From non-NAFTA countries . . . . .	2,823.3	3,028.8	3,623.3	4,091.2	1,267.9	44.9
Trade balance:						
Total . . . . .	341.7	343.4	123.7	-547.2	-888.9	(2)
With Mexico . . . . .	115.0	189.5	158.4	212.3	97.3	84.7
With Canada . . . . .	-215.7	-303.2	-296.8	-460.4	-244.7	-113.5
With non-NAFTA countries . . . . .	442.4	457.1	262.1	-299.1	-741.5	(2)
Total trade:						
Total . . . . .	8,108.1	8,871.3	10,131.0	10,874.7	2,766.5	34.1
NAFTA partners . . . . .	2,019.1	2,356.7	2,622.3	2,991.3	972.1	48.1
With Mexico . . . . .	431.5	517.5	529.1	728.1	296.6	68.7
With Canada . . . . .	1,587.6	1,839.2	2,093.2	2,263.2	675.5	42.6
Import market share ( <i>percent</i> ):						
Total . . . . .	27.9	28.8	30.5	(1)	(1)	(2)
Mexico . . . . .	1.1	1.1	1.1	(1)	(1)	(2)
Canada . . . . .	6.5	7.2	7.3	(1)	(1)	(2)
Non-NAFTA countries . . . . .	20.3	20.5	22.1	(1)	(1)	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	0.1	(3)	(3)	(3)	-0.1	(2)
Canada . . . . .	0.1	0.3	0.3	0.1	0.0	(2)
All other . . . . .	1.4	1.4	1.4	1.3	-0.1	(2)
U.S. industry indicators: <sup>4</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	98.1	93.8	85.4	82.1	-16.0	-16.3
Production workers ( <i>1,000 persons</i> ) . . . . .	76.5	78.1	81.1	81.7	5.2	6.8
Average hourly wages of production workers . . . . .	\$16.29	16.58	17.08	17.66	1.37	8.4

<sup>1</sup> Not available.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

### Summary of Sector Analysis

**U.S. Imports** – During 1993-96, U.S. sector imports from Canada rose by 51 percent to \$1.4 billion while U.S. sector imports from Mexico rose 63 percent to \$258 million. Because pre-NAFTA U.S. duty rates were low and U.S. non-tariff barriers were insignificant, the reduction of U.S. tariffs under NAFTA is considered

<sup>1</sup> Standard Industrial Classifications (SIC) Industry Nos. 2816, Inorganic Pigments; and 2819 Industrial Inorganic Chemicals, Not Elsewhere Classified.

by industry sources interviewed for this study to have been negligible<sup>2</sup> in the growth of U.S. imports from Canada and Mexico from 1993 to 1996. U.S. duty rates for Canada, which were lowered under the CFTA which preceded NAFTA, averaged only 0.1 percent on a trade-weighted average basis in 1993. U.S. duty rates for Mexico were even lower than those for Canada in 1993, averaging only 0.06 percent. The growth of U.S. imports from Canada and Mexico during 1993-96 is attributed primarily to growth in demand for the products in this sector spurred by growth in the U.S. economy. These products are primarily intermediates used in making industrial products. U.S. sector imports from Mexico may have been further stimulated by the devaluation of the peso, which reduced the cost of Mexican products to U.S. purchasers. Although NAFTA was not likely a significant factor in the growth of U.S. sector imports, there was, nevertheless, a relatively small number of workers who were found to be eligible to receive assistance under the NAFTA Trade Assistance Adjustment Program.<sup>3</sup>

**U.S. Exports** – NAFTA also had a negligible effect on increased U.S. exports to NAFTA partners during the period. The increase in U.S. exports to Canada and Mexico during 1993-96 was largely attributable to growth in demand for the products in this sector spurred by growth in the Canadian and Mexican economies (the latter experienced a recovery in 1996). During 1993-96, U.S. exports to Mexico and Canada increased by 72 percent (to \$470 million) and by 31 percent (to \$901 million), respectively, compared with an increase of only 16 percent (to \$3.8 billion) for U.S. exports to non-NAFTA countries. Although reduced Mexican duty rates negotiated through NAFTA were likely contributory factors to the growth of U.S. exports to that country (Mexican duty reductions for most of the products in this sector were eliminated entirely in January 1994 from a typical 10 percent ad valorem rate in 1993), the impact of the duty reductions was likely minor compared to the much larger impact of the peso devaluation. Implementation of NAFTA, however, did have a significant impact on stimulating U.S. exports for some products in this sector, especially those products that were subject to an immediate elimination of the Mexican duty under NAFTA in January 1994 and that experienced increased U.S. exports. In particular, industry sources have reported that elimination of the 10 percent Mexican duty for titanium oxides, used in paint and pigment production, was a major factor in stimulating increased U.S. exports to Mexico (titanium oxides exports accounted for approximately 6 percent of total sector products to Mexico in 1996). Other products in this sector that were subject to immediate elimination of the 10 percent ad valorem Mexican duty in January 1994 and that experienced increased U.S. exports during 1993-96 include certain forms of precious metals and most supported catalysts. Although reduced Canadian duty rates negotiated through NAFTA were also likely contributory factors to the growth of U.S. exports to that country, industry sources indicated that this impact was likely relatively minor, especially as many Canadian duties were reduced prior to NAFTA during implementation of the CFTA.

**Other Factors** – From 1993 to 1996, total U.S.-Canadian trade (imports plus exports) in the industrial inorganic sector rose 43 percent (\$676 million) to \$2.3 billion. During that period, trade in this sector between the United States and Mexico rose 69 percent (\$297 million) to \$728 million. U.S. trade in this sector grew more rapidly with Canada and Mexico than with most other countries. From 1993 to 1996, U.S. sector trade rose 34 percent to \$10.9 billion.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> The NAFTA Trade Assistance Adjustment (TAA) Program is intended to provide assistance for workers who were displaced because of trade with Canada or Mexico. According to data compiled by the Bureau of Labor Statistics, 212 employees in the industrial inorganic chemicals sector, or less than 0.5 percent of total employees operating in that sector, were certified under this program. Of these, 198 were employees of a single company.

Increased investments in Mexico prior to 1995 were primarily attributable to the confidence that U.S. investors had in the Mexican economy. This confidence was shaken by the peso devaluation and the ensuing recession in Mexico. Consequently, industry sources suggested that U.S. investments probably declined in 1995 for this sector. According to industry sources, the partial recovery of the Mexican economy in 1996 likely led to an increase in investment, but did not, however, match the growth of investments prior to 1995. According to one industry source, the duty-reduction provisions of NAFTA contributed to his company's decision to set up a chemical facility in Mexico and was likely a factor in stimulating U.S. investment in Mexico. According to this source, the duty-reduction provisions in NAFTA helped U.S. companies with plants in Mexico survive by allowing for increased exports when local demand fell during the Mexican recession.<sup>4</sup>

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<sup>4</sup> Industry representative, telephone interview by USITC staff, May 19, 1997.

**ITC Group No. 26: Synthetic Plastics, Resins, and Rubber<sup>1</sup>**

**Table 6-26-1**

**Synthetic plastics, resins, and rubber: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	36,284.2	42,268.7	49,470.9	54,500.0	18,215.8	50.2
Consumption (million dollars) . . . . .	31,229.0	36,664.9	42,644.6	47,426.6	16,197.6	51.9
Trade data (million dollars):						
Exports:						
Total . . . . .	8,128.6	9,507.6	11,601.5	11,930.1	3,801.5	46.8
To Mexico . . . . .	797.4	1,029.7	1,060.4	1,403.7	606.3	76.0
To Canada . . . . .	1,825.5	2,186.2	2,454.5	2,785.4	960.0	52.6
To non-NAFTA countries . . . . .	5,505.7	6,291.7	8,086.6	7,741.0	2,235.3	40.6
Imports:						
Total . . . . .	3,073.4	3,903.8	4,775.2	4,856.8	1,783.4	58.0
From Mexico . . . . .	113.3	173.6	239.8	224.6	111.2	98.1
From Canada . . . . .	1,140.5	1,549.7	2,082.6	2,095.5	955.1	83.7
From non-NAFTA countries . . . . .	1,819.6	2,180.5	2,452.8	2,536.7	717.1	39.4
Trade balance:						
Total . . . . .	5,055.2	5,603.8	6,826.3	7,073.4	2,018.2	39.9
With Mexico . . . . .	684.1	856.1	820.6	1,179.1	495.0	72.4
With Canada . . . . .	685.0	636.5	371.9	689.9	4.9	0.7
With non-NAFTA countries . . . . .	3,686.1	4,111.2	5,633.8	5,204.3	1,518.2	41.2
Total trade:						
Total . . . . .	11,202.0	13,411.5	16,376.6	16,786.9	5,584.9	49.9
NAFTA partners . . . . .	3,876.7	4,939.3	5,837.3	6,509.3	2,632.5	67.9
With Mexico . . . . .	910.8	1,203.4	1,300.2	1,628.3	717.5	78.8
With Canada . . . . .	2,966.0	3,735.9	4,537.1	4,881.0	1,915.0	64.6
Import market share (percent):						
Total . . . . .	9.8	10.6	11.2	10.2	0.4	( <sup>2</sup> )
Mexico . . . . .	0.4	0.5	0.6	0.5	0.1	( <sup>2</sup> )
Canada . . . . .	3.7	4.2	4.9	4.4	0.8	( <sup>2</sup> )
Non-NAFTA countries . . . . .	5.8	5.9	5.8	5.3	-0.5	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.2	0.4	0.1	0.1	-0.1	( <sup>2</sup> )
Canada . . . . .	0.1	0.1	( <sup>3</sup> )	0.1	0.0	( <sup>2</sup> )
All other . . . . .	5.0	5.1	4.9	4.8	-0.2	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	96.4	92.6	91.2	91.4	-5.0	-5.2
Production workers (1,000 persons) . . . . .	59.9	58.9	57.4	56.0	-3.9	-6.5
Average hourly wages of production workers . . . . .	\$16.52	17.18	17.83	18.38	1.86	11.3

<sup>1</sup> Shipments data for 1996 are estimated by USITC staff.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 2821, Plastics Materials and Resins; and 2822, Synthetic Rubber.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA's effect on increased U.S. imports from Mexico and Canada during 1993-96 was negligible.<sup>2</sup> The 98-percent rise in imports from Mexico to \$225 million during this period was due principally to U.S. product shortages precipitated by an inordinate number of U.S. plant malfunctions in 1994, and significantly lower prices for Mexican products following the peso devaluation in 1994-95. Canadian shipments to the United States consisted primarily of products from the Canadian polyolefins industry, which is mostly U.S.-affiliated; CFTA-staged tariff provisions facilitated cost-effective cross-border distribution channels based on petrochemicals feedstocks from Alberta.<sup>3</sup>

**U.S. Exports** – NAFTA's impact on increased U.S. exports to NAFTA countries during 1993-96 was also negligible. U.S. exports to Mexico increased \$606 million (76 percent) in 1996, to \$1.4 billion, while exports to Canada increased \$960 million (53 percent) to \$2.8 billion. The United States has traditionally supplied about 90 percent of total Mexican import demand due principally to more favorable competitive economics. Large, low-cost, U.S. sector production facilities are strategically situated along the U.S. Gulf Coast in close proximity to Mexican markets. While the staged lowering of tariff barriers under the provisions of NAFTA assisted in increasing U.S. exports of these products to Mexico, pent-up Mexican demand for these products, driven by extremely low per capita consumption (20 kilograms per capita in Mexico vs. 130 kilograms per capita in the United States) and rising GDP, are believed to be decisive factors influencing market demand. According to industry sources, market access to Canada improved under staged tariff reductions implemented by CFTA, which encouraged more cost-effective cross-border marketing and distribution in an industry dominated by U.S. corporate affiliates.<sup>4</sup>

**Other Factors** – During this period, total U.S.-Canada trade increased 65 percent (\$1.9 billion), to \$4.8 billion in 1996, while total U.S.-Mexico trade increased 79 percent (\$718 million), to \$1.6 billion. The total U.S. global trade of these products during the subject period increased 50 percent, reaching \$16.8 billion in 1996, while the trade surplus increased 40 percent, reaching \$7.1 billion. Canada and Mexico accounted for 25 percent of the increase in the positive U.S. trade balance during this period. Plastics materials accounted for about 90 percent of the positive change in the U.S. trade balance, with synthetic rubber accounting for the remainder.

Since NAFTA entered into force in 1994, several U.S. corporations have built plants in Mexico for the purpose of supplying local markets. These moves were largely independent of NAFTA provisions, according to corporate officials. Eastman Chemical and Shell Oil have built polyethylene terephthalate (PET) plants to serve Mexico's growing beverage container demand, while BASF Corp. is building crystalline polystyrene,

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Staff telephone interviews with Mr. William C. Kuhlke, Kuhlke & Associates, Polymer Consultant, Houston, TX, about changing Mexican and Canadian import trends to the United States. Ms. Jan M. Neuenfeldt, advisor to the Strategy Business Research Group of Dow Chemical Co., Midland, MI, a large U.S.-Canadian polymer producer, also was interviewed by the staff about U.S.-Canada free trade, Mar. 1997.

<sup>4</sup> Ibid. Mr. Thomas E. Cole, President, The Rubber Manufacturers Association, Washington, DC, and Mr. Britt Theismann, Information and Systems Director, International Institute of Synthetic Rubber Producers, Inc., Houston, TX, Mar. 1997.

acrylonitrile-butadiene-styrene (ABS), and styrene-acrylonitrile (SAN) plants for local extrusion and injection molding product markets.<sup>5</sup>

On December 9, 1994, Muehlstein International, Ltd., filed a request for a NAFTA binational panel review of a final antidumping determination by Mexico (SECOFI) concerning imports of solid and crystal polystyrene from Germany and the United States. On September 12, 1996, the panel, in a majority decision, affirmed the Mexican determination (NAFTA secretariat file no. MEX-94-1904-03). For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of October 21, 1996 (61 F.R. 54622).

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<sup>5</sup> Staff telephone interviews with Mr. John A. Moore, Strategy Business Research, Eastman Chemical Co., Kingsport, TN, public relations representatives of BASF Corp., Mount Olive, NJ, and Kuhlke Associates, Houston, TX, in Mar. 1997. Eastman and Shell PET plants are in Cosoleacaque and Tampico, respectively, while BASF's polystyrene plant will go on stream at Altamira.

**ITC Group No. 27: Pharmaceutical Preparations<sup>1</sup>**

**Table 6-27-1**

**Pharmaceutical preparations: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	79,378.0	82,866.0	87,613.0	96,573.0	17,195.0	21.7
Consumption ( <i>million dollars</i> ) . . . . .	79,446.7	83,068.5	88,243.1	97,556.9	18,110.2	22.8
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	2,027.3	2,314.9	2,247.1	2,718.4	691.1	34.1
To Mexico . . . . .	38.9	43.1	51.2	49.4	10.5	26.9
To Canada . . . . .	574.3	590.5	639.5	752.8	178.5	31.1
To non-NAFTA countries . . . . .	1,414.1	1,681.3	1,556.4	1,916.2	502.1	35.5
Imports:						
Total . . . . .	2,096.0	2,517.3	2,877.3	3,702.2	1,606.3	76.6
From Mexico . . . . .	2.9	2.7	6.3	12.1	9.2	320.0
From Canada . . . . .	103.6	201.5	245.0	323.6	220.0	212.5
From non-NAFTA countries . . . . .	1,989.5	2,313.2	2,625.9	3,366.6	1,377.0	69.2
Trade balance:						
Total . . . . .	-68.7	-202.5	-630.1	-983.9	-915.2	-1,332.3
With Mexico . . . . .	36.0	40.4	44.8	37.3	1.2	3.5
With Canada . . . . .	470.7	389.0	394.5	429.2	-41.5	-8.8
With non-NAFTA countries . . . . .	-575.4	-631.9	-1,069.5	-1,450.4	-875.0	-152.1
Total trade:						
Total . . . . .	4,123.2	4,832.2	5,124.4	6,420.6	2,297.3	55.7
NAFTA partners . . . . .	719.6	837.7	942.1	1,137.8	418.2	58.1
With Mexico . . . . .	41.8	45.7	57.5	61.4	19.7	47.1
With Canada . . . . .	677.8	792.0	884.6	1,076.4	398.6	58.8
Import market share ( <i>percent</i> ):						
Total . . . . .	2.6	3.0	3.3	3.8	1.2	( )
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	( )
Canada . . . . .	0.1	0.2	0.3	0.3	0.2	( )
Non-NAFTA countries . . . . .	2.5	2.8	3.0	3.5	0.9	( )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	0.3	1.2	0.0	0.0	-0.3	( )
Canada . . . . .	3.0	2.3	0.0	0.0	-3.0	( )
All other . . . . .	4.5	4.6	0.0	0.0	-4.5	( )
U.S. industry indicators: <sup>2</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	215.8	213.3	209.0	205.2	-10.6	-4.9
Production workers ( <i>1,000 persons</i> ) . . . . .	97.4	101.1	107.1	101.4	4.0	4.1
Average hourly wages of production workers . . . . .	\$14.72	14.76	14.99	15.55	0.83	5.6

<sup>1</sup> Not meaningful for purposes of comparison.

<sup>2</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce and data from the Pharmaceutical Research and Manufacturers Association, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2834, Pharmaceutical Preparations, includes drugs used in preparations for human or veterinary use. The preparations are finished in the form intended for final consumption, such as ampoules, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions. The products are promoted as either ethical (prescription) drugs or over-the-counter (OTC) preparations for sale to the general public.

## Summary of Sector Analysis

**U.S. Imports** – The NAFTA effect on increased U.S. imports from Mexico and Canada during 1993-96 was negligible.<sup>2</sup> U.S. imports of pharmaceutical preparations from Canada, although only 0.3 percent of the U.S. market, nearly doubled from 1993 to 1996, rising from \$104 million to \$324 million. Imports from Mexico (less than 0.1 percent of the U.S. market) increased dramatically as well during the same period, rising from almost \$3 million to \$12 million. However, similar import increases were also observed among non-NAFTA countries. The effects of NAFTA tariff reductions for these products were minor; although NAFTA provided for a “free” rate of duty for most of these products, nearly all imports from Mexico entered duty free under GSP prior to NAFTA. Pre-NAFTA tariff rates for Canada were less than 2 percent.

There are several non-NAFTA factors that have led to the increased U.S. imports of pharmaceuticals from NAFTA and non-NAFTA countries alike. The overall import market share increased from 2.6 percent to 3.8 percent during 1993-96. New prescription drugs, which are increasingly produced in facilities in major consuming and producing areas such as Western Europe and Japan, create their own niche and may absorb market share from other, older drugs that have been approved for similar prescription use, potentially increasing U.S. imports of the new products. Internationally, prior to the implementation of NAFTA, Canada removed compulsory licensing for pharmaceuticals, which in turn increased potential profitability for U.S. drug firms; Mexico tightened its intellectual property rights laws, lowering the risks associated with introducing newly-developed pharmaceuticals. As a result, both Mexican and Canadian markets have become more open to foreign investment.<sup>3</sup>

**U.S. Exports** – NAFTA had a negligible effect on increased U.S. exports to NAFTA partners during the period as well. Exports of the products covered by this digest did not increase as rapidly as imports. The increases observed for exports to Canada and Mexico are well within the observed range for non-NAFTA countries, indicating that NAFTA had little or no observable effect outside the scope of normal market conditions. U.S. exports of these products to Canada increased from \$574 million in 1993 to \$753 million in 1996; U.S. exports of these products to Mexico increased from \$39 million to \$49 million.

**Other Factors** – Total sector trade grew by 56 percent to \$6.4 billion from 1993 to 1996. Total U.S.-Canada trade for the sector grew by 59 percent (\$399 million) to nearly \$1.1 billion. Total U.S.-Mexico trade for the sector grew by 47 percent (\$20 million) to \$61 million. Part of the increase in total sector trade in 1995-96 can be attributed to the implementation of the tariff reductions agreed to during the Uruguay Round negotiations on January 1, 1995. The agreement provided for duty-free treatment among WTO members for over 8,000 pharmaceutical products and chemical intermediates intended for pharmaceutical use (in the United States, this duty-free treatment is extended to MFN trading partners as well).

While there was reportedly \$119 million of U.S. investment in Mexico and \$177 million in Canada in 1995, these amounts are relatively insignificant compared with U.S. investment in other countries that year.<sup>4</sup>

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Industry officials, telephone interview by USITC staff, Feb. 21, 1997.

<sup>4</sup> Data provided by the Pharmaceutical Research and Manufacturers Association.



**ITC Group No. 28: Soaps, Detergents, Toiletries<sup>1</sup>**

**Table 6-28-1**

**Soaps, detergents, toiletries: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	39,050.0	40,469.0	41,700.0	42,900.0	3,850.0	9.9
Consumption (million dollars) . . . . .	38,179.4	39,389.4	40,562.3	41,548.8	3,369.4	8.8
Trade data (million dollars):						
Exports:						
Total . . . . .	2,080.2	2,449.3	2,715.3	3,093.9	1,013.7	48.7
To Mexico . . . . .	178.9	223.5	148.5	151.0	-27.9	-15.6
To Canada . . . . .	546.8	637.3	738.6	854.6	307.8	56.3
To non-NAFTA countries . . . . .	1,354.5	1,588.5	1,828.2	2,088.3	733.8	54.2
Imports:						
Total . . . . .	1,209.6	1,369.7	1,577.6	1,742.7	533.1	44.1
From Mexico . . . . .	52.5	71.2	88.4	103.5	51.0	97.1
From Canada . . . . .	228.7	292.0	360.5	445.1	216.4	94.6
From non-NAFTA countries . . . . .	928.4	1,006.5	1,128.7	1,194.1	265.7	28.6
Trade balance:						
Total . . . . .	870.6	1,079.6	1,137.7	1,351.2	480.6	55.2
With Mexico . . . . .	126.4	152.3	60.1	47.5	-78.9	-62.4
With Canada . . . . .	318.1	345.3	378.1	409.5	91.4	28.7
With non-NAFTA countries . . . . .	426.1	582.0	699.5	894.2	468.1	109.9
Total trade:						
Total . . . . .	3,289.8	3,819.0	4,292.9	4,836.6	1,546.8	47.0
NAFTA partners . . . . .	1,006.9	1,224.0	1,336.0	1,554.2	547.3	54.4
With Mexico . . . . .	231.4	294.7	236.9	254.5	23.1	10.0
With Canada . . . . .	775.5	929.3	1,099.1	1,299.7	524.2	67.6
Import market share (percent):						
Total . . . . .	3.2	3.5	3.9	4.2	1.0	( <sup>2</sup> )
Mexico . . . . .	0.1	0.2	0.2	0.2	0.1	( <sup>2</sup> )
Canada . . . . .	0.6	0.7	0.9	1.1	0.5	( <sup>2</sup> )
Non-NAFTA countries . . . . .	2.4	2.6	2.8	2.9	0.4	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.4	0.1	0.1	( <sup>3</sup> )	-1.4	( <sup>2</sup> )
Canada . . . . .	2.1	1.5	1.1	0.7	-1.4	( <sup>2</sup> )
All other . . . . .	4.6	4.5	3.5	2.7	-1.9	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	114.1	111.6	110.9	110.5	-3.6	-3.2
Production workers (1,000 persons) . . . . .	71.9	70.7	69.8	69.7	-2.2	-3.1
Average hourly wages of production workers . . . . .	\$12.64	12.97	13.03	13.10	0.46	3.6

<sup>1</sup> Estimated by USITC staff.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 2841, Soaps and Cleansers; and 2844, Toilet Preparations.

## Summary of Sector Analysis

*U.S. Imports* – The effect of NAFTA on increasing U.S. sector imports from NAFTA partners was negligible during 1993-96.<sup>2</sup> The value of imports from Canada rose by 95 percent (\$216 million) to \$445 million from 1993 to 1996, while imports from Mexico grew 97 percent (\$51 million) to nearly \$104 million. U.S. duty rates declined during this period from 1.4 percent AVE (Mexico) and 2.1 percent AVE (Canada) to almost zero (Mexico) and 0.7 percent (Canada). The increased imports are more likely related to personal preferences in the various NAFTA markets; changes in demand are often related to factors such as style and fashion.

*U.S. Exports* – The effect of NAFTA on U.S. sector exports to Mexico and Canada was also negligible. U.S. exports to Canada increased to \$308 million (56 percent) during 1993-96, mimicking increases in the rate of exports to all countries. In 1996, exports to Mexico decreased 16 percent to \$151 million. This decline resulted primarily from the price effects of the peso devaluation and economic downturn in Mexico; many products are discretionary purchases. Tariff rates for Canada previous to NAFTA ranged from 6.5 percent to 8.5 percent, while the duties for Mexican imports ranged from 10 percent to 15 percent.

*Other Factors* – Total U.S. sector trade grew by 47 percent from 1993 to 1996, to \$4.8 billion. Total U.S.-Canada trade for the sector grew by 68 percent (\$524 million) to \$1.3 billion in 1996. Total U.S.-Mexico trade for the sector grew by 10 percent (\$23 million) to almost \$255 million in 1996. U.S. export growth resulted from increased demand for these products in current foreign markets, as well as expansion of the foreign market base for these products in general.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

## ITC Group No. 29: Paints and Allied Products<sup>1</sup>

**Table 6-29-1**  
**Paints and allied products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	15,355.0	16,425.0	16,741.0	(1)	(1)	(1)
Consumption ( <i>million dollars</i> ) . . . . .	14,740.8	15,749.6	16,075.1	(1)	(1)	(1)
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	811.4	935.9	1,008.8	1,091.2	279.8	34.5
To Mexico . . . . .	90.2	133.5	109.5	116.4	26.2	29.1
To Canada . . . . .	361.9	423.6	460.4	486.0	124.1	34.3
To non-NAFTA countries . . . . .	359.4	378.9	439.0	488.8	129.5	36.0
Imports:						
Total . . . . .	197.2	260.6	342.9	393.0	195.8	99.3
From Mexico . . . . .	0.9	2.1	3.7	8.7	7.8	882.3
From Canada . . . . .	77.5	106.0	134.8	193.0	115.5	148.9
From non-NAFTA countries . . . . .	118.8	152.5	204.5	191.3	72.5	61.1
Trade balance:						
Total . . . . .	614.2	675.4	665.9	698.2	84.0	13.7
With Mexico . . . . .	89.3	131.4	105.8	107.7	18.4	20.6
With Canada . . . . .	284.3	317.6	325.6	293.0	8.6	3.0
With non-NAFTA countries . . . . .	240.6	226.4	234.5	297.6	57.0	23.7
Total trade:						
Total . . . . .	1,008.6	1,196.5	1,351.7	1,484.3	475.6	47.2
NAFTA partners . . . . .	530.5	665.1	708.3	804.1	273.7	51.6
With Mexico . . . . .	91.1	135.6	113.2	125.2	34.1	37.4
With Canada . . . . .	439.4	529.5	595.1	679.0	239.6	54.5
Import market share ( <i>percent</i> ):						
Total . . . . .	1.3	1.7	2.1	(1)	(1)	(2)
Mexico . . . . .	0.0	0.0	0.0	(1)	(1)	(2)
Canada . . . . .	0.5	0.7	0.8	(1)	(1)	(2)
Non-NAFTA countries . . . . .	0.8	1.0	1.3	(1)	(1)	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	1.2	1.5	1.0	0.2	-1.0	(2)
Canada . . . . .	0.6	0.2	0.4	0.1	-0.5	(1)
All other . . . . .	3.8	3.8	3.9	3.7	-0.1	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	58.0	57.3	56.6	56.5	-1.5	-2.6
Production workers ( <i>1,000 persons</i> ) . . . . .	30.4	30.1	29.7	30.1	-0.3	-1.0
Average hourly wages of production workers . . . . .	\$12.71	12.98	13.08	13.49	0.78	6.1

<sup>1</sup> Not available.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

### Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible impact<sup>2</sup> on rising sector imports from Mexico and Canada as strong demand and quality improvements overshadowed some small tariff reductions. U.S. imports of paint and

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2851, Paints and Allied Products.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

allied products from Mexico increased 882 percent (\$7.8 million) to \$8.7 million in 1996, while U.S. imports of these products from Canada increased 149 percent (\$116 million) to \$193 million. Market factors affecting imports from Mexico included strong demand for architectural coatings in areas near the border, higher petroleum costs in the United States which affected raw materials prices, availability of the higher-value specialty coatings in the product mix, and an increased ability of Mexican firms to make products that comply with U.S. environmental requirements. Imports from Canada were largely driven by strong demand for architectural coatings and specialty automotive coatings in areas near the border. NAFTA duty reductions had minimal impact on trade in these products, because duty rates for most of these goods previously entered at relatively low rates of duty or were free under the GSP and the CFTA.

*U.S. Exports* – NAFTA is not believed to have had a significant effect on increased U.S. exports to Mexico and Canada. U.S. exports to Mexico and Canada have increased at a rate comparable with those other major U.S. trading partners. U.S. exports of these products to Mexico increased by 29 percent to \$116 million, while exports to Canada increased by 34 percent to \$486 million. Profit margins are relatively small for many of the products in this sector, and, as such, transportation costs (much more than tariff rates) tend to limit foreign trade for many of these products to locations near the manufacturing facilities. U.S. exports to Mexico and Canada accounted for more than half of all such exports, by value, during the period because of their proximity. Other factors affecting U.S. exports of these products include increased demand in these markets, and fluctuations in the quantity and value of the individual products in the product mix.

*Other Factors* – Total sector trade from 1993 to 1996 grew by \$476 million (47 percent), to \$1.5 billion. Total U.S.-Canada trade for the sector grew by \$240 million (55 percent) to \$679 million, whereas total U.S.-Mexico trade grew by \$34 million (37 percent) to \$125 million.

## ITC Group No. 30: Industrial Organic Chemicals<sup>1</sup>

**Table 6-30-1**

**Industrial organic chemicals: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	59,137.0	64,660.0	71,500.0	73,000.0	13,863.0	23.4
Consumption ( <i>million dollars</i> ) . . . . .	56,161.4	61,076.9	66,831.8	69,292.0	13,130.5	23.4
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	10,201.2	12,097.6	15,198.3	14,621.3	4,420.1	43.3
To Mexico . . . . .	847.6	1,051.8	1,165.1	1,257.7	410.0	48.4
To Canada . . . . .	1,296.7	1,522.0	1,567.9	1,987.2	690.5	53.2
To non-NAFTA countries . . . . .	8,056.8	9,523.9	12,465.3	11,376.4	3,319.6	41.2
Imports:						
Total . . . . .	7,225.6	8,514.6	10,530.1	10,913.2	3,687.6	51.0
From Mexico . . . . .	158.8	206.6	310.8	291.9	133.1	83.8
From Canada . . . . .	774.1	940.6	1,347.9	1,103.9	329.9	42.6
From non-NAFTA countries . . . . .	6,292.7	7,367.4	8,871.4	9,517.4	3,224.7	51.2
Trade balance:						
Total . . . . .	2,975.6	3,583.1	4,668.2	3,708.0	732.5	24.6
With Mexico . . . . .	688.8	845.2	854.3	965.8	277.0	40.2
With Canada . . . . .	522.7	581.4	220.0	883.3	360.6	69.0
With non-NAFTA countries . . . . .	1,764.1	2,156.5	3,593.9	1,859.0	94.9	5.4
Total trade:						
Total . . . . .	17,426.8	20,612.2	25,728.5	25,534.5	8,107.7	46.5
NAFTA partners . . . . .	3,077.2	3,720.9	4,391.8	4,640.7	1,563.5	50.8
With Mexico . . . . .	1,006.4	1,258.4	1,475.9	1,549.6	543.1	54.0
With Canada . . . . .	2,070.8	2,462.5	2,915.8	3,091.1	1,020.3	49.3
Import market share ( <i>percent</i> ):						
Total . . . . .	12.9	13.9	15.8	15.8	2.9	(2)
Mexico . . . . .	0.3	0.3	0.5	0.4	0.1	(2)
Canada . . . . .	1.4	1.5	2.0	1.6	0.2	(2)
Non-NAFTA countries . . . . .	11.2	12.1	13.3	13.7	2.5	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	3.6	1.5	1.7	1.0	-2.6	(2)
Canada . . . . .	0.3	0.1	0.1	0.1	-0.2	(2)
All other . . . . .	7.8	7.6	4.9	4.3	-3.5	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	148.2	142.7	143.9	143.7	-4.5	-3.0
Production workers ( <i>1,000 persons</i> ) . . . . .	76.5	78.1	81.1	81.7	5.2	6.8
Average hourly wages of production workers . . . . .	\$17.79	18.29	19.21	19.70	1.91	10.7

<sup>1</sup> Estimated by the staff of the USITC. Thus, calculated consumption figures, as well as percentage changes in both shipments and consumption, are estimates.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 2865, Cyclic Crudes and Intermediates; and 2869, Industrial Organic Chemicals, Not Elsewhere Classified. The latter accounts for about 80 percent of total sector value. Principal product groups in SIC 2865 are cyclic (coal tar) intermediates, dyes and organic pigments, and aromatics (e.g., benzene) not made in a refinery. Those in SIC 2869 include aliphatic gases, "natural" organic chemicals, and thousands of others.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible effect<sup>2</sup> on increased U.S. imports of industrial organic chemicals<sup>3</sup> from Mexico and Canada during 1993-96. U.S. imports from Mexico increased by 84 percent, to \$292 million in 1996. U.S. imports from Canada increased 43 percent, to \$1.1 billion. Though total imports of industrial organic chemicals account for a 16-percent market share in this sector, Canadian imports were just 2 percent of the total market and Mexican imports were less than 0.5 percent. Prior to NAFTA, Canadian duty reductions as a result of the CFTA, and eligibility for duty-free entry for many imports from Mexico as a result of Mexico's GSP status, were the main reasons for the increases in U.S. imports from NAFTA partners. Also, the devaluation of the peso soon after the implementation of NAFTA improved the price competitiveness of Mexican exports to the United States. Faced with a contracting Mexican market, those manufacturers in Mexico who were able to export goods of appropriate quality for the U.S. market did so.<sup>4</sup>

**U.S. Exports** – The NAFTA effect on U.S. exports to Mexico and Canada during the period was also negligible. Exports to NAFTA partners increased by 51 percent from 1993 to 1996, to \$3.2 billion. Most of this increase resulted from higher prices; the quantity of imports increased only 19 percent. In Mexico, the state oil monopoly, Petroleos Mexicanos (PEMEX), dominated domestic production of industrial organic chemicals in past years. However, more recently, PEMEX has been chronically short of capital to expand and provide sufficient supplies to its chemical industry. This has provided an export opportunity for U.S. manufacturers of industrial organic chemicals.

**Other Factors** – Total sector trade grew by 47 percent from 1993 to 1996, to \$25.5 billion. Total U.S.-Canada trade for the sector grew by 49 percent (\$1 billion) to \$3.1 billion in 1996, whereas total U.S.-Mexico trade grew by 54 percent (\$543 million) to \$1.5 billion in 1996.

U.S. investment in Mexico is reportedly very small because Mexico restricted privatization of the basic petrochemicals on which almost the entire chemical industry depends.<sup>5</sup> Unrelated to the NAFTA agreement,

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Industrial organic chemicals are mostly petrochemicals whose precursors and ultimate raw materials are a handful of simple molecules that are byproducts of the petroleum and natural gas industries--methane, ethane, propane, butane, benzene, toluene, xylene, and naphtha (the latter is a mixture of many of the foregoing, as well as gasoline-type molecules).

<sup>4</sup> "NAFTA is Still a Question Mark--Enthusiasm About NAFTA Is Not Universal, But the Chemical Industry Views It as a Step on the Road to Freer Trade," *Chemical and Engineering News*, Oct. 28, 1996, p. 13.

<sup>5</sup> Under the provisions of the Mexican Constitution, all aspects of Mexico's petroleum, natural gas, and basic petrochemicals industries (including exploration, drilling, production, refining, distribution, pipeline transmission, trade, and oilfield services) are under the sole purview of PEMEX. These Constitutional provisions were not affected by NAFTA. In Mexico, the Petroleum Regulatory Law provides that only the State (i.e. PEMEX) can carry out activities that constitute these industries. (See *Constitution of the United Mexican States*, arts. 25 and 27; *Regulatory Law of Constitutional Article 27 in the Area of Petroleum*, *Diario Oficial*, Nov. 29, 1958; and *Law of Petroleos Mexicanos*, *Diario Oficial*, Feb. 6, 1971.)

Historically, PEMEX allowed for only limited foreign investment in Mexico's secondary petrochemical industry; petrochemicals deemed secondary continue to be defined by PEMEX. Article 1102 of the investment chapter of NAFTA required Mexico to open its petrochemicals sector, other than "basic" petrochemicals, which remain under the sole purview of PEMEX, to foreign investment and eliminated the 40-percent limitation on foreign investment in "secondary" petrochemicals (See *Law on the Promotion of Mexican Investment and The Regulation of Foreign*

(continued...)

the government planned to allow privatization of most or all of the 61 secondary petrochemical plants owned by PEMEX. However, in response to strong opposition from Mexican energy unions, which fear that privatization will result in large layoffs, the Mexican Government decided to call off the auction. Instead, the 61 plants were to be grouped into 10 new PEMEX-owned subsidiary companies, 49 percent of each to be offered to private investors with PEMEX keeping the other 51 percent. However, that sale has since been suspended.<sup>6</sup>

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<sup>5</sup> (...continued)

*Investment*, art. 5, *Diario Oficial*, Mar. 9, 1973); there is no limit with regard to other classifications of petrochemicals (See *Regulation of the Law on the Promotion of Mexican Investment and The Regulation of Foreign Investment*, *Diario Oficial*, May 16, 1989). In addition to the elimination of investment restrictions on nonbasic petrochemicals, certain basic petrochemicals were reclassified, leaving only 8 petrochemicals classified as basic (See *1989 Resolution Reclassifying Specified Petrochemical Products as Basic or Secondary Petrochemicals*, *Diario Oficial*, Aug. 15, 1989 and *Resolution Reclassifying Specified Petrochemical Products as Basic or Secondary Petrochemicals*, *Diario Oficial*, Aug. 17, 1992).

<sup>6</sup> "PEMEX Continues to Suffer," *Petroleum Economist*, Sept. 1996, p. 88; "PEMEX Plans Biggest Investment for 15 Years," *Petroleum Economist*, Apr. 1997, p. 34.

**ITC Group No. 31: Fertilizers, Pesticides, and Agricultural Chemicals<sup>1</sup>**

**Table 6-31-1**

**Fertilizers, pesticides, and agricultural chemicals: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	15,871.0	17,545.0	19,533.0	21,779.3	5,908.3	37.2
Consumption ( <i>million dollars</i> ) . . . . .	14,652.1	15,716.9	17,391.5	19,854.0	5,201.9	35.5
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	3,617.3	4,684.4	5,469.9	5,347.7	1,730.4	47.8
To Mexico . . . . .	196.3	250.2	147.9	231.4	35.1	17.9
To Canada . . . . .	596.4	670.1	764.7	777.4	180.9	30.3
To non-NAFTA countries . . . . .	2,824.6	3,764.2	4,557.4	4,339.0	1,514.3	53.6
Imports:						
Total . . . . .	2,398.4	2,856.4	3,328.4	3,422.4	1,024.0	42.7
From Mexico . . . . .	56.5	131.5	141.4	139.4	82.9	146.8
From Canada . . . . .	963.4	1,090.5	1,128.8	1,154.3	190.9	19.8
From non-NAFTA countries . . . . .	1,378.5	1,634.4	2,058.3	2,128.7	750.2	54.4
Trade balance:						
Total . . . . .	1,218.9	1,828.1	2,141.5	1,925.3	706.4	58.0
With Mexico . . . . .	139.8	118.7	6.5	92.0	-47.8	-34.2
With Canada . . . . .	-367.0	-420.4	-364.1	-377.0	-10.0	-2.7
With non-NAFTA countries . . . . .	1,446.2	2,129.7	2,499.1	2,210.3	764.1	52.8
Total trade:						
Total . . . . .	6,015.7	7,540.8	8,798.4	8,770.1	2,754.4	45.8
NAFTA partners . . . . .	1,812.5	2,142.3	2,182.7	2,302.4	489.9	27.0
With Mexico . . . . .	252.7	381.7	289.3	370.8	118.1	46.7
With Canada . . . . .	1,559.8	1,760.5	1,893.5	1,931.7	371.9	23.8
Import market share ( <i>percent</i> ):						
Total . . . . .	16.4	18.2	19.1	17.2	0.9	( <sup>2</sup> )
Mexico . . . . .	0.4	0.8	0.8	0.7	0.3	( <sup>2</sup> )
Canada . . . . .	6.6	6.9	6.5	5.8	-0.8	( <sup>2</sup> )
Non-NAFTA countries . . . . .	9.4	10.4	11.8	10.7	1.3	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	0.5	0.2	0.2	1.1	0.6	( <sup>2</sup> )
Canada . . . . .	0.2	0.3	0.2	0.2	-0.1	( <sup>2</sup> )
All other . . . . .	4.5	4.2	2.9	2.8	-1.7	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	46.3	44.9	43.1	42.5	-3.8	-8.2
Production workers ( <i>1,000 persons</i> ) . . . . .	27.4	26.3	25.7	25.2	-2.2	-8.0
Average hourly wages of production workers . . . . .	\$15.80	16.09	16.45	16.83	1.03	6.5

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 2873, Nitrogenous Fertilizers; 2874, Phosphatic Fertilizers; and 2879, Agricultural Pesticides.



## Summary of Sector Analysis

**U.S. Imports** – Most of the increase in U.S. imports from Mexico and Canada during the 1993-96 period was due to U.S. demand<sup>2</sup> for these products caused by product shortages in the U.S. market. NAFTA effects were negligible.<sup>3</sup> The U.S. MFN rate of duty on most of these products was free prior to NAFTA and there were few significant nontariff barriers. New export-oriented plant capacity for nitrogenous fertilizer products in Canada<sup>4</sup> significantly contributed to an increase of over \$90 million in imports of such products from Canada from 1993 to 1996, or approximately one-half of the total net change in imports during this period.

**U.S. Exports** – NAFTA had a negligible effect on rising U.S. exports from NAFTA partners as well. The effects of the peso devaluation in 1995 made U.S. products considerably less attractive to Mexican buyers. Certain of the products in this sector are not produced in Mexico and are important inputs for Mexican export-oriented cash crops. Increases in U.S. exports of sector products to Canada, which rose \$181 million (30 percent) to \$777 million from 1993 to 1996, were largely comprised of finished phosphatic fertilizer products and herbicides. The purchase by Potash Corporation of Saskatchewan (PCS) of Texasgulf's South Carolina phosphate mines and production facilities in mid-1995, an acquisition toward full nutrient spectrum production independence,<sup>5</sup> contributed to the increase in finished phosphatic fertilizer exports to Canada. An increase in the number of Canadian acres planted also increased demand and required additional herbicide product inputs, which were generally imported.

**Other Factors** – Total fertilizer, pesticide, and agricultural chemical sector trade grew 46 percent from 1993 to 1996, to \$8.8 billion. Total U.S.-Mexico trade for the sector increased 47 percent (\$118 million) to \$371 million in 1996, whereas total U.S.-Canada trade grew 24 percent (\$372 million) to \$1.9 billion in 1996.

The extent to which NAFTA, or other factors such as production sharing, facilitated specialization of production, intra-industry trade or trade in intermediate products was negligible, and did not result in any economies of scale or benefits that may have had an effect on the competitive position of the sector. NAFTA effects were negligible since most U.S. imports of these products entered free prior to NAFTA and less than 1 percent of total trade in the sector<sup>6</sup> is affected by special programs such as production sharing, rules of origin, or CFTA. The NAFTA effect upon investment cannot be determined with confidence due to a lack of detailed data on U.S. investment in Mexico or Mexican investment in the United States. Reportedly, foreign firms have not established any NAFTA-related investment in Mexico and no U.S. or foreign NAFTA-related investment is known to have occurred in Canada.

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<sup>2</sup> U.S. nitrogenous fertilizer production is unable to satisfy domestic demand, therefore import reliance is significant; the United States is a net importer of nitrogenous fertilizers.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> Saskferco, an ammonia and urea production joint-venture between Cargill Fertilizer of Minneapolis, MN, the Crown Corp. of Saskatchewan, and Citibank Canada, came on-stream in the fall of 1992 at Belle Plaine, Saskatchewan.

<sup>5</sup> Canada does not have indigenous supplies of phosphate rock, the primary input to phosphatic fertilizer production, and, therefore, must import production inputs or finished product. Prior to purchase of these facilities, Canadian fertilizer producers imported significant amounts of phosphoric acid as the intermediate input to finished phosphatic fertilizer production.

<sup>6</sup> As calculated from data compiled by USITC from Census data.

**ITC Group No. 32: Petroleum Refinery Products<sup>1</sup>**

**Table 6-32-1**

**Petroleum refinery products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Production <sup>1</sup> (million dollars) . . .	147,488.0	153,632.0	163,405.0	196,690.0	49,202.0	33.4
Consumption (million dollars) . . .	151,399.7	157,737.3	166,541.8	209,082.4	57,682.7	38.1
Trade data (million dollars):						
Exports:						
Total . . . . .	5,946.3	5,319.1	5,856.7	6,780.2	833.8	14.0
To Mexico . . . . .	788.6	797.7	942.7	1,154.4	365.9	46.4
To Canada . . . . .	612.4	638.8	766.3	899.0	286.6	46.8
To non-NAFTA countries . . . . .	4,545.3	3,882.7	4,147.7	4,726.7	181.4	4.0
Imports:						
Total . . . . .	9,858.0	9,424.4	8,993.5	19,172.6	9,314.6	94.5
From Mexico . . . . .	510.2	330.9	296.4	912.7	402.5	78.9
From Canada . . . . .	1,772.6	1,673.9	1,935.4	2,751.0	978.4	55.2
From non-NAFTA countries . . . . .	7,575.3	7,419.7	6,761.8	15,508.9	7,933.6	104.7
Trade balance:						
Total . . . . .	-3,911.7	-4,105.3	-3,136.8	-12,392.4	-8,480.7	-216.8
With Mexico . . . . .	278.4	466.8	646.3	241.8	-36.6	-13.2
With Canada . . . . .	-1,160.1	-1,035.1	-1,169.0	-1,852.0	-691.9	-59.6
With non-NAFTA countries . . . . .	-3,030.0	-3,537.0	-2,614.1	-10,782.2	-7,752.3	-255.9
Total trade:						
Total . . . . .	15,804.4	14,743.6	14,850.2	25,952.7	10,148.4	64.2
NAFTA partners . . . . .	3,683.7	3,441.1	3,940.7	5,717.1	2,033.4	55.2
With Mexico . . . . .	1,298.7	1,128.5	1,239.0	2,067.1	768.4	59.2
With Canada . . . . .	2,385.0	2,312.6	2,701.7	3,650.0	1,265.0	53.0
Import market share (percent):						
Total . . . . .	6.5	6.0	5.4	9.2	2.7	( <sup>2</sup> )
Mexico . . . . .	0.3	0.2	0.2	0.4	0.1	( <sup>2</sup> )
Canada . . . . .	1.2	1.1	1.2	1.3	0.1	( <sup>2</sup> )
Non-NAFTA countries . . . . .	5.0	4.7	4.1	7.4	2.4	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.9	1.0	0.8	0.3	-0.6	( <sup>2</sup> )
Canada . . . . .	0.1	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
All other . . . . .	1.0	1.1	0.9	0.7	-0.3	( <sup>2</sup> )
U.S. industry indicators: <sup>1</sup>						
Employees (1,000 persons) . . . . .	75.0	75.0	75.0	75.0	0.0	0.0
Production workers (1,000 persons) . . . . .	48.0	48.0	48.0	49.0	1.0	2.1
Average hourly wages of production workers . . . . .	\$20.00	20.00	20.00	20.00	0.00	0.0

<sup>1</sup> Compiled from official statistics of the U.S. Department of Energy.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

**Summary of Sector Analysis**

**U.S. Imports** – NAFTA had a negligible effect<sup>2</sup> on increased U.S. imports of petroleum products from NAFTA partners during the period. The primary factor affecting imports was a change in demand. In terms of quantity, U.S. imports of petroleum products rose by 16 percent from Mexico and by 17 percent from

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 2911, Petroleum Refinery Products.

<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

Canada. In terms of value, U.S. imports increased from \$510 million in 1993 to \$913 million in 1996 (79 percent) primarily because the refiners' acquisition cost of crude petroleum increased by \$5 per barrel during the period. U.S. imports from Mexico consist primarily of motor fuel blending stocks. The demand for hard currency to revive Mexico's economy led to a slight increase in production of petroleum products, all of which was exported to the U.S. market. U.S. imports from Canada rose 55 percent, from \$1.8 billion in 1993 to nearly \$2.8 billion in 1996. During 1995-96, U.S. imports from Canada increased by 17 percent (quantity) and 42 percent (value). Most of these imports are part of a commercial exchange agreement between the United States and Canada whereby U.S. exports of crude petroleum are exchanged for refined petroleum products. Also, as a result of the unusually harsh 1996 winter, U.S. imports from Canada, which are primarily distillate fuel oils (used for heating), increased to meet U.S. domestic demand.

**U.S. Exports** – NAFTA also had a negligible impact on rising U.S. exports of sector products to NAFTA partners. The United States is the primary source of Mexico's imports of refined petroleum products, which are primarily motor fuels and distillate fuel oils (used as bunker and heating fuels). The gradual revival of Mexico's economy following the peso devaluation in 1994-95 led to an increase in demand for refined petroleum products. Also, in Mexico, only the state-owned and operated Petroleos Mexicanos (PEMEX)<sup>3</sup> can import refined petroleum products; PEMEX has historically imported these products to meet domestic demand since PEMEX either does not produce them or produces insufficient quantities. As a result, U.S. exports to Mexico increased from \$789 million in 1993 to \$1.2 billion in 1996.

Canada is also a major U.S. trading partner in terms of these products. U.S. exports to Canada consist primarily of jet fuels, distillate fuel oils, and residual fuel oils. Large multinational companies operating in both nations often exchange product easily across the border via a sophisticated pipeline system connecting the United States and Canada. U.S. exports to Canada rose from \$612 million in 1993 to \$899 million in 1996. During 1995-96, U.S. exports to Canada increased by 26 percent (quantity) and 17 percent (value). Most of these exports are part of the U.S.-Canadian commercial exchange agreement and are based on long-term pricing schedules.

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<sup>3</sup> Under the provisions of the Mexican Constitution, all aspects of Mexico's petroleum, natural gas, and basic petrochemicals industries (including exploration, drilling, production, refining, distribution, pipeline transmission, trade, and oilfield services) are under the sole purview of PEMEX. These constitutional provisions were not affected by the NAFTA. In Mexico, the Petroleum Regulatory Law provides that only the State (i.e., PEMEX) can carry out activities that constitute these industries. (See *Constitution of the United Mexican States*, arts. 25 and 27; *Regulatory Law of Constitutional Article 27 in the Area of Petroleum*, *Diario Oficial*, Nov. 29, 1958; and *Law of Petroleos Mexicanos*, *Diario Oficial*, Feb. 6, 1971.)

Historically, PEMEX allowed for only limited foreign investment in Mexico's secondary petrochemical industry; petrochemicals deemed secondary continue to be defined by PEMEX. Article 1102 of the investment chapter of NAFTA required Mexico to open its petrochemicals sector, other than "basic" petrochemicals, which remain under the sole purview of PEMEX to foreign investment and eliminated the 40-percent limitation on foreign investment in "secondary" petrochemicals (See *Law on the Promotion of Mexican Investment and The Regulation of Foreign Investment*, art. 5, *Diario Oficial*, Mar. 9, 1973); there is no limit with regard to other classifications of petrochemicals (See *Regulation of the Law on the Promotion of Mexican Investment and The Regulation of Foreign Investment*, *Diario Oficial*, May 16, 1989). In addition, to the elimination of investment restrictions on nonbasic petrochemicals, certain basic petrochemicals were reclassified, leaving only eight petrochemicals classified as basic (See *1989 Resolution Reclassifying Specified Petrochemical Products as Basic or Secondary Petrochemicals*, *Diario Oficial*, Aug. 15, 1989 and *Resolution Reclassifying Specified Petrochemical Products as Basic or Secondary Petrochemicals*, *Diario Oficial*, Aug. 17, 1992).

***Other Factors*** – Total U.S.-Mexico trade for the sector increased during 1993-96 by \$768 million, or 59 percent. Total U.S.-Canadian trade increased by \$1.3 billion, or by 53 percent. Under the provisions of the Mexican Constitution, all aspects of Mexico's petroleum industry, including refining, are under the sole purview of PEMEX. Foreign investment in Mexico's energy industry is prohibited by the Constitution.<sup>4</sup>

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<sup>4</sup> Ibid.

## ITC Group No. 33: Plastic and Rubber Products<sup>1</sup>

**Table 6-33-1**  
**Plastic and rubber products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	104,100.0	113,700.0	120,100.0	(2)	(2)	(3)
Consumption (million dollars) . . . . .	105,692.5	115,338.3	121,993.1	(2)	(2)	(3)
Trade data (million dollars):						
Exports:						
Total . . . . .	8,233.8	9,572.2	10,637.8	11,733.2	3,499.3	42.5
To Mexico . . . . .	1,519.8	2,126.8	2,032.1	2,523.1	1,003.3	66.0
To Canada . . . . .	2,698.9	3,017.8	3,358.8	3,568.4	869.5	32.2
To non-NAFTA countries . . . . .	4,015.0	4,427.6	5,246.9	5,641.6	1,626.6	40.5
Imports:						
Total . . . . .	9,826.3	11,210.4	12,530.9	13,225.6	3,399.2	34.6
From Mexico . . . . .	349.3	438.0	586.3	677.9	328.5	94.0
From Canada . . . . .	2,204.1	2,611.2	2,926.6	3,275.9	1,071.8	48.6
From non-NAFTA countries . . . . .	7,272.9	8,161.2	9,018.0	9,271.8	1,998.9	27.5
Trade balance:						
Total . . . . .	-1,592.5	-1,638.3	-1,893.1	-1,492.4	100.1	6.3
With Mexico . . . . .	1,170.5	1,688.8	1,445.8	1,845.3	674.8	57.7
With Canada . . . . .	494.8	406.6	432.2	292.5	-202.4	-40.9
With non-NAFTA countries . . . . .	-3,257.8	-3,733.6	-3,771.1	-3,630.1	-372.3	-11.4
Total trade:						
Total . . . . .	18,060.1	20,782.6	23,168.6	24,958.7	6,898.6	38.2
NAFTA partners . . . . .	6,772.2	8,193.8	8,903.7	10,045.3	3,273.1	48.3
With Mexico . . . . .	1,869.2	2,564.8	2,618.3	3,201.0	1,331.8	71.3
With Canada . . . . .	4,903.0	5,629.0	6,285.4	6,844.3	1,941.3	39.6
Import market share (percent):						
Total . . . . .	9.3	9.7	10.3	(2)	(2)	(3)
Mexico . . . . .	0.3	0.4	0.5	(2)	(2)	(3)
Canada . . . . .	2.1	2.3	2.4	(2)	(2)	(3)
Non-NAFTA countries . . . . .	6.9	7.1	7.4	(2)	(2)	(3)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.0	1.5	0.3	0.3	-0.7	(3)
Canada . . . . .	1.9	1.5	1.2	0.8	-1.1	(3)
All other . . . . .	4.0	3.9	3.7	3.6	-0.4	(3)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	709.3	743.4	764.6	759.2	49.9	7.0
Production workers (1,000 persons) . . . . .	547.3	577.1	594.2	587.3	40.0	7.3
Average hourly wages of production workers . . . . .	\$10.70	10.79	10.96	11.25	0.55	5.1

<sup>1</sup> "Facts and Figures for the Chemical Industry," *Chemical and Engineering News*, June 24, 1996, pp. 38-64.

<sup>2</sup> Not available.

<sup>3</sup> Not meaningful for purposes of comparison.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3011, Tires and Inner Tubes; 3052, Rubber and Plastics Hose and Belting; 3053, Gaskets, Packing, and Sealing Devices; 3069, Fabricated Rubber Products, Not Elsewhere Classified; 3081, Unsupported Plastics Film and Sheet; 3082, Unsupported Plastics Profile Shapes; and 3089, Plastic Products, Not Elsewhere Classified.

## Summary of Sector Analysis

**U.S. Imports** – The effect of NAFTA on rising U.S. imports from Mexico and Canada in this sector was negligible.<sup>2</sup> U.S. tariffs on rubber and plastic products have not changed significantly under NAFTA, although there have been moderate reductions on most items. There are no outstanding nontariff trade barriers currently affecting trade in this sector. U.S. imports of these products from Mexico increased by 94 percent to \$678 million during 1993-96; however, Mexico's import market share increased by less than 0.5 percent. U.S. imports from Canada increased 49 percent to \$3.3 billion in 1996. The increase in imports from Mexico and Canada is attributable to increased demand for these goods by U.S. consumers, resulting from a strong U.S. economy during the period. The peso devaluation and contraction in the Mexican economy also contributed to the rise in imports from Mexico. Because many of the items in this sector are low value, labor-intensive plastic goods for which price is the primary concern, the favorable dollar-to-peso exchange rate decreased the price of Mexican products, making them relatively attractive to U.S. consumers. The effect of the peso devaluation is indicated by the \$148 million increase in 1995 imports from Mexico, a significant change relative to import growth in other years during the period.

**U.S. Exports** – The effect of NAFTA on U.S. exports to NAFTA partners in this sector was negligible during the period. The increase in U.S. exports to Mexico and Canada is attributable to the overall trend of growth in their economies, which has resulted in increased demand for rubber and plastic goods. The Canadian economy was fairly stable throughout the period, as reflected by steady growth (i.e., \$319 million, \$341 million, and \$209 million annual increases) in U.S. exports. U.S. exports to Mexico grew steadily except in 1995, when exports in this industry sector decreased as a result of the peso devaluation. As the peso recovered in 1996, U.S. exports increased by 25 percent over the 1995 level. During 1993-96, U.S. exports to Mexico increased by 66 percent to \$2.5 billion, indicating a continuing demand in Mexico for specialized U.S. plastic and rubber products.

**Other Factors** – The sector's total U.S. trade with all countries increased 38 percent, from \$18 billion in 1993 to \$25 billion in 1996. Total U.S.-Mexico trade for these products increased 71 percent, from \$1.9 billion in 1993 to \$3.2 billion in 1996. Total U.S.-Canada trade rose 40 percent from \$4.9 billion in 1993 to \$6.8 billion in 1996.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

**ITC Group No. 36: Flat Glass and Glassware<sup>1</sup>**

**Table 6-36-1**  
**Flat glass and glassware: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	18,729.1	19,664.3	19,919.1	20,000.0	1,270.9	6.8
Consumption (million dollars) . . . . .	18,950.2	20,133.9	20,408.6	20,581.4	1,631.2	8.6
Trade data (million dollars):						
Exports:						
Total . . . . .	1,867.4	2,057.9	2,321.2	2,551.1	683.7	36.6
To Mexico . . . . .	210.6	268.1	235.9	246.7	36.1	17.1
To Canada . . . . .	763.5	826.8	898.4	961.7	198.2	26.0
To non-NAFTA countries . . . . .	893.4	963.0	1,186.8	1,342.8	449.4	50.3
Imports:						
Total . . . . .	2,088.6	2,527.6	2,810.7	3,132.5	1,044.0	50.0
From Mexico . . . . .	266.7	372.6	409.2	468.2	201.5	75.5
From Canada . . . . .	319.3	385.0	436.9	473.6	154.3	48.3
From non-NAFTA countries . . . . .	1,502.5	1,769.9	1,964.6	2,190.7	688.2	45.8
Trade balance:						
Total . . . . .	-221.1	-469.6	-489.5	-581.4	-360.3	-162.9
With Mexico . . . . .	-56.1	-104.4	-173.2	-221.5	-165.4	-294.8
With Canada . . . . .	444.1	441.8	461.5	488.1	44.0	9.9
With non-NAFTA countries . . . . .	-609.1	-806.9	-777.8	-848.0	-238.8	-39.2
Total trade:						
Total . . . . .	3,956.0	4,585.5	5,131.9	5,683.6	1,727.7	43.7
NAFTA partners . . . . .	1,560.1	1,852.6	1,980.4	2,150.1	590.0	37.8
With Mexico . . . . .	477.3	640.7	645.1	714.8	237.5	49.8
With Canada . . . . .	1,082.8	1,211.8	1,335.3	1,435.3	352.5	32.6
Import market share (percent):						
Total . . . . .	11.0	12.6	13.8	15.2	4.2	( <sup>2</sup> )
Mexico . . . . .	1.4	1.9	2.0	2.3	0.9	( <sup>2</sup> )
Canada . . . . .	1.7	1.9	2.1	2.3	0.6	( <sup>2</sup> )
Non-NAFTA countries . . . . .	7.9	8.8	9.6	10.6	2.7	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	2.6	3.3	1.7	1.3	-1.3	( <sup>2</sup> )
Canada . . . . .	0.9	0.9	0.7	0.6	-0.3	( <sup>2</sup> )
All other . . . . .	7.8	7.6	7.2	6.6	-1.1	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	151.6	152.2	151.0	146.9	-4.7	-3.1
Production workers (1,000 persons) . . . . .	121.6	121.1	121.5	118.8	-2.8	-2.3
Average hourly wages of production workers . . . . .	\$12.59	12.96	13.24	13.57	0.98	7.8

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3211, Flat glass; 3221, Glass Containers; 3229, Pressed and Blown Glassware, Not Elsewhere Classified; and 3231, Glass Products, Made of Purchased Glass.

## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** – The effect of NAFTA on increased U.S. sector imports from NAFTA partners was negligible.<sup>3</sup> The recovery of the restructuring Canadian glass container industry from its financial difficulties of 1993 rather than NAFTA is believed responsible for the above average growth of imports from Canada. Glass containers represented \$56 million (36 percent) of the growth in imports from Canada during the period, but most such imports were unaffected by NAFTA and entered under HTS subheadings with column 1 rates of free throughout the period. Canadian glass containers had an ad valorem equivalent rate of duty of 0.01 percent in both 1993 and 1996. Canadian tariffs on sector products were already relatively low in 1993 because of the CFTA and did not decline significantly under NAFTA; the ad valorem equivalent on such products declined from 0.98 percent in 1993 to 0.61 percent in 1996. These rates compared with 7.75 percent in 1993 and 6.62 percent in 1996 for countries other than Canada and Mexico. In addition, 30 percent of Canadian products was duty-free in 1993 under the Automotive Products Trade Act of 1965. The 48-percent increase in imports of Canadian products exceeded the 46-percent increase recorded for non-NAFTA countries during the period.

Tariffs on Mexican products declined to a greater extent than for Canadian products; the ad valorem equivalent on sector products from Mexico declined from 2.56 percent in 1993 to 1.31 in 1996. However, the above average 76-percent increase in imports was not primarily based on products whose duties actually declined under NAFTA, but rather on increased imports of various items classified under SIC 3231 (i.e., tempered glass, certain fiberglass products, and mirrors) which were duty-free from Mexico under GSP prior to NAFTA. Products entered under the GSP represented 53 percent of Mexican products in 1993. The Mexican industry's addition of a float glass line and tempering facility in Mexico, and purchase of U.S. fabrication and distribution facilities just prior to 1993, likely contributed to the import growth of Mexican products to some degree.

**U.S. Exports** – The effect of NAFTA on increased U.S. exports to North America was negligible. U.S. export growth rates to Canada (26 percent) and Mexico (17 percent) were roughly half of the 50-percent increase in exports to non-NAFTA countries during the period. Canadian tariff reductions under NAFTA offered limited incentive to sell to the Canadian market, since Canadian tariffs on more than half of the HTS subheadings under Chapter 70 already were free in 1993 under the CFTA. The recovery of the Canadian glass container industry limited the export potential of the Canadian market for certain glass products; shipments of U.S.-produced glass containers to Canada declined by \$13 million (12 percent) during the period. The 1994 closure of Ford Motor Company's only automotive glass fabrication plant in Canada reduced the potential Canadian market for U.S.-produced flat glass to a certain degree; shipments under SIC 3211 (flat glass) were up only 12 percent for the period compared with increases of 38 percent for glass containers (SIC 3229) and 25 percent for glass products (SIC 3231).

Mexican tariff reductions under NAFTA for sector products were more substantial than those of Canada for the period, but failed to generate higher export growth. Mexican tariff levels for these products at the beginning of NAFTA staging were 10-20 percent, compared with an ad valorem equivalent rate of 2.56

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.



percent for the same products in 1993; staging for many of these items was set at 10 years. The contraction and restructuring of the U.S. glass container industry during the period may have contributed to a decline in U.S. exports of \$6 million (55 percent) for SIC 3222 during the period. The growth of flat glass fabrication facilities in Mexico may have limited the export potential for U.S.-produced products under SIC industry 3231, as fabricated or tempered flat glass led the \$22 million (25 percent) decline in U.S. sector exports during the period.

*Other Factors* – Total sector trade grew by 44 percent (\$1.7 billion) to \$5.7 billion in 1996. Total U.S.-Canada trade for the sector grew by 33 percent (\$353 million), to \$1.4 billion in 1996. Total U.S.-Mexico trade for the sector grew by 50 percent (\$238 million), to \$715 million in 1996. There was no known investment as a result of NAFTA during the period. Employment declines during the period were largely in the glass container segment of the industry that contracted and restructured in response to increased competition from plastic packaging materials and excess capacity.

On December 13, 1996, Mexico raised its duties on imports of U.S. flat glass and seven other U.S. products (fructose, wine, wine coolers, brandy, Tennessee whiskey, notebooks, and wooden furniture) in retaliation for a U.S. safeguard action that raised U.S. duties on imports of broom corn brooms. Then-Acting USTR Charlene Barshefsky expressed the view that Mexico's response was "excessive" and that it failed to meet the NAFTA test that self-compensation be "substantially equivalent" to the U.S. safeguard action.<sup>4</sup> On January 14, 1997, following imposition of the U.S. safeguard action, Mexico asked for the establishment of a NAFTA chapter 20 binational panel to review the U.S. action. As of early May 1997, a panel was in the process of being established.

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<sup>4</sup> Written response dated Jan. 29, 1997, of Acting U.S. Trade Representative Charlene Barshefsky to Sen. Phil Gramm, reprinted in *Inside NAFTA*, Feb. 6, 1997, p. 4.

## ITC Group No. 37: Cement<sup>1</sup>

**Table 6-37-1**  
**Cement: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	4,187.0	4,822.0	5,161.0	5,562.0	1,375.0	32.8
Consumption (million dollars) . . . . .	4,422.4	5,219.8	5,649.1	6,096.1	1,673.7	37.8
Trade data (million dollars):						
Exports:						
Total . . . . .	47.8	45.2	53.0	58.2	10.4	21.7
To Mexico . . . . .	3.4	4.2	1.9	4.8	1.4	40.3
To Canada . . . . .	36.0	35.3	40.4	42.2	6.2	17.1
To non-NAFTA countries . . . . .	8.3	5.7	10.7	11.2	2.8	34.1
Imports:						
Total . . . . .	283.1	443.0	541.1	592.2	309.1	109.2
From Mexico . . . . .	29.1	25.6	31.9	47.7	18.7	64.2
From Canada . . . . .	147.7	168.6	198.1	246.7	98.9	67.0
From non-NAFTA countries . . . . .	106.3	248.9	311.1	297.8	191.5	180.1
Trade balance:						
Total . . . . .	-235.4	-397.8	-488.1	-534.1	-298.7	-126.9
With Mexico . . . . .	-25.7	-21.4	-30.1	-42.9	-17.3	-67.4
With Canada . . . . .	-111.7	-133.3	-157.6	-204.5	-92.8	-83.0
With non-NAFTA countries . . . . .	-98.0	-243.2	-300.4	-286.7	-188.7	-192.5
Total trade:						
Total . . . . .	330.9	488.2	594.0	650.4	319.5	96.6
NAFTA partners . . . . .	216.3	233.7	272.3	341.4	125.2	57.9
With Mexico . . . . .	32.5	29.8	33.8	52.5	20.0	61.7
With Canada . . . . .	183.8	203.9	238.5	288.9	105.1	57.2
Import market share (percent):						
Total . . . . .	6.4	8.5	9.6	9.7	3.3	(2)
Mexico . . . . .	0.7	0.5	0.6	0.8	0.1	(2)
Canada . . . . .	3.3	3.2	3.5	4.0	0.7	(2)
Non-NAFTA countries . . . . .	2.4	4.8	5.5	4.9	2.5	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
Canada . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
All other . . . . .	(3)	(3)	(3)	(3)	(3)	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	17.9	17.9	17.7	17.6	-0.3	-1.7
Production workers (1,000 persons) . . . . .	13.8	13.6	13.4	13.3	-0.5	-3.6
Average hourly wages of production workers . . . . .	\$15.12	15.57	16.34	16.78	1.66	11.0

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industry Classification (SIC) Industry No. 3241, Hydraulic Cement.

## Summary of Sector Analysis

**U.S. Imports** – The effect of NAFTA on increased U.S. imports of hydraulic cement products from NAFTA countries was negligible<sup>2</sup> between 1993-96 because the bulk of these products were free under the column one general rates of duty prior to NAFTA.<sup>3</sup> Most of the increase in U.S. imports of cement products from Mexico and Canada was due to increased construction demand; the United States reported an 11 percent increase in new construction put in place during the period.<sup>4</sup> Cement imports from Canada increased by 67 percent, to \$247 million. Imports from Mexico increased by 64 percent, to \$48 million.

**U.S. Exports** – The 40-percent increase in U.S. exports to Mexico from 1993 to 1996 (to \$4.8 million) was primarily a factor of increased construction activity and demand for cement in that market;<sup>5</sup> the effect of NAFTA on U.S. exports to Mexico was negligible. Industry sources report that Mexico experienced a growing demand for cement during 1990-94, driven largely by heavy investments in infrastructure and housing projects.<sup>6</sup> U.S. exports to Mexico dropped to \$1.9 million in 1995, following the peso devaluation and subsequent recession, but then increased to \$4.8 million in 1996 as the Mexican market strengthened.

Although U.S. exports to Canada increased by 17 percent to \$42 million from 1993 to 1996, industry sources report that Canada's construction market remained fairly constant during that time.<sup>7</sup> Some of the increase in U.S. exports to Canada may have been a factor of shortages in that market. NAFTA effects were negligible because most Canadian tariffs for this product group were free prior to the CFTA, and remained so under NAFTA.

**Other Factors** – Total sector trade grew by 97 percent (\$320 million) to \$650 million in 1996. Total U.S.-Mexico trade for this sector grew by nearly 62 percent (\$20 million) to \$53 million and total U.S.-Canada trade grew by 57 percent (\$105 million) to \$289 million during the period. There are no known foreign investments in the U.S. cement industry that are due to NAFTA.<sup>8</sup> Nor are there U.S. cement investments in Canada or Mexico related to NAFTA.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> One specialty product, white hydraulic cement, had a column 1 general rate of duty in 1996 of 13 cents per ton (including weight of container). White cement comprises only about 1 percent of the U.S. cement market. Still, the NAFTA effect is negligible for this product because Mexico was eligible for duty-free treatment under the Generalized System of Preferences prior to NAFTA. Canada is the dominant U.S. supplier of this product and was eligible for duty-free treatment effective Jan. 1, 1989.

<sup>4</sup> Because of the low value-to-weight ratio and the fungible character of cement, truck transportation costs generally limit shipments to within a 150-mile radius. Where feasible, the relatively lower cost of waterway transportation can greatly extend the market distance.

<sup>5</sup> Under NAFTA, the 10-percent tariff for most of Mexico's imported cement products is scheduled to be removed in 5 equal annual stages commencing on Jan. 1, 1994; such products became eligible for duty-free treatment on Jan. 1, 1998. The exception was aluminous cement which was eligible for duty-free treatment prior to NAFTA and remained so under NAFTA.

<sup>6</sup> Tom Kendall, "Mexico Promises of Prosperity," *Industrial Minerals*, Sept. 1995, p. 53.

<sup>7</sup> Canadian Portland Cement Association, "Canadian Cement Trends," *The Monitor*, Aug.-Sept. 1996, pp. 1-10.

<sup>8</sup> Although Mexico's cement industry owns and operates a cement-clinker (intermediate cement product) grinding facility in Texas, the NAFTA effect would be negligible because the initial investment was made prior to NAFTA and cement clinker had a free duty rate before the Agreement as well.

On September 13, 1996, a NAFTA binational panel issued a decision unanimously affirming a final antidumping duty administrative review by the U.S. Department of Commerce with respect to gray portland cement and cement clinker from Mexico (NAFTA Secretariat File No. USA-95-1904-02).<sup>9</sup> The panel review had been requested by CEMEX, S.A. de C.V., a Mexican producer. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of October 21, 1996 (61 F.R. 54621).

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<sup>9</sup> Following a final affirmative dumping determination on imports of gray portland cement and cement clinker from Mexico, the U.S. Department of Commerce (DOC) issued an antidumping order on Aug. 30, 1990. (This product group accounts for the bulk of cement imports from all countries, including Mexico.) As a result of subsequent DOC administrative reviews, the antidumping duty rates applied and collected on cement imports from Mexico during 1993-95 were as follows: (1) from Aug. 1, 1992-July 31, 1993, a rate of 61.85 percent for cement manufacturer Cemex, S.A. and 61.35 percent for all other cement manufacturers in Mexico; (2) from Aug. 1, 1993 to July 31, 1994, the rates were 109.43 percent and 61.35 percent, respectively; and (3) from Aug. 1, 1994 to July 31, 1995, the rates were 73.69 percent and 61.85 percent, respectively. This lower rate for Aug. 1994 to July 1995 should not have effected the increase in imports during 1995-96 because the final review results for this period were not reported until Apr. 9, 1997 (103.82 percent for Cemex) and then amended on May 5, 1997 (73.69 percent for Cemex). DOC has not issued an administrative review determination for periods covering Aug. 1, 1995 forward; until further notice, the rate published in the last review determination is collected.

**ITC Group No. 38: Vitreous China Plumbing Fixtures<sup>1</sup>**

**Table 6-38-1**

**Vitreous china plumbing fixtures: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	982.3	1,020.0	1,019.1	1,015.0	32.7	3.3
Consumption (million dollars) . . . . .	1,006.3	1,079.5	1,103.4	1,120.0	113.7	11.3
Trade data (million dollars):						
Exports:						
Total . . . . .	75.4	77.9	76.6	73.7	-1.7	-2.2
To Mexico . . . . .	4.9	2.8	0.5	0.5	-4.4	-90.1
To Canada . . . . .	30.2	31.1	23.7	26.5	-3.6	-12.0
To non-NAFTA countries . . . . .	40.3	44.0	52.5	46.7	6.4	15.8
Imports:						
Total . . . . .	99.4	137.4	160.9	178.7	79.3	79.8
From Mexico . . . . .	50.9	69.9	86.1	107.0	56.1	110.1
From Canada . . . . .	2.4	2.3	3.3	6.8	4.4	183.7
From non-NAFTA countries . . . . .	46.1	65.2	71.6	64.9	18.9	41.0
Trade balance:						
Total . . . . .	-24.0	-59.5	-84.3	-105.0	-81.0	-337.2
With Mexico . . . . .	-46.1	-67.2	-85.6	-106.5	-60.5	-131.3
With Canada . . . . .	27.8	28.8	20.4	19.8	-8.0	-28.8
With non-NAFTA countries . . . . .	-5.7	-21.2	-19.1	-18.3	-12.5	-218.3
Total trade:						
Total . . . . .	174.8	215.4	237.6	252.4	77.7	44.4
NAFTA partners . . . . .	88.4	106.1	113.5	140.8	52.4	59.3
With Mexico . . . . .	55.8	72.7	86.6	107.5	51.7	92.5
With Canada . . . . .	32.5	33.4	26.9	33.3	0.7	2.3
Import market share (percent):						
Total . . . . .	9.9	12.7	14.6	16.0	6.1	( <sup>2</sup> )
Mexico . . . . .	5.1	6.5	7.8	9.6	4.5	( <sup>2</sup> )
Canada . . . . .	0.2	0.2	0.3	0.6	0.4	( <sup>2</sup> )
Non-NAFTA countries . . . . .	4.6	6.0	6.5	5.8	1.2	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	6.1	1.0	0.5	0.6	-5.5	( <sup>2</sup> )
Canada . . . . .	3.6	3.2	2.4	1.5	-2.1	( <sup>2</sup> )
All other . . . . .	2.2	2.1	2.2	1.7	-0.5	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	9.5	10.2	10.2	9.5	0.0	0.0
Production workers (1,000 persons) . . . . .	8.0	8.8	8.6	8.0	0.0	0.0
Average hourly wages of production workers . . . . .	\$12.14	12.14	12.46	12.73	0.59	4.9

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3261, Vitreous China Plumbing Fixtures, and China and Earthenware Fittings and Bathroom Accessories.

## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** – NAFTA had a negligible impact<sup>3</sup> on the increase in imports of vitreous china plumbing fixtures from NAFTA partners during 1993-96. Total U.S. imports of these products in 1996 were \$179 million, up 80 percent from \$99 million in 1993. Mexico is the main source of vitreous china plumbing fixtures imports to the United States, accounting for 60 percent of total imports in 1996. Over the 3-year period, imports from Mexico increased 110 percent, from \$51 million in 1993 to \$107 million in 1996. Mexico's share of the U.S. market also increased, from 5 percent in 1993 to nearly 10 percent in 1996. U.S. imports of vitreous china plumbing fixtures from Canada, although much less in total value, also increased quite significantly over the three year period, from \$2 million to \$7 million, or 184 percent. Canada's share of the U.S. market, which stood at 0.2 percent in 1993, increased just slightly to 0.6 percent in 1996.

A number of factors, other than tariff reductions under NAFTA,<sup>4</sup> were the principal cause of the increase in imports from Mexico.<sup>5</sup> According to industry sources, the increase in imports during the period was largely a result of gradual production shifts over the last decade to Mexico to take advantage of lower labor costs.<sup>6</sup> Production of vitreous china plumbing fixtures is extremely labor-intensive; as U.S. labor costs in this industry average \$22/hour, it was more cost effective to shift production to other low-wage countries, like Mexico, where labor costs average \$2-3/hour. Mexico's close proximity to the U.S. market posed the most attractive alternative for production of these goods because of lower transportation costs.<sup>7</sup>

Another important factor that spurred imports from both Mexico and Canada during this period was the strong U.S. economy, specifically growth in the construction and home improvement or remodeling industries. The state of the plumbing fixtures market tends to follow the cycles of these industries, but because demand factors are largely separate, a decline in one will not necessarily be detrimental to producers of sanitary ware fixtures because losses can be offset by gains in the other. Products sold in the construction market, primarily at wholesale to contractors and builders, are generally higher priced than those sold to the home improvement market at the retail level. The lower priced retail level is where sanitary ware products of Mexico compete. The peso devaluation, which made Mexican sanitary ware exports to the U.S. market less expensive, also contributed to increase in imports from Mexico.

**U.S. Exports** – Total U.S. exports of vitreous china plumbing fixtures declined from \$75 million in 1993 to \$74 million in 1996. Canada is the largest export market for U.S. producers, while the Mexican market is relatively insignificant to U.S. producers, ranking as the 21st-largest export destination for U.S. products in 1996. Exports to both Mexico and Canada dropped over the 1993-1996 period; those to Mexico fell by a

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> The average trade weighted U.S. tariff equivalents of vitreous china plumbing fixtures imported from Mexico decreased from 6.13 percent ad valorem in 1993 to .57 percent ad valorem in 1996. The average trade weighted U.S. tariff equivalents of these products from Canada also decreased, from 3.56 percent ad valorem in 1993 to 1.53 percent ad valorem in 1996.

<sup>5</sup> Industry representatives, telephone interviews by USITC staff, Mar. 3, 5, and 6, 1997.

<sup>6</sup> Representative of American Standard, Inc., telephone interview by USITC staff, May 13, 1997.

<sup>7</sup> Because these products can be quite heavy, and shipping charges are generally determined according to weight, transport by truck became the most economical method of transport.

large margin, from \$5 million in 1993 to \$0.5 million in 1996, partially because the peso devaluation made U.S. products more expensive in the U.S. market. Industry representatives maintain that without the incentives of NAFTA, however, U.S. exports to Mexico would likely have fallen further.<sup>8</sup> Exports to Canada fell less dramatically, to \$27 million in 1996 from \$30 million in 1993. NAFTA had a negligible effect on these decreased in exports to NAFTA partners.

*Other Factors* – Total U.S. trade for this sector increased \$78 million (44 percent) to \$252 million from 1993 to 1996. The trade deficit has increased over the 3-year period, from a \$24 million deficit in 1993 to a \$105 million deficit in 1996, a 337-percent increase. Total U.S.-Mexico trade increased \$52 million (93 percent) to \$108 million, while total U.S.-Canada trade rose slightly \$0.7 million (2 percent) to \$33 million in 1996.

NAFTA also had a negligible impact on other factors. With regard to employment, 250 American Standard Inc. (Piscataway, NJ) employees were certified as being eligible to apply for NAFTA-TAA benefits in 1995, due to production shifts to the company's affiliate in Mexico, Ideal Standard.<sup>9</sup> However, according to official data, there was no change in overall sector employment levels in the three year period. As for investment, there was no significant investment in Mexico reported due to NAFTA. While two of the largest U.S. producers of sanitary ware fixtures, Kohler Inc. (Kohler, WI) and American Standard Inc., have production facilities in Mexico, both were established before the passage of NAFTA.

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<sup>8</sup> Roger Banks, Kersner and Associates, written submission to the USITC on behalf of Mexican sanitary ware producers, May 12, 1997, p. 13.

<sup>9</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

## ITC Group No. 39: Gypsum Building Products<sup>1</sup>

**Table 6-39-1**

**Gypsum building products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	1,790.0	2,389.0	2,862.0	3,060.0	1,270.0	71.0
Consumption ( <i>million dollars</i> ) . . . . .	1,759.0	2,388.5	2,881.9	3,103.2	1,344.2	76.4
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	56.8	52.1	55.9	61.2	4.4	7.7
To Mexico . . . . .	2.7	4.0	1.5	2.2	-0.5	-17.2
To Canada . . . . .	11.3	11.2	9.8	10.6	-0.7	-6.2
To non-NAFTA countries . . . . .	42.9	36.9	44.5	48.4	5.6	13.0
Imports:						
Total . . . . .	25.9	51.6	75.8	104.5	78.6	304.2
From Mexico . . . . .	0.3	1.7	4.3	10.1	9.8	3,053.1
From Canada . . . . .	25.2	49.4	71.2	93.7	68.5	272.2
From non-NAFTA countries . . . . .	0.4	0.5	0.3	0.7	0.3	96.4
Trade balance:						
Total . . . . .	31.0	0.5	-19.9	-43.2	-74.2	(2)
With Mexico . . . . .	2.4	2.3	-2.7	-7.9	-10.2	(2)
With Canada . . . . .	-13.9	-38.2	-61.4	-83.1	-69.2	-498.3
With non-NAFTA countries . . . . .	42.5	36.4	44.2	47.7	5.2	12.3
Total trade:						
Total . . . . .	82.7	103.7	131.7	165.7	83.0	100.4
NAFTA partners . . . . .	39.5	66.3	86.8	116.6	77.1	195.4
With Mexico . . . . .	3.0	5.7	5.8	12.3	9.3	309.0
With Canada . . . . .	36.5	60.6	81.0	104.3	67.8	186.0
Import market share ( <i>percent</i> ):						
Total . . . . .	1.5	2.2	2.6	3.4	1.9	(2)
Mexico . . . . .	0.0	0.1	0.1	0.3	0.3	(2)
Canada . . . . .	1.4	2.1	2.5	3.0	1.6	(2)
Non-NAFTA countries . . . . .	0.0	0.0	0.0	0.0	0.0	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	0.0	(3)	(3)	0.0	0.0	(2)
Canada . . . . .	1.6	1.2	0.8	0.5	-1.1	(2)
All other . . . . .	2.8	2.8	2.1	1.7	-1.1	(2)
U.S. industry indicators: <sup>4</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	11.9	12.1	12.2	12.4	0.5	4.2
Production workers ( <i>1,000 persons</i> ) . . . . .	9.4	9.6	9.7	9.7	0.3	3.2
Average hourly wages of production workers . . . . .	\$12.37	12.37	12.75	13.10	0.73	5.9

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3275, Gypsum Products. Principal products covered include gypsum plasters and wallboards, sheets, panels, and tiles made from a composition based on plaster.



## Summary of Sector Analysis

**U.S. Imports** – Although imported gypsum products originating from Mexico are eligible for duty-free treatment under NAFTA, the NAFTA's effect on increased U.S. imports was negligible<sup>2</sup> because such products generally entered duty-free under GSP prior to NAFTA. In contrast, the staged duty rate negotiated for Canadian products under the CFTA remained in effect under NAFTA; imports of product originating from Canada had a rate of duty ranging from 1.61 percent ad valorem in 1993 to 0.48 percent in 1996. Despite this relative tariff disadvantage, Canada continues to be the dominant U.S. supplier of imported gypsum building products. This is primarily a factor of industry structure; Canada is the world's third largest producer of mined gypsum.<sup>3</sup> U.S. imports from Canada become eligible for duty-free treatment January 1, 1998.

**U.S. Exports** – The reduction and eventual elimination of tariffs under NAFTA is expected to have a positive influence on the trade of gypsum building products in the North American markets,<sup>4</sup> but the overall effect thus far has been negligible compared to the impact of growth in construction activity. Changes in trade for this product group are predicated principally on changes in construction demand and on availability of product. Of the three countries, the United States is the largest market and has had the longest sustained growth in construction activity (showing an increase of about 11 percent for new construction put in place from 1993 to 1996). In contrast, industry sources report that increasing construction activity in Mexico was interrupted in 1995 with the devaluation of the peso,<sup>3</sup> and that construction activity in Canada remained relatively constant during the 1993-96 period.<sup>4</sup> In concert with the levels of construction activity in these markets, U.S. exports to Mexico declined by \$500,000 (17 percent) and U.S. exports to Canada remained fairly constant during the report period, ranging between approximately \$10 million and \$11 million.

**Other Factors** – Total U.S. sector trade doubled, increasing \$83 million to \$166 million in 1996. Total U.S.-Mexico trade for this sector grew by 309 percent (\$9 million) to \$12 million, and total U.S.-Canada trade grew by 186 percent (\$68 million) to \$104 million. There are no foreign investments in this industry sector in North America that are known as being NAFTA-related. The U.S. gypsum building products industry is reported to own and operate gypsum mines (the source of the primary ingredient for this industry group) in Canada and have minority interests in Mexican operations. The Canadian industry is also reported to have minority share investments in Mexican gypsum mines.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence

<sup>3</sup> In 1996, the U.S. Department of Interior's Bureau of U.S. Geological Survey reported that Canada ranked third after the United States and China among world producers of mined gypsum and Mexico ranked 7th. Cite: World Wide Web, Apr. 23, 1996, Bureau of U.S. Geological Survey, <http://minerals.er.usgs.gov/minerals/pubs/mcs/gypsum.txt>, "Gypsum," *Mineral Commodity Summaries*, Jan. 1996.

<sup>4</sup> A 20-percent tariff rate for most of the subject products entering Mexico was scheduled to be removed under NAFTA in 5 equal annual stages; most products become eligible for duty-free treatment Jan. 1, 1998; plaster was the exception, tariff rates were zero, effective Jan. 1, 1994. Most of Canada's tariff rates for these products were free prior to NAFTA or effective Jan. 1, 1994; a basket category for gypsum board was the exception, eligible for duty-free treatment Jan. 1, 1998.

<sup>3</sup> Tom Kendall, "Mexico Promises of Prosperity," *Industrial Minerals*, Sept. 1995, p. 53.

<sup>4</sup> Canadian Portland Cement Association, "Canadian Cement Trends," *The Monitor*, Aug.-Sept. 1996, pp. 1-10.

ITC Group No. 40: Mineral Wool<sup>1</sup>

Table 6-40-1  
Mineral wool: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	3,170.0	3,565.0	3,766.0	3,894.0	724.0	22.8
Consumption (million dollars) . . . . .	2,993.0	3,368.7	3,582.6	3,692.2	699.2	23.4
Trade data (million dollars):						
Exports:						
Total . . . . .	236.1	298.1	307.4	336.1	100.0	42.4
To Mexico . . . . .	14.4	27.3	13.9	17.5	3.1	21.4
To Canada . . . . .	98.6	105.4	99.8	105.3	6.7	6.8
To non-NAFTA countries . . . . .	123.1	165.4	193.7	213.4	90.3	73.3
Imports:						
Total . . . . .	59.1	101.8	124.1	134.3	75.2	127.2
From Mexico . . . . .	3.4	4.8	7.0	8.2	4.9	144.5
From Canada . . . . .	34.1	68.0	87.1	99.8	65.7	192.4
From non-NAFTA countries . . . . .	21.6	29.0	29.9	26.3	4.7	21.6
Trade balance:						
Total . . . . .	177.0	196.3	183.4	201.8	24.8	14.0
With Mexico . . . . .	11.0	22.5	6.9	9.3	-1.8	-16.1
With Canada . . . . .	64.5	37.4	12.7	5.5	-59.0	-91.5
With non-NAFTA countries . . . . .	101.5	136.4	163.8	187.1	85.6	84.4
Total trade:						
Total . . . . .	295.2	399.9	431.5	470.4	175.2	59.3
NAFTA partners . . . . .	150.5	205.5	207.8	230.8	80.3	53.3
With Mexico . . . . .	17.8	32.0	20.9	25.7	7.9	44.7
With Canada . . . . .	132.8	173.5	186.9	205.1	72.3	54.5
Import market share (percent):						
Total . . . . .	2.0	3.0	3.5	3.6	1.7	( <sup>2</sup> )
Mexico . . . . .	0.1	0.2	0.2	0.2	0.1	( <sup>2</sup> )
Canada . . . . .	1.1	2.0	2.4	2.7	1.6	( <sup>2</sup> )
Non-NAFTA countries . . . . .	0.7	0.9	0.8	0.7	0.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.3	0.1	( <sup>3</sup> )	( <sup>3</sup> )	-0.3	( <sup>2</sup> )
Canada . . . . .	1.9	1.7	1.3	0.9	-1.0	( <sup>2</sup> )
All other . . . . .	5.5	4.8	4.8	4.5	-1.0	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	22.3	23.5	24.2	24.1	1.8	8.1
Production workers (1,000 persons) . . . . .	17.6	18.4	18.8	18.8	1.2	6.8
Average hourly wages of production workers . . . . .	\$13.86	13.87	14.21	14.80	0.94	6.8

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3296, Mineral Wool. This industry includes HTS provisions 6806.10 (slag wool, rock wool, and similar mineral wools); 6806.90 (acoustical pads and boards); 7019.39 (glass fibers, including glass wool and articles thereof); and 7019.90 (woven glass fibers and other glass fibers).

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible impact<sup>2</sup> on U.S. imports of mineral wool from NAFTA partners. Although the value of U.S. imports from Canada of mineral wool products increased almost 200 percent from 1993 to 1996, this increase was largely due to the staged duty reductions negotiated under the CFTA that preceded NAFTA.<sup>3</sup>

NAFTA likely had only a small effect on U.S.-Mexico trade in mineral wool because, with the exception of woven glass fibers (HTS 7019.90.10), U.S. imports of mineral wool from Mexico had been eligible for duty-free treatment under the Generalized System of Preferences (GSP) prior to the implementation of NAFTA.<sup>4</sup> U.S. imports of woven glass fibers from Mexico amounted to only \$668,000 in 1996, out of a total \$8.2 million in imports of Mexican mineral wool products.<sup>5</sup>

**U.S. Exports** – Total exports of mineral wool increased at a greater rate than exports to either Canada or Mexico from 1993 to 1996. U.S. exports to Canada rose by 7 percent compared with a 21 percent increase in U.S. exports to Mexico. Total U.S. exports of mineral wool increased 42 percent to \$336 million in 1996, indicating that increased world demand and the availability of U.S. production, not NAFTA, were likely responsible for the rise in U.S. exports of this product to NAFTA countries.

**Other Factors** – Total sector trade of mineral wool grew by 59 percent (\$175 million) to \$470 million in 1996. Total U.S.-Canada trade for the sector grew by 55 percent (\$72 million) to \$205 million, while total U.S.-Mexico trade increased 45 percent (\$8 million) to \$26 million from 1993 to 1996. According to industry officials, the change in U.S. trade in mineral wool with Canada and Mexico was not related to specialization of production.<sup>6</sup> The only significant investment (in excess of \$100 million) in mineral wool manufacturing in North America was to increase plant capacity at Saint Gobain's CertainTeed subsidiary in Kansas City, Kansas. The work, which started in 1994, is expected to be completed in 1997. The plant's overall capacity to manufacture fiberglass will be doubled to approximately \$200 million of product per year. Sales of the additional production are intended for the U.S. market; NAFTA reportedly did not enter into the decision-making process related to this expansion.<sup>7</sup>

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> The CFTA reduced duty rates on HTS heading 6806 products from 3.9 percent in 1989 to free in 1993. Duties on HTS 7019 products, with the exception of 7019.10, were decreased from 5.5 percent in 1989 to 3.1 percent in 1993. In 1996, duties were at 1.2 percent and are to be entirely eliminated by 1998. HTS 7019.10 duties were decreased from 6.2 percent to 3.4 percent in 1993. In 1996, the duty was 1.3 percent, and will drop to free in 1998.

<sup>4</sup> The only dutiable mineral wool import from Mexico into the United States in 1993 was woven glass fibers (HTS 7019.90.10), with duties of 6.9 percent ad valorem. In 1994, all mineral wool products from Mexico, including woven glass fibers, became duty free.

<sup>5</sup> The \$668,000 import figure represents approximately eight percent of 1996 U.S. imports of mineral wool products from Mexico, and less than 0.02 percent of total U.S. mineral wool consumption.

<sup>6</sup> Officials of Owens Corning Corp., telephone interviews by USITC staff, Feb. 24, 1997, Mar. 3 and 6, 1997.

<sup>7</sup> Official of CertainTeed Corp., telephone interview by USITC staff, Mar. 12, 1997.

## ITC Group No. 41: Steel Products<sup>1</sup>

**Table 6-41-1**  
**Steel products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	66,956.8	75,518.2	79,545.5	97,800.0	30,843.2	46.1
Consumption ( <i>million dollars</i> ) . . . . .	72,624.8	85,080.0	86,853.4	106,519.2	33,894.4	46.7
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	3,060.4	3,265.3	5,013.2	4,507.7	1,447.3	47.3
To Mexico . . . . .	663.3	646.2	658.4	871.7	208.4	31.4
To Canada . . . . .	1,281.7	1,495.5	1,848.3	1,851.2	569.5	44.4
To non-NAFTA countries . . . . .	1,115.4	1,123.6	2,506.5	1,784.8	669.4	60.0
Imports:						
Total . . . . .	8,728.4	12,827.1	12,321.1	13,226.9	4,498.5	51.5
From Mexico . . . . .	349.3	594.0	862.1	1,031.1	681.8	195.2
From Canada . . . . .	2,098.9	2,220.6	2,378.6	2,480.0	381.1	18.2
From non-NAFTA countries . . . . .	6,280.2	10,012.5	9,080.4	9,715.8	3,435.6	54.7
Trade balance:						
Total . . . . .	-5,668.0	-9,561.8	-7,307.9	-8,719.2	-3,051.2	-53.8
With Mexico . . . . .	314.0	52.2	-203.7	-159.4	-473.4	(2)
With Canada . . . . .	-817.2	-725.1	-530.3	-628.8	188.4	23.1
With non-NAFTA countries . . . . .	-5,164.8	-8,888.9	-6,573.9	-7,931.0	-2,766.2	-53.6
Total trade:						
Total . . . . .	11,788.8	16,092.4	17,334.3	17,734.6	5,945.8	50.4
NAFTA partners . . . . .	4,393.2	4,956.3	5,747.4	6,234.0	1,840.8	41.9
With Mexico . . . . .	1,012.6	1,240.2	1,520.5	1,902.8	890.2	87.9
With Canada . . . . .	3,380.6	3,716.1	4,226.9	4,331.2	950.6	28.1
Import market share ( <i>percent</i> ):						
Total . . . . .	12.0	15.1	14.2	12.4	0.4	(2)
Mexico . . . . .	0.5	0.7	1.0	1.0	0.5	(2)
Canada . . . . .	2.9	2.6	2.7	2.3	-0.6	(2)
Non-NAFTA countries . . . . .	8.6	11.8	10.5	9.1	0.5	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	4.9	4.7	3.6	3.3	-1.6	(2)
Canada . . . . .	2.1	1.6	1.2	0.8	-1.3	(2)
All other . . . . .	5.0	4.7	4.3	3.8	-1.2	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	251.0	251.7	254.9	249.7	-1.3	-0.5
Production workers ( <i>1,000 persons</i> ) . . . . .	195.4	197.2	200.4	197.2	1.8	0.9
Average hourly wages of production workers . . . . .	\$16.14	16.85	17.17	17.63	1.49	9.2

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics. Data for 1996 were estimated based on Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3312, Steel Works, Blast Furnaces (Including Coke Ovens) and Rolling Mills; and 3321, Gray and Ductile Iron Foundries.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible effect<sup>2</sup> on rising steel imports from NAFTA partners, whereas a strong U.S. economy<sup>3</sup> combined with exchange rate fluctuations and producer outages were the likely factors driving steel imports from 1993 to 1996. Overall, total imports of steel products increased by 52 percent to \$13 billion. U.S. imports of Canadian steel products increased 18 percent to \$2.5 billion from 1993 to 1996, whereas imports from Mexico rose 195 percent to \$1 billion. The peso devaluation in late 1994 resulted in depressed demand for steel in the Mexican economy, as major consuming sectors, particularly manufacturers whose production was oriented to the domestic market in Mexico and the construction industry, contracted. Mexican producers of steel thus sought foreign markets in order to offset loss of local demand. The peso devaluation helped increase the competitiveness of Mexican exports in the international market, thus generating increased U.S. steel imports from Mexico.<sup>4</sup> The peso crisis also facilitated increased Mexican steel production, which rose more than 50 percent.<sup>5</sup> In previous studies, the Commission has found that steel import levels are highly sensitive to changes in the exchange rate.<sup>6</sup> Also, the privatization of Mexico's steel industry in 1991 boosted investment in domestic firms which produce higher value added products, such as cold finished bars and drawn wire. Enhanced productivity and lower production costs also resulted from the Mexican privatization initiative.

U.S. tariffs applied to Canadian steel products are being phased out over a 10-year period as a result of the CFTA,<sup>7</sup> and are continuing under NAFTA. NAFTA provided for a 10-year phaseout of tariffs on Mexican steel products. The United States has since agreed to a 10-year phaseout of tariffs on imports of steel products applied to all nations eligible for most-favored-nation status as a result of commitments made in the Uruguay Round trade negotiations, with duty-free status to be reached in 2004.

**U.S. Exports** – NAFTA has had a negligible effect on U.S. steel product exports to Canada and Mexico during 1993-96. Since 1993, the improving Canadian economy has boosted apparent consumption of steel products by 9 percent,<sup>8</sup> thus contributing to an increase in U.S. exports to Canada. Capital investment and facility closures in the Canadian steel industry during this period increased the need for cold rolled sheet and semifinished products, respectively. Trade in such intermediate products has increased due to market demand rather than primarily a NAFTA influence. U.S. exports to Mexico remained relatively stable from 1993 to 1995 even though Mexican consumption fell.<sup>9</sup> This is due in part to Mexico's need for U.S. steel products that are inputs for downstream Mexican export industries, such as automobiles and appliances. In 1996, U.S. steel product exports to Mexico increased by 32 percent over 1995 levels, an indication that the Mexican market has begun to recover, as there was only a 2-percent increase from 1994 to 1995.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> World Wide Web, retrieved Feb. 2, 1997, Today's Steel Industry, <http://www.steel.org/facts/factpage7.html>, "North American Steel at a Glance," American Iron and Steel Institute.

<sup>4</sup> "Mexican Car Makers Diversify Steel Supply," *El Financiero International*, Jan. 27-Feb. 2, 1997, p. 17.

<sup>5</sup> Canacero. *Perfil de la Industria Siderurgica Mexicana*.

<sup>6</sup> U.S. International Trade Commission, *Steel Industry Annual Report*, (investigation No. 332-289), USITC publication 2436, Sept. 1991, pp. 3-45 to 3-48.

<sup>7</sup> While most Canadian steel product tariffs were in the 2-percent to 4-percent range, select products faced tariffs up to 5.8 percent.

<sup>8</sup> American Iron and Steel Institute, *1995 Annual Statistical Report*, 1996.

<sup>9</sup> "Mexico Turns the Corner," *Metal Bulletin Monthly*, Oct. 1996, p. 10.

**Other Factors** – U.S. trade in steel products grew by 50 percent during 1993-96. Total U.S.-Canada trade in steel products grew by \$951 million to \$4.3 billion in 1996, a 28-percent increase over 1993 levels. Total U.S.-Mexico trade in steel products grew by 88 percent, or \$890 million, to \$1.9 billion in 1996. Various economic factors played an important role in the growth of trade among the United States, Canada, and Mexico; however, NAFTA had a negligible impact on the steel products sector.

Although there is no known investment by U.S. steel firms in Mexican steelmaking facilities, there has been U.S. investment in Mexico as a result of NAFTA, taking the form of U.S.-Mexican joint ventures for distribution and service center activities valued at \$33 million from 1994-1996.<sup>10</sup> There has been \$8.5 billion invested in the U.S. steel industry during the same time period. However, it was not determined to be an effect of NAFTA. Rather, the capital expenditures have focused on upgrading and modernizing existing plants, investing in new facilities, and expanding steel production capacity to serve the U.S. market.

On August 3, 1993, Bethlehem Steel Export Corp., U.S. Steel, a unit of USX Corp., National Steel Corp., Inland Steel Company, and LTV Steel Company filed a request for a NAFTA binational panel review of a final dumping determination made by the Canadian Deputy Minister of National Revenue for Customs and Excise concerning certain cold-rolled steel sheet originating in or exported from the United States. On June 14, 1994 the panel affirmed in part and remanded in part the Canadian agency's determination. On January 31, 1995, the panel affirmed the determination on remand. NAFTA Secretariat File No. CDA-93-1904-08. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of July 15, 1994 (59 F.R. 36163).

On August 12, 1994, U.S. Steel, a unit of USX Corp., Inland Steel Company, I/N Kote, and LTV Steel filed a request for a NAFTA binational panel review of a final determination of dumping made by the Canadian Deputy Minister of National Revenue for Customs and Excise concerning certain corrosion-resistant steel sheet products from the United States. The panel unanimously affirmed in part and remanded in part the Canadian agency's determination. The panel majority affirmed the agency remand determination with two partial dissenting opinions. NAFTA Secretariat File No. CDA-94-1904-03. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of August 25, 1994 (59 F.R. 43816).

On September 1, 1994, Inland Steel Company and USX Corporation filed a request for a NAFTA binational panel review of a final antidumping determination by Mexico's Secretariat de Comercio y Fomento Industrial (SECOFI) concerning flat coated sheet products from the United States. On September 27, 1996, the panel unanimously affirmed in part and remanded in part the Mexican determination. In its order the panel affirmed all aspects of the final determination except for several specific instructions to SECOFI to take further actions. NAFTA Secretariat File No. MEX-94-1904-01. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of October 28, 1996 (61 F.R. 55617).

On September 1, 1994, Bethlehem Steel Corporation filed a request for a NAFTA binational panel review of a final antidumping duty determination by Mexico (SECOFI) concerning imports of cut-length plate, covered by Mexican customs tariff classifications 7208.32.01, 7208.33.01, 7208.42.01, and 7208.43.01, originating in and entering from the United States. On the same date, a request for panel review was also filed by U.S. Steel. On August 30, 1995, the panel majority, with two dissenting opinions, remanded the determination to SECOFI to issue a new determination. NAFTA Secretariat File No. MEX-94-1904-02. For additional

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<sup>10</sup> Compiled from the financial statements of Worthington Steel and Inland Steel Company.

information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of September 11, 1995 (60 F.R. 47153). SECOFI subsequently issued revised duties on April 30, 1997, some of which have again been appealed to the binational panel.

On September 1, 1994, U.S. Steel, Inland Steel Company, I/N Kote, Bethlehem Steel Export Corporation, and LTV Steel Company filed a request for a NAFTA binational panel review of a final affirmative injury determination made by the Canadian International Trade Tribunal concerning certain corrosion-resistant steel sheet products from the United States. On July 10, 1995, the NAFTA binational panel affirmed the Canadian agency's determination. On August 22, 1995, the binational panel review was completed. NAFTA Secretariat File No. CDA-94-1904-04. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of October 2, 1995 (60 F.R. 51457).

On July 26, 1995, Tubos de Acero de Mexico, S.A. filed a request for a NAFTA binational panel review of a final determination of sales at less than fair value made by the U.S. Department of Commerce concerning oil country tubular goods from Mexico. On July 31, 1996, the panel affirmed and remanded the Commerce Department's determination. The remand determination was affirmed on December 2, 1996 and the panel review was completed on January 21, 1997. NAFTA Secretariat File No. USA-95-1904-04. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of February 6, 1997 (62 F.R. 5612).

On November 10, 1995, Gulf States Tube Division filed a request for a NAFTA binational panel review of a final antidumping determination made by Mexico (SECOFI) concerning seamless commercial steel tubes from the United States. On December 6, 1995, Gulf States filed a Notice of Motion requesting termination of this panel review. No other interested persons filed a request for panel review of this final determination. The Notice of Completion of panel review was effective March 17, 1995. NAFTA Secretariat File No. MEX-95-1904-01. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of December 20, 1995 (60 F.R. 65637).

On January 26, 1996, Dofasco Inc. filed a request for a NAFTA binational panel review of a final antidumping determination made by Mexico (SECOFI) concerning cold-rolled steel sheet originating in or exported from Canada. Panel review of this matter was terminated by the requestor on April 26, 1996. NAFTA Secretariat File No. MEX-96-1904-01. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of June 14, 1996 (61 F.R. 30221).

On January 29, 1996, the Titan Industrial Corporation, Dofasco Inc., Stelco Inc., and Algoma Inc. filed a request for a NAFTA binational panel review of a final antidumping determination by Mexico (SECOFI) concerning rolled steel plate originating or exported from Canada. The proceedings were suspended in September 1996, and resumed on January 14, 1997. A decision is expected in August 1997. NAFTA Secretariat File No. MEX-96-1904-02. For additional information, see the notice published in the U.S. section of the NAFTA Secretariat in the *Federal Register* of February 15, 1996 (61 F.R. 5983).

On January 29, 1996, the Titan Industrial Corporation, Dofasco Inc., Stelco Inc., and Algoma Inc. filed a request for a NAFTA binational panel review of a final antidumping determination by Mexico (SECOFI) concerning hot-rolled steel sheet originating in or exported from Canada. A decision is expected in June 1997. NAFTA Secretariat File No. MEX-96-1904-03. For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of February 15, 1996 (61 F.R. 5982).

ITC Group No. 42: Nonferrous Metals, Unwrought<sup>1</sup>

Table 6-42-1  
Nonferrous metals, unwrought: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	17,580.0	20,231.0	24,285.0	21,880.0	4,300.0	24.5
Consumption (million dollars) . . . . .	15,692.7	23,997.7	29,500.4	26,067.7	10,375.0	66.1
Trade data (million dollars):						
Exports:						
Total . . . . .	10,200.2	6,721.6	7,203.6	8,467.6	-1,732.6	-17.0
To Mexico . . . . .	217.2	269.4	161.1	221.9	4.7	2.2
To Canada . . . . .	777.9	546.4	602.7	774.7	-3.2	-0.4
To non-NAFTA countries . . . . .	9,205.0	5,905.8	6,439.8	7,470.9	-1,734.1	-18.8
Imports:						
Total . . . . .	8,312.9	10,488.2	12,419.0	12,655.3	4,342.4	52.2
From Mexico . . . . .	327.6	363.3	591.6	614.1	286.6	87.5
From Canada . . . . .	4,318.3	5,212.1	6,036.4	6,212.9	1,894.6	43.9
From non-NAFTA countries . . . . .	3,667.0	4,912.8	5,791.0	5,828.2	2,161.2	58.9
Trade balance:						
Total . . . . .	1,887.3	-3,766.7	-5,215.4	-4,187.7	-6,075.0	( <sup>2</sup> )
With Mexico . . . . .	-110.3	-93.9	-430.5	-392.2	-281.9	-255.5
With Canada . . . . .	-3,540.4	-4,665.8	-5,433.7	-5,438.2	-1,897.8	-53.6
With non-NAFTA countries . . . . .	5,538.0	993.0	648.8	1,642.7	-3,895.3	-70.3
Total trade:						
Total . . . . .	18,513.1	17,209.8	19,622.6	21,122.8	2,609.7	14.1
NAFTA partners . . . . .	5,641.0	6,391.2	7,391.7	7,823.7	2,182.6	38.7
With Mexico . . . . .	544.8	632.8	752.7	836.1	291.3	53.5
With Canada . . . . .	5,096.3	5,758.5	6,639.0	6,987.6	1,891.3	37.1
Import market share (percent):						
Total . . . . .	53.0	43.7	42.1	48.5	-4.4	( <sup>2</sup> )
Mexico . . . . .	2.1	1.5	2.0	2.4	0.3	( <sup>2</sup> )
Canada . . . . .	27.5	21.7	20.5	23.8	-3.7	( <sup>2</sup> )
Non-NAFTA countries . . . . .	23.4	20.5	19.6	22.4	-1.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.1	0.1	( <sup>3</sup> )	( <sup>3</sup> )	-0.1	( <sup>2</sup> )
Canada . . . . .	0.1	0.2	0.1	0.1	0.0	( <sup>2</sup> )
All other . . . . .	0.6	0.5	0.5	0.6	0.0	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	56.8	56.1	56.4	57.0	0.2	0.4
Production workers (1,000 persons) . . . . .	42.7	42.3	42.6	43.1	0.4	0.9
Average hourly wages of production workers . . . . .	\$14.25	14.43	14.88	15.16	0.91	6.4

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3331, Primary Smelting and Refining of Copper; 3334, Primary Production of Aluminum; 3339, Primary Smelting and Refining of Nonferrous Metals, except Copper and Aluminum; and 3341, Secondary Smelting and Refining of Nonferrous Metals.



## Summary of Sector Analysis

**U.S. Imports** — The effect of NAFTA on the U.S. unwrought nonferrous metal sector from 1993 to 1996 was negligible,<sup>2</sup> largely because there were no effective U.S. tariff reductions on these products. U.S. tariffs on imports from Canada were either zero, or already low and in the process of being staged to zero under the CFTA. U.S. imports from Mexico were eligible for duty-free entry under GSP for all the major unwrought nonferrous products before NAFTA. (The trade-weighted ad valorem equivalent tariff rates for U.S. imports from Canada and Mexico have been less than 0.5 percent through the period.)<sup>3</sup> Although U.S. imports from both Canada and Mexico increased at a faster rate than U.S. shipments from 1993 to 1996, this was caused by growing U.S. consumption. The market shares of Canada and Mexico did not change appreciably (Canada's market share actually decreased) because the amount of U.S. shipments consumed domestically increased. Much of the change in the value of shipments and trade flows was caused by variations in prices.<sup>4</sup>

**U.S. Exports** — NAFTA had a negligible effect on U.S. exports to North America during this period. Canada and Mexico have large unwrought metals industries, but are relatively small consumers and are not major importers of these products. The quantity of U.S. exports to these markets decreased from 1993 to 1996, but because of the price increases, the value of these exports did not change appreciably.

**Other Factors** — Total sector trade grew by 14 percent (\$2.6 billion) to \$21.1 billion in 1996. Total U.S.-Canada trade for the sector grew by 37 percent (\$1.9 billion) to \$7.0 billion from 1993 to 1996, whereas total U.S.-Mexico trade grew by 54 percent (\$291 million) to \$836 million in 1996. There is no known effect of NAFTA on specialization of production, intra-industry trade, trade in intermediate products, or economies of scale. Likewise, there was no known shift in investment patterns because of NAFTA. Canadian minerals and metals companies are investors in the U.S. industry (mostly in the gold industry), but this was occurring before NAFTA. Also, there are no known barriers to entry in the U.S. metals industry for any foreign country. U.S. companies have redirected investment to other parts of the world, but this is reportedly in response to environmental considerations and prospects for U.S. mining law reform, not a reaction to NAFTA.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence

<sup>3</sup> Ad valorem equivalent tariff rates compiled from official statistics of the U.S. Department of Commerce.

<sup>4</sup> The price of the two most important nonferrous metals (as measured by the quantity of consumption), copper and aluminum, increased, respectively, from \$0.92/lb in 1993 to \$1.09/lb in 1996, an 18 percent increase, and from \$0.53/lb in 1993 to \$0.72 in 1996, a 36 percent increase. The price of lead, another major nonferrous metal, increased 53 percent from \$0.32/lb to \$0.49/lb during the same period.

**ITC Group No. 43: Nonferrous Metals, Wrought<sup>1</sup>**

**Table 6-43-1**

**Nonferrous metals, wrought: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	30,941.5	34,991.5	40,495.6	40,389.8	9,448.3	30.5
Consumption (million dollars) . . . . .	29,843.1	33,791.7	39,329.0	38,873.0	9,029.9	30.3
Trade data (million dollars):						
Exports:						
Total . . . . .	4,075.0	4,899.9	6,191.9	6,458.6	2,383.7	58.5
To Mexico . . . . .	882.1	1,105.3	1,195.5	1,466.7	584.7	66.3
To Canada . . . . .	1,261.7	1,561.0	1,848.3	1,764.1	502.4	39.8
To non-NAFTA countries . . . . .	1,931.2	2,233.6	3,148.1	3,227.8	1,296.6	67.1
Imports:						
Total . . . . .	2,976.5	3,700.1	5,025.3	4,941.8	1,965.3	66.0
From Mexico . . . . .	465.4	524.8	786.0	937.1	471.7	101.3
From Canada . . . . .	840.3	1,159.2	1,534.5	1,552.5	712.2	84.8
From non-NAFTA countries . . . . .	1,670.8	2,016.1	2,704.8	2,452.2	781.4	46.8
Trade balance:						
Total . . . . .	1,098.4	1,199.8	1,166.6	1,516.8	418.4	38.1
With Mexico . . . . .	416.7	580.5	409.5	529.7	113.0	27.1
With Canada . . . . .	421.4	401.8	313.8	211.6	-209.8	-49.8
With non-NAFTA countries . . . . .	260.3	217.5	443.3	775.6	515.2	197.9
Total trade:						
Total . . . . .	7,051.5	8,600.0	11,217.1	11,400.4	4,348.9	61.7
NAFTA partners . . . . .	3,449.5	4,350.3	5,364.3	5,720.4	2,270.9	65.8
With Mexico . . . . .	1,347.5	1,630.1	1,981.5	2,403.8	1,056.3	78.4
With Canada . . . . .	2,102.0	2,720.2	3,382.8	3,316.6	1,214.6	57.8
Import market share (percent):						
Total . . . . .	10.0	11.0	12.8	12.7	2.7	( <sup>2</sup> )
Mexico . . . . .	1.6	1.6	2.0	2.4	0.9	( <sup>2</sup> )
Canada . . . . .	2.8	3.4	3.9	4.0	1.2	( <sup>2</sup> )
Non-NAFTA countries . . . . .	5.6	6.0	6.9	6.3	0.7	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.8	1.5	0.9	0.7	-1.1	( <sup>2</sup> )
Canada . . . . .	0.8	0.7	0.6	0.4	-0.4	( <sup>2</sup> )
All other . . . . .	3.3	3.2	2.9	3.3	0.0	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	143.4	147.9	149.0	148.1	4.7	3.3
Production workers (1,000 persons) . . . . .	105.4	111.0	113.3	113.1	7.7	7.3
Average hourly wages of production workers . . . . .	\$13.02	13.22	13.46	13.84	0.82	6.3

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3351, Rolling, Drawing, and Extruding of Copper; 3353, Aluminum Sheet, Plate, and Foil; 3354, Aluminum Extruded Products; and 3357, Drawing and Insulating of Nonferrous Wire. This sector can also be referred to as "nonferrous mill products."

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible impact<sup>2</sup> on rising U.S. imports from NAFTA partners. Prior to NAFTA, nearly all sector products of Mexico were eligible for duty-free treatment under the GSP program<sup>3</sup> and those of Canada were already subject to staged elimination of duties under the CFTA. Imports from Mexico rose \$472 million (101 percent) to \$937 million, whereas imports from Canada increased \$712 million (85 percent) to just over \$1.5 billion during the period. Total U.S. imports increased nearly \$2 billion (66 percent) to \$4.9 billion from 1993 to 1996. From 1993 to 1996, the average trade-weighted tariff equivalent (AVE) for all products in this sector dropped steadily from 0.82 percent to 0.45 percent ad valorem for U.S. imports from Canada, and from 1.75 percent to 0.70 percent ad valorem for U.S. imports from Mexico.<sup>4</sup> However, reduced import tariffs reportedly had less impact on U.S. trade with its NAFTA partners than did sustained U.S. economic growth, the relatively strong U.S. dollar, and intra-industry trade.<sup>5</sup> Growth in U.S.-Canada sector trade was sustained by both strong U.S. demand, and the high degree of integration between U.S. and Canadian aluminum producers, and to a lesser extent, firms in the copper industry. Following the peso devaluation, U.S. sector imports from Mexico increased by 50 percent in 1995 as Mexican producers looked north for additional markets to compensate for weaker Mexican demand, and U.S. consumers shifted to comparatively cheaper Mexican sources.

**U.S. Exports** – Production sharing arrangements and the high degree of cross-border industry integration were underlying factors in U.S. exports to NAFTA countries during 1993-96; NAFTA had a negligible impact on exports to these countries. Total U.S. exports increased \$2.4 billion (59 percent) to almost \$6.5 billion during this period. U.S. exports to Mexico rose \$585 million (66 percent) to nearly \$1.5 billion in 1996; in percentage terms, growth in U.S. exports to Mexico exceeded that of total U.S. exports. In contrast, exports to Canada increased \$502 million (40 percent) to \$1.8 billion. Production-sharing arrangements, especially for nonferrous wire products, helped sustain U.S. export growth to Mexico after the 1994/95 peso devaluation<sup>6</sup> and subsequent recovery of Mexican demand furthered growth in U.S. exports in 1995-96.<sup>7</sup> Export levels to Canada during this period were sustained by the high degree of integration of the industries in these two countries that existed before NAFTA, as firms traded with their cross-border subsidiaries.<sup>8</sup>

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> A notable exception was insulated electrical conductors classified in HTS subheading 8544.51.40. The United States imported \$228 million of this product from Mexico in 1993. Imports did not rise sharply in 1994 (less than 0.9 percent to \$230 million), although the rate of duty on goods of Mexico was reduced from 5.3 percent ad valorem to 4.7 percent under NAFTA. Compiled from official statistics of the U.S. Department of Commerce.

<sup>4</sup> Ibid.

<sup>5</sup> Various industry and trade-association representatives, telephone interviews by USITC staff, Mar. 3-6, 1997.

<sup>6</sup> Drawing and insulating of nonferrous wire products comprised 72 percent of the sector products exported to and 82 percent of those imported from Mexico by the United States in 1996. U.S. sector imports from Mexico under production-sharing provision HTS heading 9802.00.80 (statistically reported under 9802.00.8065) rose by 41 percent (\$192 million) during 1993-96 to \$463 million; their proportion of total U.S. sector imports from Mexico ranged from 49 to 59 percent. Imports under production-sharing provision HTS subheading 9802.00.60 (statistically reported under 9802.00.6000) were an insignificant fraction of total U.S. imports from Mexico. Compiled from official statistics of the U.S. Department of Commerce.

<sup>7</sup> Annual average growth of U.S. exports of wrought nonferrous metals to Mexico was 23 percent during 1995-96, compared to 8 percent during 1994-95 and 25 percent during 1993-94. Ibid.

<sup>8</sup> Production sharing between these two countries was a less significant factor affecting U.S. trade with Canada. During 1993-96, only 3 to 5 percent of total annual U.S. imports from Canada fell under production-sharing provision HTS heading 9802.00.80. Imports under HTS subheading 9802.00.60 dropped from 29 percent of total U.S. sector

*Other Factors* – Total U.S. trade grew by 62 percent (\$4.3 billion) from 1993 to 1996 to \$11.4 billion. Total U.S.-Canada sector trade grew slightly less, increasing by 58 percent (\$1.2 billion) to \$3.3 billion in 1996. In contrast, growth in total U.S.-Mexico sector trade exceeded total U.S.-world sector trade, rising 78 percent (\$1.1 billion) to \$2.4 billion in 1996.

Relocation of U.S. production operations to Mexico, and switching by U.S. customers to Mexican suppliers, were restricted primarily to various types of nonferrous wire products.<sup>9</sup> With the timing of these shifts post-dating the peso devaluation, lower operating costs appear to be a stronger motivating factor for wire-products producers, rather than tariff reductions resulting from NAFTA. For new investment in the Western Hemisphere, U.S. producers of wrought nonferrous metals tended to look past Mexico to seek what they perceived as greater opportunities in the larger markets of South America, especially Brazil.<sup>10</sup>

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imports from Canada in 1993 to 4 percent in 1996. Ibid.

<sup>9</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

<sup>10</sup> Representative of the aluminum industry, telephone interview by USITC staff, Mar. 4, 1997.

## ITC Group No. 44: Fabricated Metal Products<sup>1</sup>

**Table 6-44-1**  
**Fabricated Metal Products: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	63,950.2	69,368.3	75,000.3	76,909.9	12,959.7	20.3
Consumption (million dollars) . . . . .	65,205.3	70,724.0	76,521.1	77,937.3	12,732.0	19.5
Trade data (million dollars):						
Exports:						
Total . . . . .	6,925.6	8,182.8	9,184.8	10,740.3	3,814.6	55.1
To Mexico . . . . .	1,183.8	1,664.6	1,699.4	2,267.8	1,084.0	91.6
To Canada . . . . .	2,437.5	2,934.8	3,124.0	3,562.5	1,124.9	46.2
To non-NAFTA countries . . . . .	3,304.3	3,583.4	4,361.5	4,910.0	1,605.7	48.6
Imports:						
Total . . . . .	8,180.7	9,538.4	10,705.6	11,767.6	3,586.9	43.8
From Mexico . . . . .	758.1	916.5	1,028.8	1,355.7	597.6	78.8
From Canada . . . . .	1,414.6	1,784.0	2,112.3	2,564.2	1,149.6	81.3
From non-NAFTA countries . . . . .	6,008.1	6,837.9	7,564.6	7,847.8	1,839.7	30.6
Trade balance:						
Total . . . . .	-1,255.1	-1,355.7	-1,520.8	-1,027.4	227.7	18.1
With Mexico . . . . .	425.7	748.1	670.6	912.1	486.3	114.2
With Canada . . . . .	1,022.9	1,150.8	1,011.7	998.3	-24.6	-2.4
With non-NAFTA countries . . . . .	-2,703.7	-3,254.5	-3,203.1	-2,937.8	-234.0	-8.7
Total trade:						
Total . . . . .	15,106.4	17,721.2	19,890.5	22,507.9	7,401.5	49.0
NAFTA partners . . . . .	5,794.0	7,299.9	7,964.4	9,750.1	3,956.1	68.3
With Mexico . . . . .	1,941.8	2,581.0	2,728.1	3,623.4	1,681.6	86.6
With Canada . . . . .	3,852.1	4,718.8	5,236.3	6,126.7	2,274.5	59.0
Import market share (percent):						
Total . . . . .	12.5	13.5	14.0	15.1	2.6	(2)
Mexico . . . . .	1.2	1.3	1.3	1.7	0.6	(2)
Canada . . . . .	2.2	2.5	2.8	3.3	1.1	(2)
Non-NAFTA countries . . . . .	9.2	9.7	9.9	10.1	0.9	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.1	0.4	0.4	0.4	-0.7	(2)
Canada . . . . .	1.1	1.0	0.8	0.6	-0.5	(2)
All other . . . . .	4.1	4.0	3.8	3.5	-0.6	(2)
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	472.9	484.7	499.2	499.2	26.3	5.6
Production workers (1,000 persons) . . . . .	338.2	352.9	368.1	368.1	29.9	8.8
Average hourly wages of production workers . . . . .	\$11.36	11.58	11.84	12.12	0.76	6.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3429, Hardware, Not Elsewhere Classified; 3441, Fabricated Structural Metal; 3442, Metal Doors, Sash, Frames, Molding, and Trim; 3443, Fabricated Plate Work (boiler shops); 3451, Screw Machine Products; 3452, Bolts, Nuts, Screws, Rivets, and Washers; 3466, Crowns and Closures; 3489, Ordnance and Accessories, Not Elsewhere Classified; 3491, Industrial Valves; 3493, Steel Springs, Except Wire; 3494, Valves and Pipe Fittings, Not Elsewhere Classified; 3495, Wire Springs; 3498, Fabricated Pipe and Pipe Fittings; and 3499, Fabricated Metal Products, Not Elsewhere Classified.

## Summary of Sector Analysis

**U.S. Imports** – During 1996, the United States imported \$598 million more fabricated metal products from Mexico and \$1.1 billion more from Canada than in 1993. Shifts in U.S. trade of these products with NAFTA partners from 1993 to 1996 are largely attributable to sustained U.S. economic growth, the strong U.S. dollar, and production-sharing arrangements,<sup>2</sup> whereas reduced tariffs under NAFTA had a negligible impact.<sup>3</sup> Prior to NAFTA, almost all sector products of Mexico were eligible for duty-free treatment under the GSP program. Such goods of Canada were already subject to staged eliminations of duties under the CFTA. From 1993 to 1996, the average trade-weighted tariff equivalent (AVE) for this sector dropped steadily from 1.13 percent to 0.64 percent ad valorem for U.S. imports from Canada and from 1.10 percent to 0.36 percent ad valorem for U.S. imports from Mexico.<sup>4</sup> Steady growth in trade of fabricated metal products between the United States and Canada was sustained by both strong U.S. demand, and the high degree of integration of the industries in these two countries that existed before NAFTA, as firms traded with their cross-border subsidiaries.

**U.S. Exports** – NAFTA also had a negligible effect on U.S. exports to North America during this period. The United States exported almost 92 percent more (\$1.1 billion) of these products to Mexico and just over 46 percent (\$1.1 billion) to Canada in 1996 than in 1993. Despite weakened Mexican domestic demand due to the peso devaluation, extensive production-sharing arrangements for valves, hardware, and other labor-intensive products helped revive U.S. export growth to Mexico after 1994-95.<sup>5</sup> To compete with Asian imports, U.S. producers of industrial valves exported hydraulic and electronic components to Mexico for assembly into Mexican-cast housings<sup>6</sup> (to take advantage of cheaper labor and foundry operations) for re-export to the United States.

**Other Factors** – Total U.S. trade in this sector grew by 49 percent (\$7.4 billion) from 1993 to 1996, to \$22.5 billion. Growth in total U.S. sector trade with its NAFTA partners exceeded total U.S. sector trade. Total U.S.-Canada sector trade grew by 59 percent (\$2.3 billion) to \$6.1 billion in 1996. Likewise, total U.S.-Mexico sector trade grew by 87 percent (\$1.7 billion) to \$3.6 billion. During 1994-96, the U.S. Department of Labor certified 1,826 workers as being eligible to apply for NAFTA-TAA benefits. In nearly all SIC classifications of this sector, NAFTA-TAA worker certifications were the result of U.S. operations

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<sup>2</sup> Various industry and trade-association representatives, telephone interviews by USITC staff, Mar. 3-6, 1997.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> Compiled by USITC staff from official statistics of the U.S. Bureau of the Census.

<sup>5</sup> Annual average growth of U.S. exports of fabricated metal products to Mexico was 33 percent during 1995-96, compared to 2 percent during 1994-95 and 41 percent during 1993-94. U.S. sector imports from Mexico under production-sharing provision HTS heading 9802.00.80 (statistically reported under 9802.00.8065) rose by 78 percent (\$258 million) during 1993-96 to \$590 million, but their proportion of total U.S. sector imports from Mexico remained relatively steady, ranging from 40 to 46 percent. Compiled from official statistics of the U.S. Department of Commerce.

<sup>6</sup> For example, industrial valves with high-value U.S.-made hydraulic or electronic activators assembled into Mexican-produced iron and steel valve body housings. See Ruben Mata, "Valves," in U.S. International Trade Commission, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1991-1994 (U.S. Imports Under Production Sharing Provisions of Harmonized Tariff Schedule Heading 9802)*, (investigation No. 332-237), USITC publication 2966, May 1996, pp. 4-16 to 4-18.

Valves and pipe fittings comprised 20 percent of the sector products exported to and 36 percent of those imported from Mexico by the United States in 1996.

shifting to NAFTA partners and U.S. customers switching to Mexican and Canadian suppliers.<sup>7</sup> With the timing of these shifts post dating the peso devaluation (summer 1995 through spring 1996), cheaper labor and production costs appear to be stronger investment factors than the tariff reductions resulting from NAFTA.

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<sup>7</sup> U.S. Department of Labor, NAFTA Transitional Adjustment Assistance Program statistics.

**ITC Group No. 45: Industrial Machinery<sup>1</sup>**

**Table 6-45-1**

**Industrial machinery: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . .	154,448.5	173,803.3	193,942.9	223,034.3	68,585.8	44.4
Consumption (million dollars) . .	146,156.1	167,448.8	186,450.1	213,693.4	67,537.3	46.2
Trade data (million dollars):						
Exports:						
Total . . . . .	36,293.8	42,047.3	49,095.0	52,140.7	15,846.9	43.7
To Mexico . . . . .	3,091.5	3,930.7	3,390.8	3,662.7	571.1	18.5
To Canada . . . . .	8,869.5	11,140.9	11,893.7	12,368.1	3,498.6	39.4
To non-NAFTA countries . .	24,332.7	26,975.7	33,810.6	36,109.9	11,777.2	48.4
Imports:						
Total . . . . .	28,001.3	35,692.8	41,602.2	42,799.7	14,798.4	52.8
From Mexico . . . . .	958.8	1,590.0	1,836.3	2,119.4	1,160.6	121.1
From Canada . . . . .	3,374.4	4,976.7	5,855.0	6,032.2	2,657.8	78.8
From non-NAFTA countries	23,668.2	29,126.1	33,911.0	34,648.2	10,980.0	46.4
Trade balance:						
Total . . . . .	8,292.4	6,354.5	7,492.9	9,340.9	1,048.5	12.6
With Mexico . . . . .	2,132.8	2,340.6	1,554.5	1,543.3	-589.5	-27.6
With Canada . . . . .	5,495.1	6,164.2	6,038.7	6,335.9	840.8	15.3
With non-NAFTA countries	664.5	-2,150.3	-100.4	1,461.7	797.2	120.0
Total trade:						
Total . . . . .	64,295.1	77,740.1	90,697.2	94,940.4	30,645.3	47.7
NAFTA partners . . . . .	16,294.2	21,638.3	22,975.7	24,182.4	7,888.1	48.4
With Mexico . . . . .	4,050.3	5,520.7	5,227.0	5,782.0	1,731.7	42.8
With Canada . . . . .	12,243.9	16,117.6	17,748.6	18,400.3	6,156.4	50.3
Import market share (percent):						
Total . . . . .	19.2	21.3	22.3	20.0	0.9	( <sup>2</sup> )
Mexico . . . . .	0.7	1.0	1.0	1.0	0.3	( <sup>2</sup> )
Canada . . . . .	2.3	3.0	3.1	2.8	0.5	( <sup>2</sup> )
Non-NAFTA countries . . . . .	16.2	17.4	18.2	16.2	0.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.2	1.0	0.3	0.2	-1.0	( <sup>2</sup> )
Canada . . . . .	0.3	0.2	0.2	0.2	-0.1	( <sup>2</sup> )
All other . . . . .	3.0	3.0	2.6	2.4	-0.6	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . .	1,169.1	1,220.0	1,277.6	1,294.0	124.9	10.7
Production workers (1,000 persons) . . . . .	794.3	840.1	885.4	894.9	100.6	12.7
Average hourly wages of production workers . . . . .	\$12.91	13.14	13.33	13.63	0.72	5.6

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> This grouping includes SIC Industry Nos. 3511, Steam, Gas, and Hydraulic Turbines, and Turbine Generator Set Units; 3519, Internal Combustion Engines, Not Elsewhere Classified; 3523, Farm Machinery and Equipment; 3531, Construction Machinery and Equipment; 3532, Mining Machinery and Equipment, Except Oil and Gas Field Machinery and Equipment; 3535, Conveyors and Conveying Equipment; 3537, Industrial Trucks, Tractors, Trailers, and Stackers; 3541, Machine Tools, Metal Cutting Types; 3542, Machine Tools, Metal Forming Types; 3544, Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds; 3546, Power-Driven Handtools; 3547, Rolling Mill Machinery and Equipment; 3554, Paper Industries Machinery; 3555, Printing Trades Machinery and Equipment; 3559, Special Industry Machinery, Not Elsewhere Classified; 3561, Pumps and Pumping Equipment; 3562, Ball and Roller Bearings; 3564, Industrial and Commercial Fans and Blowers and Air Purification Equipment; 3565, Packaging Machinery; 3566, Speed Changers, Industrial High-Speed Drives, and Gears; 3569, General Industrial Machinery, Not Elsewhere Classified; 3585, Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment; 3592, Carburetors, Pistons, Piston Rings, and Valves; 3593, Fluid Power Cylinders and Actuators; and 3599, Industrial and Commercial Machinery and Equipment, Not Elsewhere Classified.



## Summary of Sector Analysis<sup>2</sup>

*U.S. Imports* – NAFTA had a negligible effect on increasing U.S. imports from Canada and Mexico during 1993-96, which were spurred primarily by strong demand in the U.S. economy for capital goods and motor vehicles rather than NAFTA tariff reductions. During 1993-96, low U.S. interest rates and the need for capital equipment provided an environment that stimulated demand for industrial machinery and auto parts. Canada was the leading trading partner of the United States for most sector products. Cross-border trade in industrial machinery is strong between the United States and Canada, as some U.S. and Canadian industries have integrated production.<sup>3</sup> In other instances, Canadian producers either are dominant in their industry or offer very competitive world-class machinery in certain product niches. The effective U.S. ad valorem equivalent (AVE) on imports from Canada fell from 0.3 percent ad valorem in 1993 to 0.2 percent ad valorem in 1996. A significant portion of U.S. imports from Canada in this sector is accounted for by industrial vehicles, farm machinery, and a variety of auto parts, such as engines, fuel pumps, bearings, catalytic converters, air conditioners, carburetors, pistons, and valves. Most of such equipment entered the United States free of duty from Canada prior to NAFTA.

Several U.S. industrial machinery and motor vehicle parts producers have production facilities in Mexico that are integrated into their North American production operations. During 1993-96, much of their production was exported to the United States.<sup>4</sup> The effective U.S. AVE on imports from Mexico fell from 1.2 percent ad valorem in 1993 to 0.2 percent ad valorem in 1996 as a result of tariff reductions under NAFTA. In 1993, approximately 31 percent of total U.S. imports of industrial machinery from Mexico entered duty-free under the GSP, and 40 percent entered at reduced rates of duty under HTS heading 9802.00.80. U.S. components made up half of the value of these imports. Many of the production-sharing imports were from maquiladoras, but others were from other U.S. subsidiaries or from Mexican firms in which U.S. companies had an equity interest. Most of the U.S. production presence in Mexico was established before NAFTA.

*U.S. Exports* – NAFTA had a negligible effect on U.S. exports of sector products to Canada and Mexico during 1993-96. Increased U.S. exports to Canada<sup>5</sup> were caused in large part by a strengthening economy in Canada, low interest rates, and integrated manufacturing production between U.S. and Canadian firms.

A major increase in U.S. industrial machinery exports in 1994 was primarily due to a robust Mexican economy, and, to a lesser extent, by the reduction of Mexican tariffs. The sharp decline in exports in 1995

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

<sup>3</sup> U.S. imports and U.S. exports with Canada dominated trade among the NAFTA partners in SIC Industries Nos. SIC 3523, Farm Machinery and Equipment; SIC 3535, Conveyors and Conveying Equipment; SIC 3537, Industrial Trucks, Tractors, Trailers, and Stackers; SIC 3544, Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds; SIC 3554, Paper Industries Machinery; SIC 3561, Pumps and Pumping Equipment; and SIC 3562, Ball and Roller Bearings.

<sup>4</sup> U.S. imports from Mexico were concentrated in SIC Industry Nos. SIC 3519, Internal Combustion Engines, Not Elsewhere Classified; SIC 3531, Construction Machinery and Equipment; SIC 3546, Power-Driven Handtools; SIC 3564, Industrial and Commercial Fans and Blowers and Air Purification Equipment; and SIC 3585, Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment.

<sup>5</sup> U.S. exports to Canada were concentrated in the following SIC Industries Nos.: 3511, Steam, Gas, and Hydraulic Turbines, and Turbine Generator Set Units; SIC 3541, Machine Tools, Metal Cutting Types; SIC 3566, Speed Changers, Industrial High-Speed Drives, and Gears; SIC 3592, Carburetors, Pistons, Piston Rings, and Valves; and SIC 3593, Fluid Power Cylinders and Actuators.

was primarily due to the peso crisis and resulting economic contraction as high Mexican interest rates limited credit available to finance purchases of industrial machinery. Additionally, the lack of Mexican credit availability reduced all types of construction activity nationwide, resulting in a sharp decrease in U.S. exports of construction machinery. In 1996, U.S. exports of industrial machinery increased by 8 percent, principally due to Mexico's need to fuel its export-driven economy with additional capital equipment imports, principally from the United States.

*Other Factors* — Total sector trade grew by \$30.6 billion to almost \$94.9 billion during 1993-96. Total U.S.-Mexico trade for the sector grew by \$1.7 billion to \$5.8 billion, and total U.S.-Canada trade for the sector rose by \$6.2 billion to \$18.4 billion.

During 1994-96, under the NAFTA-TAA, 1,390 workers were certified as being eligible to apply for NAFTA-TAA benefits. Of these, 868 workers were certified as a result of production shifts to Mexico.<sup>6</sup>

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<sup>6</sup> U.S. Department of Labor, NAFTA Office. Although these job losses are certified to be the result of plant relocations to Mexico or Canada and/or increased imports from these countries, NAFTA may not have been the cause of plant relocation decisions or the reason for the increase in imports.

## ITC Group No. 46: Computers and Computer Peripheral Equipment<sup>1</sup>

**Table 6-46-1**

**Computers and computer peripheral equipment: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	48,272.2	57,011.8	70,226.6	82,300.0	34,027.8	70.5
Consumption (million dollars) . . . . .	53,751.8	65,623.1	80,705.6	91,829.1	38,077.3	70.8
Trade data (million dollars):						
Exports:						
Total . . . . .	22,165.0	25,538.1	30,479.6	34,287.9	12,122.9	54.7
To Mexico . . . . .	1,082.0	1,313.8	1,112.3	1,784.3	702.3	64.9
To Canada . . . . .	3,056.8	3,641.6	4,256.0	4,475.4	1,418.6	46.4
To non-NAFTA countries . . . . .	18,026.3	20,582.6	25,111.3	28,028.2	10,001.9	55.5
Imports:						
Total . . . . .	27,644.6	34,149.3	40,958.5	43,817.0	16,172.4	58.5
From Mexico . . . . .	854.0	1,387.7	1,803.7	2,915.6	2,061.7	241.4
From Canada . . . . .	2,168.5	3,026.4	3,960.0	3,328.1	1,159.6	53.5
From non-NAFTA countries . . . . .	24,622.2	29,735.2	35,194.8	37,573.3	12,951.1	52.6
Trade balance:						
Total . . . . .	-5,479.6	-8,611.3	-10,479.0	-9,529.1	-4,049.5	-73.9
With Mexico . . . . .	228.0	-73.9	-691.5	-1,131.3	-1,359.3	(2)
With Canada . . . . .	888.3	615.2	296.0	1,147.3	259.0	29.2
With non-NAFTA countries . . . . .	-6,595.9	-9,152.6	-10,083.5	-9,545.1	-2,949.2	-44.7
Total trade:						
Total . . . . .	49,809.6	59,687.4	71,438.1	78,104.9	28,295.2	56.8
NAFTA partners . . . . .	7,161.2	9,369.5	11,132.0	12,503.4	5,342.2	74.6
With Mexico . . . . .	1,936.0	2,701.5	2,916.0	4,699.9	2,764.0	142.8
With Canada . . . . .	5,225.3	6,668.1	8,216.0	7,803.5	2,578.2	49.3
Import market share (percent):						
Total . . . . .	51.4	52.0	50.8	47.7	-3.7	(2)
Mexico . . . . .	1.6	2.1	2.2	3.2	1.6	(2)
Canada . . . . .	4.0	4.6	4.9	3.6	-0.4	(2)
Non-NAFTA countries . . . . .	45.8	45.3	43.6	40.9	-4.9	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.7	0.9	0.4	0.4	-0.3	(2)
Canada . . . . .	0.1	0.1	(3)	0.1	0.0	(2)
All other . . . . .	1.8	1.3	0.9	0.8	-1.0	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	271.1	259.7	253.2	261.9	-9.2	-3.4
Production workers (1,000 persons) . . . . .	77.7	79.9	78.3	82.1	4.4	5.7
Average hourly wages of production workers . . . . .	\$12.84	13.43	14.04	14.28	1.44	11.2

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics: 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3571, Electronic Computers; 3575, Computer Terminals; and 3577, Computer Peripheral Equipment, Not Elsewhere Classified.

## Summary of Sector Analysis

**U.S. Imports** – The effect of NAFTA on increased imports from Mexico and Canada in this sector was negligible.<sup>2</sup> The average U.S. duty for these products was nearly free prior to the implementation of the agreement. The effective U.S. ad valorem tariff rate on computer imports from Mexico was 0.7 percent in 1993 and 0.4 percent in 1996. The effective ad valorem tariff rate for subject imports from Canada was even lower at 0.1 percent in 1993 and 1996. U.S. imports from Mexico increased 241 percent (\$2.1 billion) to \$2.9 billion in 1996, while imports from Canada increased 54 percent (\$1.2 billion) to \$3.3 billion. The increase in U.S. imports from NAFTA partners reflects growing U.S. demand for computer products and the decrease in imports from Japan<sup>3</sup> since 1994 as the appreciation of the yen made Japanese products relatively less competitive. In the case of Mexico, the devaluation of the peso in 1994 lowered the price of Mexican sub-assemblies used in computer products.<sup>4</sup> U.S. computer imports from countries other than Mexico and Canada accounted for 86 percent of total imports in this sector and about 55 percent of all subject imports entered under HTS heading 9802.00.80 in 1996. In terms of production sharing under HTS heading 9802.00.80, computer goods from Mexico comprised 30 percent of total imports in this sector in 1993 and increased to 44 percent in 1996. Canadian computer products of HTS heading 9802.00.80 remained negligible at 1 percent of total imported computer products in 1993 and less than 1 percent in 1996. U.S. computer producers such as Digital Equipment Corp. (DEC), IBM, and Hewlett-Packard (HP) have manufacturing facilities that were established well in advance of NAFTA. IBM, for instance, produces desktop and portable personal computers in a manufacturing facility located in Guadalajara to serve the North American and Latin American markets.<sup>5</sup> Similarly, DEC has a personal computer (PC) manufacturing facility in Canada which was responsible for over \$1 billion in total net exports in fiscal year 1996, with much of these exports sent to the United States.<sup>6</sup>

**U.S. Exports** – The NAFTA effect on U.S. exports to NAFTA partners was also negligible. U.S. exports to Mexico increased by 65 percent (\$702 million), from \$1.1 billion in 1993 to \$1.8 billion in 1996, mainly in response to growing Mexican demand for these products. Computerization of Mexico's major industrial sectors such as telecommunications and petrochemicals, as well as renewed confidence in the economy, helped spur a 70-percent plus rise in the Mexican market for personal computers in 1996 as compared to 1995.<sup>7</sup> U.S. computer exports to Mexico were subject to tariffs of 10-20 percent in 1993. These tariffs were

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Japan is the largest supplier of computers and computer peripheral equipment to the United States. U.S. imports of computers and computer peripheral equipment from Japan decreased from \$11.2 billion in 1994 to \$10.4 billion in 1996, a 7-percent decrease, while U.S. world imports of these products increased by 28 percent during this same period.

<sup>4</sup> Industry representative, telephone interview by USITC staff, Apr. 25, 1997.

<sup>5</sup> World Wide Web, retrieved Apr. 25, 1997, Manufacturing Plant, <http://www.mexico.ibm.com/planta/iplanta.html>, IBM, "Personal Computers" and World Wide Web, retrieved Apr. 25, 1997, Manufacturing Plant, <http://www.mexico.ibm.com/planta/iplanta.html>, IBM, "Portable Computers."

<sup>6</sup> World Wide Web, retrieved Apr. 25, 1997, Exports, <http://www.digital.ca/canada/exports.htm>, Digital Equipment Corporation, Canada, "Exports and Manufacturing," Apr. 4, 1997.

<sup>7</sup> World Wide Web, retrieved Apr. 24, 1997, International Data Corporation, <http://www.idcresearch.com/HNR/msjonz.htm>, "Latin America PC Market Reaches 2.77 Million Units," World Wide Web, retrieved Apr. 24, 1997, DQinteractive: Info Desk; In the News, <http://dq2.dataquest.com/info/press/ir-n9713.html>, "Latin America PC Market Grew 30 Percent in 1996, According to Dataquest," Feb. 25, 1997; and World Wide Web, retrieved Apr. 24, 1997, DQinteractive: Info Desk; In the News, <http://dq2.dataquest.com/info/press/ir-n9625.html>, "Mexican PC Market Begins Its Return to Prosperity, According to Dataquest," June 18, 1996.

lowered to 0.8 percent in 1996, after NAFTA implementation, with most computer products entering duty free. U.S. exports to Canada rose by 46 percent (\$1.4 billion) from \$3.1 billion in 1993 to \$4.5 billion in 1996, reflecting growing demand for computers.<sup>8</sup> There were no Canadian tariffs on computer products from the United States in 1993 or after NAFTA implementation. U.S. computer exports to countries other than Mexico and Canada increased by 56 percent (\$10 billion), from \$18 billion in 1993 to \$28 billion in 1996.

*Other Factors* – Total U.S. imports of these products increased by 59 percent (\$16.2 billion) from \$27.6 billion in 1993 to \$43.8 billion in 1996. Total U.S. exports increased by 55 percent (\$12.1 billion) during 1993-96, to \$34.3 billion. Total U.S.-Mexico trade in computers, computer terminals, and computer peripheral equipment increased by 143 percent, from \$1.9 billion in 1993 to \$4.7 billion in 1996. Total U.S.-Canada trade in this sector increased from \$5.2 billion in 1993 to \$7.8 billion in 1996, or by 49 percent.

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<sup>8</sup> Industry representative, telephone interview by USITC staff, Feb. 28, 1997.

**ITC Group No. 47: Heavy Electrical Equipment<sup>1</sup>**

**Table 6-47-1**

**Heavy electrical equipment: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . .	25,111.0	27,693.0	29,796.0	32,500.0	7,389.0	29.4
Consumption (million dollars) . .	25,762.8	29,133.4	31,394.6	34,183.6	8,420.8	32.7
Trade data (million dollars):						
Exports:						
Total . . . . .	4,330.5	4,571.1	5,347.5	5,602.0	1,271.5	29.4
To Mexico . . . . .	1,005.1	1,093.5	1,163.7	1,596.7	591.6	58.9
To Canada . . . . .	808.6	954.0	1,088.7	1,086.1	277.4	34.3
To non-NAFTA countries . . . . .	2,516.8	2,523.6	3,095.1	2,919.2	402.4	16.0
Imports:						
Total . . . . .	4,982.3	6,011.5	6,946.0	7,285.6	2,303.2	46.2
From Mexico . . . . .	1,151.3	1,451.4	1,753.9	2,060.3	909.0	79.0
From Canada . . . . .	500.3	672.9	766.7	805.5	305.1	61.0
From non-NAFTA countries . . . . .	3,330.7	3,887.1	4,425.5	4,419.8	1,089.1	32.7
Trade balance:						
Total . . . . .	-651.8	-1,440.4	-1,598.6	-1,683.6	-1,031.8	-158.3
With Mexico . . . . .	-146.1	-358.0	-590.2	-463.5	-317.4	-217.2
With Canada . . . . .	308.3	281.1	322.0	280.6	-27.7	-9.0
With non-NAFTA countries . . . . .	-813.9	-1,363.5	-1,330.4	-1,500.6	-686.7	-84.4
Total trade:						
Total . . . . .	9,312.8	10,582.6	12,293.5	12,887.5	3,574.7	38.4
NAFTA partners . . . . .	3,465.4	4,171.8	4,773.0	5,548.6	2,083.2	60.1
With Mexico . . . . .	2,156.4	2,544.9	2,917.5	3,657.0	1,500.6	69.6
With Canada . . . . .	1,309.0	1,626.9	1,855.4	1,891.5	582.6	44.5
Import market share (percent):						
Total . . . . .	19.3	20.6	22.1	21.3	2.0	( <sup>2</sup> )
Mexico . . . . .	4.5	5.0	5.6	6.0	1.6	( <sup>2</sup> )
Canada . . . . .	1.9	2.3	2.4	2.4	0.4	( <sup>2</sup> )
Non-NAFTA countries . . . . .	12.9	13.3	14.1	12.9	0.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.6	1.3	0.4	0.4	-1.2	( <sup>2</sup> )
Canada . . . . .	0.9	0.9	0.6	0.6	-0.3	( <sup>2</sup> )
All other . . . . .	4.3	4.3	4.0	3.6	-0.7	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . .	215.6	219.1	221.2	219.6	4.0	1.9
Production workers (1,000 persons) . . . . .	150.1	153.8	155.3	152.0	1.9	1.3
Average hourly wages of production workers . . . . .	\$10.81	11.07	11.27	11.63	0.82	7.6

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3612, Power, Distribution, and Specialty Transformers; 3613, Switchgear and Switchboard Apparatus; 3621, Motors and Generators; and 3625, Relays and Industrial Controls.

## Summary of Sector Analysis

**U.S. Imports** -- From 1993 to 1996, the impact of NAFTA on increased U.S. imports from NAFTA partners of heavy electrical equipment was negligible<sup>2</sup> due principally to the fact that additional duty reductions realized by U.S. suppliers under the trade agreement were quite small. The average trade weighted tariff on U.S. imports of heavy electrical equipment from Canada fell from 0.92 percent ad valorem in 1993, to 0.57 percent ad valorem in 1996, or by only 0.35 percentage points. The corresponding reduction with respect to Mexican entries was from 1.64 percent to 0.41 percent, or just 1.23 percentage points. The extensive use of the duty-lowering provisions of HTS heading 9802.00.80 and the CFTA by U.S. suppliers of this equipment was the major factor moderating the impact of NAFTA on U.S. imports. The vast majority of the 79-percent increase in U.S. imports from Mexico (which rose to \$2.1 billion in 1996), and the 61-percent increase in imports from Canada (which reached \$806 million) was the result of the steady rise in U.S. demand for these products. Imports from Canada and Mexico during the period were concentrated in lower-valued fractional and integral horsepower motors, transformers (notably lamp ballasts), molded-case circuit breakers, and miscellaneous low-voltage distribution equipment. All of this equipment has benefited from strong U.S. markets for consumer electrical and electronic products, energy-efficient lighting products, and electrical industrial apparatus.

**U.S. Exports** -- NAFTA had a negligible impact on increased U.S. exports to North America as well. Although U.S. exports of heavy electrical equipment, particularly to Mexico (up by 59 percent to \$1.6 billion), registered significant increases during 1993-96, the vast majority of these shipments were of parts and subassemblies in support of the border operations of U.S. suppliers. In particular, exports to Canada were heavily composed of parts of motors and boards, panels, and miscellaneous low-voltage electrical apparatus, while those to Mexico were concentrated in parts of inductors, miscellaneous low-voltage switching and connecting apparatus, and parts of miscellaneous low-voltage switching apparatus. During the period, U.S. exports of heavy electrical equipment to Canada increased only slightly more rapidly than the rise in total U.S. exports to all foreign markets (34 percent versus 29 percent, respectively).

**Other Factors** -- U.S. total trade increased \$3.6 billion (38 percent) to \$12.9 billion in 1996. Total U.S.-Mexico trade rose \$1.5 billion (70 percent) to \$3.7 billion in 1996, while U.S.-Canada trade increased \$583 million (45 percent) to \$1.9 billion during the period.

The influence of NAFTA on U.S. employment, wage rates, labor productivity, and investment have, to date, been negligible. The operations of U.S. producers in Mexico and Canada, while extensive, are nevertheless not a significant portion, in value terms, of their overall North American operations. In addition, the types of assembly operations that are performed in Mexico are generally not as extensive or as capital intensive as those retained in the United States. NAFTA, to date, has also not been the principal force driving U.S. investment in Canadian or Mexican operations. U.S. suppliers rather have been more interested in the significantly lower costs of labor, land, and other input factors in Mexico; and market presence, energy cost, exchange rate, tax incentive, and alternative sourcing advantages in Canada.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

## ITC Group No. 49: Electric Lighting and Wiring Equipment<sup>1</sup>

**Table 6-49-1**

**Electric lighting and wiring equipment: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	17,415.0	18,900.0	19,510.0	21,045.0	3,630.0	20.8
Consumption ( <i>million dollars</i> ) . . . . .	18,937.5	20,370.4	20,957.5	22,395.4	3,457.8	18.3
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	3,069.4	3,710.0	4,225.1	4,517.1	1,447.6	47.2
To Mexico . . . . .	709.5	1,034.6	1,208.4	1,306.5	597.0	84.1
To Canada . . . . .	1,000.3	1,132.0	1,266.6	1,414.1	413.8	41.4
To non-NAFTA countries . . . . .	1,359.7	1,543.4	1,750.1	1,796.5	436.9	32.1
Imports:						
Total . . . . .	4,592.0	5,180.4	5,672.6	5,867.4	1,275.5	27.8
From Mexico . . . . .	1,037.6	1,263.2	1,330.9	1,299.6	262.0	25.2
From Canada . . . . .	308.1	305.0	359.8	374.1	66.0	21.4
From non-NAFTA countries . . . . .	3,246.3	3,612.2	3,982.0	4,193.7	947.4	29.2
Trade balance:						
Total . . . . .	-1,522.5	-1,470.4	-1,447.5	-1,350.4	172.2	11.3
With Mexico . . . . .	-328.2	-228.5	-122.5	6.8	335.0	(2)
With Canada . . . . .	692.2	827.0	906.8	1,040.0	347.8	50.2
With non-NAFTA countries . . . . .	-1,886.6	-2,068.8	-2,231.9	-2,397.2	-510.6	-27.1
Total trade:						
Total . . . . .	7,661.4	8,890.4	9,897.8	10,384.5	2,723.1	35.5
NAFTA partners . . . . .	3,055.4	3,734.8	4,165.7	4,394.3	1,338.8	43.8
With Mexico . . . . .	1,747.1	2,297.8	2,539.2	2,606.1	859.0	49.2
With Canada . . . . .	1,308.3	1,437.0	1,626.4	1,788.2	479.8	36.7
Import market share ( <i>percent</i> ):						
Total . . . . .	24.2	25.4	27.1	26.2	2.0	(2)
Mexico . . . . .	5.5	6.2	6.4	5.8	0.3	(2)
Canada . . . . .	1.6	1.5	1.7	1.7	0.0	(2)
Non-NAFTA countries . . . . .	17.1	17.7	19.0	18.7	1.6	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	1.7	1.3	0.7	0.7	-1.0	(2)
Canada . . . . .	1.6	1.7	1.2	1.0	-0.6	(2)
All other . . . . .	4.9	4.9	4.6	4.3	-0.6	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	154.3	157.8	159.9	156.8	2.5	1.6
Production workers ( <i>1,000 persons</i> ) . . . . .	110.4	112.6	113.9	110.7	0.3	0.3
Average hourly wages of production workers . . . . .	\$10.46	10.67	10.88	11.59	1.13	10.8

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3641, Electric Lamp Bulbs and Tubes; 3643, Current-Carrying Wiring Devices; 3644, Noncurrent-Carrying Wiring Devices; 3645, Residential Electrical Lighting Fixtures; 3646, Commercial Electric Lighting Fixtures; and 3648, Lighting Equipment, Not Elsewhere Classified.



## Summary of Sector Analysis

**U.S. Imports** -- NAFTA has had a negligible effect<sup>2</sup> on increased U.S. imports of electric lighting and wiring equipment from NAFTA countries, due primarily to the small reductions in weighted average tariff rates. From 1993 to 1996, the weighted average duty on entries from Canada fell by just 0.6 percentage points (from 1.6 percent to 1.0 percent). At the same time, the reduction in import duties for Mexican products fell from 1.7 percent ad valorem to 0.65 percent ad valorem, or by 1.05 percentage points. These low-level duty reductions were not significant enough to cause the 25- and 21-percent increases (to \$1.3 billion and to \$374 million) in imports from Canada and Mexico, respectively, during the period. Additionally, these increases were less than the 28-percent increase in U.S. imports from all sources. U.S. imports of these products, particularly from Mexico, were principally of lower-valued apparatus, such as tungsten-halogen lamps; miscellaneous, low-voltage, electrical switching and connecting apparatus; and residential and commercial lighting fixtures. Production of this equipment is labor-intensive. Intense price competition from foreign suppliers has prompted U.S. producers to establish operations in Mexico and Canada to take advantage of wage rate and other competitive advantages, such as tax incentives, exchange rate differences, and enhanced market access. A large portion of imports of this equipment prior to 1993 was entered under the duty-reducing provisions of HTS heading 9802.00.80 (approximately 80 percent of imports from Mexico), and the CFTA and APTA (over 80 percent combined of imports from Canada).

**U.S. Exports** -- The impact of NAFTA on increased U.S. exports of electric lighting and wiring equipment to Mexico and Canada was also negligible. The majority of these shipments were of parts and subassemblies in support of established assembly operations in Canada and Mexico. Strong U.S. demand for the end products into which this equipment is incorporated (i.e., fuse panels, computers, motor vehicles, etc.) was the major reason underlying the 84-percent increase in U.S. exports to Mexico (versus 47 percent to the world). U.S. exports to Canada increased by 41 percent during the period.

**Other Factors** -- Total U.S. sector trade increased \$2.7 billion (36 percent) to \$10.4 billion from 1993 to 1996. Total U.S.-Mexico trade increased \$859 million (49 percent) to \$2.6 billion in 1996, while U.S.-Canada trade rose \$480 million (37 percent) to \$1.8 billion.

The impact of NAFTA on U.S. employment, wage rates, labor productivity, and investment has been negligible, in large part due to the fact that the Mexican operations of U.S. suppliers represent a relatively small portion of the value of their total North American production activities. In great measure, U.S. trade with Mexico in electrical lighting and wiring equipment is currently being driven by U.S. demand for finished equipment, much of which is lower-valued merchandise that U.S. manufacturers cannot easily or economically automate domestically. Trade with Canada, on the other hand, is to a greater extent dependent upon demand for these products in Canada, even though a significant portion of U.S. exports are subsequently returned in upgraded form, or as an integral part of other equipment. U.S. exports of lighting and wiring equipment to Canada are in general more sophisticated, higher value, and more capital-intensive, compared with shipments to Mexico.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

## ITC Group No. 50: Radio and Television Equipment<sup>1</sup>

**Table 6-50-1**

**Radio and television equipment: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	29,816.0	36,091.0	39,918.0	43,900.0	14,084.0	47.2
Consumption (million dollars) . . . . .	41,184.4	49,618.9	53,701.0	56,759.2	15,574.8	37.8
Trade data (million dollars):						
Exports:						
Total . . . . .	7,679.9	9,632.7	11,672.1	11,691.3	4,011.5	52.2
To Mexico . . . . .	1,503.1	1,797.6	1,695.8	2,041.6	538.5	35.8
To Canada . . . . .	1,115.5	1,363.2	1,565.3	1,601.3	485.8	43.6
To Non-NAFTA countries . . . . .	5,061.3	6,471.9	8,411.0	8,048.4	2,987.1	59.0
Imports:						
Total . . . . .	19,048.3	23,160.6	25,455.1	24,550.5	5,502.3	28.9
From Mexico . . . . .	2,404.6	3,851.0	5,087.2	6,047.6	3,643.0	151.5
From Canada . . . . .	294.7	484.0	639.1	783.6	488.9	165.9
From non-NAFTA countries . . . . .	16,349.0	18,825.6	19,728.7	17,719.3	1,370.3	8.4
Trade balance:						
Total . . . . .	-11,368.4	-13,527.9	-13,783.0	-12,859.2	-1,490.8	-13.1
With Mexico . . . . .	-901.5	-2,053.4	-3,391.4	-4,006.0	-3,104.5	-344.4
With Canada . . . . .	820.8	879.3	926.1	817.7	-3.1	-0.4
With non-NAFTA countries . . . . .	-11,287.7	-12,353.7	-11,317.8	-9,670.9	1,616.8	14.3
Total trade:						
Total . . . . .	26,728.1	32,793.3	37,127.1	36,241.9	9,513.7	35.6
NAFTA partners . . . . .	5,317.8	7,495.8	8,987.5	10,474.1	5,156.3	97.0
With Mexico . . . . .	3,907.6	5,648.6	6,783.1	8,089.2	4,181.6	107.0
With Canada . . . . .	1,410.2	1,847.2	2,204.4	2,384.9	974.8	69.1
Import market share (percent):						
Total . . . . .	46.3	46.7	47.4	43.3	-3.0	(2)
Mexico . . . . .	5.8	7.8	9.5	10.7	4.8	(2)
Canada . . . . .	0.7	1.0	1.2	1.4	0.7	(2)
Non-NAFTA countries . . . . .	39.7	37.9	36.7	31.2	-8.5	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	3.1	1.3	0.7	0.5	-2.6	(2)
Canada . . . . .	1.7	0.9	0.5	0.4	-1.3	(2)
All other . . . . .	4.0	3.7	3.2	2.8	-1.2	(2)
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	188.5	196.9	203.2	200.7	12.2	6.5
Production workers (1,000 persons) . . . . .	103.8	108.9	110.7	108.7	4.9	4.7
Average hourly wages of production workers . . . . .	\$11.51	11.71	11.38	11.63	0.12	1.0

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3651, Household Audio and Video Equipment; 3663, Radio and Television Broadcasting and Communications Equipment; and 3671, Electron Tubes.

## Summary of Sector Analysis

*U.S. Imports* – NAFTA had a negligible effect<sup>2</sup> on increased U.S. trade in radio and television equipment. Narrowing profit margins in household audio and video equipment, a large part of this sector, influenced U.S. producers to relocate color television receiver (CTV) assembly plants to Mexico to take advantage of lower labor costs. Mexico has only one picture tube producer, although Samsung, a Korean-based corporation, has begun building a picture tube and television receiver plant in Mexico. The majority of cathode-ray tubes for CTVs imported from Mexico are produced in the United States and then shipped to Mexico for assembly into complete receivers.<sup>3</sup>

Mexico was the largest supplier of products in this sector to the United States in 1996, accounting for almost 25 percent of total U.S. imports in this sector, and overtaking Japan for the first time. U.S. imports from Mexico increased 152 percent (\$3.6 billion) to \$6 billion from 1993 to 1996, largely as a result of the fast-growing Mexican assembly and manufacturing industries.<sup>4</sup> The growth in Mexican assembly plants was largely due to foreign investment in new facilities or expansion of existing facilities. The primary factors influencing these investments were low labor costs, which were further decreased by the peso devaluation in December 1994; proximity to major markets; lower transportation costs; preparation for the elimination of the maquiladora program, and to some extent, the various rules of origin.<sup>5</sup> Imports from Mexico under HTS heading 9802.00.80 rose by 81 percent, or \$1.8 billion, to \$3.4 billion in 1996. Imports under HTS heading 9802.00.80 accounted for 65 percent of U.S. imports from Mexico in 1996, a decrease in share from 91 percent in 1993. The U.S. content of imports under HTS heading 9802.00.80 fluctuated between 23 and 34 percent during the period. The growth in U.S. imports from Canada from 1993 to 1996, which rose by \$489 million to \$784 million, is indicative of the relatively small but quickly growing Canadian industry.

*U.S. Exports* – The effect of NAFTA on radio and television equipment exported to Canada and Mexico was negligible. While Mexico and Canada continued to be the first and second largest markets for U.S. exports in this sector and grew 36 percent and 44 percent, respectively, this growth was significantly slower than that of non-NAFTA countries. U.S. exports to Mexico increased by \$539 million to \$2 billion in 1996. This was largely as a result of exports of electron tubes, primarily color television picture tubes, which increased by \$568 million to just over \$1 billion, due to the increasing use of Mexico as a source of less expensive labor for the assembly of television receivers. U.S. exports to Canada increased by \$486 million to \$1.6 billion in 1996. Exports to Canada of radios combined with sound-reproducing apparatus during 1993-96 increased by \$143 million to almost \$250 million as a result of increased demand for compact disc (CD) players installed in motor vehicles assembled in Canada. Also, exports to Canada of miscellaneous transmission apparatus incorporating reception apparatus increased by \$106 million to just over \$200 million as a result of increasing demand for cellular telephones. Exports of household audio and video equipment to Mexico decreased by \$52 million to \$722 million, as a result of the declining purchasing power of the peso, while exports of these products to Canada increased by \$247 million to \$861 million.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> NAFTA rules of origin require that television receivers contain a television tube of North American origin to be considered a North American product and eligible for duty-free treatment under NAFTA.

<sup>4</sup> USITC, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1992-1995*, USITC publication 3032, Apr. 1997, pp. 3-19 to 3-21.

<sup>5</sup> *Ibid.*, pp. 4-5 to 4-7.

*Other Factors* – U.S.-Mexico trade in this sector increased 107 percent (\$4.2 billion) to \$8.1 billion in 1996, while U.S.-Canada trade increased 69 percent (\$975 million) to \$2.4 billion. Meanwhile, total U.S. trade in this sector increased during this period by 36 percent (\$9.5 billion) to \$36.2 billion.

On June 26, 1995, Mitsubishi Electronics Industries Canada, Inc., filed a request for a NAFTA binational panel review of a final determination by the U.S. Department of Commerce to to revoke the U.S. antidumping order on imports of color picture tubes from Canada. On May 6, 1996, the panel affirmed the Commerce Department's determination.<sup>6</sup> For additional information, see the notice published by the U.S. section of the NAFTA Secretariat in the *Federal Register* of June 14, 1996 (61 F.R. 30221).

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<sup>6</sup> NAFTA Secretariat File No. USA-95-1904-03.

## ITC Group No. 51: Communications Equipment<sup>1</sup>

**Table 6-51-1**  
**Communications equipment: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	22,559.0	24,606.0	27,532.0	30,560.0	8,001.0	35.5
Consumption (million dollars) . . . . .	24,276.8	26,578.1	28,646.3	31,556.2	7,279.4	30.0
Trade data (million dollars):						
Exports:						
Total . . . . .	4,556.6	5,348.0	6,362.9	7,138.6	2,582.0	56.7
To Mexico . . . . .	465.7	563.5	420.0	598.1	132.4	28.4
To Canada . . . . .	854.4	881.7	1,053.8	1,356.9	502.5	58.8
To non-NAFTA countries . . . . .	3,236.6	3,902.8	4,889.0	5,183.6	1,947.0	60.2
Imports:						
Total . . . . .	6,274.3	7,320.0	7,477.2	8,134.8	1,860.5	29.7
From Mexico . . . . .	317.3	443.8	551.3	713.2	395.8	124.7
From Canada . . . . .	948.0	1,091.0	1,323.6	1,845.5	897.4	94.7
From non-NAFTA countries . . . . .	5,009.0	5,785.3	5,602.3	5,576.1	567.2	11.3
Trade balance:						
Total . . . . .	-1,717.8	-1,972.1	-1,114.3	-996.2	721.6	42.0
With Mexico . . . . .	148.3	119.7	-131.3	-115.1	-263.4	(2)
With Canada . . . . .	-93.7	-209.3	-269.8	-488.6	-394.9	-421.5
With non-NAFTA countries . . . . .	-1,772.4	-1,882.5	-713.2	-392.5	1,379.9	77.9
Total trade:						
Total . . . . .	10,830.9	12,668.0	13,840.1	15,273.4	4,442.5	41.0
NAFTA partners . . . . .	2,585.4	2,980.0	3,348.9	4,513.7	1,928.2	74.6
With Mexico . . . . .	783.0	1,007.3	971.4	1,311.3	528.3	67.5
With Canada . . . . .	1,802.4	1,972.7	2,377.5	3,202.4	1,400.0	77.7
Import market share (percent):						
Total . . . . .	25.8	27.5	26.1	25.8	-0.1	(2)
Mexico . . . . .	1.3	1.7	1.9	2.3	1.0	(2)
Canada . . . . .	3.9	4.1	4.6	5.8	1.9	(2)
Non-NAFTA countries . . . . .	20.6	21.8	19.6	17.7	-3.0	(2)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.1	1.3	0.2	0.2	-0.9	(2)
Canada . . . . .	1.3	1.4	0.4	0.5	-0.8	(2)
All other . . . . .	4.8	4.5	4.3	3.9	-0.9	(2)
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	134.8	135.3	140.0	140.9	6.1	4.5
Production workers (1,000 persons) . . . . .	72.7	71.8	71.6	69.6	-3.1	-4.3
Average hourly wages of production workers . . . . .	\$12.18	13.10	12.86	13.60	1.42	11.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3661, Telephone and Telegraph Apparatus and 3669, Communications Equipment, Not Elsewhere Classified.

## Summary of Sector Analysis

*U.S. Imports* – NAFTA had a negligible effect<sup>2</sup> on the \$396 million increase in U.S. imports from Mexico from 1993 to 1996. The rise was primarily attributed to the sharp devaluation of the peso in 1995, the decrease in Japanese exports of communications equipment to the United States, and rising demand for communications equipment in the United States. Similarly, U.S. imports of communications equipment from Mexico that entered under HTS heading 9802.00.80 increased by \$114 million to \$238 million during the same period. The average trade-weighted duty for communications equipment imported from both Mexico and Canada decreased by less than 1 percentage point during 1993-96. Although U.S. imports from Canada increased by \$897 million from 1993 to 1996, the small decrease in duties was unlikely to have had more than a negligible effect on Canadian imports of communications equipment because these imports consist largely of proprietary equipment parts and thus the purchaser's ability to switch from one supplier to another is limited. U.S. imports of communications equipment that entered under HTS heading 9802.00.80 during 1993-96 were negligible compared with other U.S. imports of communications equipment from Canada.

The increase in U.S. imports from Mexico and Canada coincided with the very large decrease in communications equipment imports from Japan resulting from an appreciation of the yen. Japan was the largest foreign source of communications equipment for the United States in 1993. However, U.S. imports of communications equipment from Japan decreased from \$1.9 billion in 1993 to \$1.3 billion in 1996. Meanwhile, U.S. consumption of communications equipment increased from \$24.3 billion to \$31.6 billion during the same period. Since the United States imports many of the same products from both Mexico and Japan, Mexico directly benefited from Japan's currency appreciation.<sup>3</sup> Increased imports from Canada resulted, in part, from lower prices for communications equipment brought about by increased competition in the Canadian telecommunications market and by increased U.S. demand.

*U.S. Exports* – U.S. exports to Mexico and Canada increased by \$132 million and \$503 million, respectively, during 1993-96. NAFTA had a negligible effect on U.S. exports to each country. Increased U.S. exports to Mexico were largely the result of increased demand fueled by a substantial U.S. investment in Mexico's telecommunications infrastructure. In recent years, U.S. telecommunications equipment producers such as Lucent and Motorola have won contracts to provide both wireless and wireline equipment to private telecommunications suppliers in Mexico.<sup>4</sup> Increased U.S. exports to Canada were largely the result of Northern Telecom's relocation of several of its Canadian telecommunications equipment production facilities to the United States and increased demand in the Canadian market. These relocations, for the most part, took place following the CFTA and prior to NAFTA. Increased demand in the Canadian market has resulted from the privatization of telecommunications services, as new service providers develop infrastructure and established service providers upgrade old equipment in response to competition. Total U.S. exports increased \$2.6 billion to \$7.1 billion in 1996.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> For example, cordless phones from Mexico accounted for a large share of U.S. imports from Mexico. These imports increased from \$31 million in 1993 to \$113 million in 1996, while U.S. imports of cordless telephones from Japan decreased by \$234 million to \$54 million during the same period. The other major suppliers of cordless phones to the United States--Malaysia, the Philippines, and China--also increased their market share during this period at Japan's expense. The U.S. market share for other communications equipment products imported from Mexico, such as corded telephones and answering machines, also increased at Japan's expense during this period.

<sup>4</sup> U.S. Department of Commerce, *Mexico - Landline/Cellular Infrastructure Equipment - ISA960201*, Market Research Reports, Feb. 1996, p. 1.

*Other Factors* – During 1993-96, total U.S.-Mexico trade in communications equipment increased by \$528 million to \$1.3 billion; total U.S.-Canada trade increased by \$1.4 billion to \$3.2 billion; and total U.S. sector trade increased by \$4.4 billion to \$15.3 billion.

**ITC Group No. 52: Electronic Components and Accessories<sup>1</sup>**

**Table 6-52-1**

**Electronic components and accessories: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percent change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	73,345.0	88,369.0	108,541.0	104,500.0	31,155.0	42.5
Consumption (million dollars) . . . . .	81,472.7	98,714.6	127,044.2	119,412.3	37,939.6	46.6
Trade data (million dollars):						
Exports:						
Total . . . . .	19,405.3	25,196.0	32,232.5	33,684.5	14,279.3	73.6
To Mexico . . . . .	1,941.1	2,872.9	3,773.8	4,480.8	2,539.7	130.8
To Canada . . . . .	2,506.2	2,889.8	3,683.8	4,012.6	1,506.4	60.1
To non-NAFTA countries . . . . .	14,957.9	19,433.4	24,774.8	25,191.1	10,233.2	68.4
Imports:						
Total . . . . .	27,533.0	35,541.6	50,735.6	48,596.9	21,063.9	76.5
From Mexico . . . . .	1,877.4	2,273.0	2,640.0	2,682.9	805.5	42.9
From Canada . . . . .	2,043.5	2,090.9	2,496.0	2,973.0	929.6	45.5
From non-NAFTA countries . . . . .	23,612.1	31,177.6	45,599.7	42,940.9	19,328.9	81.9
Trade balance:						
Total . . . . .	-8,127.7	-10,345.6	-18,503.2	-14,912.3	-6,784.6	-83.5
With Mexico . . . . .	63.7	599.8	1,133.9	1,797.9	1,734.2	2,722.4
With Canada . . . . .	462.7	798.9	1,187.8	1,039.6	576.9	124.7
With non-NAFTA countries . . . . .	-8,654.1	-11,744.3	-20,824.9	-17,749.8	-9,095.7	-105.1
Total trade:						
Total . . . . .	46,938.2	60,737.6	82,968.1	82,281.4	35,343.2	75.3
NAFTA partners . . . . .	8,368.2	10,126.5	12,593.6	14,149.4	5,781.1	69.1
With Mexico . . . . .	3,818.5	5,145.9	6,413.8	7,163.7	3,345.2	87.6
With Canada . . . . .	4,549.7	4,980.7	6,179.8	6,985.7	2,436.0	53.5
Import market share (percent):						
Total . . . . .	33.8	36.0	39.9	40.7	6.9	( <sup>2</sup> )
Mexico . . . . .	2.3	2.3	2.1	2.2	-0.1	( <sup>2</sup> )
Canada . . . . .	2.5	2.1	2.0	2.5	0.0	( <sup>2</sup> )
Non-NAFTA countries . . . . .	29.0	31.6	35.9	36.0	7.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	2.4	0.7	0.3	0.3	-2.1	( <sup>2</sup> )
Canada . . . . .	0.2	0.2	0.1	0.1	-0.1	( <sup>2</sup> )
All other . . . . .	1.0	0.9	0.7	0.7	-0.4	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	485.7	502.6	538.7	570.4	84.7	17.4
Production workers (1,000 persons) . . . . .	280.0	293.0	318.8	335.9	55.9	20.0
Average hourly wages of production workers . . . . .	\$11.21	11.29	11.56	12.08	0.87	7.8

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3672, Printed Circuit Boards; 3674, Semiconductors and Related Devices; 3675, Electronic Capacitors; 3676, Electronic Resistors; 3678, Electronic Connectors; and 3679, Electronic Components, Not Elsewhere Classified.



## Summary of Sector Analysis

**U.S. Imports** – The impact of NAFTA on the increase in U.S. imports to NAFTA partners was negligible.<sup>2</sup> From 1993 to 1996, U.S. imports from Mexico increased by 43 percent (\$806 million) to \$2.7 billion, and imports from Canada rose by 46 percent (\$930 million) to \$3 billion. Much of the trade and growth in trade in this sector between the United States and its NAFTA partners was in the form of production sharing (HTS heading 9802.00.80) and already-received preferential tariff treatment prior to the implementation of NAFTA. This is particularly true of U.S.-Mexico trade, where U.S. component manufacturers have been using Mexican maquiladora facilities since the 1960s to assemble their unfinished products.<sup>3</sup> In order to lower production costs in the relatively labor-intensive assembly stages of electronic component manufacturing, many U.S. firms transfer that portion of the production process to areas with lower labor costs. By shifting the labor-intensive operations, U.S. firms are able to lower overall production costs and increase their competitiveness with non-U.S. firms.<sup>4</sup> In the case of passive electronic components (capacitors, resistors, switches, and so forth), Mexico has been the largest production-sharing partner for the United States.<sup>5</sup> Over 85 percent of imports of passive components from Mexico enter the United States under the production-sharing provisions, and U.S. component manufacturers continue to invest in assembly plants there. Canada is also a major production sharing partner of the United States.<sup>6</sup> Increases in U.S. imports from the United States' NAFTA partners were the result of increased overall U.S. imports of electronic components, which grew by 77 percent (\$21 billion) to \$48.6 billion during 1993-96. In addition, the effective U.S. tariff on electronic components from outside NAFTA is only marginally higher than the tariff on products from Canada and Mexico under NAFTA. As a result, NAFTA had a negligible effect on U.S. imports of electronic components.<sup>7</sup>

**U.S. Exports** – From 1993 to 1996, U.S. exports to Mexico increased by 131 percent (\$2.5 billion) to \$4.5 billion, while exports to Canada rose by 60 percent (\$1.5 billion) to \$4 billion. NAFTA had a negligible effect on this growth; instead, it primarily reflects the increased use of production-sharing facilities in Mexico and Canada by U.S. electronic component manufacturers. Most U.S. exports to Mexico in this sector are directed to maquiladora enterprises, which either finish assembly of the components or incorporate them into finished electronic equipment products for export to the United States or elsewhere. Under the Mexican maquiladora program, maquiladoras are largely able to import components free of duty, and therefore tariff reductions under NAFTA offer little advantage. Roughly two-thirds of U.S. exports to Canada in this sector are semiconductors, and Canada had already eliminated its tariffs on these products before the implementation of NAFTA. In addition, Mexico and Canada have growing electronic equipment industries for such products as computers, televisions, telecommunications equipment, and automobiles. These industries are consuming growing amounts of electronic components and contribute to higher levels of U.S.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> U.S. industry representatives, telephone interviews by USITC staff, Fall/Winter 1996.

<sup>4</sup> Ibid.

<sup>5</sup> By contrast, most U.S. production sharing in active components, or semiconductors, occurs in Asian countries such as Malaysia, the Philippines, Indonesia, Hong Kong, Singapore, Korea, and Taiwan.

<sup>6</sup> Because of the elimination of the customs user fee for Canadian exports to the United States, Canadian exporters have had little incentive to utilize the 9802 provisions. As a result, the bulk of electronic subassemblies produced in Canada using U.S.-origin components enter duty free under NAFTA and are not reported under HTS heading provision 9802.00.80.

<sup>7</sup> U.S. industry representatives, telephone interviews by USITC staff, Apr. 24, 1997.

exports. Total U.S. exports in this sector showed similar impressive growth, increasing by 74 percent (\$14.3 billion) to \$33.7 billion during this period.

*Other Factors* – From 1993 to 1996, there was tremendous growth in global production and trade in electronic components. Total U.S. trade for this sector, which rose by 75 percent (\$35.3 billion) to \$82.3 billion, is consistent with total U.S. trade under NAFTA. Total U.S.-Mexico trade in this sector increased by 88 percent (\$3.3 billion) to \$7.2 billion, while total U.S.-Canada trade grew by 54 percent (\$2.4 billion) to \$7 billion.

**ITC Group No. 53: Miscellaneous Electrical Machinery, Equipment, and Supplies<sup>1</sup>**

**Table 6-53-1**

**Miscellaneous electrical machinery, equipment, and supplies: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	13,245.2	13,856.0	14,742.4	15,258.4	2,013.2	15.2
Consumption (million dollars) . . . . .	10,372.2	10,523.7	10,877.1	11,655.9	1,283.8	12.4
Trade data (million dollars):						
Exports:						
Total . . . . .	7,497.9	8,486.0	9,505.0	9,558.2	2,060.3	27.5
To Mexico . . . . .	444.0	579.7	481.8	509.1	65.1	14.7
To Canada . . . . .	1,195.6	1,384.6	1,463.5	1,211.7	16.1	1.3
To non-NAFTA countries . . . . .	5,858.3	6,521.6	7,559.7	7,837.4	1,979.1	33.8
Imports:						
Total . . . . .	4,624.9	5,153.7	5,639.7	5,955.7	1,330.9	28.8
From Mexico . . . . .	322.5	437.9	512.8	603.6	281.1	87.2
From Canada . . . . .	303.1	424.2	409.3	436.7	133.6	44.1
From non-NAFTA countries . . . . .	3,999.3	4,291.7	4,717.6	4,915.4	916.1	22.9
Trade balance:						
Total . . . . .	2,873.0	3,332.3	3,865.3	3,602.5	729.4	25.4
With Mexico . . . . .	121.5	141.9	-31.0	-94.4	-216.0	( <sup>2</sup> )
With Canada . . . . .	892.5	960.5	1,054.2	775.0	-117.6	-13.2
With non-NAFTA countries . . . . .	1,859.0	2,229.9	2,842.1	2,921.9	1,063.0	57.2
Total trade:						
Total . . . . .	12,122.7	13,639.7	15,144.7	15,513.9	3,391.1	28.0
NAFTA partners . . . . .	2,265.2	2,826.4	2,867.4	2,761.1	495.9	21.9
With Mexico . . . . .	766.5	1,017.6	994.7	1,112.7	346.2	45.2
With Canada . . . . .	1,498.7	1,808.8	1,872.7	1,648.3	149.7	10.0
Import market share (percent):						
Total . . . . .	44.6	49.0	51.8	51.1	6.5	( <sup>2</sup> )
Mexico . . . . .	3.1	4.2	4.7	5.2	2.1	( <sup>2</sup> )
Canada . . . . .	2.9	4.0	3.8	3.7	0.8	( <sup>2</sup> )
Non-NAFTA countries . . . . .	38.6	40.8	43.4	42.2	3.6	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	2.1	1.1	0.5	0.4	-1.7	( <sup>2</sup> )
Canada . . . . .	0.3	0.3	0.2	0.1	-0.2	( <sup>2</sup> )
All other . . . . .	3.8	3.7	3.2	2.8	-0.9	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	84.7	87.0	86.8	85.7	1.0	1.2
Production workers (1,000 persons) . . . . .	53.1	55.3	57.0	57.5	4.4	8.3
Average hourly wages of production workers . . . . .	\$10.67	10.92	11.08	11.26	0.59	5.5

<sup>1</sup>Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3652, Phonographic Records and Prerecorded Audio Tapes and Disks; 3692, Primary Batteries, Dry and Wet; 3695, Magnetic and Optical Recording Media; and 3699, Electrical Machinery, Equipment, and Supplies, Not Elsewhere Classified.

## Summary of Sector Analysis

*U.S. Imports* – From 1993 to 1996, U.S. imports of miscellaneous electrical machinery, equipment, and supplies from Mexico rose 87 percent (\$281 million) to \$604 million, and imports from Canada increased 44 percent (\$134 million) to \$437 million. Although imports of these products grew substantially, NAFTA had a negligible effect<sup>2</sup> on the increases. The growth in imports was probably due to increases in the use of production-sharing facilities, as well as increased production capacity in Mexico. During 1993-96, U.S. imports of subject goods from Mexico under HTS heading 9802.00.80 increased by roughly 34 percent, from \$189 million to \$254 million. More than 40 percent of U.S. imports from Mexico in this sector entered the United States under U.S. production-sharing provisions (HTS heading 9802.00.80) in 1996.<sup>3</sup> In order to lower production costs in relatively labor-intensive assembly stages, many U.S. firms transfer that portion of the production process to areas with lower labor costs.<sup>4</sup> By shifting the labor-intensive operations, U.S. firms are able to lower overall production costs and increase their ability to compete with Asian products. A number of major firms in these industries have been operating in Mexico and Canada since the 1970s. However, in order to service the growing U.S. market for these products, additional firms have established operations in these countries, particularly in Mexico.

*U.S. Exports* – NAFTA had a negligible effect on increased U.S. exports to Mexico and Canada during this period. Under NAFTA, Mexican tariffs on most U.S. sector goods fell from approximately 10 to 15 percent to zero on January 1, 1994. From 1993 to 1996, U.S. exports to Mexico increased by nearly 15 percent (\$65 million) to \$509 million. Primary batteries accounted for most of the increase in exports. While exports to Mexico of sector goods increased by roughly 40 percent during 1993 and 1994, they dropped off significantly in 1995 and 1996. This decrease coincides with, and is largely attributable to, the December 1994 peso devaluation and the economic downturn that followed. Because of the peso devaluation, many U.S. exports became relatively more expensive to Mexican consumers.<sup>5</sup> However, the peso devaluation did not affect all U.S. exports to Mexico; many U.S. exports were most likely in the form of production-sharing arrangements, the products of which usually are not consumed in Mexico, but rather assembled and reexported. U.S. exports to Canada of sector products rose by 22 percent during 1993-95, from \$1.2 billion to \$1.5 billion, but fell back to \$1.2 billion in 1996. Export patterns of SIC No. 3652, which accounted for most of these changes, were probably related to economic factors in the industry.<sup>6</sup> Further, most Canadian tariffs on U.S. products were reduced or eliminated under CFTA, so NAFTA had little effect on U.S. exports to Canada.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Because of the elimination of the customs user fee for Canadian exports to the United States under NAFTA, Canadian exporters have had little incentive to use the 9802 provisions. As a result, the bulk of electrical machinery produced in Canada using U.S.-made parts enters the United States duty free under NAFTA and is not reported under HTS provision 9802.00.80. It is believed that a significant portion of the imports of electrical machinery from Mexico entering under NAFTA (but not under 9802.00.80) is assembled chiefly from U.S.-made parts.

<sup>4</sup> U.S. industry representatives, telephone interviews by USITC staff, Apr. 24-25, 1997.

<sup>5</sup> Further, high interest rates in Mexico immediately following the devaluation made it difficult for Mexicans to borrow money to finance either the purchase of goods made by electrical machinery or investments in new machinery. This reduced the market in Mexico for both domestically produced and imported machinery.

<sup>6</sup> U.S. industry representative, telephone interview by USITC staff, Apr. 25, 1997. Prerecorded records, tapes, and discs are usually replicated in the country of sale. As a result, there is little cross-border trade of these products. The industry makes exceptions when a country experiences a shortage of recordings that resellers need quickly. Within North America, the industry in Canada, the United States, and Mexico uses cross-border shipments under such circumstances.

*Other Factors* – From 1993 to 1996, total U.S.-Mexico trade in this sector grew by 45 percent (\$346 million) to slightly more than \$1.1 billion, with U.S. exports to Mexico accounting for most of the increases. Total U.S.-Canada trade increased by 10 percent (\$150 million) from 1993 to 1996, to approximately \$1.6 billion. Meanwhile, total U.S. trade in this sector increased by 28 percent (\$3.4 billion) to \$15.5 billion in 1996.

**ITC Group No. 56: Aircraft and Aircraft Parts<sup>1</sup>**

**Table 6-56-1**  
**Aircraft and aircraft parts: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	87,685.0	79,742.0	77,762.0	82,428.0	-5,257.0	-6.0
Consumption (million dollars) . . . . .	62,545.0	56,702.1	58,894.2	58,275.4	-4,269.6	-6.8
Trade data (million dollars):						
Exports:						
Total . . . . .	36,681.1	34,754.5	29,814.1	37,265.8	584.7	1.6
To Mexico . . . . .	530.3	583.8	156.5	184.1	-346.1	-65.3
To Canada . . . . .	1,593.0	1,555.7	2,038.9	2,397.9	804.9	50.5
To non-NAFTA countries . . . . .	34,557.9	32,615.0	27,618.8	34,683.7	125.8	0.4
Imports:						
Total . . . . .	11,541.2	11,714.5	10,946.3	13,113.2	1,572.0	13.6
From Mexico . . . . .	50.6	47.6	45.4	56.4	5.8	11.6
From Canada . . . . .	1,970.3	2,324.5	2,375.7	3,155.5	1,185.2	60.2
From non-NAFTA countries . . . . .	9,520.3	9,342.5	8,525.3	9,901.4	381.0	4.0
Trade balance:						
Total . . . . .	25,140.0	23,039.9	18,867.8	24,152.6	-987.4	-3.9
With Mexico . . . . .	479.7	536.2	111.1	127.7	-352.0	-73.4
With Canada . . . . .	-377.4	-768.8	-336.8	-757.6	-380.2	-100.8
With non-NAFTA countries . . . . .	25,037.6	23,272.5	19,093.5	24,782.4	-255.2	-1.0
Total trade:						
Total . . . . .	48,222.3	46,469.0	40,760.5	50,379.0	2,156.7	4.5
NAFTA partners . . . . .	4,144.1	4,511.5	4,616.4	5,793.9	1,649.8	39.8
With Mexico . . . . .	580.8	631.4	201.8	240.5	-340.3	-58.6
With Canada . . . . .	3,563.3	3,880.1	4,414.6	5,553.4	1,990.1	55.9
Import market share (percent):						
Total . . . . .	18.5	20.7	18.6	22.5	4.1	( <sup>2</sup> )
Mexico . . . . .	0.1	0.1	0.1	0.1	( <sup>3</sup> )	( <sup>2</sup> )
Canada . . . . .	3.2	4.1	4.0	5.4	2.3	( <sup>2</sup> )
Non-NAFTA countries . . . . .	15.2	16.5	14.5	17.0	1.8	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.1	0.1	0.1	0.1	0.0	( <sup>2</sup> )
Canada . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
All other . . . . .	0.2	0.2	0.3	0.2	( <sup>3</sup> )	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	542.0	481.5	449.2	450.3	-91.7	-16.9
Production workers (1,000 persons) . . . . .	252.5	222.0	206.7	212.6	-39.9	-15.8
Average hourly wages of production workers . . . . .	\$17.24	17.98	18.07	18.57	1.33	7.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3721, Aircraft; 3724, Aircraft Engines and Parts; and 3728, Aircraft Parts and Auxiliary Equipment, Not Elsewhere Classified.

## Summary of Sector Analysis

*U.S. Imports* – NAFTA had a negligible impact<sup>2</sup> on increased U.S. imports of aircraft and aircraft parts from NAFTA partners during 1993-96. The United States and Canada were among the signatories to the Agreement on Trade of Civil Aircraft, which was part of the 1979 GATT Tokyo Round agreements. Under this agreement, signatories agreed to make trade in civil aircraft and parts for civil aircraft essentially duty free. The increase in U.S. imports from Canada, which rose by \$1.2 billion from 1993 to 1996, can be attributed to increased shipments of commuter aircraft, business jets, and helicopters to U.S. regional, commuter, and business aircraft operators. This increase was attributable to greater demand for travel, which was largely driven by the improved U.S. business climate. U.S. imports from Mexico rose by nearly 12 percent (\$6 million) to \$56 million in 1996, whereas total U.S. imports increased 14 percent (\$1.6 billion) to \$13.1 billion in 1996.

*U.S. Exports* – NAFTA had a negligible effect on U.S. exports to North America as well. U.S. exports to Canada increased by \$805 million from 1993 to 1996, as U.S. suppliers met the increased demand of Canadian aircraft manufacturers (regional, commuter, helicopter, and business jets). U.S. exports to Mexico declined by \$346 million during the period. Mexican airlines have been unprofitable over the last few years, which has led to reduced demand for aircraft and parts. Mexico is not a signatory to the Agreement on Trade of Civil Aircraft; nevertheless, duties on these goods were low, fluctuating from 0.03 percent to 0.09 percent ad valorem during the period.

*Other Factors* – Total U.S. trade in aircraft and aircraft parts increased 5 percent (\$2.2 billion) to \$50.4 billion in 1996. Total U.S.-Canada trade rose 56 percent (\$2 billion) to \$5.6 billion, while U.S.-Mexico trade decreased 59 percent from 1993 to 1996 in this sector, to \$241 million.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

**ITC Group No. 57: Boatbuilding and Repairing<sup>1</sup>**

**Table 6-57-1**  
**Boatbuilding and repairing: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	4,632.2	4,887.4	5,065.6	5,200.0	567.8	12.3
Consumption (million dollars) . . . . .	4,522.7	4,944.6	5,214.9	5,576.6	1,054.0	23.3
Trade data (million dollars):						
Exports:						
Total . . . . .	534.2	507.2	657.8	620.6	86.3	16.2
To Mexico . . . . .	8.8	20.2	10.3	10.5	1.6	18.5
To Canada . . . . .	117.1	134.7	143.6	140.5	23.4	20.0
To non-NAFTA countries . . . . .	408.3	352.3	503.8	469.6	61.3	15.0
Imports:						
Total . . . . .	424.7	564.4	807.1	997.2	572.5	134.8
From Mexico . . . . .	0.7	0.2	0.4	0.3	-0.4	-52.3
From Canada . . . . .	206.2	275.1	463.2	616.1	409.9	198.8
From non-NAFTA countries . . . . .	217.8	289.1	343.4	380.7	162.9	74.8
Trade balance:						
Total . . . . .	109.5	-57.2	-149.3	-376.6	-486.2	( <sup>2</sup> )
With Mexico . . . . .	8.1	20.0	10.0	10.1	2.0	24.6
With Canada . . . . .	-89.2	-140.4	-319.6	-475.7	-386.5	-433.6
With non-NAFTA countries . . . . .	190.6	63.2	160.4	88.9	-101.7	-53.4
Total trade:						
Total . . . . .	958.9	1,071.5	1,464.8	1,617.8	658.8	68.7
NAFTA partners . . . . .	332.8	430.1	617.6	767.4	434.6	130.6
With Mexico . . . . .	9.5	20.4	10.7	10.8	1.3	13.3
With Canada . . . . .	323.3	409.8	606.9	756.6	433.4	134.1
Import market share (percent):						
Total . . . . .	9.4	11.4	15.5	17.9	8.5	( <sup>2</sup> )
Mexico . . . . .	0.0	0.0	0.0	0.0	0.0	( <sup>2</sup> )
Canada . . . . .	4.6	5.6	8.9	11.0	6.5	( <sup>2</sup> )
Non-NAFTA countries . . . . .	4.8	5.8	6.6	6.8	2.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.2	0.1	0.3	0.1	-0.2	( <sup>2</sup> )
Canada . . . . .	0.1	0.1	0.1	0.1	0.0	( <sup>2</sup> )
All other . . . . .	1.4	1.4	1.3	1.3	-0.1	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	46.5	51.3	54.0	55.4	8.9	19.1
Production workers (1,000 persons) . . . . .	38.2	43.1	45.3	46.4	8.2	21.5
Average hourly wages of production workers . . . . .	\$9.82	9.81	10.03	10.42	0.60	6.1

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) 3732, Boat Building and Repairing. This industry includes outboard motorboats, commercial and military; inboard motorboats; and all other boats, as well as boat building and repair, military and nonmilitary.



## Summary of Sector Analysis

*U.S. Imports* – The effect of the implementation of the NAFTA on increased U.S. imports of recreational boats from NAFTA countries was negligible.<sup>2</sup> During 1993-96, U.S. imports from Mexico declined by \$369,000 (52 percent) to approximately \$0.3 million, whereas U.S. imports from Canada rose by \$410 million (199 percent) to \$616 million. Increased imports from Canada coincided with a 1995 Customs ruling that personal watercraft should be imported under HTS subheading 8903.99.90, and are substantially a result of that reclassification; personal watercraft were previously not included among the products within this sector. Total U.S. imports of personal watercraft increased by \$332 million during the period, the largest dollar increase in this sector. The personal watercraft segment is one of the fastest-growing of the recreational boating market. Tariff reductions implemented under NAFTA had little effect on imports of sector products as the applied tariff rate for this sector, prior to NAFTA implementation, was less than 1 percent ad valorem.

*U.S. Exports* – NAFTA has had a negligible effect on U.S. sector exports to Canada or Mexico. U.S. exports to Mexico more than doubled from 1993-94, rising to \$20 million in 1994, before dropping to just over \$10 million in 1995 and 1996. U.S. exports to Canada rose by \$27 million (23 percent) to \$144 million during 1993-95, before dropping by \$3 million in 1996. Exports in this sector appear to have been influenced more by overall economic conditions than by the effects of the NAFTA agreement; that is, as disposable income fluctuates, U.S. exports of recreational boats also fluctuate.

*Other Factors* – Total sector trade increased by 69 percent (\$659 million) to \$1.6 billion from 1993 to 1996. Total U.S.-Canada trade for the sector increased by 134 percent (\$433 million), to \$757 million in 1996. Total U.S.-Mexico trade also rose, by 13 percent (\$1 million), to nearly \$11 million in 1996.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

**ITC Group No. 58: Railroad Equipment and Parts<sup>3</sup>**

**Table 6-58-1**

**Railroad equipment and parts: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	4,884.0	5,995.0	6,671.0	6,700.0	1,816.0	37.2
Consumption (million dollars) . . . . .	5,012.5	6,362.5	7,003.9	7,105.6	2,093.1	41.8
Trade data (million dollars):						
Exports:						
Total . . . . .	458.8	601.0	755.2	722.7	263.9	57.5
To Mexico . . . . .	31.0	75.4	61.8	33.2	2.2	6.9
To Canada . . . . .	185.9	282.4	481.7	348.5	162.7	87.5
To non-NAFTA countries . . . . .	242.0	243.2	211.6	341.0	99.0	40.9
Imports:						
Total . . . . .	587.3	968.5	1,088.0	1,128.3	541.0	92.1
From Mexico . . . . .	26.1	19.1	39.8	41.1	15.0	57.6
From Canada . . . . .	415.8	775.7	867.5	883.6	467.9	112.5
From non-NAFTA countries . . . . .	145.5	173.7	180.7	203.6	58.1	40.0
Trade balance:						
Total . . . . .	-128.5	-367.5	-332.9	-405.6	-277.1	-215.7
With Mexico . . . . .	4.9	56.3	22.0	-7.9	-12.9	( <sup>2</sup> )
With Canada . . . . .	-229.9	-493.2	-385.8	-535.1	-305.2	-132.7
With non-NAFTA countries . . . . .	96.5	69.5	30.9	137.4	40.9	42.4
Total trade:						
Total . . . . .	1,046.2	1,569.5	1,843.2	1,851.0	804.9	76.9
NAFTA partners . . . . .	658.7	1,152.6	1,450.9	1,306.4	647.7	98.3
With Mexico . . . . .	57.1	94.5	101.7	74.2	17.2	30.1
With Canada . . . . .	601.7	1,058.1	1,349.3	1,232.2	630.5	104.8
Import market share (percent):						
Total . . . . .	11.7	15.2	15.5	15.9	4.2	( <sup>2</sup> )
Mexico . . . . .	0.5	0.3	0.6	0.6	0.1	( <sup>2</sup> )
Canada . . . . .	8.3	12.2	12.4	12.4	4.1	( <sup>2</sup> )
Non-NAFTA countries . . . . .	2.9	2.7	2.6	2.9	0.0	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	( <sup>3</sup> )	0.2	0.3	0.4	0.4	( <sup>2</sup> )
Canada . . . . .	0.3	0.8	0.8	0.7	0.4	( <sup>2</sup> )
All other . . . . .	2.9	4.3	3.3	3.2	0.3	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	31.0	35.0	37.2	35.2	4.2	13.5
Production workers (1,000 persons) . . . . .	23.1	26.2	27.9	26.3	3.2	13.9
Average hourly wages of production workers . . . . .	\$14.90	15.60	15.07	16.20	1.30	8.7

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>3</sup> Standard Industrial Classification (SIC) Industry No. 3743, Railroad Equipment. This sector includes locomotives, both new and rebuilt, and parts; new freight train and passenger train cars, excluding parts; street, subway, trolley, and rapid transit cars; all rebuilt railcars and parts for all railcars; and other railroad equipment.

## Summary of Sector Analysis

*U.S. Imports* – The effect of NAFTA on the increase in U.S. imports of sector products from Mexico and Canada was negligible.<sup>4</sup> From 1993 to 1996, U.S. imports from Mexico rose by 58 percent (\$15 million) to \$41 million, and U.S. imports from Canada increased by 113 percent (\$468 million), to \$884 million. Imports from Mexico amounted to less than 1 percent of U.S. consumption. The increase in imports from Canada was the result of purchase decisions made prior to 1992 by U.S. rail transportation companies to source locomotives (HTS subheading 8606.21.00), and covered and closed railway cars (HTS subheading 8606.91.00), from Canada. U.S. imports of locomotives from Canada peaked in 1995, and then declined by 26 percent in 1996. U.S. production and sales of certain railway cars rose significantly during 1994-96, which may have led to delays in U.S. shipments to customers, thereby encouraging Canadian sourcing. Finally, there was a certain residual effect of the CFTA and Uruguay Round Agreement tariff reductions that have been implemented. Total U.S. imports increased by 92 percent (\$541 million) to \$1.1 billion.

*U.S. Exports* – The impact of NAFTA on increased U.S. exports to North America was negligible. From 1993 to 1996, U.S. exports to Mexico rose by 7 percent (\$2 million) to \$33 million, and U.S. exports to Canada increased by 88 percent (\$163 million) to \$349 million. Exports to Canada rose because certain U.S.-owned production facilities were established in Canada prior to NAFTA; these facilities continued to source U.S.-built parts, which accounted for the majority of the increased exports (HTS subheadings 8607.99.10 and 8607.91.00).<sup>5</sup> The change in U.S. exports to Mexico was very minor, and results from cyclical market fluctuations, the end of business contracts, and the devaluation of the peso. Total U.S. exports increased by 58 percent (\$264 million) to \$723 million in 1996.

*Other Factors* – Total sector trade increased by 77 percent (\$805 million) to \$1.9 billion in 1996 because of the pronounced resurgence of the U.S. rail market in recent years. Total U.S.-Canada trade for the sector increased by 105 percent (\$631 million) to \$1.2 billion in 1996. Total U.S.-Mexico trade also rose by 30 percent (\$17 million) to \$74 million in 1996.

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<sup>4</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>5</sup> Brenco, Inc., a U.S. manufacturer of tapered roller bearings for railway cars, plans exports of \$8 million to Canada in 1997, representing 47 percent of its total exports. Howard J. Bush, Vice President, Marketing and Shipments, Brenco, Inc., testimony before the USITC, May 16, 1997.

## ITC Group No. 59: Transportation Equipment<sup>1</sup>

**Table 6-59-1**

**Transportation equipment, n.e.c.: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	3,483.0	3,673.0	4,238.9	4,500.0	1,017.0	29.2
Consumption (million dollars) . . . . .	4,119.8	4,194.2	4,500.1	4,691.1	571.3	13.9
Trade data (million dollars):						
Exports:						
Total . . . . .	486.4	502.9	624.5	604.3	117.9	24.2
To Mexico . . . . .	11.7	21.2	8.1	10.6	-1.1	-9.2
To Canada . . . . .	217.4	254.3	321.2	311.8	94.3	43.4
To non-NAFTA countries . . . . .	257.3	227.3	295.2	282.0	24.7	9.6
Imports:						
Total . . . . .	1,123.2	1,024.1	885.7	795.4	-327.8	-29.2
From Mexico . . . . .	4.7	0.2	0.5	0.8	-3.9	-83.9
From Canada . . . . .	691.8	563.3	389.7	353.1	-338.7	-49.0
From non-NAFTA countries . . . . .	426.7	460.7	495.6	441.6	14.9	3.5
Trade balance:						
Total . . . . .	-636.8	-521.2	-261.2	-191.1	445.7	70.0
With Mexico . . . . .	7.0	21.1	7.6	9.9	2.9	-40.9
With Canada . . . . .	-474.4	-308.9	-68.5	-41.3	433.1	91.3
With non-NAFTA countries . . . . .	-169.4	-233.4	-200.4	-159.7	9.8	5.8
Total trade:						
Total . . . . .	1,609.6	1,527.0	1,510.2	1,399.8	-209.9	-13.0
NAFTA partners . . . . .	925.6	839.0	719.5	676.2	-249.4	-26.9
With Mexico . . . . .	16.4	21.4	8.6	11.4	-5.0	-30.6
With Canada . . . . .	909.2	817.6	710.9	664.8	-244.4	-26.9
Import market share (percent):						
Total . . . . .	27.3	24.4	19.7	17.0	-10.3	( <sup>2</sup> )
Mexico . . . . .	0.1	0.0	0.0	0.0	-0.1	( <sup>2</sup> )
Canada . . . . .	16.8	13.4	8.7	7.5	-9.3	( <sup>2</sup> )
Non-NAFTA countries . . . . .	10.4	11.0	11.0	9.4	-0.9	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.0	2.0	0.8	1.3	0.3	( <sup>2</sup> )
Canada . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	0.1	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
All other . . . . .	2.5	2.5	2.5	2.5	0.0	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	19.9	20.4	23.0	24.2	4.3	21.6
Production workers (1,000 persons) . . . . .	11.8	14.9	16.7	17.7	5.9	50.0
Average hourly wages of production workers . . . . .	\$10.06	10.12	10.34	10.69	0.63	6.3

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> This sector includes Standard Industrial Classification (SIC) Industry No. 3799, Transportation Equipment, Not Elsewhere Classified. This SIC industry includes all terrain vehicles (ATVs), automobile trailer chassis, midget autos, golf carts, and snowmobiles, among other vehicles.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible effect<sup>2</sup> on the decline in U.S. imports of transportation equipment from Canada and Mexico during 1993-96. This grouping consists largely of small motor vehicles with spark-ignition engine capacity under 1,000 cc, snowmobiles, and wagons and carts. U.S. consumption of these products, including U.S. imports from Canada, is largely a function of good weather conditions and consumers' discretionary income. U.S. imports from Canada declined from \$612 million in 1993 to \$140 million in 1996; the decline was largely attributable to decreased imports of motor vehicles with a spark-ignition engine under 1,000 cc. This decrease, however, was somewhat offset by a rise in imports of snowmobiles, from \$47 million in 1993 to \$197 million in 1996. During 1993-96, the snowbelt experienced favorable snow conditions, and U.S. discretionary income rose, permitting consumers to purchase snowmobiles and small motor vehicles for recreational use. In addition, a weak Canadian dollar relative to the U.S. dollar led the only Canadian snowmobile producer<sup>3</sup> to increase exports to the United States. During 1993-96, the effective ad valorem equivalent (AVE) on imports from Canada declined from 0.2 percent to 0.1, as most U.S. tariffs on sector products were reduced or eliminated under the CFTA.

During 1993-96, the value of U.S. imports from Mexico was negligible. Imports from Mexico consisted of miscellaneous carts and wagons; Mexico is not a producer of snowmobiles, golf carts, or all-terrain vehicles (ATVs).

**U.S. Exports** – NAFTA had a negligible effect on the increase in U.S. sector exports of transportation equipment to Canada and Mexico during 1993-96. The increase in U.S. exports to Canada was largely due to good weather in the snowbelt that benefited sales of snowmobiles, and new product innovations by U.S. manufacturers that increased the attractiveness of U.S. products. The decline in 1996 was partly due to the large number of snowmobile sales during the previous 3 years and the strong U.S. dollar relative to the Canadian dollar that made U.S. snowmobiles less price-competitive in Canada.<sup>4</sup> In addition, the strong U.S. dollar relative to the Japanese yen made Japanese exports of snowmobiles to Canada more price competitive with U.S. products in the Canadian market. The trend in snowmobiles, however, was partially offset by a steady increase in U.S. exports of motor vehicles with a spark-ignition engine under 1,000 cc.

The increase in U.S. exports to Mexico in 1994 consisted largely of miscellaneous motor vehicles. However, the sharp decrease in 1995 was due to the decline in the peso which depressed demand for specialty vehicles and wagons, carts, and trailers. As the Mexican economy improved, U.S. exports rebounded in 1996. Mexican tariffs on sector products ranged between 10 percent ad valorem to 20 percent ad valorem prior to NAFTA, with most tariffs being reduced over 5 to 10 years.

**Other Factors** – Total sector trade declined by \$210 million (down 13 percent) to \$1.4 billion during 1993-96. Total U.S.-Canada trade for the sector declined by \$249 million (down 27 percent) to \$676 million and U.S.-Mexico trade for the sector declined by \$5 million (up 31 percent) to \$11 million. In 1995, Arctic Cat began production of ATVs; prior to this Polaris, Kawasaki, and Honda were the principal U.S. manufacturers of ATVs.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Bombardier, Inc.(Canada) is the only Canadian producer of snowmobiles. The other major producers of snowmobiles in the world are Polaris Industries, Inc. (United States), Arctic Trak (United States), and Yamaha (Japan).

<sup>4</sup> Polaris Inc., Form 10-K, 1995, and 1997.

## ITC Group No. 60: Measuring, Analyzing, and Controlling Instruments<sup>1</sup>

**Table 6-60-1**

**Measuring, analyzing, and controlling instruments: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> ( <i>million dollars</i> ) . . . . .	31,675.0	33,439.0	34,876.0	36,854.0	5,179.0	16.4
Consumption <sup>1</sup> ( <i>million dollars</i> ) . . . . .	28,199.7	30,261.3	31,787.5	33,184.8	4,985.1	17.7
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	8,707.6	9,507.2	10,550.2	11,635.0	2,927.4	33.6
To Mexico . . . . .	935.2	1,028.0	824.9	779.9	-155.3	-16.6
To Canada . . . . .	1,429.8	1,843.5	2,008.8	2,110.2	680.4	47.6
To non-NAFTA countries . . . . .	6,342.5	6,635.7	7,716.5	8,744.9	2,402.3	37.9
Imports:						
Total . . . . .	5,232.4	6,329.5	7,461.7	7,965.8	2,733.5	52.2
From Mexico . . . . .	641.2	1,033.5	1,309.6	1,322.2	681.0	106.2
From Canada . . . . .	628.2	849.7	917.0	1,028.7	400.5	63.7
From non-NAFTA countries . . . . .	3,962.9	4,446.2	5,235.1	5,614.9	1,652.0	41.7
Trade balance:						
Total . . . . .	3,475.3	3,177.7	3,088.5	3,669.2	193.9	5.6
With Mexico . . . . .	294.1	-5.5	-484.7	-542.3	-836.3	(2)
With Canada . . . . .	801.6	993.7	1,091.8	1,081.5	279.9	34.9
With non-NAFTA countries . . . . .	2,379.6	2,189.4	2,481.4	3,130.0	750.3	31.5
Total trade:						
Total . . . . .	13,940.0	15,836.6	18,011.9	19,600.8	5,660.8	40.6
NAFTA partners . . . . .	3,634.5	4,754.7	5,060.3	5,241.0	1,606.5	44.2
With Mexico . . . . .	1,576.4	2,061.5	2,134.5	2,102.1	525.7	33.3
With Canada . . . . .	2,058.1	2,693.2	2,925.9	3,138.9	1,080.9	52.5
Import market share ( <i>percent</i> ):						
Total . . . . .	18.6	20.9	23.5	24.0	5.5	(2)
Mexico . . . . .	2.3	3.4	4.1	4.0	1.7	(2)
Canada . . . . .	2.2	2.8	2.9	3.1	0.9	(2)
Non-NAFTA countries . . . . .	14.1	14.7	16.5	16.9	2.9	(2)
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	1.5	1.4	0.4	0.5	-1.0	(2)
Canada . . . . .	0.7	0.6	0.7	0.7	0.0	(2)
All other . . . . .	4.2	4.3	3.7	3.2	-1.0	(2)
U.S. industry indicators: <sup>3</sup>						
Employees ( <i>1,000 persons</i> ) . . . . .	410.5	385.5	365.6	361.9	-48.6	-11.8
Production workers ( <i>1,000 persons</i> ) . . . . .	174.1	164.6	158.1	154.6	-19.5	-11.2
Average hourly wages of production workers . . . . .	\$13.52	13.67	13.72	14.13	0.61	4.5

<sup>1</sup> Estimated by USITC staff, based on official statistics of the U.S. Department of Commerce.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3812, Search, Detection, Navigation, Guidance, Aeronautical and Nautical Systems, and Instruments; 3822, Automatic Controls for Regulating Residential and Commercial Environments and Appliances; 3823, Industrial Instruments for Measurement, Display, and Control of Process Variables and Related Products; 3824, Totalizing Fluid Meters and Counting Devices; 3825, Instruments for Measuring and Testing of Electricity and Electrical Signals; and 3827, Optical Instruments and Lenses.

## Summary of Sector Analysis

**U.S. Imports** – Although significant growth was recorded in U.S. imports of measuring, testing, controlling, and analyzing instruments from both Mexico and Canada during 1993-96, NAFTA had a negligible impact.<sup>2</sup> U.S. imports from Mexico grew by \$681 million (106 percent) to \$1.3 billion during the 4-year period, while imports from Canada rose by \$400 million (64 percent) to \$1.0 billion. The growing availability of competitively-priced high-quality products from these countries (largely instruments for measurement, display, and control of process variables), coupled with intra-corporate trade between U.S. companies and their counterparts in Canada and Mexico, were the principal factors contributing to growth in these imports. Reductions in tariffs and nontariff barriers (NTBs) resulting from NAFTA had only a negligible effect on trade in this sector, as tariff rates were generally low and NTBs were not significant barriers to trade.

**U.S. Exports** – Although U.S. exports of measuring, testing, controlling, and analyzing instruments to Canada grew by \$680 million (48 percent) to \$2.1 billion from 1993 to 1996, U.S. exports of such products to Mexico fell by \$155 million (17 percent) to \$780 million during the period. The rise in the value of exports to Canada largely reflected an increase in demand for navigation instruments (especially satellite-related products) and industrial instruments used for measurement, display, and control of process variables. The decline in exports to Mexico primarily reflected the devaluation of the peso, which led to a decrease in demand from U.S.-owned assembly plants in Mexico for measuring instruments and parts, and components manufactured in the United States. The effects of NAFTA on U.S. exports in this sector were negligible.

**Other Factors** – Total U.S. trade from 1993 to 1996 rose \$5.7 billion (41 percent) to \$19.6 billion. Total U.S.-Mexico trade increased almost \$526 million (33 percent) to \$2.1 billion, while total U.S.-Canada trade grew almost \$1.1 billion (53 percent), reaching \$3.1 billion in 1996.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

**ITC Group No. 61: Medical Equipment<sup>1</sup>**

**Table 6-61-1**

**Medical equipment: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	34,559.0	34,276.0	34,830.0	35,350.0	791.0	2.3
Consumption (million dollars) . . . . .	31,321.9	30,629.9	30,877.1	30,482.6	-839.3	-2.7
Trade data (million dollars):						
Exports:						
Total . . . . .	6,719.1	7,279.8	8,094.4	9,367.8	2,648.7	39.4
To Mexico . . . . .	364.7	298.6	211.1	328.1	-36.7	-10.0
To Canada . . . . .	760.8	771.0	810.3	821.2	60.4	7.9
To non-NAFTA countries . . . . .	5,593.5	6,210.2	7,073.0	8,218.5	2,625.0	46.9
Imports:						
Total . . . . .	3,482.0	3,633.7	4,141.5	4,500.5	1,018.5	29.3
From Mexico . . . . .	468.6	519.1	655.4	761.1	292.5	62.4
From Canada . . . . .	120.3	122.1	148.0	154.9	34.6	28.7
From non-NAFTA countries . . . . .	2,893.1	2,992.5	3,338.1	3,584.5	691.4	23.9
Trade balance:						
Total . . . . .	3,237.1	3,646.1	3,952.9	4,867.4	1,630.3	50.4
With Mexico . . . . .	-103.8	-220.5	-444.3	-433.0	-329.2	-317.1
With Canada . . . . .	640.5	648.9	662.3	666.3	25.8	4.0
With non-NAFTA countries . . . . .	2,700.4	3,217.7	3,735.0	4,634.0	1,933.7	71.6
Total trade:						
Total . . . . .	10,201.1	10,913.5	12,235.9	13,868.3	3,667.2	35.9
NAFTA partners . . . . .	1,714.4	1,710.8	1,824.8	2,065.2	350.8	20.5
With Mexico . . . . .	833.3	817.7	866.5	1,089.2	255.9	30.7
With Canada . . . . .	881.1	893.1	958.3	976.0	94.9	10.8
Import market share (percent):						
Total . . . . .	11.1	11.9	13.4	14.8	3.6	( <sup>2</sup> )
Mexico . . . . .	1.5	1.7	2.1	2.5	1.0	( <sup>2</sup> )
Canada . . . . .	0.4	0.4	0.5	0.5	0.1	( <sup>2</sup> )
Non-NAFTA countries . . . . .	9.2	9.8	10.8	11.8	2.5	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.8	1.2	0.6	0.3	-1.5	( <sup>2</sup> )
Canada . . . . .	1.4	1.1	0.5	0.4	-1.0	( <sup>2</sup> )
All other . . . . .	4.8	4.4	3.2	2.3	-2.5	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	244.3	239.8	237.8	240.0	-4.3	-1.8
Production workers (1,000 persons) . . . . .	143.5	139.8	138.5	140.8	-2.7	-1.9
Average hourly wages of production workers . . . . .	\$10.81	11.06	11.45	11.82	1.01	9.3

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3841, Surgical and Medical Instruments and Apparatus; 3842, Orthopedic, Prosthetic, and Surgical Appliances and Supplies; and 3845, Electromedical and Electrotherapeutic Apparatus. SICs 3841 and 3842 contain a significant amount of goods that are considered textile (hospital gowns, gauze, bandages, etc.), rubber or apparel products (surgical gloves, examination gloves), and transportation devices (wheelchairs). These products are typically not classified as medical devices by the Commission. Medical equipment shipment data is significantly overstated due to the inclusion of products as noted in SIC coverage. Shipments never actually contracted, as the data suggests, but rather slowed as the growth rate simply dropped slightly from historical double digit rates.



## Summary of Sector Analysis

**U.S. Imports** – U.S. imports of medical goods from Mexico increased 62 percent (\$293 million) to \$761 million from 1993 to 1996, while U.S. imports from Canada rose 29 percent (\$35 million) to \$155 million. NAFTA had a negligible effect<sup>2</sup> on increased imports, with U.S. general tariffs already low and staging toward zero as a result of concessions in the Uruguay Round. Before NAFTA, preferential tariff treatment under production sharing provisions (particularly HTS heading 9802.00.80) encouraged the use of Mexican assembly operations by U.S. medical goods firms. The principal reason cited by industry sources for using such assembly operations is to reduce labor costs on production of commodity hospital products and other low-end medical equipment. This has enabled U.S.-based manufacturers to gain a price advantage in the increasingly price sensitive U.S. market for these commodity products, and gain market share at the expense of domestic and foreign competitors. Although the use of HTS heading 9802.00.80 is expected to decline considerably over the next several years as U.S. producers increasingly take advantage of duty-free provisions for medical goods now available under NAFTA, most importers continued to enter medical goods under HTS heading 9802.00.80 through 1996.<sup>3</sup>

**U.S. Exports** – Although U.S. exports to Mexico decreased overall by 10 percent (\$37 million) to \$328 million from 1993 to 1996, Mexico is expected to be a leading market for U.S. exports of medical goods, as well as supplier of U.S. imports, primarily because of its attractiveness as a production-sharing location for U.S. producers.<sup>4</sup> Mexico's relatively low wages, proximity to the United States, and projected growth in its own health care market provides an incentive. U.S. exports of medical goods to Mexico significantly contracted in 1995 due to the Mexican peso crisis which dampened economic activity and demand in the Mexican market.<sup>5</sup> However, U.S. exports rose sharply from 1995 to 1996, as economic conditions stabilized in Mexico. U.S. exports to Canada increased by just 8 percent (\$60 million) to \$821 million from 1993 to 1996 as measures by Canadian Provincial Governments to contain health care costs slowed growth in demand for imports. Total U.S. exports rose 39 percent (\$2.6 billion) to \$9.4 billion from 1993 to 1996.

**Other Factors** – Total U.S.-Mexico trade increased by 31 percent (\$256 million) to \$1.1 billion from 1993 to 1996. Total U.S.-Canada trade increased by 11 percent (\$95 million) to \$976 million in 1996. Total U.S. sector trade increased 36 percent (\$3.7 billion) to \$13.9 billion during the period.

The medical equipment industry has been one of the most successful U.S. sectors in terms of both sales and an increasing trade surplus.<sup>6</sup> U.S. industry shipments have shown consistent year-to-year growth during the past decade with moderate demand in U.S. and other mature markets such as the EU and Japan due to attempts to contain health care expenditures. However, there has been explosive export growth to certain

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Some U.S. companies continued to import products assembled in Mexico at reduced duties under HTS heading 9802.00.80 even after the rate of duty was reduced to free under NAFTA because of initial uncertainty by the companies regarding documentation required to qualify for duty-free treatment under NAFTA rules of origin. Other companies indicated that they continued to import goods under production-sharing provisions after duties on medical goods went to free under NAFTA on Jan. 1, 1994, because they were not aware of the elimination of tariffs under NAFTA. U.S. industry representatives, telephone interviews by USITC staff, Dec. 6-8, 1995, Aug. 26-29, 1996, and Apr. 9-10, 1997.

<sup>4</sup> Industry representatives, telephone interviews by USITC staff, Apr. 24, 1997.

<sup>5</sup> U.S. industry representatives, telephone interviews by USITC staff, Apr. 8-10, 1997.

<sup>6</sup> See explanatory footnote in table 1.

other markets, particularly to rapidly developing countries which are now just beginning to develop their health care infrastructures.<sup>7</sup> New investment in Canada has been negligible because that market is primarily served through exports.<sup>8</sup> The focus of most increased foreign investment during the period was in China and other rapidly-emerging East Asian countries.<sup>9</sup>

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<sup>7</sup> U.S. industry representatives, telephone interviews by USITC staff, Apr. 8-10, 1997.

<sup>8</sup> Ibid.

<sup>9</sup> U.S. investment analysts, telephone interviews by USITC staff, Apr. 24, 1997.

**ITC Group No. 62: Photographic Equipment and Supplies<sup>1</sup>**

**Table 6-62-1**

**Photographic equipment and supplies: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	19,686.0	20,227.0	19,143.0	18,180.0	-1,506.0	-7.7
Consumption (million dollars) . . . . .	23,176.8	24,473.1	23,797.1	22,446.2	-730.6	-3.2
Trade data (million dollars):						
Exports:						
Total . . . . .	3,634.7	3,705.0	4,081.9	4,459.2	824.5	22.7
To Mexico . . . . .	279.0	325.4	272.7	344.8	65.7	23.6
To Canada . . . . .	673.7	711.6	697.9	722.7	49.0	7.3
To non-NAFTA countries . . . . .	2,682.0	2,668.1	3,111.3	3,391.7	709.7	26.5
Imports:						
Total . . . . .	7,125.5	7,951.1	8,736.0	8,725.4	1,599.9	22.5
From Mexico . . . . .	157.1	242.1	268.2	333.1	176.0	112.0
From Canada . . . . .	318.8	315.8	309.1	314.3	-4.5	-1.4
From non-NAFTA countries . . . . .	6,649.6	7,393.3	8,158.7	8,078.0	1,428.4	21.5
Trade balance:						
Total . . . . .	-3,490.8	-4,246.1	-4,654.1	-4,266.2	-775.4	-22.2
With Mexico . . . . .	121.9	83.3	4.5	11.7	-110.2	-90.4
With Canada . . . . .	354.9	395.8	388.8	408.4	53.5	15.1
With non-NAFTA countries . . . . .	-3,967.6	-4,725.2	-5,047.4	-4,686.3	-718.7	-18.1
Total trade:						
Total . . . . .	10,760.2	11,656.1	12,817.8	13,184.6	2,424.4	22.5
NAFTA partners . . . . .	1,428.7	1,594.8	1,547.9	1,714.9	286.3	20.0
With Mexico . . . . .	436.2	567.4	540.9	677.9	241.7	55.4
With Canada . . . . .	992.5	1,027.4	1,007.0	1,037.1	44.6	4.5
Import market share (percent):						
Total . . . . .	30.7	32.5	36.7	38.9	8.1	( <sup>2</sup> )
Mexico . . . . .	0.7	1.0	1.1	1.5	0.8	( <sup>2</sup> )
Canada . . . . .	1.4	1.3	1.3	1.4	0.0	( <sup>2</sup> )
Non-NAFTA countries . . . . .	28.7	30.2	34.3	36.0	7.3	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	2.8	0.6	0.7	0.9	-1.9	( <sup>2</sup> )
Canada . . . . .	0.5	0.5	0.1	0.1	-0.4	( <sup>2</sup> )
All other . . . . .	3.9	4.0	3.2	2.9	-1.0	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	91.4	88.3	84.9	84.2	-7.2	-7.9
Production workers (1,000 persons) . . . . .	39.3	38.6	38.3	38.4	-0.9	-2.3
Average hourly wages of production workers . . . . .	\$14.66	15.00	15.37	15.78	1.12	7.6

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3861, Photographic Equipment and Supplies.

## Summary of Sector Analysis

**U.S. Imports** — The effect of NAFTA on photographic equipment and supplies imported from Mexico and Canada was negligible.<sup>2</sup> Although U.S. imports from Mexico more than doubled by \$176 million to \$333 million during 1993-96, this increase was largely the result of the Mexican peso devaluation rather than the 1.9 percentage point average reduction in tariffs brought about by NAFTA. U.S. imports of photographic equipment that were classified under HTS heading 9802.00.80 decreased by \$40 million during 1993-96 to \$7 million. Photocopiers and photocopier parts comprised 40 percent of U.S. imports of photographic equipment and supplies in 1996 and increased significantly during 1993-96. An industry representative stated that a large share of these imports come from photocopier remanufacturing operations<sup>3</sup> in Mexico and that this industry was established prior to 1993 and has been unaffected by NAFTA.<sup>4</sup> The effective U.S. tariff ad valorem equivalent (AVE) for U.S. imports of Canadian goods decreased by less than 1 percentage point during 1993-96 and, thus, has had little effect on import growth. U.S. imports of photographic equipment and supplies from Canada decreased by \$5 million during 1993-96 to \$314 million. Total U.S. imports increased by \$1.6 billion during 1993-96 to \$8.7 billion.

**U.S. Exports** — The effect of NAFTA on photographic equipment and supplies exported to Canada and Mexico was negligible. These two countries accounted for a smaller percentage of total U.S. exports of these products in 1996 (24 percent) than they did in 1993 (26 percent). U.S. exports to Mexico increased \$66 million (24 percent) during 1993-96 to \$345 million. The growth rate in exports to Mexico mirrored the 23-percent increase in total exports and accounted for less than 8 percent of U.S. total exports in both 1993 and 1996. Photocopiers and parts and unexposed photographic film were the largest U.S. export categories to Mexico as well as to the rest of the world. Under NAFTA, Mexican duties went to zero on imports of photocopying apparatus and parts, but the duties on imports of unexposed photographic film are being staged down over 10 years. U.S. exports to Canada increased by \$49 million to \$723 million from 1993 to 1996. The 7 percent growth rate for exports to Canada was less than the average growth rate to all markets and Canada accounted for 16 percent of exports of these products in 1996 compared to 18 percent in 1993. Total U.S. exports rose by \$825 million, reaching \$4.5 billion in 1996.

**Other Factors** — Total U.S.-Mexico trade in photographic equipment and supplies increased by \$242 million to \$678 million in 1996. Total U.S.-Canada trade in photographic equipment and supplies rose by \$45 million to approximately \$1 billion in 1996. Total sector trade increased by \$2.4 billion to \$13.2 billion in 1996.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Remanufacturing operations produce photocopiers that contain some used components. Since many of the photocopiers used in the United States are supplied as part of a service contract whereby the supplier maintains ownership of the photocopier, the distinction between a totally new photocopier and a remanufactured photocopier is less important than it would be if the copiers were sold outright.

<sup>4</sup> Industry representative, telephone interview by USITC staff, Mar. 18, 1997.

**ITC Group No. 63: Jewelry, Precious Metal<sup>1</sup>**

**Table 6-63-1**  
**Jewelry, precious metal: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	4,006.2	4,062.8	4,002.2	4,120.0	113.8	2.8
Consumption (million dollars) . . . . .	6,841.8	7,215.7	7,311.3	7,521.7	680.0	9.9
Trade data (million dollars):						
Exports:						
Total . . . . .	423.2	403.8	402.9	418.0	-5.3	-1.2
To Mexico . . . . .	17.7	24.1	7.3	11.5	-6.2	-35.3
To Canada . . . . .	45.0	59.1	61.9	65.5	20.5	45.7
To non-NAFTA countries . . . . .	360.6	320.6	333.7	341.0	-19.6	-5.4
Imports:						
Total . . . . .	3,258.8	3,556.7	3,712.0	3,819.7	560.9	17.2
From Mexico . . . . .	72.3	76.0	100.0	126.8	54.5	75.3
From Canada . . . . .	68.1	84.2	94.1	108.1	40.0	58.7
From non-NAFTA countries . . . . .	3,118.4	3,396.5	3,517.9	3,584.8	466.4	15.0
Trade balance:						
Total . . . . .	-2,835.6	-3,152.9	-3,309.1	-3,401.7	-566.2	-20.0
With Mexico . . . . .	-54.6	-51.9	-92.7	-115.3	-60.7	-111.1
With Canada . . . . .	-23.2	-25.1	-32.3	-42.6	-19.5	-84.0
With non-NAFTA countries . . . . .	-2,757.8	-3,075.9	-3,184.1	-3,243.8	-486.0	-17.6
Total trade:						
Total . . . . .	3,682.0	3,960.5	4,114.9	4,237.6	555.6	15.1
NAFTA partners . . . . .	203.1	243.4	263.3	311.8	108.7	53.5
With Mexico . . . . .	90.0	100.1	107.3	138.2	48.2	53.6
With Canada . . . . .	113.1	143.3	156.0	173.6	60.5	53.5
Import market share (percent):						
Total . . . . .	47.6	49.3	50.8	50.8	3.2	( <sup>2</sup> )
Mexico . . . . .	1.1	1.1	1.4	1.7	0.6	( <sup>2</sup> )
Canada . . . . .	1.0	1.2	1.3	1.4	0.4	( <sup>2</sup> )
Non-NAFTA countries . . . . .	45.6	47.1	48.1	47.7	2.1	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.1	0.2	0.2	0.1	0.0	( <sup>2</sup> )
Canada . . . . .	0.1	0.2	0.1	0.1	0.0	( <sup>2</sup> )
All other . . . . .	4.5	4.5	4.2	4.2	-0.3	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	37.8	38.0	37.3	35.9	-1.9	-5.0
Production workers (1,000 persons) . . . . .	26.8	26.4	25.6	24.3	-2.5	-9.2
Average hourly wages of production workers . . . . .	\$9.58	9.81	10.21	10.73	1.15	12.0

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3911, Jewelry, Precious Metal.

## Summary of Sector Analysis

*U.S. Imports* -- NAFTA had a negligible effect<sup>2</sup> on increased U.S. imports from its NAFTA partners. Such imports are small compared with imports from non-NAFTA sources. The largest source of jewelry imports is Italy, which accounted for \$1.3 billion, or 35 percent of total U.S. imports of precious metal jewelry in 1996, compared with only 3 percent for Mexico and Canada combined. U.S. imports of jewelry have increased in response to increased U.S. demand; economic growth and rising consumer confidence encouraged U.S. consumers to increase their discretionary spending. The relatively low price of gold and changes to the industry structure have limited price increases on precious metal jewelry.<sup>3</sup> U.S. imports from Canada rose by \$40 million from 1993 to 1996, and were principally jewelry made of gold. The vast majority of precious metal jewelry imports from Canada were free of duty prior to the implementation of the NAFTA, as the rates on these goods were eliminated under the CFTA.

U.S. imports from Mexico rose by \$54 million (75 percent) from 1993 to 1996. The increase in imports from Mexico is principally due to growth in U.S. jewelry demand stemming from the growth in real incomes and the strong U.S. economy. Although some of the increase in imports from Mexico may have been due to the elimination of most tariffs on sector products as a result of NAFTA,<sup>4</sup> another 83 percent of imports from Mexico already entered free of duty under the GSP in 1993. Ten to \$12 million entered under the production-sharing provisions of HTS chapter 98; U.S. content (duty-free) accounted for over 90 percent of the value of these imports. The increase in imports from Mexico was concentrated in jewelry, other than necklaces and neck chains, made of gold.

*U.S. Exports* -- NAFTA had a negligible effect on U.S. exports of sector products during 1993-96. U.S. exports were concentrated in jewelry articles made of gold. Canadian tariffs on the majority of U.S. exports of precious metal jewelry were phased out during the CFTA. The \$21 million increase in U.S. exports to Canada over 1993-96 was due to steady growth in the Canadian economy and increased discretionary spending by Canadian consumers in 1994.<sup>5</sup>

U.S. exports to Mexico declined by \$6 million during the period, due in large part to the peso crisis and economic downturn in 1995. The devaluation resulted in a drop in real income of Mexican consumers, thereby limiting their discretionary spending. However, exports rebounded slightly, by \$4.2 million (58 percent) to \$11.5 million in 1996. Prior to NAFTA, most Mexican tariffs ranged from 10 to 20 percent ad valorem; under NAFTA, most are being phased out over 10 years.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Consolidation of large regional and national jewelry retail chains has placed an emphasis on price competition, as has growing competition from department stores and home TV shopping networks. Further, large retailers are buying domestically or importing directly from manufacturers, thereby passing some savings on to consumers. There are also an increasing number of foreign suppliers serving the U.S. market.

<sup>4</sup> James Marquart, President, Manufacturing Jewelers and Silversmiths of America, telephone interview by USITC staff, May 6, 1997.

<sup>5</sup> Corporate downsizing in Canada amid successful efforts to increase productivity has contributed to a general sense of insecurity in much of the Canadian workforce. As a result, discretionary spending in Canada did not keep pace with economic growth in 1995 and 1996.

***Other Factors*** – U.S.-world trade in precious metal jewelry expanded by \$556 million to \$4.2 billion from 1993 to 1996. During this period, total U.S.-Canada trade in sector products rose by \$61 million to \$174 million, and total U.S.-Mexico trade rose by \$48 million to \$138 million.

There is little information available about U.S. investment in the Mexican jewelry industry as a result of NAFTA. However, several U.S. jewelry producers continue to assemble and perform other operations in maquiladoras in Mexico in order to reduce production costs.<sup>6</sup>

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<sup>6</sup> For example, see U.S. Customs Service Ruling Letter HQ 955807, May 2, 1994.

## ITC Group No. 64: Games, Toys, and Children's Vehicles<sup>1</sup>

**Table 6-64-1**

**Games, toys, and children's vehicles: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	3,955.0	3,880.0	4,257.0	4,385.0	430.0	10.9
Consumption (million dollars) . . . . .	9,089.8	8,363.0	8,953.3	10,003.4	913.6	10.1
Trade data (million dollars):						
Exports:						
Total . . . . .	650.7	753.8	782.5	763.8	113.1	17.4
To Mexico . . . . .	100.3	132.8	64.4	67.7	-32.7	-32.5
To Canada . . . . .	183.9	212.7	214.0	211.1	27.2	14.8
To non-NAFTA countries . . . . .	366.5	408.2	504.2	485.1	118.6	32.4
Imports:						
Total . . . . .	5,785.5	5,236.8	5,478.8	6,382.3	596.8	10.3
From Mexico . . . . .	210.2	309.6	428.4	439.9	229.8	109.3
From Canada . . . . .	65.6	90.8	139.3	148.2	82.7	126.0
From non-NAFTA countries . . . . .	5,509.8	4,836.4	4,911.1	5,794.1	284.3	5.2
Trade balance:						
Total . . . . .	-5,134.8	-4,483.0	-4,696.3	-5,618.4	-483.6	-9.4
With Mexico . . . . .	-109.8	-176.8	-364.1	-372.3	-262.4	-238.9
With Canada . . . . .	118.3	121.9	74.7	62.9	-55.5	-46.9
With non-NAFTA countries . . . . .	-5,143.3	-4,428.2	-4,406.9	-5,309.0	-165.7	-3.2
Total trade:						
Total . . . . .	6,436.2	5,990.6	6,261.4	7,146.1	709.9	11.0
NAFTA partners . . . . .	560.0	746.0	846.1	867.0	307.0	54.8
With Mexico . . . . .	310.5	442.5	492.8	507.6	197.1	63.5
With Canada . . . . .	249.5	303.5	353.3	359.3	109.9	44.0
Import market share (percent):						
Total . . . . .	63.6	62.6	61.2	63.8	0.2	(2)
Mexico . . . . .	2.3	3.7	4.8	4.4	2.1	(2)
Canada . . . . .	0.7	1.1	1.6	1.5	0.8	(2)
Non-NAFTA countries . . . . .	60.6	57.8	54.9	57.9	-2.7	(4)
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.3	1.1	0.0	0.0	-1.3	(2)
Canada . . . . .	2.9	2.3	(3)	(3)	-2.9	(2)
All other . . . . .	4.7	4.8	0.1	0.1	-4.6	(2)
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	43.3	43.0	41.7	40.9	-2.4	-5.5
Production workers (1,000 persons) . . . . .	30.1	28.8	27.9	27.3	-2.8	-9.3
Average hourly wages of production workers . . . . .	\$8.51	8.85	9.16	9.29	0.78	9.2

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry Nos. 3944, Games, Toys, and Children's Vehicles, Except Dolls and Bicycles. This sector encompasses the majority of mechanical and nonmechanical toys and games for both adults and children, such as: toy and hobby models; baby carriages, strollers and walkers; toy dishes; toy instruments; electronic and other board games; toy blocks and erector sets; puzzles; marbles; toy trains; tricycles; video game machines (not coin-operated); and kites. Stuffed toys are not included in this SIC group.



## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible impact<sup>2</sup> on the toy industry, and was not the main reason for the increase in U.S. imports from both Mexico and Canada. Imports from NAFTA partners expanded rapidly from 1993 to 1996, principally because of the strong U.S. economy during the period that enabled consumers to spend more of their discretionary income on items such as toys. From 1993 to 1996, U.S. imports of toys from Mexico and Canada rose by \$230 million (110 percent) and \$83 million (126 percent), respectively. Although U.S. trade with each of its NAFTA partners grew faster than total trade in the toys and games sector from 1993 to 1996, imports from Mexico accounted for just 7 percent of total U.S. sector imports in 1996, whereas Canada accounted for only 2 percent. Despite strong growth in imports from Mexico and Canada following the implementation of NAFTA,<sup>3</sup> imports from these partners were dwarfed by the imports of toys from China and video games from Japan. Together, these two Asian sources accounted for 88 percent of total U.S. imports in the toys and games sector in 1996. Most sector imports from Mexico are products assembled in the maquiladora industry from U.S. components by U.S. toy companies who have found that, for a limited number of products, it is cheaper to assemble in Mexico than to contract out production to China or Southeast Asia.<sup>4</sup> Most imports from Canada are games or puzzles that are protected from direct competition by copyrights.

Industry sources have confirmed that NAFTA has had a negligible impact on their sourcing patterns, but that Chinese factories have reacted to the possible loss of business by modernizing plants to become more competitive.<sup>5</sup> NAFTA has not significantly shifted sector trade patterns because most sector imports from Mexico already entered the United States free of duty under the GSP, and most imports from Canada were either free of duty under the CFTA by January 1, 1994, or became free of duty on January 1, 1995 in accordance with U.S. commitments made in the Uruguay Round.

**U.S. Exports** – The 33-percent decrease in U.S. exports to Mexico (from \$100 million to \$68 million) was due to the devaluation of the Mexican peso that reduced the ability of Mexicans to purchase luxury goods such as toys. U.S. exports to Canada, mainly of construction sets; cartridges, and parts and accessories for video games; and copyrighted board games, have been relatively flat.

**Other Factors** – While U.S.-Mexico trade in toys and games rose by 64 percent (\$197 million) in 1996, to \$508 million, and trade with Canada increased by 44 percent (\$110 million), to \$359 million, total sector trade grew by 11 percent (\$710 million), to \$7.1 billion.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Toys with spring mechanisms, video game parts and consoles, toys in sets, toy balls, children's picture books, and other wheeled vehicles made up most of the increase in U.S. imports of toys and games from Mexico; while assembly kits, toys in sets, and three-dimensional puzzles were responsible for much of the growth in imports from Canada.

<sup>4</sup> The majority of companies that assemble toys in Mexico also have plants in China; and labor costs in post-devaluation Mexico were still higher than in China. Mexico's proximity to the United States has also not prompted a notable shift from suppliers in China because toys are generally compact, durable, and very easy to transport. In 1995, U.S. imports of games and toys under the production-sharing provisions of HTS 9802 from Mexico totaled \$80 million, an increase of \$40 million (98 percent) since 1993. Remaining U.S. production of toys, games, and children's vehicles consisted of large items that are too costly to transport or items that can be produced in highly-automated processes, such as board games and jigsaw puzzles.

<sup>5</sup> Industry representatives from major U.S. toy companies, telephone interviews by USITC staff, Feb. 24 and 26, and Mar. 10 and 11, 1997.

According to an industry source, at least one U.S. company has opened an additional toy assembly facility in Mexico; however, the reason given was that the Mexican government permits their Mexican-affiliate company to import some toy components free of duty from China for further assembly in Mexico.<sup>6</sup> Most other Mexican imports of toys from China are subject to relatively high duties. Investment in the United States has been declining slightly throughout the toy industry as a whole, as U.S. manufacturers continue to move the production of compact, durable and less technology-intensive toys to countries with cheaper labor costs, while maintaining some domestic production to take advantage of technological expertise, lower shipping costs, and faster delivery times.

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<sup>6</sup> Ibid.

**ITC Group No. 65: Sporting Goods<sup>1</sup>**

**Table 6-65-1**  
**Sporting goods: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	7,285.0	7,542.0	8,596.0	9,370.0	2,085.0	28.6
Consumption (million dollars) . . . . .	8,355.0	8,966.5	9,878.0	10,586.0	2,231.0	26.7
Trade data (million dollars):						
Exports:						
Total . . . . .	1,517.6	1,764.5	2,188.8	2,335.7	818.0	53.9
To Mexico . . . . .	84.2	119.1	106.1	159.2	75.0	89.0
To Canada . . . . .	246.3	293.1	344.2	327.8	81.5	33.1
To non-NAFTA countries . . . . .	1,187.1	1,352.3	1,738.6	1,848.7	661.6	55.7
Imports:						
Total . . . . .	2,587.7	3,189.0	3,470.8	3,551.7	964.0	37.3
From Mexico . . . . .	122.8	140.6	162.3	260.4	137.6	112.1
From Canada . . . . .	189.0	260.6	308.2	312.6	123.6	65.4
From non-NAFTA countries . . . . .	2,275.9	2,787.8	3,000.3	2,978.7	702.8	30.9
Trade balance:						
Total . . . . .	-1,070.0	-1,424.5	-1,282.0	-1,216.0	-146.0	-13.6
With Mexico . . . . .	-38.6	-21.6	-56.2	-101.3	-62.7	-162.5
With Canada . . . . .	57.3	32.5	35.9	15.3	-42.1	-73.4
With non-NAFTA countries . . . . .	-1,088.8	-1,435.4	-1,261.7	-1,130.0	-41.2	-3.8
Total trade:						
Total . . . . .	4,105.3	4,953.5	5,659.6	5,887.4	1,782.1	43.4
NAFTA partners . . . . .	642.3	813.4	920.8	1,060.0	417.7	65.0
With Mexico . . . . .	207.0	259.7	268.4	419.6	212.6	102.7
With Canada . . . . .	435.2	553.7	652.4	640.4	205.1	47.1
Import market share (percent):						
Total . . . . .	31.0	35.6	35.1	33.6	2.6	( <sup>2</sup> )
Mexico . . . . .	1.5	1.6	1.6	2.5	1.0	( <sup>2</sup> )
Canada . . . . .	2.3	2.9	3.1	3.0	0.7	( <sup>2</sup> )
Non-NAFTA countries . . . . .	27.2	31.1	30.4	28.1	0.9	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	1.2	0.2	0.1	0.1	-1.1	( <sup>2</sup> )
Canada . . . . .	1.4	0.9	0.6	0.6	-0.8	( <sup>2</sup> )
All other . . . . .	3.8	3.6	3.3	3.4	-0.4	( <sup>2</sup> )
U.S. industry indicators: <sup>3</sup>						
Employees (1,000 persons) . . . . .	67.6	72.4	76.4	74.5	6.9	10.2
Production workers (1,000 persons) . . . . .	49.5	53.3	56.2	53.9	4.4	8.9
Average hourly wages of production workers . . . . .	\$8.98	9.24	9.63	10.09	1.11	12.4

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3949, Sporting and Athletic Goods, Not Elsewhere Classified.

## Summary of Sector Analysis

**U.S. Imports** – The effect of NAFTA on increased U.S. imports of sporting goods equipment from Mexico and Canada was negligible.<sup>2</sup> Despite rapid growth in North American trade in sporting goods since the implementation of NAFTA, imports from Canada and Mexico accounted for just 9 percent and 7 percent of total imports in 1996, respectively. Imports from the NAFTA partners were surpassed by imports from Asia, especially China (28 percent of total imports) and Taiwan (21 percent of the total). U.S. imports increased from Mexico and Canada from 1993 to 1996 as a result of several factors, including rising demand for certain types of competitively-priced niche sporting goods articles, a stable U.S. economy, and elevated discretionary incomes in the United States. The combination of these factors enabled U.S. producers to increase assembly output in Mexico and Canada. Golf equipment led the U.S. import growth from Mexico, while U.S. imports from Canada were more evenly distributed between product lines, such as above-ground swimming pools, snow skis, in-line roller skates (also known as roller blades), certain gymnasium and exercise equipment, and ice hockey equipment.

From 1993 to 1996, the effective U.S. tariffs on goods imported from Mexico and Canada decreased by approximately 1 percentage point each. As a result, tariff reductions under NAFTA did not constitute an important factor in leading to increased importation of sporting goods from either partner country. Golf club heads accounted for three-quarters (\$189 million) of total U.S. imports of sporting goods from Mexico in 1996. Such imports more than doubled during 1993-96, rising by \$104 million, or 79 percent of the total increase in U.S. imports of sporting goods from Mexico during the period. The growth in imports of golf club heads from Mexico coincided with NAFTA, but was not a result of the agreement. Rather, it reflected (1) consolidation in the golf club assembly industry in the United States, which resulted from increased price competition and which put pressure on U.S. parts suppliers to reduce costs; (2) rising labor costs in Taiwan; and (3) lower labor costs in Mexico following the December 1994 devaluation of the peso. The casting and finishing of golf club heads is quite labor intensive. Much of the U.S. production of golf club heads was contracted out to producers in Taiwan by U.S. golf club assemblers in the 1970s. As labor costs rose in Taiwan, some of the production shifted to China. The U.S. golf club industry is increasingly performing processing and finishing in Mexico as an alternative to importing heads from Taiwan and China. Golf clubs and parts were eligible for duty-free entry into the United States from Mexico under the GSP prior to 1994, so tariff treatment for golf club heads from Mexico did not change after the implementation of NAFTA.

**U.S. Exports** – NAFTA had a negligible effect on the 54-percent increase in U.S. exports of sporting goods to NAFTA partner countries from 1993 to 1996. While exports to Canada grew by 33 percent during the period, the rate of growth in exports to non-NAFTA countries was almost twice as fast (56 percent). Most of the expansion in exports of sporting goods to Canada was accounted for by gymnasium and exercise equipment (\$24 million) and golf clubs (\$19 million). Almost all of the 89-percent growth in exports of sporting goods to Mexico was accounted for by a \$69 million rise in the shipment of golf club heads to the maquiladora industry for processing and finishing operations and return to the United States.

**Other Factors** – U.S. bilateral trade in sporting goods has increased more rapidly with NAFTA partners since the agreement's implementation than has total sector trade. From 1993 to 1996, U.S. trade in sporting goods with Mexico more than doubled, from \$207 million to \$420 million, and trade with Canada rose by 47 percent (\$205 million) to \$640 million. Total sector trade, meanwhile, grew by 43 percent (\$1.8 billion) to \$5.9 billion.

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

Reduced labor costs in Mexico following the devaluation of the peso spurred investment in the maquiladora industry. Although a sporting goods industry survey suggests that NAFTA may have influenced manufacturing growth in Mexico,<sup>3</sup> further contacts with industry sources revealed that it is difficult to establish a direct link between added manufacturing presence in Mexico and NAFTA's trade liberalization benefits.<sup>4</sup>

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<sup>3</sup> In a survey of manufacturers completed by the Sporting Goods Manufacturers Association by year-end 1995, 40 percent of the respondents stated that NAFTA most likely has resulted in more offshore manufacturing activity (in Mexico). The survey also showed that 23 percent of respondents believed that NAFTA may have encouraged more manufacturing activity in the United States as well. However, 37 percent noted that NAFTA had no measurable impact on other investment in North America.

<sup>4</sup> Officials of Callaway Golf, Coastcast Corp., and Prince Sports Group Inc., telephone interviews by USITC staff, Apr. 27-28, 1997.

ITC Group No. 66: Miscellaneous Industries, N.E.C.<sup>1</sup>

Table 6-66-1

Miscellaneous industries, n.e.c.: Selected U.S. sector data, 1993-96

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments <sup>1</sup> (million dollars) . . . . .	5,547.9	5,599.1	6,037.9	7,547.0	1,999.1	36.0
Consumption (million dollars) . . . . .	7,075.5	7,337.7	8,079.1	9,512.8	2,437.3	34.4
Trade data (million dollars):						
Exports:						
Total . . . . .	890.1	911.3	967.9	1,057.0	166.9	18.8
To Mexico . . . . .	84.5	69.3	48.1	48.8	-35.7	-42.2
To Canada . . . . .	172.3	196.0	164.6	233.2	60.9	35.3
To non-NAFTA countries . . . . .	633.3	646.0	755.2	775.0	141.7	22.4
Imports:						
Total . . . . .	2,417.7	2,649.9	3,009.1	3,022.8	605.1	25.0
From Mexico . . . . .	46.8	48.2	57.2	60.1	13.3	28.4
From Canada . . . . .	45.6	66.8	63.3	104.1	58.5	128.1
From non-NAFTA countries . . . . .	2,325.3	2,534.9	2,888.6	2,858.6	533.3	22.9
Trade balance:						
Total . . . . .	-1,527.6	-1,738.6	-2,041.2	-1,965.8	-438.2	-28.7
With Mexico . . . . .	37.7	21.1	-9.1	-11.3	-49.0	( <sup>2</sup> )
With Canada . . . . .	126.7	129.2	101.3	129.1	2.4	1.9
With non-NAFTA countries . . . . .	-1,692.0	-1,888.9	-2,133.4	-2,083.6	-391.6	-23.1
Total trade:						
Total . . . . .	3,307.8	3,561.2	3,977.0	4,079.8	772.0	23.3
NAFTA partners . . . . .	349.2	380.3	333.2	446.2	97.0	27.8
With Mexico . . . . .	131.3	117.5	105.3	108.9	-22.4	-17.1
With Canada . . . . .	217.9	262.8	227.9	337.3	119.4	54.8
Import market share (percent):						
Total . . . . .	34.2	36.1	37.2	31.8	-2.4	( <sup>2</sup> )
Mexico . . . . .	0.7	0.7	0.7	0.6	0.0	( <sup>2</sup> )
Canada . . . . .	0.6	0.9	0.8	1.1	0.4	( <sup>2</sup> )
Non-NAFTA countries . . . . .	32.9	34.5	35.8	30.1	-2.8	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) (percent):						
Mexico . . . . .	0.5	0.3	( <sup>3</sup> )	( <sup>3</sup> )	-0.5	( <sup>2</sup> )
Canada . . . . .	1.0	0.8	0.3	0.1	-0.9	( <sup>2</sup> )
All other . . . . .	5.5	5.6	3.4	3.1	-2.4	( <sup>2</sup> )
U.S. industry indicators: <sup>4</sup>						
Employees (1,000 persons) . . . . .	81.6	83.8	82.7	81.8	0.2	0.2
Production workers (1,000 persons) . . . . .	43.6	46.1	45.5	45.8	2.2	5.0
Average hourly wages of production workers . . . . .	9.76	10.07	10.18	10.50	0.74	7.6

<sup>1</sup> Shipments data for 1996 estimated by USITC staff. Thus, the 1996 calculated consumption figure, as well as percentage changes in both shipments and consumption, is an estimate.

<sup>2</sup> Not meaningful for purposes of comparison.

<sup>3</sup> Less than 0.05 percent.

<sup>4</sup> Compiled from official statistics of the U.S. Bureau of Labor Statistics; 1996 refers to Jan.-Oct. 1996 data.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

<sup>1</sup> Standard Industrial Classification (SIC) Industry No. 3999, Manufacturing Industries, N.E.C. Products classified in SIC 3999 include a diverse range of products, for example, candles, beaded novelties, wigs, Christmas decorations and artificial Christmas trees, artificial flowers, umbrellas, wind chimes, puppets, hair grooming articles, coin-operated video games and pinball machines, slot machines, matches, pipes, and lamp shades.

## Summary of Sector Analysis

**U.S. Imports** – NAFTA had a negligible effect<sup>2</sup> on the increase in U.S. imports from NAFTA partners in this sector. U.S. imports from Canada rose by 128 percent (\$58 million), to \$104 million in 1996, while imports from Mexico grew by only 28 percent (\$13 million) to \$60 million. In contrast, imports from China rose by 49 percent, and accounted for almost 50 percent of sector imports in 1993 and for 59 percent in 1996. Imports from the NAFTA partners accounted for just 5 percent of total U.S. imports of sector products in 1996.

The increase in U.S. import trade with NAFTA partners is largely due to increased consumer demand for scented, colored candles over the last 3 years.<sup>3</sup> Increased U.S. imports of candles from Canada, which rose from \$923,000 in 1993 to \$40.6 million in 1996, reflect increased demand for scented candles, as well as heavier marketing of candles as gifts by department stores, mass merchandisers, and other large retailers. The U.S. tariff on candles from Canada was free prior to NAFTA. The remainder of the increase in U.S. sector imports was spread across a wide variety of products, including tailors dummies and mannequins, fire extinguishers and parts, video games for arcades, Christmas figures, and artificial Christmas trees. The effective U.S. ad valorem equivalent (AVE) on imports from Canada fell from one percent in 1993 to 0.14 percent ad valorem in 1996.

The increase in U.S. sector imports from Mexico was largely due to sustained consumer demand for candles and artificial Christmas trees, as well as Christmas decorations. U.S. imports of candles from Mexico rose from \$2.5 million in 1993 to \$15.8 million in 1996. The U.S. tariff of 5.8 percent ad valorem on eligible candles of Mexican origin was eliminated under NAFTA; this, along with the devaluation of the peso, facilitated imports of candles from Mexico.<sup>4</sup> The effective U.S. AVE on imports from Mexico fell from 0.5 percent in 1993 to almost free in 1996.

**U.S. Exports** – Trade in this sector was dominated by U.S. exports to Canada, which rose by 35 percent (\$61 million) to \$233 million. Canada was the largest single U.S. export market from 1993 to 1996. Most (86 percent) of the increase in U.S. exports of miscellaneous manufactures to Canada during this period occurred in exports of certain arcade games, and candles and tapers. Canadian tariffs on U.S. exports of these articles were free prior to NAFTA. The decrease in U.S. exports to Mexico was due to a large reduction in U.S. exports of beads, bangles, and associated products, other than handbags, that began in 1993, prior to NAFTA. Overall, U.S. exports in this sector appear to be affected by weaker Mexican domestic demand due to the devaluation of the peso.

**Other Factors** – Total sector trade grew by 23 percent (\$772 million) from 1993 to 1996, to \$4.1 billion in 1996. Total U.S.-Canada trade for the sector grew by 55 percent (\$119 million) to \$337 million, whereas total U.S.-Mexico trade fell by 17 percent (\$22 million) to \$109 million from 1993 to 1996. U.S. imports from Mexico under HTS chapter 98 production sharing provisions totaled \$8.2 million in 1996, or about 14

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<sup>2</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>3</sup> Blyth Industries, Inc., 10-K Report, 1996.

<sup>4</sup> Representative of Endar Corp., telephone interview with USITC staff, Apr. 17, 1997.

percent of total sector imports, with U.S. content comprising 57 percent of the production sharing imports. U.S. imports from Mexico in 1993 under the production sharing provisions of HTS Chapter 98 also accounted for 14 percent of total sector imports, with the U.S. content comprising 70 percent. Imports from these production sharing operations occurred in a variety of products, including candles, hair-nets, Christmas nativity figures, and hand sieves.



**ITC Group No. 67: Waste and Scrap<sup>1</sup>**

**Table 6-67-1**  
**Waste and scrap: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Consumption ( <i>million dollars</i> ) . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	3,440.8	4,285.6	6,232.5	4,655.3	1,214.5	35.3
To Mexico . . . . .	186.3	261.0	387.8	316.7	130.4	70.0
To Canada . . . . .	897.1	1,058.4	1,413.8	1,069.5	172.5	19.2
To non-NAFTA countries . . . . .	2,357.5	2,966.2	4,430.9	3,269.2	911.7	38.7
Imports:						
Total . . . . .	1,110.2	1,437.3	1,933.9	1,769.8	659.6	59.4
From Mexico . . . . .	147.8	215.9	377.6	282.9	135.2	91.5
From Canada . . . . .	551.9	703.4	931.7	823.7	271.8	49.2
From non-NAFTA countries . . . . .	410.5	517.9	624.6	663.2	252.7	61.6
Trade balance:						
Total . . . . .	2,330.6	2,848.3	4,298.6	2,885.5	554.9	23.8
With Mexico . . . . .	38.5	45.0	10.2	33.7	-4.8	-12.4
With Canada . . . . .	345.1	355.0	482.1	245.8	-99.3	-28.8
With non-NAFTA countries . . . . .	1,947.0	2,448.3	3,806.3	2,606.0	659.0	33.8
Total trade:						
Total . . . . .	4,551.0	5,722.9	8,166.4	6,425.2	1,874.2	41.2
NAFTA partners . . . . .	1,783.0	2,238.7	3,110.9	2,492.8	709.8	39.8
With Mexico . . . . .	334.0	476.9	765.4	599.6	265.6	79.5
With Canada . . . . .	1,449.0	1,761.8	2,345.5	1,893.3	444.2	30.7
Import market share ( <i>percent</i> ):						
Total . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Mexico . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Canada . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Non-NAFTA countries . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
Canada . . . . .	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>2</sup> )
All other . . . . .	0.1	0.1	0.1	0.1	0.0	( <sup>2</sup> )
U.S. industry indicators:						
Employees ( <i>1,000 persons</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Production workers ( <i>1,000 persons</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Average hourly wages of production workers . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Not applicable because such statistics on scrap and waste are not collected.

<sup>2</sup> Not applicable.

<sup>3</sup> Less than 0.05 percent.

Source: Compiled from official statistics of the U.S. Department of Commerce.

<sup>1</sup> No Standard Industrial Classifications (SIC) Industry No. exists for scrap and waste articles. However, the U.S. Bureau of the Census has categorized the products under a 4-digit number, 9100, in its concordance of 4-digit SIC industries and HTS merchandise trade classifications. The products covered herein include waste and scrap principally from the textile and apparel industries and metals industries.

## Summary of Sector Analysis<sup>2</sup>

**U.S. Imports** —NAFTA had a negligible effect<sup>3</sup> on increased U.S. imports from its NAFTA partners. The vast majority of imports of the products in this sector entered free of duty before NAFTA. The trade-weighted ad valorem equivalent tariff rates for U.S. imports from Canada and Mexico were less than 0.01 percent during 1993-96, mostly accounted for by imports of certain precious metal scrap.<sup>4</sup> Much of the change in the value of trade flows has been caused by variations in prices.<sup>5</sup> Total U.S. imports of waste and scrap increased nearly \$660 million (60 percent) to \$1.8 billion. Imports from Mexico and Canada increased by \$135 million (92 percent) to \$283 million and by \$272 million (49 percent) to \$824 million during 1993-96, respectively. A relatively strong U.S. economy was the main factor driving imports of waste and scrap, which are recycled as low-cost raw material inputs into the industries producing such goods as steel, aluminum, or copper; these three waste products together accounted for a majority of the trade in this sector. Also, additional steel melting capacity, utilizing steel scrap as its input, came on line in the United States. Several additional factors contributed to the increase in imports from Mexico. The peso devaluation in late 1994 resulted in depressed demand in Mexico for goods produced by major waste-consuming sectors of steel, copper, and aluminum. This made additional supplies of scrap available while offering Mexican exporters greater returns in peso terms.

**U.S. Exports** —NAFTA had a negligible effect on increased U.S. exports of sector products because shipments from the United States into Canada and Mexico were subject to very small or zero tariffs prior to NAFTA. Again, much of the change in trade flows has been caused by price variations. Total U.S. exports increased by \$1.2 billion (35 percent) to \$4.7 billion during 1993-96. U.S. exports to Mexico and Canada increased by \$130 million (70 percent) to \$317 million and by \$172 million (19 percent) to \$1.1 billion, respectively. U.S. exports of paper waste and steel scrap account for the bulk of U.S. exports of sector products to Mexico, while U.S. exports of these two products plus precious metals scrap and copper scrap account for the majority of U.S. exports to Canada.

**Other Factors** —U.S. trade in scrap and waste grew by \$1.9 billion (41 percent) to \$6.4 billion during 1993-96. Total U.S.-Canada trade in sector products grew by \$444 million (31 percent) to \$1.9 billion, while U.S.-Mexico trade in sector products increased by \$266 million (80 percent) to \$600 million during this same period.

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<sup>2</sup> The U.S. industries that benefit from trade in scrap and waste are distribution and service industries, principally covered by SIC 5093, Scrap and Waste Materials (firms primarily engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste materials).

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

<sup>4</sup> Ad valorem equivalent tariff rates compiled from official statistics of the U.S. Department of Commerce.

<sup>5</sup> Scrap prices are correlated with the prices of the primary products for which they are used as inputs. The prices of copper, aluminum, and steel increased by 18 percent, 31 percent, and 7 percent during 1993-96, respectively.

**ITC Group No. 68: Miscellaneous Trade<sup>1</sup>**

**Table 6-68-1**  
**Miscellaneous trade: Selected U.S. sector data, 1993-96**

Item	1993	1994	1995	1996	Absolute change 1993-1996	Percentage change 1993-1996
Shipments ( <i>million dollars</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Consumption ( <i>million dollars</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Trade data ( <i>million dollars</i> ):						
Exports:						
Total . . . . .	14,466.7	15,724.7	16,647.4	18,346.4	3,879.7	26.8
To Mexico . . . . .	1,722.8	2,082.6	1,901.0	2,242.1	519.3	30.1
To Canada . . . . .	2,654.1	2,522.5	2,626.7	3,285.4	631.4	23.8
To non-NAFTA countries . . . . .	10,089.8	11,119.5	12,119.7	12,818.9	2,729.0	27.0
Imports:						
Total . . . . .	18,772.6	21,979.7	24,268.2	27,236.2	8,463.6	45.1
From Mexico . . . . .	1,689.2	1,955.8	2,519.1	2,773.3	1,084.1	64.2
From Canada . . . . .	6,123.3	7,679.5	8,304.8	9,003.5	2,880.2	47.0
From non-NAFTA countries . . . . .	10,960.1	12,344.4	13,444.4	15,459.4	4,499.3	41.1
Trade balance:						
Total . . . . .	-4,305.9	-6,255.0	-7,620.9	-8,889.8	-4,583.9	-106.5
With Mexico . . . . .	33.6	126.8	-618.1	-531.2	-564.8	( <sup>3</sup> )
With Canada . . . . .	-3,469.2	-5,157.0	-5,678.1	-5,718.1	-2,248.8	-64.8
With non-NAFTA countries . . . . .	-870.3	-1,224.8	-1,324.7	-2,640.5	-1,770.3	-203.4
Total trade:						
Total . . . . .	33,239.3	37,704.4	40,915.6	45,582.5	12,343.3	37.1
NAFTA partners . . . . .	12,189.3	14,240.5	15,351.6	17,304.3	5,114.9	42.0
With Mexico . . . . .	3,412.0	4,038.5	4,420.1	5,015.3	1,603.4	47.0
With Canada . . . . .	8,777.4	10,202.0	10,931.4	12,288.9	3,511.5	40.0
Import market share ( <i>percent</i> ):						
Total . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Mexico . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Canada . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Non-NAFTA countries . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Effective U.S. tariff ad valorem equivalent (AVE) ( <i>percent</i> ):						
Mexico . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>2</sup> )
Canada . . . . .	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>2</sup> )
All other . . . . .	0.1	0.1	0.1	0.1	0.0	( <sup>2</sup> )
U.S. industry indicators:						
Employees ( <i>1,000 persons</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Production workers ( <i>1,000 persons</i> ) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Average hourly wages of production workers . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Not applicable because such statistics on scrap and waste are not collected.

<sup>2</sup> Not applicable.

<sup>3</sup> Not meaningful for purposes of comparison.

<sup>4</sup> Less than 0.05 percent.

Source: Compiled from official statistics of the U.S. Department of Commerce.

<sup>1</sup> No Standard Industrial Classifications (SIC) Industry No. exists for these products. However, the U.S. Bureau of the Census has categorized these products under three 4-digit numbers ("9800," "9900," and "3XXX") in its concordance of 4-digit SIC industries and HTS merchandise trade classifications. The products within SIC 9800 are found in HTS heading 9801, imports of goods returned after having been exported, without having been advanced in value or improved in condition by any process of manufacture or other means while abroad, and under HTS subheadings 9802.00.40 and 9802.00.50, imports of articles exported for repairs or alterations. SIC 9900 includes primarily electricity, motion pictures, videos, certain other recorded magnetic media, the value of repairs or alterations of previously imported articles, and imports under HTS subheading 9817.00.50, which provides for duty-free treatment of machinery, equipment, and implements to be used for agricultural or horticultural purposes, provided that the importer supplies a valid end-use certificate that is accepted by the U.S. Customs Service. SIC 3XXX includes primarily a Census estimate of U.S. exports of low-value shipments other than to Canada.

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## Summary of Sector Analysis<sup>2</sup>

This sector grouping covers a wide variety of products that are traded but for which no corresponding 4-digit SIC industry classification exists. In addition, for many of the products covered herein, no specific 4-digit SIC can be identified since many of the trade classifications are not product-specific but are more activity or end-use oriented, such as for agricultural use or for use by the U.S. Government. Overall, sector products cover a significant amount of U.S. trade with NAFTA partners. In 1996, U.S. imports of sector products from Mexico accounted for almost 4 percent of total U.S. imports from Mexico, and almost 3 percent of U.S. exports to Mexico. Likewise, U.S. imports of sector products accounted for almost 6 percent of total U.S. imports from Canada, and 3 percent of U.S. exports to Canada.

*U.S. Imports* –NAFTA had a negligible effect<sup>3</sup> on the increase in U.S. imports from Canada and Mexico during 1993-96. Because of the large volume of trade covered and the diversity of products covered herein, trade trends cannot be easily identified. In 1996, U.S. imports from Canada of electricity totaled \$902 million; machinery, equipment, and implements certified for agricultural or horticultural use totaled \$75 million; and discs for laser reading systems and videos totaled \$64 million. Other identifiable products included motion picture film, exposed or developed; feathers used for stuffing down; and architectural, engineering, or industrial plans. U.S. imports of electricity rose from \$662 million to \$960 million in 1994 due to extremely cold weather in the Eastern United States and changing conditions affecting the generation of hydroelectric electricity, before falling to \$902 million in 1996. Electricity imports enter free of duty into the United States. Canada historically has been the major U.S. trading partner in electricity because of the existence of interconnecting transmission systems along the U.S.-Canada border.

In 1996, U.S. imports from Mexico of machinery, equipment, and implements certified for agricultural or horticultural use totaled \$45 million and video tapes were valued at \$14 million. U.S. tariffs on imports of videos from Mexico were reduced under NAFTA, and imports of these products rose from \$8 million to \$14 million during 1993-96.

From 1993 to 1996, U.S. imports of the value of goods returned (SIC 9800) from Canada rose from \$4.3 billion to \$6.3 billion, and imports from Mexico rose from \$1.3 billion to \$2.2 billion. Within SIC 9800, in 1996, approximately \$500 million of U.S. imports from Canada of the value of goods returned were articles that had been previously exported to Canada for repair outside of a warranty; U.S. imports from Mexico of similar articles totaled \$166 million.

The remainder of U.S. imports from Canada and Mexico in this sector grouping were Census estimates of low-value shipments. During 1993-96, imports of low-value shipments from Canada rose from \$1.9 billion to almost \$2.7 billion, and imports from Mexico rose from \$359 million to \$498 million.

U.S. tariffs under most of these tariff provisions were free on an MFN basis prior to NAFTA.

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<sup>2</sup> The U.S. industries that benefit from trade in miscellaneous trade are suppliers of electricity, including utilities, maintenance and repair operations of manufacturers or service providers, (such as airlines that have machinery repaired overseas), and producers and distributors of recorded movies, videos, and magnetic media. In addition, much of the miscellaneous trade affects cross-border retail trade, and customer service operations of large companies that accept returns of their products for whatever reason.

<sup>3</sup> The change in specified performance indicators from 1993 to 1996 is due primarily to economic factors or industry developments occurring during the period other than NAFTA. Any NAFTA impact on performance indicators is insignificant or a minor influence.

*U.S. Exports* – NAFTA had a negligible effect on the increase in U.S. exports to Canada and Mexico during 1993-96. In 1996, the major identifiable U.S. exports of sector products to Canada were the value of repairs or alterations, video tapes and other tape recordings, and electricity. U.S. exports of the value of repairs or alterations rose from \$183 million to \$204 million, before falling to \$184 million in 1996. Exports of repair services are tied to Canadian use of U.S.-built aircraft, aircraft engines, and other U.S.-built capital goods. U.S. exports of electricity to Canada fell from \$61 million in 1993 to \$30 million in 1994, before rising to \$69 million in 1996. The 1994 decline in U.S. exports of electricity was due to extremely cold weather in the Eastern United States that resulted in U.S.-produced electricity being consumed domestically. U.S. exports of videos have increased as Canadian consumers have chosen to view and own U.S. media productions.

The major identifiable U.S. exports of sector products to Mexico were the value of repairs or alterations of previously imported articles, followed by video tapes and phonograph records. During 1993-95, U.S. exports to Mexico of the value of repairs or alterations ranged from \$147 million to \$151 million, but dropped to \$113 million in 1996. Trends in maintenance and repair services are difficult to identify. However, some of the repair may relate to aircraft maintenance services, since the United States is a major supplier of such services globally.

During 1993-96, there were no U.S. electricity exports to Mexico. The Mexican state-owned Comision Federal de Electricidad (CFE) controls imports of electricity into Mexico. Since NAFTA, the CFE has moved to privatize the Mexican electricity generation sector and has opened up certain areas of electricity generation to foreign investment. Under NAFTA, Mexican tariffs on imports of U.S. electricity are being eliminated over 5 years.

U.S. exports of reexports, not of Canadian origin, to Canada, rose from \$347 million in 1993 to \$407 million in 1996. There are no comparable data for exports to Mexico.

The remainder of U.S. exports to Canada and Mexico in this sector grouping were Census estimates of low-value shipments. During 1993-96, exports of low-value shipments to Canada rose from \$2.0 billion to almost \$2.4 billion, and exports to Mexico rose from \$1.5 billion to \$2.1 billion.

*Other Factors* –Data on U.S. investment in Mexico of sector products is not readily available. However, U.S. investment in Mexico's electricity sector has only recently begun. In January 1997, AES Corp. announced that Mexico's CFE has selected AES Corp. and two partners, including a Mexican company, to build, own, and operate a 484-megawatt gas-fired combined-cycle power plant in Merida on the Yucatan peninsula.<sup>4</sup> Electric power generated by the plant will be sold to CFE. This is the first independent power provider to be established in Mexico.

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<sup>4</sup> World Wide Web, retrieved May 10, 1997, AES Corp., [www.aesc.com/PR/Q7101-1997Mexico.html](http://www.aesc.com/PR/Q7101-1997Mexico.html), AES Corp. press release, "AES Wins Bid for a 484 MW Gas-Fired Plant in Mexico," Jan. 23, 1997.

## Services

Nations trade services through two principal channels. One channel, cross-border trade, entails sending skilled individuals, information, or money across national borders. The other channel, affiliate transactions, entails selling services through affiliates established in foreign markets by multinational companies. The relative importance of each channel of trade varies by service industry. Data on U.S. cross-border trade for specific service industries are available with respect to Canada and Mexico, as reported by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA). Cross-border data for 1994-95, the latest available, correspond to the first two years after NAFTA came into effect. Data on affiliate transactions are available to a lesser extent by industry and by country. BEA reports data on affiliate transactions with Canada, but not Mexico. These data extend only through 1994.

### NAFTA Provisions Affecting Service Industries

NAFTA chapters and annexes on investment and cross-border trade in services are of particular importance to U.S. service firms, because of the benefits derived from provisions intended to reduce or remove impediments to trade in services, particularly those inherent in Mexican Federal laws and/or regulations. NAFTA chapter 11 on "Investment" applies to investments defined as, among other things, "enterprises," and which involve the "establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments" by investors of any party to NAFTA. Such investments of U.S. and Canadian service providers are to receive the better of most-favored-nation (MFN) treatment or national treatment, freedom to transfer profits, freedom from burdensome performance requirements, rights to prompt compensation of fair market value in the event of expropriation, and rights to international arbitration of disputes with Mexican enterprises or the Mexican Government.

NAFTA chapter 12 on the "Cross-Border Trade in Services" applies to all services except financial services and air transport services. It establishes the principle of nondiscrimination (the better of national treatment or MFN treatment), prohibits local-presence requirements, charges parties to endeavor to negotiate the liberalization or removal of quantitative restrictions, and sets forth commitments to liberalize or remove licensing and performance requirements and other discriminatory measures. It also provides for transparent licensing and certification of service providers on the basis of objective criteria such as competence and ability to provide a service. In addition, chapter 12 provides for the elimination of any citizenship and permanent residency requirements that "professional service providers" such as doctors, lawyers, and accountants of another party were formerly required to meet.

Each of the parties to NAFTA has exempted certain sectors from the liberalized treatment described above. Those reservations and exceptions are set forth in the various annexes to the agreement.<sup>1</sup> Although broad, these reservations are the only exceptions permitted, because NAFTA provides that all services are covered unless specifically exempted from the agreement. The provision for reservations allows for the widest possible coverage of existing services and any new subsequent services. In addition, NAFTA applies to both existing and future laws governing trade in services.

Several sector-specific NAFTA provisions were included to create significant new openings in Mexico for U.S. and Canadian service providers, either through cross-border trade or by allowing investment in, or establishment of, Mexican enterprises in the telecommunications, banking, insurance, engineering, construction, and transportation service markets.

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<sup>1</sup> NAFTA, Annexes I through VII.

## NAFTA Effects on U.S. Trade in Services<sup>2</sup>

In general, U.S. service firms face more transparent and favorable market access and national treatment conditions than they did before NAFTA. U.S. firms also tend to face less onerous limitations or exceptions to such treatment under NAFTA than they do in most countries under the World Trade Organization's General Agreement on Trade in Services (GATS). Nevertheless, to date, little evidence of measurable effects of NAFTA on services trade is apparent.

Expenditures by tourists and business persons who traveled between the United States and its NAFTA partners contributed the most to total U.S. service exports and imports (tables 6-69-1 and 6-69-2) during 1990-95. The value of U.S. trade with Mexico is below that with Canada with regard to most service industries, especially trade in freight services and insurance services. Exceptions include telecommunications services; architectural, engineering, and construction (AEC) services; and mining services. U.S. exports of installation, maintenance, and equipment repair services to Mexico were also relatively significant.

In 1995, Canada was the third-largest U.S. trading partner for services, as U.S. cross-border service exports to Canada stood at \$17.9 billion, representing 9.1 percent of the United States' total service exports, valued at \$196.4 billion. U.S. imports from Canada were valued at \$12.4 billion, accounting for 9.5 percent of the \$129.7 billion total (tables 6-69-1 and 6-69-2). Consequently, the United States registered a \$5.6-billion services trade surplus with Canada in 1995 (table 6-69-3), although the surplus has eroded modestly each year since 1991. U.S. cross-border service exports to Mexico, the fourth-ranked U.S. trading partner, measured \$6.2 billion, or 3.2 percent of the total. U.S. exports were exceeded by imports of \$8.6 billion, or 6.6 percent of total service imports. In contrast to a string of relatively small surpluses with Mexico since 1990, the United States recorded a large \$2.4-billion deficit in cross-border services trade with that country in 1995. The deficit was largely accounted for by a 41-percent decline in travel receipts from Mexico as the devaluation of the peso discouraged Mexican tourists from traveling to the United States.

The effects of NAFTA on U.S. employment and wages are believed to be negligible in all service industries. Regulatory changes in large industries, such as the telecommunication and financial service industries, appear to have exerted a stronger influence over employment. The effect of NAFTA on U.S. investment is likewise believed to be negligible in nearly all service industries, except in financial services, where it is regarded as significant. NAFTA has raised foreign investment ceilings in Mexico, thereby facilitating greater investment by U.S. banking and securities firms in the Mexican market.

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<sup>2</sup> Views of parties that submitted written and/or oral testimony to the Commission in connection with this investigation are summarized in Appendix D. Copies of the hearing transcript and copies of all written testimony are being provided separately to USTR.

**Table 6-69-1**  
**U.S. cross-border trade in services: Exports to Canada and Mexico, 1990-95**

Item	1990	1991	1992	1993	1994	1995	1990-93 <sup>1</sup>	1993-94	1994-95
	<i>Million dollars</i>						<i>Percent</i>		
Canada:									
Total <sup>2</sup>	16,011	18,167	17,977	17,657	17,363	17,949	3.3	-1.7	3.4
Transportation:									
Travel	7,093	8,500	8,182	7,458	6,252	6,207	1.7	-16.2	-0.7
Passenger fares	979	1,040	1,099	1,191	1,186	1,284	6.8	-0.4	8.3
Freight	493	1,469	1,613	1,594	1,735	1,803	47.9	8.8	3.9
Port services	467	478	494	477	535	555	0.7	12.2	3.7
Other	87	92	103	87	109	149	0.0	25.3	36.7
Royalties and license fees:									
Affiliated	1,034	1,093	1,074	1,047	1,026	1,094	0.4	-2.0	6.6
Unaffiliated	164	164	165	160	155	141	-0.8	-3.1	-9.0
Other private services:									
Affiliated	2,434	2,239	2,350	2,649	3,062	3,262	2.9	15.6	6.5
Unaffiliated	2,781	3,259	2,897	2,994	3,303	3,454	2.5	10.3	4.6
Education	245	269	301	343	383	401	11.9	11.7	4.7
Financial services	249	323	348	428	378	442	19.8	-11.7	16.9
Insurance:									
Premiums	2,471	1,551	948	836	1,021	1,195	-30.3	22.1	17.0
Losses	1,828	1,052	626	617	639	709	-30.4	3.6	11.0
Balance	643	499	322	219	382	487	-30.2	74.4	27.5
Telecommunications	( <sup>3</sup> )	288	229	252	244	255	( <sup>4</sup> )	-3.2	4.5
Film and tape rentals	221	171	235	234	282	321	1.9	20.5	13.8
Business, professional, and technical services	582	996	953	1,056	1,327	1,304	22.0	25.7	-1.7
Advertising	25	54	73	66	208	196	38.2	215.2	-5.8
Computer and data processing services	76	166	147	221	192	193	42.7	-13.1	0.5
Database and other in- formation services	17	63	87	85	108	118	71.0	27.1	27.1
Research and develop- ment and testing services	11	18	27	29	38	45	38.1	31.0	18.4
Management, con- sulting, and public relations services	37	52	37	36	77	93	-0.9	113.9	20.8
Legal services	19	76	98	97	115	98	72.2	18.6	-14.8
Construction, en- gineering, architec- tural, and mining	87	87	17	47	45	36	-18.6	-4.3	-20.0
Industrial engineering	9	7	9	12	69	( <sup>3</sup> )	10.1	475.0	( <sup>4</sup> )
Installation, main- tenance and repair of equipment	195	238	247	258	251	247	9.8	-2.7	-1.6
Other business, pro- fessional, and tech- nical services	106	235	212	207	224	( <sup>3</sup> )	25.0	8.2	( <sup>4</sup> )
Other services	( <sup>3</sup> )	884	744	696	590	567	( <sup>4</sup> )	-15.2	-3.9

See footnotes at end of table.



**Table 6-69-1**  
**U.S. cross-border trade in services: Exports to Canada and Mexico, 1990-95—Continued**

Item	1990	1991	1992	1993	1994	1995	1990-93 <sup>1</sup>	1993-94	1994-95
	Million dollars						Percent		
<b>Mexico:</b>									
Total <sup>2</sup>	7,387	8,225	8,647	8,427	8,814	6,205	4.5	4.6	-29.6
Transportation:									
Travel	5,108	5,367	5,696	5,119	4,866	2,857	0.1	-4.9	-41.3
Passenger fares	464	514	527	554	733	584	6.1	32.3	-20.3
Freight	114	142	153	147	231	137	8.8	57.1	-40.7
Port services	232	270	262	319	304	260	11.2	-4.7	-14.5
Other	48	48	52	43	54	76	-3.6	25.6	40.7
Royalties and license fees:									
Affiliated	191	270	( <sup>3</sup> )	379	468	( <sup>3</sup> )	25.7	23.5	( <sup>4</sup> )
Unaffiliated	40	59	( <sup>3</sup> )	84	90	( <sup>3</sup> )	28.1	7.1	( <sup>4</sup> )
Other private services:									
Affiliated	129	145	214	284	412	283	30.1	45.1	-31.3
Unaffiliated	1,092	1,412	1,325	1,497	1,656	1,594	11.1	10.6	-3.7
Education	92	96	101	120	131	152	9.3	9.2	16.0
Financial services	129	250	212	230	231	189	21.3	0.4	-18.2
Insurance:									
Premiums	44	59	89	126	117	95	42.0	-7.1	-18.8
Losses	64	32	32	49	68	59	-8.5	38.8	-13.2
Balance	-20	27	57	77	50	37	( <sup>5</sup> )	-35.1	-26.0
Telecommunications	( <sup>3</sup> )	169	158	180	198	218	( <sup>4</sup> )	10.0	10.1
Film and tape rentals	34	18	35	45	58	62	9.8	28.9	6.9
Business, professional, and technical services:									
Advertising	0	10	10	11	14	( <sup>3</sup> )	( <sup>4</sup> )	27.3	( <sup>4</sup> )
Computer and data processing services	19	28	39	54	65	62	41.6	20.4	-4.6
Database and other information services	8	12	14	17	30	31	28.6	76.5	3.3
Research and development and testing services	1	5	3	6	6	5	81.7	0.0	-16.7
Management, consulting, and public relations services	2	39	29	21	52	36	119.0	147.6	-30.8
Legal services	3	13	16	19	29	25	85.0	52.6	-13.8
Construction, engineering, architectural, and mining:									
Industrial engineering	7	13	12	5	19	26	-10.6	280.0	36.8
Installation, maintenance and repair of equipment	219	243	189	222	232	201	0.5	4.5	-13.4
Other business, professional, and technical services	152	135	85	90	99	( <sup>3</sup> )	-16.0	10.0	( <sup>4</sup> )
Other services	( <sup>3</sup> )	353	377	394	427	446	( <sup>4</sup> )	8.4	4.4

<sup>1</sup> Average annual rate of change.

<sup>2</sup> Totals for 1990 and 1991 were revised, but published data on individual services are available only as originally reported.

<sup>3</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>4</sup> Not available.

<sup>5</sup> Not meaningful figure.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*.

Table 6-69-2

## U.S. cross-border trade in services: Imports from Canada and Mexico, 1990-95

Item	1990	1991	1992	1993	1994	1995	1990-93 <sup>1</sup>	1993-94	1994-95
	<i>Million dollars</i>						<i>Percent</i>		
Canada:									
Total <sup>2</sup>	9,282	9,877	9,763	10,443	11,521	12,378	4.0	10.3	7.4
Transportation:									
Travel	3,541	3,705	3,554	3,692	3,914	4,319	1.4	6.0	10.3
Passenger fares	256	249	227	260	302	306	0.5	16.2	1.3
Freight	229	2,156	2,275	2,360	2,716	2,886	117.6	15.1	6.3
Port services	394	422	393	414	456	541	1.7	10.1	18.6
Other	105	111	124	136	148	149	9.0	8.8	0.7
Royalties and license fees:									
Affiliated	44	47	55	68	43	109	15.6	-36.8	153.5
Unaffiliated	25	30	26	25	33	29	0.0	32.0	-12.1
Other private services:									
Affiliated	1,589	1,425	1,306	1,724	1,816	2,023	2.8	5.3	11.4
Unaffiliated	1,332	1,731	1,804	1,763	2,093	2,016	9.8	18.7	-3.7
Education	6	7	8	8	8	8	10.1	0.0	0.0
Financial services	131	190	67	97	122	164	-9.5	25.8	34.4
Insurance:									
Premiums	833	1,025	1,132	1,048	1,128	1,101	8.0	7.6	-2.4
Losses	607	481	473	516	431	536	-5.3	-16.5	24.4
Balance	226	544	658	532	697	565	33.0	31.0	-18.9
Telecommunications	315	319	330	361	390	346	4.6	8.0	-11.3
Film and tape rentals	2	11	13	16	28	67	100.0	75.0	139.3
Business, professional, and technical services	357	362	435	458	549	553	8.7	19.9	0.7
Advertising	6	25	55	58	47	42	113.0	-19.0	-10.6
Computer and data processing services	9	19	19	14	31	49	15.9	121.4	58.1
Database and other information services	4	8	7	11	9	13	40.1	-18.2	44.4
Research and develop- ment and testing services	11	35	24	29	35	34	38.1	20.7	-2.9
Management, con- sulting, and public relations services	9	11	9	10	29	45	3.6	190.0	55.2
Legal services	2	15	22	22	23	22	122.4	4.5	-4.3
Construction, en- gineering, architec- tural, and mining	11	43	42	51	59	56	66.7	15.7	-5.1
Industrial engineering .. Installation, main- tenance and repair of equipment	8	8	20	14	17	34	20.5	21.4	100.0
Other business, pro- fessional, and tech- nical services	265	121	145	163	197	137	-15.0	20.9	-30.5
Other services	31	76	94	86	102	121	40.5	18.6	18.6
	298	309	305	307	327	380	1.0	6.5	16.2

See footnotes at end of table.

Table 6-69-2

## U.S. cross-border trade in services: Imports from Canada and Mexico, 1990-95—Continued

Item	1990	1991	1992	1993	1994	1995	1990-93 <sup>1</sup>	1993-94	1994-95
	—Million dollars—						—Percent—		
Mexico:									
Total <sup>2</sup>	7,386	7,757	8,031	8,183	8,525	8,586	3.5	4.2	0.7
Transportation:									
Travel	4,879	5,111	5,160	5,162	5,334	5,316	1.9	3.3	-0.3
Passenger fares	565	531	635	641	601	560	4.3	-6.2	-6.8
Freight	75	86	64	52	57	85	-11.5	9.6	49.1
Port services	264	276	290	298	369	336	4.1	23.8	-8.9
Other	3	2	3	4	2	2	10.1	-50.0	0.0
Royalties and license fees:									
Affiliated	3	9	9	11	( <sup>3</sup> )	( <sup>3</sup> )	54.0	( <sup>5</sup> )	( <sup>5</sup> )
Unaffiliated	( <sup>3</sup> )	1	2	2	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Other private services:									
Affiliated	( <sup>3</sup> )	32	37	67	84	93	( <sup>5</sup> )	25.4	10.7
Unaffiliated	( <sup>3</sup> )	1,736	1,830	1,947	2,051	2,148	( <sup>5</sup> )	5.3	4.7
Education	50	79	65	66	67	71	9.7	1.5	6.0
Financial services	( <sup>4</sup> )	41	51	66	79	76	( <sup>5</sup> )	19.7	-3.8
Insurance:									
Premiums	3	2	2	1	1	2	-30.7	0.0	100.0
Losses	5	7	6	2	( <sup>4</sup> )	4	-26.3	( <sup>5</sup> )	( <sup>5</sup> )
Balance	-2	-5	-4	-1	1	-2	-20.6	( <sup>6</sup> )	( <sup>6</sup> )
Telecommunications	729	755	818	884	963	1,001	6.6	8.9	3.9
Film and tape rentals	103	0	1	10	2	0	-54.0	-80.0	-100.0
Business, professional, and technical services	103	160	154	214	157	190	27.6	-26.6	21.0
Advertising	1	2	21	21	29	25	175.9	38.1	-13.8
Computer and data processing services	1	( <sup>4</sup> )	1	1	1	2	0.0	0.0	100.0
Database and other information services	0	( <sup>4</sup> )	( <sup>4</sup> )	6	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	-100.0	( <sup>5</sup> )
Research and develop- ment and testing services	( <sup>4</sup> )	3	3	3	3	4	( <sup>5</sup> )	0.0	33.3
Management, con- sulting, and public relations services	( <sup>4</sup> )	4	4	4	4	4	( <sup>5</sup> )	0.0	0.0
Legal services	( <sup>4</sup> )	10	8	11	12	12	( <sup>5</sup> )	9.1	0.0
Construction, eng- ineering, architec- tural, and mining	1	1	( <sup>4</sup> )	2	7	12	26.0	250.0	71.4
Industrial engineering	0	0	0	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Installation, main- tenance and repair of equipment	91	117	91	132	63	85	13.2	-52.3	34.9
Other business, pro- fessional, and tech- nical services	9	22	27	33	39	47	54.2	18.2	20.5
Other services	( <sup>3</sup> )	706	746	718	785	813	( <sup>5</sup> )	9.3	3.6

<sup>1</sup> Average annual rate of change.<sup>2</sup> Totals for 1990 and 1991 were revised, but published data on individual services are available only as originally reported.<sup>3</sup> Suppressed to avoid disclosure of data of individual companies.<sup>4</sup> Less than \$500,000.<sup>5</sup> Not available.<sup>6</sup> Not meaningful figure.Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*.

**Table 6-69-3**  
**U.S. cross-border trade in services: Trade balance with Canada and Mexico, 1990-95**

Item	1990	1991	1992	1993	1994	1995	1990-93 <sup>1</sup>	1993-94	1994-95
	Million dollars						Percent		
Canada:									
Total <sup>2</sup>	6,729	8,290	8,214	7,214	5,842	5,571	2.3	-19.0	-4.6
Transportation:									
Travel	3,552	4,795	4,628	3,766	2,338	1,888	2.0	-37.9	-19.2
Passenger fares	723	791	872	931	884	978	8.8	-5.0	10.6
Freight	264	-687	-662	-766	-981	-1,083	( <sup>3</sup> )	-28.1	-10.4
Port services	73	56	101	63	79	14	-4.8	25.4	-82.3
Other	-18	-19	-21	-49	-39	0	-39.6	20.4	( <sup>3</sup> )
Royalties and license fees:									
Affiliated	990	1,046	1,019	979	983	985	-0.4	0.4	0.2
Unaffiliated	139	134	139	135	122	112	-1.0	-9.6	-8.2
Other private services:									
Affiliated	845	814	1,044	925	1,246	1,239	3.1	34.7	-0.6
Unaffiliated	1,449	1,528	1,093	1,231	1,210	1,438	-5.3	-1.7	18.8
Education	239	262	293	335	375	393	11.9	11.9	4.8
Financial services	118	133	281	331	256	278	41.0	-22.7	8.6
Insurance:									
Premiums	1,638	526	-184	-212	-107	94	( <sup>3</sup> )	49.5	( <sup>3</sup> )
Losses	1,221	571	153	101	208	173	-56.4	105.9	-16.8
Balance	417	-45	-336	-313	-315	-78	( <sup>3</sup> )	-0.6	75.2
Telecommunications	( <sup>4</sup> )	-31	-101	-109	-146	-91	29.8	-33.9	37.7
Film and tape rentals	219	160	222	218	254	254	-0.2	16.5	0.0
Business, professional, and technical services	225	634	518	598	778	751	38.5	30.1	-3.5
Advertising	19	29	18	8	161	154	-25.0	1912.5	-4.3
Computer and data processing services	67	147	128	207	161	144	45.6	-22.2	-10.6
Database and other information services	13	55	80	74	99	105	78.6	33.8	6.1
Research and development and testing services	0	-17	3	0	3	11	( <sup>3</sup> )	( <sup>3</sup> )	266.7
Management, consulting, and public relations services	28	41	28	26	48	48	-2.4	84.6	0.0
Legal services	17	61	76	75	92	76	64.0	22.7	-17.4
Construction, en- gineering, architec- tural, and mining	76	44	-25	-4	-14	-20	( <sup>3</sup> )	-250.0	-42.9
Industrial engineer- ing	1	-1	-11	-2	52	( <sup>4</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
Installation, mainten- ance and repair of equipment	-70	117	102	95	54	110	( <sup>3</sup> )	-43.2	103.7
Other business, profes- sional, and technical services	75	159	118	121	122	( <sup>4</sup> )	17.3	0.8	( <sup>4</sup> )
Other services	( <sup>4</sup> )	575	439	389	263	187	( <sup>4</sup> )	-32.4	-28.9

See footnotes at end of table.

Table 6-69-3

## U.S. cross-border trade in services: Trade balance with Canada and Mexico, 1990-95—Continued

Item	1990	1991	1992	1993	1994	1995	1990-93 <sup>1</sup>	1993-94	1994-95
	Million dollars						Percent		
Mexico:									
Total <sup>2</sup>	1	468	616	244	289	-2,381	524.9	18.4	( <sup>3</sup> )
Transportation:									
Travel	229	256	536	-43	-468	-2,459	( <sup>3</sup> )	-988.4	-425.4
Passenger fares	-101	-17	-108	-87	132	24	4.9	( <sup>3</sup> )	-81.8
Freight	39	56	89	95	174	52	34.6	83.2	-70.1
Port services	-32	-6	-28	21	-65	-76	( <sup>3</sup> )	( <sup>3</sup> )	-16.9
Other	45	46	49	39	52	74	-4.7	33.3	42.3
Royalties and license fees:									
Affiliated	188	261	( <sup>4</sup> )	368	468	0	25.1	27.2	( <sup>3</sup> )
Unaffiliated	( <sup>4</sup> )	58	( <sup>4</sup> )	82	90	0	( <sup>5</sup> )	9.8	( <sup>3</sup> )
Other private services:									
Affiliated	( <sup>4</sup> )	113	177	217	328	190	( <sup>5</sup> )	51.2	-42.1
Unaffiliated	( <sup>4</sup> )	-324	505	-450	-395	-554	( <sup>5</sup> )	12.2	-40.3
Education	42	17	36	54	64	81	8.7	18.5	26.6
Financial services	129	209	161	164	152	113	8.3	-7.3	-25.7
Insurance:									
Premiums	41	57	87	125	116	93	45.0	-7.2	-19.8
Losses	59	25	26	47	68	55	-7.3	44.7	-19.1
Balance	-18	32	61	78	49	39	( <sup>3</sup> )	-37.2	-20.4
Telecommunications	( <sup>4</sup> )	-585	-660	-704	-765	-783	( <sup>4</sup> )	-8.7	-2.4
Film and tape rentals	-69	18	34	35	56	62	( <sup>3</sup> )	60.1	10.7
Business, professional, and technical services	316	356	267	281	463	363	-3.8	64.8	-21.6
Advertising	-1	8	-11	-10	-15	-25	-115.4	-50.0	-66.7
Computer and data processing services	18	28	38	53	64	60	43.3	20.8	-6.3
Database and other in- formation services	8	12	14	11	30	31	11.2	172.7	3.3
Research and devel- opment and testing services	1	2	0	3	3	1	44.2	0.0	-66.7
Management, consult- ing, and public relations services	2	35	25	17	48	32	104.1	182.4	-33.3
Legal services	3	3	8	8	17	13	38.7	112.5	-23.5
Construction, engineer- ing, architectural, and mining	7	15	24	43	66	41	83.1	53.5	-37.9
Industrial engineering	7	13	12	5	19	26	-10.6	280.0	36.8
Installation, mainten- ance and repair of equipment	128	126	98	90	169	116	-11.1	87.8	-31.4
Other business, profes- sional, and technical services	143	113	58	57	60	( <sup>4</sup> )	-26.4	5.3	( <sup>4</sup> )
Other services	( <sup>4</sup> )	-353	-369	-324	-358	-367	( <sup>4</sup> )	-10.5	-2.5

<sup>1</sup> Average annual rate of change.<sup>2</sup> Totals for 1990 and 1991 were revised, but published data on individual services are available only as originally reported.<sup>3</sup> Not meaningful figure.<sup>4</sup> Not available.Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*.

**Land transportation services.**--In 1995, U.S. exports of land transportation (railway<sup>3</sup> and trucking) services to Mexico stood at about \$213 million, compared to U.S. imports of \$87 million. Unrelated to NAFTA, privatization of the Mexican rail system enabled a joint venture between Kansas City Southern Industries and Transportacion Maritime Mexicana to bid successfully on the 50-year concession for Mexico's Northeast Line, which carries 40 percent of Mexico's rail traffic (in ton-miles). The joint venture will hold 80 percent of the Northeast Line, with the Mexican Government retaining 20 percent, pending a public stock offering within the next 2 years.<sup>4</sup> With regard to trucking services, reciprocal access provisions under NAFTA have yet to take effect. Since December 1995, Mexican companies have been able to apply for approval to begin providing cross-border truck and bus services into the United States.<sup>5</sup> The United States has accepted applications from Mexican motor carriers to operate between Mexico and the states of California, Arizona, New Mexico, and Texas, but final processing of applications remains postponed until U.S. concerns about commercial vehicle safety are addressed.<sup>6</sup> Following the U.S. Government's decision to postpone the processing of applications by Mexico, Mexican authorities reportedly retaliated against U.S. trucking firms transporting cargo increasingly in 53-foot trailers.<sup>7</sup> The U.S. and Mexican Governments had previously agreed such trailers, longer than standard 48-foot trailers, could be used on international trips on specific roads, but Mexican authorities reportedly began to check vehicle lengths more closely, resulting in fines, delays, longer lines, and increased time and costs for U.S. carriers. Further adverse impact ensued, as a leading U.S. carrier reportedly canceled a contract for 53-foot trailers with an Indiana tractor trailer manufacturer, resulting in the layoff of hundreds of workers.<sup>8</sup> In a related issue, Mexico continues to deny MFN treatment to U.S. trucking companies,<sup>9</sup> which cannot obtain authorization to use transportation terminals within 20 kilometers of the Mexican side of the border.

**Telecommunication services.**--In 1995, U.S. imports of telecommunication services from Mexico amounted to \$1 billion, far exceeding U.S. exports of \$218 million. Although the Telecommunications chapter of NAFTA<sup>10</sup> provides for the construction and use of private corporate communications networks and the provision and use of value-added services, such services generate considerably smaller revenues relative to basic telecommunication services, which were excluded from the agreement.<sup>11</sup> However, on February 15, 1997, Mexico joined the WTO agreement on basic telecommunication services, allowing 49-percent foreign investment in wireline services and 100-percent in cellular and private leased-line services. Consequently,

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<sup>3</sup> U.S. firms made capital improvements in infrastructure to support business with Mexico. For example, Union Pacific spent \$6 million to expand its Port Laredo rail complex. Joe Heastie, Products Manager, Mexico Market, Union Pacific Railroad, testimony before the USITC, May 16, 1997.

<sup>4</sup> "Mexico's Railway Privatization: KCS Maps 'The NAFTA Railroad'," *Railway Age*, Jan. 1997, pp. 49-51.

<sup>5</sup> NAFTA, Annex I, p. I-U-18-20.

<sup>6</sup> United States Trade Representative, *1997 National Trade Estimate Report on Foreign Trade Barriers*, (Washington, DC: GPO, 1997), pp. 264-265, and *Financial Times*, Mar. 13, 1997, p. 8.

<sup>7</sup> The Honorable Steve Buyer, U.S. House of Representatives, testimony before the USITC, May 15, 1997; and Michael T. Hodson, Executive Vice President, Celadon Trucking Services, testimony before the USITC, May 16, 1997.

<sup>8</sup> The Honorable Steve Buyer, U.S. House of Representatives, testimony before the USITC, May 15, 1997.

<sup>9</sup> U.S. small package delivery firms reportedly do not receive national treatment in Mexico. Despite numerous promises and an offer of U.S. reciprocity, contingent on Mexico's granting national treatment, Mexico has not yet granted full operating authority to U.S. firms for such delivery services. This issue has been the subject of ongoing bilateral consultations between the U.S. and Mexican Governments, including formal consultations at both the staff and ministerial level, pursuant to the dispute resolution procedures of NAFTA chapter 20. United States Trade Representative, "*1997 National Trade Estimate Report on Foreign Trade Barriers*," p. 264, and USTR official, telephone interview by USITC staff, Mar. 10, 1997.

<sup>10</sup> NAFTA, ch. 13, art. 1301.

<sup>11</sup> *Ibid.*

employment among U.S. affiliates that provide wireless services is expected to increase substantially by the year 2000, as U.S. firms enter the growing Mexican cellular service market.<sup>12</sup> This likely will not adversely affect U.S. employment in the telecommunication service industry, which increased by an estimated 8 percent, to 946,400 workers, during 1993-96.<sup>13</sup> To date, the most significant U.S. investment in Mexico's telecommunications industry has resulted from the privatization of Telefonos de Mexico (TELMEX), which began in 1991. The U.S. firm SBC Communications, Inc. currently has a 10-percent stake in TELMEX, amounting to approximately \$1 billion.<sup>14</sup> Further, AT&T, MCI, and Bell Atlantic, along with their Mexican partners, are expected to invest more than \$4 billion in the Mexican long-distance and cellular markets over the next 10 years.<sup>15</sup>

**Banking and securities services.**--In 1995, U.S. cross-border exports of banking and securities services to Mexico amounted to \$189 million, while corresponding U.S. imports stood at \$76 million. The NAFTA Financial Services chapter<sup>16</sup> accords benefits to U.S. firms and modestly increases the permissible aggregate market share<sup>17</sup> of foreign banks and securities firms<sup>18</sup> operating in Mexico. Prior to NAFTA, Citibank was the only foreign-owned bank in Mexico, because it had been established before investment restrictions began in 1966. Under NAFTA, Mexico published regulations in April 1994 establishing the procedures for submission and consideration of applications for further foreign participation in its commercial banking system. Upon processing initial submissions, Mexico authorized 52 foreign financial institutions to invest in, acquire, or establish wholly owned subsidiaries, of which 18 were commercial banks, 12 from the United States. The peso crisis delayed expansion plans for many of these banks by six months to a year. Nevertheless, by spring 1996 numerous banks<sup>19</sup> had established subsidiaries in Mexico under NAFTA provisions that permit up to 100 percent foreign ownership.<sup>20</sup> Also, 9 of the 16 foreign securities firms operating in Mexico were from the United States.<sup>21</sup> Leasing companies such as GE Capital, Ford Credit International, and Caterpillar Financial Services also opened offices.<sup>22</sup>

**Engineering and construction services.**--In 1995, U.S. exports of construction, engineering, architectural, and mining services to Mexico stood at \$53 million, surpassing U.S. imports of \$12 million. There are no specific NAFTA provisions that significantly impede the provision of construction services,

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<sup>12</sup> Increasing employment among U.S. affiliates in Mexico does not necessarily signal a decrease in U.S. employment, as service provision in Mexico may require that additional tasks be performed in the United States.

<sup>13</sup> U.S. Bureau of Labor Statistics, *Employment and Earnings*, found at Internet <http://stats.bls.gov:80/cgi-bin/srgate>.

<sup>14</sup> SBC Communications Inc., About SBC, International Operations, found on Internet at <http://www.sbc.com/About/international.html>, Apr. 24, 1997, and SBC Communications Inc. annual report, 1995.

<sup>15</sup> Eden Zoller, "Mexico Gets Set for New Year Competition in Long-Distance," *Financial Times Telecom Markets*, Dec. 18, 1996.

<sup>16</sup> NAFTA, ch. 14.

<sup>17</sup> NAFTA, Annex VII(B). If foreign banks and securities firms achieve an aggregate 25 and 30 percent, respectively, of the Mexican market between 2000 and 2004, the annex stipulates that Mexico could freeze foreign financial affiliates' market share at that level. If imposed, such a restriction could not exceed 3 years.

<sup>18</sup> All foreign banks would be included, whether or not parties to NAFTA.

<sup>19</sup> Included are Chemical/Chase Manhattan Bank, Bank of America, J.P. Morgan, Republic Bank of New York, Bank of Boston, NationsBank, American Express Bank, and First Bank of Chicago.

<sup>20</sup> "Foreign Commercial Banks," *Financing Foreign Operations*, Apr. 1, 1996.

<sup>21</sup> Includes securities firms of Citibank, J.P. Morgan, Goldman Sachs, Bankers Trust, Merrill Lynch, Chemical, Lehman Brothers, Morgan Stanley, and Bear Stearns. Mexican Investment Board, *Economic and Business Overview*, "VIII. Financial Environment," World Wide Web, found at <http://www.quicklink.com/mexmib/financia.html>, Feb. 18, 1997.

<sup>22</sup> "NAFTA's effect on financial services in Mexico," *Financing Foreign Operations*, Apr. 1, 1995.

except for reservations by Mexico with respect to certain investments<sup>23</sup> or certain types of construction, i.e., concessions for road construction, which may be granted only to Mexican nationals and Mexican enterprises.<sup>24</sup> The only provision relating specifically to engineering services covers the temporary licensing of engineers.<sup>25</sup>

Adverse economic conditions in Mexico drove the Mexican construction market into a deep recession in 1995-96, which resulted in canceled or postponed projects and slowed the pace of U.S. firms' expansion into that market. Accordingly, the anticipated beneficial effects on U.S. wages, employment, and investment<sup>26</sup> as a result of NAFTA have thus far failed to materialize on a broad scale. Nevertheless, construction activity is said to be increasing in Brownsville, TX, spurred by maquiladora growth in nearby Matamoros, Mexico, and evidenced by new residential developments, hospitals, and restaurants.<sup>27</sup> Several small Arizona construction firms have also reported increased activity in Mexico.<sup>28</sup> In addition, numerous prospective business opportunities for U.S. firms reportedly exist in Mexico, as suggested by plans for the development of transportation infrastructure (roads, ports, and airports), power generation plants, and pipelines. Industry representatives indicate that U.S. contractors are both establishing companies in Mexico and investigating the feasibility of joint ventures.<sup>29</sup> Although NAFTA provisions accord the Mexican Government the right to screen all U.S. investment above 49 percent in existing and new Mexican construction firms until January 1, 1999,<sup>30</sup> industry representatives note that such provisions do not constitute a substantial impediment to investment by U.S. engineering and construction firms, many of which prefer to partner with local interests.<sup>31</sup>

NAFTA has specific provisions to encourage the service professions to work toward mutual recognition and the portability of credentials based on objective criteria stated in the agreement.<sup>32</sup> Accordingly, in June 1995, members of the engineering profession became the first profession to reach agreement under NAFTA on a mutual recognition document. Before the agreement can enter into force, however, ratification by professional associations in each country and at state and provincial levels in the

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<sup>23</sup> NAFTA, Annex I, pp. I-M-21-24.

<sup>24</sup> NAFTA, Annex I, p. I-M-72.

<sup>25</sup> NAFTA, Annex 1210.5, section C.

<sup>26</sup> USITC, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement (investigation No. 332-337)*, USITC publication 2596, Jan. 1993, ch. 41.

<sup>27</sup> Rick Lund, Director of Communications and Research, Brownsville Economic Development Council, testimony before the USITC, May 16, 1997.

<sup>28</sup> Carol Colombo, Governor's representative for NAFTA implementation, State of Arizona, testimony before the USITC, May 16, 1997.

<sup>29</sup> Industry representative, facsimile letter to USITC staff, Feb. 5, 1997; U.S. Department of State telegram, message no. 12958, prepared by U.S. Consulate, Ciudad Juarez, Jan. 19, 1996; and USDOC, International Trade Administration, *Construction Review*, Spring 1994, pp. iv-vii.

<sup>30</sup> USDOC, ITA, *Construction Review*, Spring 1994, and USITC, *Potential Impact of the U.S. Economy and Selected Industries of the North American Free-Trade Agreement (investigation No. 332-337)*, USITC publication 2596, Jan. 1993, pp. 41-2.

<sup>31</sup> Industry representative, interview by USITC staff, Washington DC, Oct. 23, 1996.

<sup>32</sup> NAFTA, Annex 1210.5, section A.



United States and Canada must occur.<sup>33</sup> Although Mexico and Canada have formally adopted the agreement, Texas is the only U.S. State to have ratified the agreement to date.<sup>34</sup>

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<sup>33</sup> Office of the United States Trade Representative, press release, June 5, 1995, found at World Wide Web, <http://www.ustr.gov/releases/1995/06/95-39>, May 8, 1997.

<sup>34</sup> Industry representative, telephone interview by USITC staff, Mar. 12, 1997, and U.S. Government official, interview by USITC staff, Mar. 13, 1997.



**APPENDIX A**  
**REQUEST LETTER**



THE UNITED STATES TRADE REPRESENTATIVE  
Executive Office of the President  
Washington, D.C. 20506

DECKET NUMBER <b>1953</b>
Office of the Secretary Int. Trade Commission

April 22, 1997

97 APR 23 12:41  
OFC OF THE  
US INT. TRADE  
COMMISSION

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The Honorable Marcia E. Miller  
Chairman  
U.S. International Trade Commission  
500 E Street, SW  
Washington, D.C. 20436

Dear Madam Chairman:

The North American Free Trade Agreement (NAFTA, or the Agreement) was signed on December 17, 1992. In December 1993, the President signed the NAFTA Implementation Act (19 U.S.C. 3301), which contains the provisions necessary or appropriate to implement the Agreement in U.S. domestic law. Section 512 of the Act (19 U.S.C. 3462) requires the President to provide to the Congress by July 1, 1997, a comprehensive study of the operation and effects of the Agreement during its first three years.

The Administration is currently assessing the economic impact of the Agreement on the United States for that report to Congress. The Agreement has been in effect for only three years, during which time its provisions have not been fully implemented, the effects of its provisions have not been fully realized, and the trade environment has been subjected to the effects of the Uruguay Round agreements, exchange-rate and related financial instability in Mexico, a deep recession in Mexico, and a strong U.S. domestic economy. Realizing that these and other factors greatly complicate an analysis of NAFTA and its effects, we have begun to collect factual data and analyses of the impact of NAFTA from a variety of sources. In the past, the Commission has been a valuable source of information and analysis for the Administration regarding the potential impact of trade agreements on the U.S. economy. For the current review, the Commission's economic and industry-specific expertise will again be a valuable resource which the Administration will draw upon in preparing its report to Congress.

Under authority delegated by the President and pursuant to section 332(g) of the Tariff Act of 1930, as amended, I request that the Commission institute an investigation to address the economic effects of NAFTA through both quantitative and qualitative analysis. In addition, please provide: (1) a literature review and analysis of existing studies that have assessed the impact on the United States of NAFTA in its first three years, (2) a discussion of the technical issues involved in formal economic assessment of the impact of a partially implemented free trade agreement, while considering other non-agreement factors affecting trade flows during the same period, and, to the extent possible (3) an analysis of the aggregate effects on the U.S. economy of the Agreement in its first three years.

The analysis of the impact that the Agreement has had on U.S. trade with its NAFTA partners should be derived using formal empirical methods, as well as bringing to bear the in-depth industry expertise maintained by the Commission. This analysis should consider relevant micro- and macro-economic factors, such as exchange-rate fluctuations (including the effects of the peso crisis), economic growth, and other agreements, including the U.S.-Canada Free Trade Agreement and the phase-in of Uruguay Round commitments, that affected the U.S. economy, so as to isolate those effects, to the extent feasible, from the factors that relate specifically to the NAFTA.

As described in section 512, the specific U.S. industries to be analyzed for NAFTA effects should be those in which U.S. exports to Mexico or Canada or imports into the United States from Mexico or Canada have increased significantly. It is our expectation that the industries analyzed would be those that account for the majority of U.S. trade within NAFTA, that the industries examined will be largely inclusive of industries significantly affected by NAFTA, and that the analyses of these industries would be aggregated as appropriate. In addition to significant trade effects, such analyses should examine changes in wages, employment, productivity, and investment that occurred as a result of NAFTA, and changes in U.S. trade with third countries induced by NAFTA. In assessing all these factors, to the extent possible, the study should distinguish between the consequences of NAFTA and events that likely would have occurred without the Agreement, and should consider NAFTA effects in the context of the overall performance of the U.S. industries analyzed.

In your analyses, please provide a summary of the important NAFTA-specific trade and tariff actions in the United States that have occurred. With respect to the tariff effects in these analyses, please consider the differences between U.S. tariffs applied to goods from our NAFTA trading partners and the tariff rate that would have applied to those goods in the absence of the Agreement. Also consider the important NAFTA-specific trade and tariff actions by our NAFTA trading partners that have occurred.

In accordance with policy of the USTR, I direct you to mark or identify as "confidential" such portions of the Commission's report and its working papers as my office will identify in a classification guide. Executive Order 12958 and its implementing regulations require that classification guides identify or categorize the elements of information that require protection. Accordingly, I request that you provide my office with an outline of the report as soon as possible. Based upon this outline and my office's knowledge of the information to be covered in the report, a USTR official with original classification authority will provide detailed instructions.

The Honorable Marcia E. Miller  
Page 3

The Commission is requested to provide its final report no later than June 6, 1997. The Commission's assistance in this matter is greatly appreciated.

Sincerely,



Charlene Barshefsky





**APPENDIX B**  
**NOTICE OF INITIATION AND PUBLIC HEARING**



**UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, DC**

**(Investigation 332-381)**

**THE IMPACT OF THE NORTH AMERICAN FREE TRADE AGREEMENT ON THE U.S.  
ECONOMY AND INDUSTRIES: A THREE YEAR REVIEW**

**AGENCY:** United States International Trade Commission

**ACTION:** Institution of investigation and scheduling of public hearing.

**EFFECTIVE DATE:** April 25, 1997

**SUMMARY:** Following receipt on April 23, 1997, of a request from the Office of the U. S. Trade Representative (USTR), the Commission instituted investigation No. 332-381, *The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review*, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)).

**FOR FURTHER INFORMATION:** Information on economic aspects of the investigation may be obtained from Kyle Johnson, Office of Economics (202-205-3229), Hugh Arce, Office of Economics (202-205-3234), or William Donnelly, Office of Economics (202-205-3223), and on legal aspects, from William Gearhart, Office of the General Counsel (202-205-3091). The media should contact Margaret O'Laughlin, Office of External Relations (202-205-1819). Hearing impaired individuals are advised that information on this matter can be obtained by contacting the TDD terminal on (202-205-1810).

**BACKGROUND:** The USTR's letter requesting the investigation was received on April 23, 1997. The letter notes that section 512 of the North American Free Trade Agreement Implementation Act (19 U.S.C. 3462) requires the President to provide to the Congress by July 1, 1997, a comprehensive study of the operation and effects of the NAFTA during its first 3 years. The letter states that the Commission's investigation and report are to serve as a resource which the Administration can draw upon in preparing its report to the Congress.

As requested by USTR, the Commission in its report on the investigation will provide (1) a literature review and analysis of existing studies that have assessed the impact on the United States of NAFTA in its first 3 years; (2) a discussion of the technical issues involved in formal economic assessment of the impact of a partially implemented free trade agreement, while considering other non-agreement factors affecting trade flows during the same period; and (3), to the extent possible, an analysis of the aggregate effects on the economy of the Agreement in its first 3 years.

As requested, the Commission in its analysis of the impact of NAFTA on U.S. trade with NAFTA partners will use formal empirical methods, as well as the industry expertise maintained by the Commission. It will consider relevant micro- and macro-economic factors, such as exchange-rate fluctuations (including the effects of the peso crisis), economic growth, and other agreements, including the U.S.-Canada Free Trade Agreement and the phase in of Uruguay Round commitments, that affected the U.S. economy, so as to isolate those effects, to the extent feasible, from the factors that relate specifically to the NAFTA.

As requested, the Commission will examine for NAFTA effects the U.S. industries in which U.S. exports to Mexico or Canada or imports into the United States from Mexico or Canada have increased

significantly. The Commission will also examine, in addition to trade effects, changes in wages, employment, productivity, and investment that occurred as a result of NAFTA, and changes in U.S. trade with third countries induced by NAFTA. In assessing these factors, the Commission will, to the extent possible, attempt to distinguish between the consequences of NAFTA and events that likely would have occurred without the Agreement, and will consider NAFTA effects in the context of the overall performance of the U.S. industries analyzed.

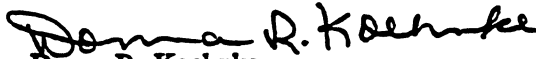
**PUBLIC HEARING:** A public hearing in connection with the investigation will be held in the Commission hearing room, 500 E Street, SW, Washington, D.C. 20436, beginning at 9:30 a.m. on May 15, 1997, and continuing on May 16 if an additional day is needed. All persons have the right to appear by counsel or in person to present information and to be heard. Requests to appear at the public hearing should be filed with the Secretary, United States International Trade Commission, 500 E Street, SW, Washington, D.C. no later than noon, May 9, 1997. Hearing statements should be filed not later than COB May 12, 1997. Any posthearing submissions must be filed not later than COB May 22, 1997.

In the event that, as of noon on May 9, 1997, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or non-participant may call the Secretary to the Commission (202-205-1816) after May 12, 1997, to determine whether the hearing will be held.

**WRITTEN SUBMISSIONS:** Interested persons are invited to submit written statements (one original and 14 copies) concerning the matters to be addressed in the report. Commercial or financial information that a party desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. (Generally, submission of separate confidential and public versions of the submission would be appropriate.) All submissions requesting confidential treatment must conform with the requirements of § 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). All written submissions, except for confidential business information, will be made available in the Office of the Secretary to the Commission for inspection by interested persons. To be assured of submission to USTR with the report, written statements relating to the Commission's report should be submitted at the earliest practical date and should be received no later than May 22, 1997. All submissions should be addressed to the Secretary, U.S. International Trade Commission, 500 E Street, SW, Washington, D.C. 20436.

Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

By order of the Commission.

  
Donna R. Koehnke  
Secretary

Issued: April 25, 1997

**APPENDIX C**

**TECHNICAL ISSUES AND RESULTS IN EMPIRICAL ESTIMATIONS**



## APPENDIX C

### TECHNICAL ISSUES AND RESULTS IN EMPIRICAL ESTIMATIONS

This appendix is a technical presentation of the methodology and a discussion of more technical issues, challenges, and results associated with empirical estimations of trade, employment, earnings, and productivity effects associated with NAFTA. These estimates are summarized and reported in chapter 4, but for clarity that chapter avoids a full discussion of technical issues and challenges faced while attempting to estimate the impact of NAFTA on these variables. This appendix is organized to follow the sequence of topics covered in chapter 4. Technical material associated with trade flow estimations are followed by a discussions of the employment and earnings estimates. The methodology used to estimate productivity effects is in the third major section and the appendix is concluded with a set of tables presenting detailed data on foreign direct investment flows, which is discussed in chapter 3.

#### **Econometric Estimates of Trade Functions**

The effects of the NAFTA on U.S. trade with Canada and Mexico are analyzed at both industry and bilateral aggregate levels. The methodology used to empirically estimate the effects of NAFTA on these flows is identical. Issues and difficulties associated with trade flow estimations are reviewed first. The background literature that was used in developing the estimated model specification is described second, followed by a discussion of the specific import and export equations that are estimated. Time-series issues that were identified and addressed are described in the next section and the disaggregated results used to compile tables 4-1, 4-2, and 4-3 are presented in table C-1. These disaggregated tables are summarized further in this appendix. Issues and results related to estimates of the aggregate bilateral trade flows are in the final section describing international trade flows.

#### *Issues in Trade Flow Estimations*

One of the important issues in trade flow modeling is the simultaneous occurrence of two or more events in an economy because a similarity in timing cannot be taken as *a priori* evidence of a relationship. Implementation of NAFTA (January 1994) occurred in close proximity to a number of other policy changes and economic shocks that may have significantly altered international trade flows. If NAFTA had constituted the only policy change over a several-year horizon, effects of the Agreement would be easier to distinguish. However, NAFTA effects are confounded by the establishment of the World Trade Organization and its associated agreements (January 1995), other bilateral and sectoral trade negotiations (e.g., Canada-Chile), unilateral trade and domestic policy changes (e.g., regulatory and tax policies), shifts in the political environment, and the business cycle. In addition, the sharp devaluation of the Mexican peso in December 1994 was a major post-NAFTA event that makes identification and separation of NAFTA effects difficult.

Two elements are employed to enhance the likelihood of successfully separating the effects of concurrent events from one another. First, monthly data are used, which allows the model estimations to include 60 pre-NAFTA and 44 post-NAFTA observations. With this frequency of data the first 11 observations in 1994 occurred with NAFTA in place, but before the sharp peso devaluation.<sup>1</sup> Second, a relatively high threshold is used to judge the occurrence of significant changes in U.S. imports and exports before those results are attributed to NAFTA. The threshold used to define significant NAFTA-induced effects requires that consistent changes in imports or exports occur over the entire 3-year period

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<sup>1</sup> Michael Kouparitsas, Federal Reserve Bank of Chicago, testified at the public hearing in connection with this study that high-frequency data should be used with time series econometric techniques. Public Hearing Transcript, p. 111. C-1

following implementation of the Agreement.<sup>2</sup> Likewise, industries for which there were no measurable changes in imports or exports in any of the 3 NAFTA years were also characterized as industries that were conclusive in that, as yet, NAFTA has had no discernible (positive or negative) effect on the industry. Industries are judged to have exhibited inconclusive NAFTA effects if the statistical results indicate a significant change in only 1 or 2 of the NAFTA years.

Separating the effects of NAFTA on trade flows from those of other events cannot be conclusively determined using this classification scheme alone. In particular, concern exists that significant changes in an industry may be caused by an event outside the scope of NAFTA, but not explicitly modeled. This problem is addressed by supplementing the quantitative analysis with qualitative assessments of the industries identified for this study. For this aspect of the study, the Commission's industry expertise was used, and those assessments are contained in chapters 5 and 6.

Another challenge in this analysis is separating the impact of tariff changes from the effects of changes in nontariff barriers. Within the realm of tariff changes, one also needs to distinguish the effects of direct tariff liberalizations from those of indirect tariff modifications.<sup>3</sup> In a very narrowly focused study of individual industrial sectors, it may be possible to obtain sufficiently detailed industry-specific data to use empirical techniques that would enable one to separate tariff and nontariff effects with some degree of confidence. This type of exercise requires an exceptionally detailed analysis of each industry of interest, would greatly increase the data requirements for the 198 industries analyzed in this study, and is, consequently, beyond the scope of this request.

#### *Past work on the demand for imports and exports*

The estimation of international trade flows is a well studied area in economics. International trade theory has one of the longest histories in economics, and the wide availability of trade data has supported the empirical research testing the rich set of empirical questions derived from the theory. Data extend for long periods of time and can be found disaggregated by commodity. Also, the underlying theoretical basis for trade, which stems directly from consumer demand and production theory, provides a good basis for empirically testing a wide range of fundamental economic hypotheses. Finally, the empirical results provide income and price elasticities of demand and supply that have implications for a wide variety of policy issues. The purpose of this section is not to comprehensively review the empirical trade literature, but to focus on some of the significant developments in the literature that are relevant to the specification adopted for this analysis.<sup>4</sup>

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<sup>2</sup> As is discussed in more detail in the next section, three binary variables for the years 1994, 1995 and 1996 are evaluated in the trade estimations to discern NAFTA consistent effects. If all three variables are statistically significant and have the same algebraic sign, then the NAFTA is concluded to have had an impact on U.S. bilateral trade volumes with Canada and Mexico. The term "statistically significant" indicates that there is a relatively large probability, for example, 90 or more out of 100, that the estimated effects of the variables characterized as significant would not have occurred by chance.

<sup>3</sup> Indirect tariff changes refer to the impact of tariff modifications for third countries or related products. Because goods are substitutable (to a degree) across industries and countries, these are tariff effects that are distinct from the direct price effects on an industry caused by lower import duties in that industry. Separating the direct and indirect effects of tariff and nontariff liberalizations was not feasible in this analysis.

<sup>4</sup> For a comprehensive review of trade modeling as it pertains to the demand and supply of imports and exports, see, Morris Goldstein, and Mohsin Kahn, "Income and Price Effects in Foreign Trade," in R.W. Jones and P.B. Kenen (eds.), *Handbook of International Economics*, Vol. II (Amsterdam: Elsevier Sciences Publishers B.V., 1985), pp. 1041-1105. C-2



One of the most widely cited articles on import demand is that of Houthakker and Magee.<sup>5</sup> In this paper, Houthakker and Magee estimate demand elasticities for both imports and exports with respect to price and income for many countries. Their estimations specify basic aggregate import and export demand equations as a function of economic activity (income) and price. This type of specification assumes that the supply elasticity is infinite. In general, this assumption is based on the belief that firms are operating at less than full capacity. As such, prices are rigid. That is, if demand slackens, firms will cut production rather than price. Similarly, when demand increases, prices will hold until capacity has been achieved by all firms in the industry. Consequently, the supply curve remains flat until full capacity is reached.<sup>6</sup> Houthakker and Magee also assume the absence of “money illusion”<sup>7</sup> or more formally that the demand function is homogeneous of degree zero in price. Consequently, their price variable is specified as a relative price, i.e., for imports ( $P_M / P_D$ ) and for exports ( $P_X / P_F$ ) where  $P_M$  = price of imports,  $P_D$  = price of domestic competing goods,  $P_X$  = price of exports, and  $P_F$  = price of competing goods in the foreign market. This specification constrains the import (export) demand elasticity with respect to import (export) prices to be equal in magnitude (but opposite in sign) to the elasticity with respect to domestic (foreign) prices. In general they find positive income elasticities and negative price elasticities.

Murray and Ginman<sup>8</sup> followed with an examination of the assumption constraining import and domestic price variables to be equal but opposite in sign. They argue that at least for aggregate import demand estimations, the model is misspecified if one uses a relative price. They statistically test for this specification by estimating an import demand equation with domestic and import prices specified separately and testing the price coefficients to determine if they sum to zero.<sup>9</sup> In rejecting this hypothesis, they argue that prices in import demand models should be included separately.

Another issue surrounding the estimation of trade equations is the specific form of the equation employed by researchers. Generally, trade equations have been estimated using a logarithmic transformation of the data because such a transformation allows the estimated coefficients to be interpreted as elasticities. Khan and Ross<sup>10</sup> specifically address this issue. They note that there is little in microeconomic theory regarding the appropriate functional form of demand relationships and point out that trade equations are generally specified as linear and linear in logarithms (double logarithmic). They note that each type of specification has its merits, but which functional form is more appropriate is an empirical question. They specify a simple import demand relationship with the quantity of imports specified as a function of real domestic income and the relative price of imports. Using statistical techniques to analyze these specifications for aggregate import demand for the United States, Canada, and Japan, Khan and Ross conclude that the double logarithmic form is preferable to the linear form.<sup>11</sup>

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<sup>5</sup> H.S. Houthakker and Stephen Magee, “Income and Price Elasticities in World Trade,” *The Review of Economics and Statistics*, 51, May 1969, pp. 111-125.

<sup>6</sup> Alternatively, it is also argued that, in general, exports account for a small share of total output, and consequently are unlikely to affect total output and prices.

<sup>7</sup> Money illusion occurs when one believes he/she is better or worse off based on nominal changes, when actually they are not. An example would be if one received a 3-percent increase in pay, but overall consumer prices increased by 6 percent. While nominal income increased, real income actually fell.

<sup>8</sup> Tracy Murray and Peter Ginman, “An Empirical Examination of the Traditional Aggregate Import Demand Model,” *The Review of Economics and Statistics*, 58, Feb. 1976, pp. 75-80.

<sup>9</sup> If the coefficients for the price variables are equal but opposite in sign, then they will add to zero (e.g., if  $-a = b$ , then  $a+b = 0$ ).

<sup>10</sup> Mohsin Khan and Knud Ross, “The Functional Form of the Aggregate Import Demand Equation,” *Journal of International Economics*, 7, May 1977, pp. 149-160.

<sup>11</sup> Khan and Ross (1977) employ the Box-Cox analysis of transformations. See G. E. P. Box and D. R. Cox (1964) “An Analysis of Transformations,” *Journal of the Royal Statistical Society, Series B*, 26, pp. 211-243.

Warner and Kreinin<sup>12</sup> examine international trade flows over the period 1957 to 1980 breaking their sample in 1972 to account for the period when exchange rates began to float. In addition, they relax the money illusion assumption embodied in the relative price specification and estimate import prices and domestic prices separately. In addition, during the period of floating exchange rates, they modify the price variable to express import prices in terms of foreign currency and include an exchange rate variable. This strategy was also employed in their export demand equations. They find that for most countries in their sample, it is not justified to employ a relative price specification. In fact, they note that separating the price variables yields more accurate results. On the export side they find that exchange rates and the price of competing goods in the foreign market have a significant effect on a country's export performance.<sup>13</sup>

Finally, the empirical trade literature has begun to take into account problems due to characteristics exhibited by time-series economic data.<sup>14</sup> A comprehensive work that examines U.S. import demand is the work by Giuseppe Carone.<sup>15</sup> In his article, Carone specifies a dynamic model of U.S. demand for aggregate imports that accounts for the time-series properties of his variables. The period he examines is from 1970 to 1992 using quarterly data resulting in over 90 observations for his estimations. An important problem Carone identifies in his data is the fact that his series are trending over time, i.e., the mean of his series changes over time. He employs a statistical method that corrects for this characteristic, as well as providing short-run dynamics and a long-run relationship for the variables in his equations. The model employed in this chapter incorporates the methods exhibited in Carone's work.

### *Imports*

The general economic model of U.S. import demand from Canada and Mexico estimated in this chapter is presented in equation C-1 below. This specification embodies a standard theoretical relationship for import demand which generally posits import quantity ( $q^m$ ) as a function of the price of imported goods ( $p^m$ ),<sup>16</sup> the price of domestic substitutes ( $p^d$ ), and domestic economic activity or income ( $y^d$ ).<sup>17</sup> Inclusion of these explanatory variables control for changes in trade that are driven by basic market forces.<sup>18</sup> It is expected that decreasing import prices, rising domestic economic activity, and increasing domestic prices would raise the demand for imports. In trade estimations, exchange-rate fluctuations can be explicitly or implicitly accounted for depending on the nature of the pricing data. It should be noted that in the import estimations,  $p^m$  and  $p^d$  are denominated in U.S. dollars, and therefore,

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<sup>12</sup> Dennis Warner and Mordechai Kreinin, "Determinants of International Trade Flows," *The Review of Economics and Statistics*, 65, Feb. 1983, pp. 96-104.

<sup>13</sup> In a study using similar methodology, Deyak, *et al.* compare trade flows between Japan and the United States. See Timothy Deyak, Charles Sawyer, and Richard Sprinkle, "A Comparison of the Demand for Imports and Exports in Japan and the United States," *Journal of World Trade*, 27, Oct. 1993, pp. 63-74.

<sup>14</sup> See, Michael C. Burda and Stefan Gerlach, "Intertemporal Prices and the U.S. Trade Balance," *American Economic Review*, 82, Dec. 1992, pp. 1234-1253, and Clarida, Richard H., "Cointegration, Aggregate Consumption, and the Demand for Imports: A Structural Econometric Investigation," *American Economic Review*, 84, March 1994, pp. 298-308.

<sup>15</sup> Giuseppe Carone, "Modeling the U.S. Demand for Imports Through Cointegration and Error Correction," *Journal of Policy Modeling*, 18, Feb. 1996, pp. 1-48.

<sup>16</sup> Note that this is not a tariff-inclusive price.

<sup>17</sup> Lower-case letters define first-differenced natural logarithms of the variables, e.g.,  $q^m = \log(Q^m) - \log(Q^m_{t-1})$ . The variables are transformed logarithmically for ease of interpretation, and the series are first-differenced to correct for time-series characteristics as described below and in appendix C.

<sup>18</sup> A simplifying assumption implied by this specification is that the domestic income and import prices are exogenous in the determination of import flows. To the extent that income and import price changes are affected by NAFTA, using binary variables alone to estimate the counterfactual impact of NAFTA will underestimate the full effect of the agreement.

the exchange rate between U.S. and foreign currencies (Canadian dollars and Mexican pesos in this case) is implicitly accounted for in the variable  $p^m$ .

To account for events that occurred since 1994, three separate binary variables are added to the specification for the NAFTA years 1994-96 (Y94, Y95, and Y96) to identify significant changes in imports that are not accounted for by changes in the variables listed above.<sup>19</sup> Binary variables are a suitable way to account for the changes in trade flows induced by both the tariff and nontariff aspects of NAFTA as long as the import price does not include the tariff. Some of the important nontariff measures associated with NAFTA include rules of origin, technical standards, competition policy, national treatment, various agricultural measures, customs clearance issues, and investment liberalization. In addition, binary variables account for other non-price-induced effects not already captured by the price variables in the equations. These other effects include tariff changes on upstream or downstream industries, shifts in joint production arrangements, and trade diversion effects due to tariff changes in third markets.<sup>20</sup> Individual binary variables were preferred over, for example, a single variable for the entire NAFTA period because more information could be obtained from the results, and these variables are more closely aligned with the NAFTA implementation and the Mexican peso devaluation.<sup>21</sup> The binary variables for 1995 and 1996 should account for the impact of the peso devaluation not otherwise controlled for in the estimating equations.

An additional difficulty identified in this analysis concerns the statistical methods used to evaluate data ordered by time (i.e., time-series data). This analysis uses empirical techniques to test for these specific properties in the data and correct for them in the estimations.<sup>22</sup> A first step to correct for these properties is to first-difference the data as indicated earlier. However, while this transformation permits the use of classical statistical techniques, it purges the long-run relationships known to be present among the variables. Provided the data series have certain properties, a model can be specified that re-establishes this long-run relationship.<sup>23</sup> Specifically, an “error correction” term (ECT<sup>m</sup>)<sup>24</sup> is added to the model and this term represents the difference between the current period’s import quantity and the expected long-run equilibrium import quantity. Consequently, U.S. import demand is specified as:

$$q^m = \beta_0 + \beta_1 p^m + \beta_2 p^d + \beta_3 y^d + \beta_4 Y94 + \beta_5 Y95 + \beta_6 Y96 + \beta_7 ECT^m + u \quad C-1$$

<sup>19</sup> Each binary variable has a value of one for each month of the year it represents, and it has the value of zero for all other months.

<sup>20</sup> Note that binary variables will also account for other, non-NAFTA, related information. For this reason, a high threshold was set for asserting a statistical link between the implementation of NAFTA and these binary variables.

<sup>21</sup> Y94 represents NAFTA’s first year before the peso devaluation, and Y95 and Y96 represent NAFTA’s second and third year with the peso devaluation.

<sup>22</sup> Economic time-series data often have a great deal of hysteresis, meaning a shock to the economy may not result in a natural reversion to a finite mean. More formally, economic time series are often nonstationary, which invalidates generally used tests for statistical significance of estimated coefficients. Analysts measuring the effects of NAFTA, but not compensating for these properties may generate results that appear significant using standard statistical measures, are actually measuring ‘spurious’ effects that are caused by properties of the data series that are used. See, C.W.J. Granger and P. Newbold, “Spurious Regressions in Econometrics,” *Journal of Econometrics*, 2, 1974, pp. 111-20.

<sup>23</sup> The econometric specification used in this estimation is a dynamic specification called an error-correction model (ECM), which allows estimations to proceed using data that is differenced to correct for unit roots, but which imposes long-run equilibrium constraints on the specified model.

<sup>24</sup>  $ECT_t^m = -Q_{t-1}^m + \alpha_1 P_{t-1}^m + \alpha_2 P_{t-1}^d + \alpha_3 Y_{t-1}$ , upper case letters represent the natural logarithms of the variables and the coefficients  $\alpha_1$ - $\alpha_3$  represent long-run relationships between the import quantity and the explanatory variables. This term explains changes in imports that are caused by the market attempting to correct for past short-run disequilibrium behavior.

With the exception of  $\beta_1$ , the algebraic signs of the other coefficient estimates in equation C-1 ( $\beta_2$ - $\beta_6$ ) indicate the direction of the shift in the import demand curve. The coefficient  $\beta_1$  is a statistical estimate of the effects of import price on import quantity, which characterizes the slope of the demand curve, and it is expected to be negative. The algebraic sign and magnitude of the other coefficients ( $\beta_2$ - $\beta_6$ ) represent a shift in the import demand curve. If the sign is positive, then this result represents a rightward shift in the import demand curve. Likewise, if the sign is negative, then this result represents a leftward shift in the demand curve. The greater the magnitude of the coefficient, the greater the magnitude of the shift it represents. The coefficient  $\beta_7$  represents the effects of the error-correction process on the demand for imports and its sign is expected to be negative.<sup>25</sup>

Figure C-1 provides a graphical example of the effects of a tariff liberalization on the market for U.S. imports. Import demand in figure C-1 is negatively related to the price of imports, but the supply of imports in this model is depicted as horizontal (i.e., perfectly elastic supply).<sup>26</sup> Changes in variables other than the price of imports are characterized as shifts in the curves. Therefore, changes in income, prices of competing goods, exchange rates, and trade measures are represented by shifts in the curves. In the model above, changes attributed to price, income, and disequilibrium factors are accounted for directly in the estimation ( $p^m$ ,  $p^d$ ,  $y^d$ , ECT<sup>m</sup>). Remaining factors influencing the market for imports during the NAFTA years are captured by the three annual binary variables Y94, Y95, and Y96. In figure C-1, a reduction in trade barriers for this industry implies a rightward shift in the demand curve (from  $D_1$  to  $D_2$ ), resulting in a larger quantity demanded (but at a constant price). This shift implies an increase in imports during the NAFTA period which is not explained by the other economic variables in the equation. Therefore, statistically significant effects associated with NAFTA are identified by the significance of the coefficients on the binary variables identifying the NAFTA years ( $\beta_4$ ,  $\beta_5$ , and  $\beta_6$ ).<sup>27</sup>

### *Exports*

U.S. exports to Canada and Mexico are modeled in a manner similar to that for U.S. import demand. In particular, because exports from the United States are, in fact, Canadian and Mexican imports, U.S. exports are effectively modeled as Canadian and Mexican import demand specifications. Therefore, the specification and general description of the determinants of import demand in the previous section apply to the estimation of U.S. export demand. The quantity of U.S. export demand ( $q^x$ ) is modeled as a function of the price of U.S. exports ( $p^x$ ),<sup>28</sup> the price of domestic (i.e., Canadian and Mexican) substitutes ( $p^d$ ), domestic (i.e., Canadian and Mexican) economic activity or income ( $y^d$ ), and the exchange rate ( $e$ ).<sup>29</sup> As with imports, it is expected that decreasing U.S. export prices, rising economic activity, and increasing prices would raise the demand for U.S. exports.

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<sup>25</sup> The coefficient on the error-correction term represents the degree to which demand adjusts to a deviation of the previous period's actual demand from its expected value. The dynamic adjustment process will be stable only if the value of this term is between zero and negative one. The magnitude of the coefficient represents the speed with which the adjustment process works. A value approaching negative one indicates a movement towards full adjustment after a single period. As values approach zero, the degree of adjustment per period becomes smaller and smaller; therefore, full adjustment will take longer.

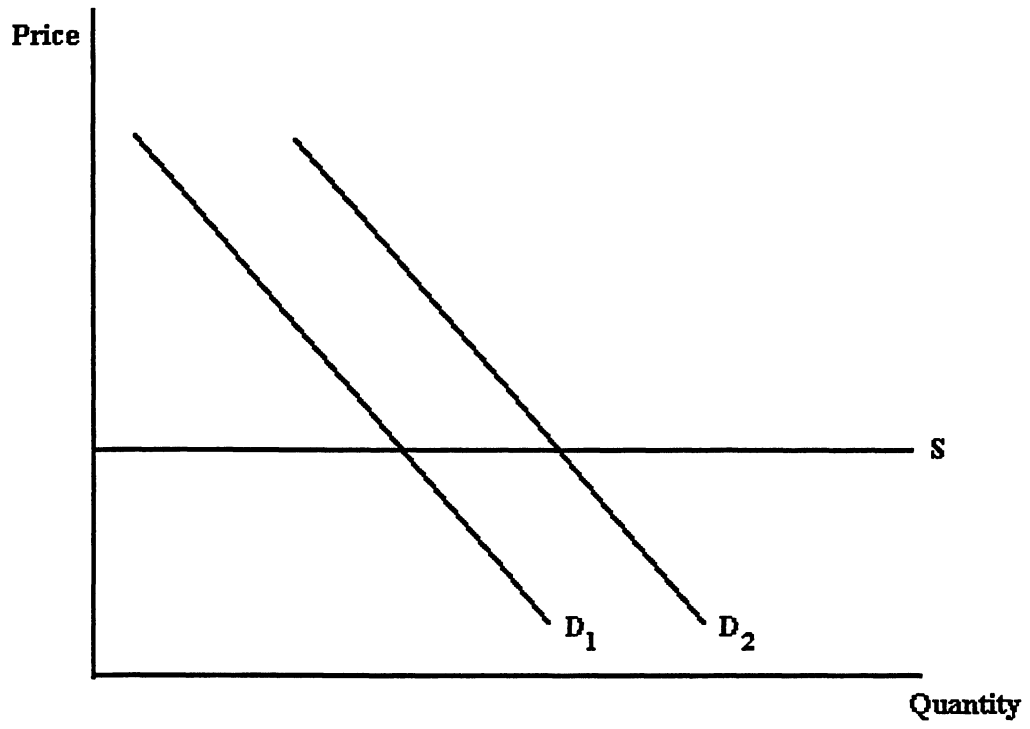
<sup>26</sup> This embodies the simplifying assumption described earlier in the import demand literature review, which presumes that the supply of import quantities is not price sensitive.

<sup>27</sup> Recall that a "statistically significant" coefficient is one in which there is a high degree of confidence, that the coefficient is not, in fact, equal to zero. That is, in this case one rejects the hypothesis that there is no relationship between the volume of U.S. imports and the binary variables.

<sup>28</sup> Note that this is not a tariff-inclusive price.

<sup>29</sup> As before, lower-case letters define first-differenced logarithms of the variables.

Figure C-1: Increase in import demand



One difference between the U.S. import and export demand estimations is the currency units in which domestic and foreign prices are denominated. As described above, import demand was estimated using import prices denominated in U.S. dollars. Therefore, exchange rate changes, ( $e$ ), are implicit in the prices in the import equations, and are not included as a separate explanatory variable. For the export demand models, U.S. export prices are denominated in U.S. dollars, but domestic (i.e., Canadian and Mexican) prices in these models are denominated in Canadian dollars and Mexican pesos. Hence, exchange rates are included explicitly in the estimates of U.S. export demand and should control for changes in exchange rates.

As before, the statistical properties of the data used in the export demand models have characteristics that need to be corrected in order to use classical estimation techniques. The variables are first differenced and an error correction term is included in the models.  $ECT^x$  represents the difference between the current-period foreign import quantity and the expected long-run equilibrium.<sup>30</sup> Similarly, individual binary variables for the NAFTA years 1994-96 are included to identify changes in U.S. exports that are not controlled for by changes in the other variables listed here. Consequently, U.S. export demand is specified as:

$$q^x = \beta_0 + \beta_1 p^x + \beta_2 p^d + \beta_3 y^d + \beta_4 e + \beta_5 Y94 + \beta_6 Y95 + \beta_7 Y96 + \beta_8 ECT^x + u \quad C-2$$

With the exception of  $\beta_1$ , the sign of the other coefficient estimates in equation C-2 ( $\beta_2$ - $\beta_7$ ) indicate the direction of the shift in the export demand curve. The coefficient  $\beta_1$  is a statistical estimate of the effects of export price on export quantity, which characterizes the slope of the demand curve, and it is expected to be negative. The algebraic sign and magnitude of the other coefficients ( $\beta_2$ - $\beta_7$ ) represent a shift in the export demand curve. If the sign is positive, then this result represents a rightward shift in the export demand curve. Likewise, if the sign is negative, then this result represents a leftward shift in the demand curve. The greater the magnitude of the coefficient, the greater the magnitude of the shift it represents. The coefficient  $\beta_8$  represents the effects of the error-correction process on the demand for exports, and its sign is expected to be negative.

### *Data*

The industry analysis covers the period January 1989 to October 1996, using monthly data observations for each of the variables listed above. Bilateral import and export flows at the 4-digit SIC level were constructed from official trade data of the U.S. Department of Commerce (DOC) disaggregated to the 10-digit level of the harmonized tariff schedule (HTS).<sup>31</sup> These trade data are aggregated to the 4-digit SIC level using a concordance maintained by the DOC.<sup>32</sup> Import and export prices are represented by a unit value index constructed from the ratio of value to quantity. Therefore, the import and export prices are also implicitly trade-weighted aggregates of the price indices for the 10-digit HS tariff categories.

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<sup>30</sup>  $ECT_t^x = -Q_{t-1}^x + \alpha_1 P_{t-1}^x + \alpha_2 P_{t-1}^d + \alpha_3 Y_{t-1}^d + \alpha_4 E_{t-1}$ , upper case letters represent the natural logarithms of the variables and the coefficients  $\alpha_1$ - $\alpha_4$  represent long-run relationships between the export quantity and the explanatory variables. This term explains changes in exports that are caused by corrections for past short-term market disequilibrium.

<sup>31</sup> Since governments generally receive tariff revenue from imports, import data are usually of better quality than records of exports, in which there are no duty revenues. Official U.S. import and export data are recognized to have the same patterns. However, data on U.S. exports to Canada are of relatively high quality, because the United States and Canada have a reciprocal agreement in which each country's bilateral import data are used by the export country to represent its bilateral exports. This type of agreement does not exist between the United States and Mexico; therefore, the quality of the data on U.S. exports to Mexico is recognized to be of lower quality.

<sup>32</sup> The SIC is essentially a production-based classification system identifying how production occurs, whereas the HTS is a commodity-based classification of what is imported. It is recognized that any concordance between two such conceptually different classifications will have imperfections. Import and export quantities are converted to indices by trade-weighting the trade flows of each 10-digit HTS category to the 4-digit SIC category.

Domestic price series were collected from each of the NAFTA countries. U.S. domestic prices were obtained from the U.S. Bureau of Labor Statistics (BLS). In most cases, these price series represent BLS-calculated values for an identical 4-digit SIC category. Data that were unavailable at this level were proxied by 2- and 3-digit SIC industry series also available from BLS data. Statistics Canada provided Canadian domestic pricing data, disaggregated to the 4-digit Canadian SIC level, and these were matched to U.S. SIC categories.<sup>33</sup> Mexican domestic pricing series were obtained from the Government of Mexico. These data were also concorded to the U.S. SIC industries by ITC staff.<sup>34</sup>

Domestic activity variables for each country capture the effects of the business cycle on import (and export) demand. To match the monthly frequency of the trade flow data, a measure of domestic activity with the same frequency was also required. Since gross domestic product (GDP) data are only available on a quarterly basis, indices of real industrial output from each country are used. These indices for the United States, Mexico, and Canada were obtained from the Board of Governors of the U.S. Federal Reserve Bank, Instituto Nacional de Estadística Geografía e Informática, and Statistics Canada, respectively. Real exchange rates between the U.S. dollar and the currencies of Mexico and Canada were also collected. The Federal Reserve Bank of Dallas provided an index of the real peso-dollar exchange rate, and the real exchange rate between the Canadian and U.S. dollars was calculated from published sources.<sup>35</sup>

### *Econometric Methodology*

Econometric methods used in this chapter are heavily influenced by the nature of the data used in the estimation. In particular, time series data are used which are monthly covering the period January 1989 to October 1996. Because it is important to obtain consistent estimates of the significance of the parameter estimates, we test for and compensate for the existence of unit roots in the data.<sup>36</sup> To compensate for this problem without purging long-run theoretical components from the data, we employ dynamic estimations of import and export demand using error-correction models (ECM).<sup>37</sup> The data are differenced to eliminate the unit root property. In doing so, estimations of the demand system are transformed into estimates of the growth rate of import and export demand. The explanatory variables remain the same, but each is also differenced (in logarithmic form) so the growth rate of those variables are used to explain the growth of demand.

Using an ECM model as generalization of a dynamic (short-run) process in which all data series exhibit unit roots, the error-correction term represents a degree of convergence of the previous period from long-run equilibrium. That is, an ECM permits a process' dichotomization into short-run and long-run (theoretically based) components. If long-run equilibrium properties exist in the data, the ECM term can be included in the estimation. This term imposes long-run theoretical relationships on the data. If the

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<sup>33</sup> Data were matched using the publication *Concordance Between the Standard Industrial Classifications of the United States and Canada: 1987 United States SIC - 1980 Canadian SIC*, produced by Statistics Canada and the U.S. Bureau of the Census.

<sup>34</sup> Data were obtained from Banco de Mexico. The unavailability of an official concordance required staff to match industries using descriptions of the industries. Price data from Mexico were obtained for 60 industries that were matched to the 198 U.S. SIC industries evaluated in this chapter.

<sup>35</sup> The real exchange rate is the product of the nominal exchange rate and the ratio of the U.S. and Canadian producer price indices. The nominal exchange rate and producer price indices were collected from various issues of *International Financial Statistics* published by the International Monetary Fund.

<sup>36</sup> A unit root in the data violates the assumption of stationarity, (a stationary mean and finite variance) that is a fundamental requirement for use of standard statistical estimation techniques.

<sup>37</sup> For formal descriptions of these models, see David Hendry, Adrian Pagan, J. Dennis Sargan, "Dynamic Specification," in *Handbook of Econometrics, Volume II*, eds. Zvi Griliches and M.D. Intriligator (Amsterdam: Elsevier Science Publishers, 1984).

data do not exhibit long-run relationships, imposing this type of constraint is inappropriate, therefore, the model should be estimated using the differenced variables only.

Accordingly, to employ these models the data series are tested for long-run relationships. Formally, these are tests of cointegration, which are tests on the residuals of a regression of the levels of the variables. If each of the series in the regression exhibits unit roots, but the residuals are stationary, the individually nonstationary variables move together in a stationary manner and are tied together by a long-run relationship(s) between the variables in the regression. More formally, the series are said to have a cointegrating vector(s),<sup>38</sup> representing the long-run relationship between the variables in the regression.

Unit root and cointegration tests were conducted on the series for each of the sectors included in the analysis. Unit roots were nearly uniformly present in the data, so each data series was differenced to obtain stationarity.<sup>39</sup> In addition, the cointegration tests indicated a degree of cointegration among the data series. However, in small samples, the bias in cointegration tests can be substantial because the long-run properties of the data may not be fully reflected.<sup>40</sup> As a result, we followed the strong theoretical basis for the long-run relationships that exist in the data and incorporated the ECM term in the estimations to impose that long-run relationship.<sup>41</sup>

### *Results*

Table C-1 summarizes the results of the ordinary least-squares (OLS) estimations performed for this analysis. For each U.S. NAFTA partner there are two estimations—an import demand equation and an export demand equation resulting in a total of four estimations for each SIC sector identified for analysis.<sup>42</sup> Table C-1 presents only the statistically significant (90 percent level) year-specific binary variables. These are represented by an ‘X’ for exports and an ‘M’ for imports below the country-year heading for each equation. In addition, a ‘+’ or ‘-’ sign indicates the direction of change that has been observed.

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<sup>38</sup> In a multivariate regression, there may be multiple cointegrating vectors, but a single vector is sufficient for the purpose of correcting for cointegration.

<sup>39</sup> First-differenced data were also tested for unit roots. First differencing, in nearly all cases, led to series that easily satisfied the required stationarity properties.

<sup>40</sup> See A.C. Harvey, *The Econometric Analysis of Time Series* (London: Philip Allan, 1990), p. 256.

<sup>41</sup> As a result of the large number of regressions that were estimated for the industry analysis, a standardized equation structure was chosen (based on an analysis of a subset of estimations) and applied to all equations. The estimated equations include no lagged differenced variables.

<sup>42</sup> There were a total of 677 estimations out of a possible 792 run for the trade analysis. The lack of an estimation in a sector is due to either data constraints or the fact that the sector was added for analysis late in the study.



Table C-1: Summary of Significance for the Import and Export Estimations								
	Adjusted R <sup>2</sup>	Canada			Adjusted R <sup>2</sup>	Mexico		
		94	95	96		94	95	96
<b>Group 1: Grains and Oilseeds</b>								
0111--Wheat	0.28 0.21				0.86	(1)	(1)	(1)
0115--Corn	0.55 0.11	+X			0.51 0.66		-X	
0116--Soybeans	0.64 0.30	+M			0.54	(1)	(1)	(1)
0119--Cash grains, nspf	0.76 0.30				0.68 0.52	+M	+M	
<b>Group 2: Raw Cotton</b>								
0131--Cotton and cottonseeds	0.77	(1)	+X (1)	+X (1)	0.67	(1)	(1)	(1)
<b>Group 3: Field crops</b>								
0139--Field crops, except cash grains, nspf	0.51 0.40				0.64 0.57	+X		+X
<b>Group 4: Fresh vegetables, canned &amp; frzn. fruits and veg.</b>								
0161--Vegetables and melons	0.03 0.10				0.52 0.26			
2033--Canned fruits and vegetables	0.34 0.66			+X +M	0.75 0.35	+X		
2037--Frozen fruits and vegetables	0.46 0.36				0.96 0.64	+X	+X	
<b>Group 5: Ornamental floriculture and nursery products</b>								
0181--Ornamental floriculture and nursery products	0.51	+X (1)	+X (1)	(1)	0.87	+X (1)	(1)	(1)
<b>Group 6: Meats and livestock</b>								
0211--Beef cattle	0.66	(1)	(1)	(1)	0.46	(1)	-X (1)	-X (1)
0213--Hogs	0.50	(1)	(1)	(1)	0.71	(1)	-X (1)	-X (1)
2011--Meat products and meat packing	0.11 0.54				0.53 0.78	+X	-X	
<b>Group 7: Fish and shellfish</b>								
0273--Aquaculture		(1) (1)	(1) (1)	(1) (1)		(1) (1)	(1) (1)	(1) (1)
0912--Finfish		(1) (1)	(1) (1)	(1) (1)		(1) (1)	(1) (1)	(1) (1)

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada				Mexico			
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
<b>Group 8: Iron ore</b>								
1011--Iron ores		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
<b>Group 9: Coal</b>								
1221--Bituminous coal and lignite surface mining		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
<b>Group 10: Crude petroleum, nat. gas and nat. gas liq.</b>								
1311--Crude petroleum and natural gas	0.46 0.02	+X			0.60 0.53	-X +M	+X +M	
1321--Natural gas liquids	0.48	(1)	(1)	(1)	0.56	(1)	(1)	(1)
<b>Group 11: Animal Feeds</b>								
2048--Prepared feeds, nspf	0.57 0.52				0.35 0.76			
<b>Group 12: Bakery products</b>								
2051--Bread and other bakery products	0.40 0.32	-X	-X	-X	0.47 0.25	+M	+M	
<b>Group 13: Chocolate and cocoa products</b>								
2066--Chocolate and cocoa	0.13 0.16	-X	-X	-X	0.22 0.51	-M		
<b>Group 14: Fats and oils</b>								
2076--Vegetable oils	0.48 0.21	+M		+M	0.35 0.58			+M
2079--Shortening, table oils	0.47 0.04		-X		0.48	(1)	(1)	(1)
<b>Group 15: Malt beverages</b>								
2082--Malt beverages	0.35	(1)	(1)	(1)	0.45	(1)	(1)	(1)
<b>Group 16: Bottled &amp; canned soft drinks &amp; carbonated waters</b>								
2086--Bottled and canned soft drinks and carbonated waters	0.28 0.08		+M		0.35 0.46	+M	-X +M	-X +M
<b>Group 17: Miscellaneous food preparations</b>								
2099--Food products, nspf	0.26 0.44		-X	-X -M	0.43 0.44	+X		
<b>Group 18: Textile mill products</b>								
2211--Broadwoven fabric mills, cotton	0.24 0.48		-X	-M	0.38 0.21	+X	+M	+M

Table C-1: Summary of Significance for the Import and Export Estimations								
	Canada				Mexico			
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
2221—Broadwoven fabric mills, manmade fiber and silk	0.60 0.59			-X	0.39 0.37			
2252—Hosiery, n.e.c.	0.62 0.51	+M	-X +M	-X +M	0.55 0.47	+X	+X +M	+X +M
2257—Weft knit fabric mills	0.68 0.15		-X	-X	0.65 0.37	+X		
2273—Carpets and rugs	0.47 0.25			-M	0.44 0.49	+M	-X	
2281—Yarn spinning mills	0.21 0.32				0.61 0.35	+X	+X	+X
2295—Coated fabrics, not rubberized	0.48 0.87	-X	-X		0.72 0.63			
2824—Manmade organic fibers	0.14 0.00				0.48 0.37			
<b>Group 19: Apparel and other finished textile products</b>								
2311—Men's and boy's suits, coats, and overcoats	0.53 0.45			-M	0.58 0.44			+M
2321—Men's and boy's shirts, except work shirts	0.32 0.50				0.55 0.49	-M		-X
2322—Men's and boy's underwear and nightwear	0.61 0.50				0.42 0.46		+X	
2325—Men's and boy's separate trousers and slacks	0.40	(1)	(1)	(1)	0.61 0.15			
2331—Women's, misses', and juniors' blouses and shirts	0.62 0.52				0.54 0.24	+X	+X	+M
2335—Women's, misses', and juniors' dresses	0.61	(1)	(1)	(1)	0.42	(1)	(1) +M	(1) +M
2337—Women's, misses', and juniors' suits, skirts, and coats	0.39 0.54			+M	0.70 0.36			+M
2341—Women's, misses', and children's underwear & nightwear	0.42 0.61			-X	0.74 0.38	+M	+M	+M
2342—Brassieres, girdles, and allied garments	0.54 0.59		+M		0.61 0.28			-X
2369—Girls, children's, and infants' outerwear, n.e.c.	0.50 0.31		-X	-X	0.72 0.78		+M	+M
2392—House furnishings, except curtains and draperies		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada			Mexico				
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
<b>Group 20: Solid wood products</b>								
2411--Logs	0.23	(1)	(1)	(1)	0.75 0.82	+X	+X -M	+X
2421--Lumber	0.54 0.52			-X	0.42 0.87	-X		+M
2431-Millwork	0.61 0.84				0.20 0.32			
2434--Kitchen cabinets		(1) (1)	(1) (1)	(1) (1)		(1) (1)	(1) (1)	(1) (1)
2435--Hardwood veneer	0.75 0.55		-M	-M	0.40 0.22		+X	+X
2439--Structural wood members	0.85	(1)	(1)	(1)		(1) (1)	(1) (1)	(1) (1)
2493--Reconstituted wood products	0.28 0.37	-M		+X	0.33 0.60	+M	+M	+M
2499--Wood products, nspf	0.69	(1)	(1)	(1)	0.80	(1)	(1)	(1)
<b>Group 21: Furniture</b>								
2599--Furniture and fixtures, n.e.c.	0.70 0.69				0.67 0.80			
<b>Group 22: Paper products</b>								
2611--Pulp	0.50 0.52			-M	0.36 0.33	+X (1)	+X (1)	(1)
2621--Paper	0.46 0.47	-M	-M	+X	0.45 0.22			+M
2653--Corrugated paper	0.15 0.26				0.39 0.39	+X		
2657--Folding paperboard	0.64 0.36			-M	0.50 0.52			
2672--Coated paper	0.76 0.45				0.84 0.53	+X	+X	+X
2673--Sacks and bags	0.38 0.93			+X	0.90 0.61			
2676--Sanitary paper	0.08 0.14				0.56 0.36		+M	+M
2678--Stationary products	0.23 0.19				0.41 0.72	+X		

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada			Mexico				
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
<b>Group 23: Printed matter</b>								
2721--Periodicals	0.16 0.46			-M	0.54 0.64	-M	-M	-M
2731--Books, publishing		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
2752--Printed matter, lithographic	0.69 0.81		-X		0.91 0.67			
2771--Greeting cards	0.77 0.61				0.66 0.65	+X +M	+X +M	+X +M
2782--Blankbooks	0.43 0.65				0.83 0.78	+X		
<b>Group 24: Alkalies and chlorine</b>								
2812--Alkalies and chlorine		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
<b>Group 25: Industrial inorganic chemicals</b>								
2816--Inorganic pigments	0.63 0.44	+M	+M	+M	0.66 0.40		-M	-M
2819--Industrial inorganic chemicals	0.90 0.88			-X	0.78 0.86		-X	-X +M
<b>Group 26: Synthetic plastics, resins, &amp; rubber</b>								
2821--Plastic materials and synthetic resins	0.34 0.63				0.50 0.28	+X	+X +M	+X
2822--Synthetic rubber	0.57 0.47			+X	0.69 0.46			
<b>Group 27: Pharmaceutical preparations</b>								
2834--Pharmaceutical preparations	0.99 0.84			+X	0.98 0.89	-M	-M	-M
<b>Group 28: Soaps, detergents, &amp; toiletries</b>								
2841--Soaps and cleansers	0.32 0.49		-X	-X	0.79 0.35	-X		
2844--Toilet preparations	0.44 0.42				0.57 0.65	+X		
<b>Group 29: Paints &amp; allied products</b>								
2851--Paints and allied products	0.77 0.56				0.83 0.50	+X		
<b>Group 30: Industrial organic chemicals</b>								
2865--Cyclic crudes	0.81 0.43		+M	+M	0.68 0.76	+X	+X -M	+X

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**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada			Mexico				
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
2869—Industrial organics	0.58 0.63	+X	+X	+X	0.84 0.68	+X +M	+X	
<b>Group 31: Fertilizers, pesticides, &amp; agricultural chemicals</b>								
2873—Nitrogenous fertilizers	0.69 0.40				0.30	(1)	(1)	(1)
2879—Agricultural pesticides	0.34 0.52	-M	-M	-M	0.53 0.59			
<b>Group 32: Petroleum refinery products</b>								
2911—Petroleum refinery products	0.86 0.49		+M	+M	0.57 0.50	-X -M	-M	
<b>Group 33: Plastic &amp; rubber products</b>								
3011—Tires and inner tubes	0.35 0.33	-X	-X	-X	0.66 0.74		+M	
3052—Rubber and plastics hoses and belting	0.24 0.74		-X +M	-X +M	0.97 0.90	+X		+M
3053—Gaskets, packing, and sealing devices	0.54 0.92	-X +M	-X +M	-X +M	0.82 0.61	+M	-X +M	-X +M
3069—Fabricated rubber products, n.e.c.	0.73	(1)	(1)	(1)	0.95	(1)	(1)	(1) +M
3081—Unsupported plastics film and sheet	0.13 0.38		-X -M	-X -M	0.54 0.55	+X +M	+M	+M
3082—Unsupported plastics profile shapes	0.52 0.29				0.67 0.63	+X		+M
3089—Plastics products, n.e.c.	0.83 0.81	-X	-X	-X	0.57 0.94	+M	+M	+M
<b>Group 34: Leather tanning &amp; finishing</b>								
3111—Leather tanning and finishing	0.85 0.72		-X	-X	0.83 0.56		+X	
<b>Group 35: Women's footwear, except athletic</b>								
3144—Women's footwear, except athletic	0.48	(1)	(1)	(1)	0.75 0.54			+M
<b>Group 36: Flat glass &amp; glassware</b>								
3211—Flat glass	0.81 0.46	+X	+X	+X	0.76 0.56	+X		
3221—Glass containers	0.60 0.54	+X +M	+X +M	+M	0.69 0.30		+X	
3229—Pressed and blown glass and glassware, n.e.c.	0.76	(1)	(1)	(1)	0.91	(1)	(1)	(1)

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada			Mexico				
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
3231--Glass products, made of purchased glass	0.63 0.76		+X	+X	0.50 0.73			
<b>Group 37: Cement</b>								
3241--Cement, hydraulic	0.63 0.44				0.72 0.33			+M
<b>Group 38: Vitreous china plumbing fixtures</b>								
3261--Vitreous china plumbing fixtures, etc.	0.67 0.72	-M			0.78 0.21			
<b>Group 39: Gypsum building products</b>								
3275--Gypsum products	0.82 0.71	+X -M	+X -M	+X -M	0.83 0.19			
<b>Group 40: Mineral wool</b>								
3296--Mineral wool	0.08 0.91				0.32 0.60			
<b>Group 41: Steel products</b>								
3312--Steel works, blast furnaces & rolling mills	0.32 0.76				0.84	(1)	(1)	(1)
3321--Gray and ductile iron foundries	0.63 0.87	+M	+X +M	+X +M	0.58 0.92			
<b>Group 42: Nonferrous metals, unwrought</b>								
3331--Primary smelting and refining of copper	0.22 0.37		+X +M	+X +M	0.32 0.32	+X		
3334--Primary production of aluminum	0.58 0.43	+M			0.62 0.58		+M	+M
3339--Primary smelting and ref. of nonfer. metals, ex. cop. & al.	0.78 0.82	-X	-X	-X	0.71 0.61			
3341--Secondary smelting and refining of nonferrous metals	0.28 0.44				0.45 0.15	-M	+X -M	-M
<b>Group 43: Nonferrous metals, wrought</b>								
3351--Rolling, drawing, and extruding of copper	0.60 0.28	+X +M	+X		0.26 0.42	+X		
3353--Aluminum sheet, plate, and foil	0.58 0.35		+M	+M	0.32 0.46			
3354--Aluminum extruded products	0.24 0.65				0.58 0.59	+X	+X	
3357--Drawing and insulating of nonferrous wire	0.51 0.87		+X +M	+X	0.61 0.47			

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada			Mexico				
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
<b>Group 44: Fabricated metal products</b>								
3429--Hardware, n.e.c.	0.65 0.85		+M	+M	0.85 0.71	+M	+X +M	+X +M
3441--Fabricated structural metal	0.37 0.15				0.53 0.33	-M	-X -M	-X -M
3442--Metal doors, sash, frames, molding, and trim	0.44 0.23		+M	+M	0.64 0.22			+M
3443--Fabricated plate work (boiler shops)	0.50 0.54				0.86 0.84	-X		
3452--Bolts, nuts, screws, rivets, and washers	0.72 0.64	+X	+X	+X -M	0.92 0.65	+X	+M	+M
3466--Crowns and closure		(0) (0)	(0) (0)	(0) (0)		(0) (0)	(0) (0)	(0) (0)
3489--Ordnance and accessories, n.e.c.		(0) (0)	(0) (0)	(0) (0)		(0) (0)	(0) (0)	(0) (0)
3493--Steel springs, except wire	0.56 0.59	+X	+X -M	+X -M	0.58 0.41	+M		
3494--Valves and pipe fittings, n.e.c.	0.53 0.76	-X	-X	-X	0.92 0.19	+X	+X	
3499--Fabricated metal products, n.e.c.	0.97 0.90				0.90 0.92	+X		
<b>Group 45: Industrial machinery</b>								
3511--Steam, gas & hydraulic turbines & turbine generators	0.70 0.51	+M	+M	+M	0.56 0.88			
3519--Internal combustion engines, n.e.c.	0.52 0.50	-X	-X	-X	0.64 0.82			
3523--Farm machinery and equipment	0.72 0.68	-X			0.85 0.84	+X +M	+M	
3531--Construction machinery and equipment	0.73 0.72	-M		-X -M	0.64 0.86	+X		
3532--Mining mach. and eq., ex. oil and gas	0.67 0.62	+X	+X +M	+X +M	0.77 0.85		+M	+M
3535--Conveyors and conveying equipment	0.39 0.81			-X	0.52 0.45	+X	+X	+X
3537--Industrial trucks, tractors, trailers, and stackers	0.72 0.86		+X		0.84 0.93			
3541--Machine tools, metal cutting types	0.64 0.86	+X	+X		0.70 0.77			
3542--Machine tools, metal forming types	0.60 0.78				0.71 0.78		+X -M	+X -M

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**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada				Mexico			
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
3544--Special dies and tools, die sets, jigs and fixtures, etc.	0.79 0.78	+M	+M		0.80 0.68	+X		
3546--Power-driven handtools	0.57 0.63		-X	-X +M	0.86 0.19	+X		
3547--Rolling mill machinery and equipment		(2)	(2)	(2)		(2)	(2)	(2)
3554--Paper industries machinery	0.83 0.87	+M	+X +M	+M	0.64 0.47			
3555--Printing trades machinery and equipment	0.44 0.64				0.32 0.26		-X	
3559--Special industrial machinery, n.e.c.	0.76 0.78		+X	+X	0.73 0.81	+X		
3561--Pumps and pumping equipment	0.60 0.82			-X	0.86 0.57	+X		
3562--Ball and roller bearings	0.55 0.60			-X	0.82 0.71		-M	-M
3564--Ind. & comm. fans & blowers & air purification eq.	0.49 0.87	+M	+M	+M	0.69 0.34	+M	+X +M	+X +M
3565--Packaging machinery		(2)	(2)	(2)		(2)	(2)	(2)
3566--Speed changers, industrial high-speed drives, and gears	0.63 0.89			+X	0.73 0.31	-X -M	-M	-M
3569--General industrial machinery and equipment, n.e.c.	0.84 0.80		+X		0.66	(1)	(1)	(1)
3585--Air-cond., heating eq. and comm. and ind. refrig. eq.	0.81 0.69	-M	-M	-M	0.83 0.26			
3593--Fluid power cylinders and actuators	0.48 0.81	-M	-M	-M	0.75 0.60	+X		
3599--Industrial & commercial machinery & equipment, nec	0.72 0.72			+X	0.88 0.78	+M	+X +M	+X +M
<b>Group 46: Computers &amp; computer peripheral equipment</b>								
3571--Electronic computers	0.46 0.67		-X -M	-M	0.73 0.32	+M		+M
3577--Computer peripheral equipment, n.e.c.	0.65 0.61		-X	+X -M	0.64 0.29			+X
<b>Group 47: Heavy electrical equipment</b>								
3612--Power, distribution, and specialty transformers	0.47 0.74				0.74 0.27		-X -M	-X -M
3613--Switchgear and switchboard apparatus	0.73 0.61	+X	+X -M	+X	0.56 0.65	+X		

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**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada				Mexico			
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
3621--Motors and generators	0.35 0.41	+M			0.71 0.26	+X	-M	
3625--Relays and industrial controls	0.76 0.64	+M	+M	+M	0.75 0.41	+X	+X +M	
<b>Group 48: Household appliances</b>								
3631--Household cooking equipment	0.64 0.73	-M	-M	-M	0.47 0.18	+X		
3633--Household laundry equipment	0.63 0.86	-M		-M	0.60 0.29	-M	-M	-M
3634--Electric housewares and fans		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
3635--Household vacuum cleaners	0.39 0.59	+X +M	+X +M	+X +M	0.63 0.27	+M	+X +M	+X +M
3639--Household appliances, n.e.c.		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
<b>Group 49: Electric lighting &amp; wiring equipment</b>								
3641--Electric lamp bulbs and tubes	0.46 0.26				0.70 0.42	+X		
3643--Current-carrying wiring devices	0.80 0.91		-M		0.83 0.61	+X	+X -M	+X -M
3644--Noncurrent-carrying wiring devices	0.81 0.81		+M	+M	0.87 0.85	+M	+M	+M
3648--Lighting equipment, n.e.c.	0.85	(1) +M	(1) +M	(1) +M	0.19 0.73		-M	-M
<b>Group 50: Radio and television equipment</b>								
3651--Household audio and video equipment	0.67 0.33				0.85 0.39	+X +M	+X +M	+M
3663--Radio and television broadcasting & comm. eq.	0.46 0.72	+X	+X	+X	0.68 0.22	+X +M		+M
3671--Electron tubes	0.29 0.87	+M	+M	+M	0.32 0.20	+X	+X	+X
<b>Group 51: Communications equipment</b>								
3661--Telephone and telegraph apparatus	0.03 0.68		+X	+X +M	0.64 0.30	+X -M	-M	-M
3669--Communications equipment, n.e.c.	0.83 0.73	-M	-M	-M	0.81 0.26	+X -M		
<b>Group 52: Electronic components &amp; accessories</b>								
3672--Printed circuit boards	0.46 0.37	+M	+M		0.80 0.67	+X	+X	

Table C-1: Summary of Significance for the Import and Export Estimations								
	Canada				Mexico			
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
3674--Semiconductor and related devices	0.49 0.58	+M	+X	+X	0.52 0.42	+X		
3675--Electronic capacitors	0.47	(1)	(1)	(1)	0.62	(1)	+X (0)	+X (0)
3676--Electronic resistors	0.56 0.91	-M	-M		0.67 0.83	+X	+X	+X
3678--Electronic connectors	0.69 0.73	+X			0.84 0.50			+M
3679--Electronic components, n.e.c.	0.63 0.76	+M			0.38 0.86	+X	+X -M	+X -M
<b>Group 53: Misc. electrical machinery, equipment, &amp; supplies</b>								
3652--Phonograph records and prerecorded audio tapes & disks	0.55 0.78	-M	-M	-M	0.59 0.65		+M	+M
3692--Primary batteries, dry and wet		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
3695--Magnetic and optical recording media	0.84 0.49	+M			0.91 0.59	+M		+M
3699--Electrical machinery, equipment, and supplies, n.e.c.	0.72 0.72		+X +M	+X +M	0.79 0.80			
<b>Group 54: Motor vehicles</b>								
3711--Motor vehicles and passenger car bodies	0.48 0.36				0.47 0.78			
<b>Group 55: Motor vehicle parts</b>								
3691--Storage batteries	0.53 0.76	+X	+X	+X	0.77 0.47	+X		
3694--Electrical equipment for internal combustion engines	0.59 0.86	-M			0.74 0.30			
3714--Motor vehicle parts and accessories	0.77 0.83	-X	+X +M	+M	0.82 0.53	+M	+M	+M
3715--Truck trailers	0.24 0.49		-M		0.41 0.53		-M	-M
<b>Group 56: Aircraft &amp; aircraft parts</b>								
3721--Aircraft	0.61 0.54	+M	+M	+M	0.51	(1)	(1)	(1)
3724--Aircraft engines and engine parts	0.74 0.86				0.79 0.41			
3728--Aircraft parts and auxiliary equipment, n.e.c.		(1) (1)	(1) (1)	(1) (1)		(1) (1)	(1) (1)	(1) (1)

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada				Mexico			
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
<b>Group 57: Boat building &amp; repairing</b>								
3732--Boat building and repairing	0.45 0.35				0.60 0.69	+X	-X +M	+M
<b>Group 58: Railroad equipment and parts</b>								
3743--Railroad equipment	0.45 0.59	+M			0.41 0.66			
<b>Group 59: Transportation equipment</b>								
3799--Transportation equipment, n.e.c.		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
<b>Group 60: Measuring, analyzing &amp; controlling instr.</b>								
3812--Search, detection, nav., guid., aero. & naut. sys. & inst.	0.74 0.60	+X			0.58 0.66		+M	+M
3822--Auto. cont. for reg. res. and comm. environ. and appl.	0.53 0.68	+M	-X	-X	0.61 0.58			
3823--Ind. instr. for meas., display and control	0.65 0.67				0.83 0.20			
3824--Totalizing fluid meters and counting devices	0.68 0.66				0.78 0.31	+X		
3825--Instr. for meas. and testing of electricity	0.62 0.79		+M	+X +M	0.75 0.82	+M	+M	+M
3827--Optical instruments and lenses	0.76 0.77		-M		0.71 0.89			
<b>Group 61: Medical equipment</b>								
3841--Surgical and medical instruments and apparatus	0.78 0.81				0.78 0.70	+X +M	+X +M	+X +M
3842--Orthopedic, prosthetic & surgical appliances & supplies	0.71	(1) -M	(1)	(1)	0.20	(1)	(1)	(1)
3845--Electromedical and electrotherapeutic apparatus	0.66 0.86				0.75	(1)	(1)	(1)
<b>Group 62: Photographic equipment &amp; supplies</b>								
3861--Photographic equipment and supplies	0.35	(1)	(1) -M	(1) -M	0.60	(1)	(1)	(1)
<b>Group 63: Jewelry, precious metals</b>								
3911--Jewelry, precious metal		(2) (2)	(2) (2)	(2) (2)		(2) (2)	(2) (2)	(2) (2)
<b>Group 64: Games, toys, &amp; children's vehicles</b>								
3944--Games, toys & children's veh., except dolls & bicycles	0.90 0.90	-M	-M	-M	0.73 0.45			

**Table C-1: Summary of Significance for the Import and Export Estimations**

	Canada			Mexico				
	Adjusted R <sup>2</sup>	94	95	96	Adjusted R <sup>2</sup>	94	95	96
<b>Group 65: Sporting goods</b>								
3949—Sporting and athletic goods, n.e.c.	0.65 0.66	+M	+M		0.89 0.79	+X		
<b>Group 66: Misc. industries, n.e.c.</b>								
3999—Manufacturing industries, n.e.c.	0.88 0.70		+M	+M	0.81 0.83			

<sup>1</sup> Estimation was not possible due to data constraints.

<sup>2</sup> Estimation was not possible because sector was added late in the study.

Notes: In every row, exports are presented above imports in each cell. A '+/- X' represents a positive or negative statistically significant coefficient (at the 90 percent level) for the yearly binary variables for the U.S. export demand estimations. Similarly, '+/- M' represents a positive or negative statistically significant coefficient (at the 90 percent level or better) for the yearly binary variables for the U.S. import demand estimations.

Source: Estimated by USITC staff.

The large number of regressions estimated for the industry-level trade flows made it difficult to present the full complement of diagnostic statistics. However, because the adjusted multiple correlation coefficient (adjusted  $R^2$ ) is widely used as a measure of the degree of fit of the estimated regressions, that statistic is reported for each equation in table C-1. Table C-2 characterizes the distribution of the adjusted  $R^2$  statistics from the trade flow estimations. The first four rows indicate the number of equations with adjusted  $R^2$  statistics in each range. For example, among the 168 equations estimated for U.S. exports to Mexico, 55 had adjusted  $R^2$  values greater than 0.75. The median adjusted  $R^2$  for each set of bilateral trade flow estimations are reported in the last row of the table.

Range	Canada		Mexico	
	Imports	Exports	Imports	Exports
Less than 0.25	15	17	16	3
0.25 - 0.49	46	44	58	31
0.50 - 0.74	65	75	56	79
Greater than 0.75	48	31	38	55
<b>Total equations estimated</b>	<b>174</b>	<b>167</b>	<b>168</b>	<b>168</b>
<b>Median</b>	<b>0.61</b>	<b>0.57</b>	<b>0.54</b>	<b>0.66</b>

Source: U.S. International Trade Commission.

Table 4-1 in chapter 4 reports the disaggregated results from table C-1 after applying the criteria that all three binary variables must be statistically significant and have the same algebraic sign. As described above, this incorporates a high criteria, but is chosen to compensate for limitations associated with the use of binary variables to identify trade flow effects that are due to NAFTA. The results in table C-1 are also summarized in more condensed forms in tables C-3 and C-4. Table C-3 summarizes outcomes that were found for each of the four flows, by grouping them based on the algebraic sign and the years in which significant coefficients were identified. For example, the first row in table C-3 identifies the number of equations in which there were positive and statistically significant coefficients on the binary variables identifying the years 1994, 1995 and 1996. There were 13 4-digit SIC industries for which this was true in the equations representing U.S. imports from Canada, and 10 SIC categories with this result in the case of U.S. exports to Canada. The first three rows identify the totals shown in table 4-1. The remaining rows tabulate the results in which there were statistically significant changes in 1 or 2 years or were not estimated. These effects were considered to be inconclusive in this analysis.

**Table C-3—Number of significant coefficients for the binary variables per estimated equation, by year and algebraic sign**

	Canada		Mexico	
	Imports	Exports	Imports	Exports
3 positive and statistically significant	13	10	16	13
3 negative and statistically significant	8	8	7	0
Zero statistically significant	94	94	94	77
2 positive and statistically significant, 94 & 95	3	4	4	10
2 positive and statistically significant, 95 & 96	13	9	11	7
2 positive and statistically significant, 94 & 96	1	0	3	1
1 positive and statistically significant, 94	9	4	3	36
1 positive and statistically significant, 95	3	3	3	4
1 positive and statistically significant, 96	4	9	14	1
2 negative and statistically significant, 94 & 95	2	1	1	0
2 negative and statistically significant, 95 & 96	5	10	8	7
2 negative and statistically significant, 94 & 96	2	0	0	0
1 negative and statistically significant, 94	4	1	3	5
1 negative and statistically significant, 95	4	4	3	3
1 negative and statistically significant, 96	9	8	0	2
Negative and positive and statistically significant	0	2	0	2
Not estimated	24	31	30	30
<b>Total</b>	<b>198</b>	<b>198</b>	<b>198</b>	<b>198</b>

Source: U.S. International Trade Commission.

The summaries of detailed results in table C-3 are further condensed in table C-4 by counting the number of 4-digit SIC categories for which there is either a consistent and statistically significant algebraic sign, no statistically significant binary variable coefficients, or a conflicting set of binary variable coefficients. These numbers combine both the effects we report as significant and the results that were considered inconclusive.

**Table C-4—Number of 4-digit SIC study sectors that have either one, two or three significant coefficients on the binary variables for the NAFTA years of 1994, 1995, and 1996**

	Canada		Mexico	
	Imports	Exports	Imports	Exports
1,2 or 3 positive and statistically significant	46	39	54	72
1,2 or 3 negative and statistically significant	34	32	22	17
Zero statistically significant	94	94	92	77
Negative and positive and statistically significant	0	2	0	2
Not estimated	24	31	30	30
<b>Total</b>	<b>198</b>	<b>198</b>	<b>198</b>	<b>198</b>

Source: U.S. International Trade Commission.

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## *Aggregate Bilateral Trade Flows*

Estimates of the aggregate bilateral trade flow effects follow a methodology generally identical to the estimates described in the industry-level trade flow section. Aggregate U.S. imports and exports with Mexico and Canada have been estimated to discern whether there exist effects during 1994-96 that can be attributed to NAFTA. This section describes the data sources, the model specification, and the equation estimates and interpretations that were used in the aggregate trade section of chapter 4. Data sources, time series issues not described previously, and the results and diagnostics are the focus here.

The basic economic specification that was estimated in this section is described by equations C-1 and C-2 in the previous sections. U.S. imports and exports are both specified in terms of import demand equations. Quantity demanded is posited to depend on the price of the imported good, the price of the domestic substitute (denominated in the domestic currency), domestic income or economic activity, and the real exchange rate between the United States and the bilateral partner country.

U.S. aggregate nominal imports and exports between the United States and Mexico and Canada were obtained from the *Direction of Trade Statistics*, published by the International Monetary Fund. These data were obtained at a monthly frequency for the period 1973-1996. Real GDP, the most common indicator of economic activity is not available at a monthly frequency, so seasonally unadjusted indices of industrial production were obtained for the United States, Canada, and Mexico from *International Financial Statistics*, published by the International Monetary Fund. Domestic wholesale prices and average monthly nominal exchange rates were also obtained from various issues of *International Financial Statistics*. The price of aggregate bilateral imports and exports are not available on a monthly basis for this period of time. Indices of aggregate U.S. and Canadian import and export unit values were used to proxy for these bilateral prices. Import and export unit values were not available for Mexico, so U.S. export and import unit values were used in the estimates of bilateral trade between the United States and Mexico. Estimates in this section are based on nominal U.S. imports and exports that have been deflated by the U.S. wholesale price index.

As discussed in the previous section, describing issues and problems associated with the sectoral estimations, time series properties of the data warrant attention when the estimation procedures use economic time series. Nonstationarity was tested for and found to be present in the data. In addition, long-run relationships were tested using cointegration techniques and were found to be present. The estimations in this section, therefore, use an error-correction model as specified in the section of industry-level trade estimations. A further test of the model specification is to check for changes in the underlying structure of the model over time. Cusum square tests indicated potential breaks in the bilateral trade patterns in the period 1988-1989. Chow tests were used and found that one can reject the hypothesis that the underlying parameters have not changed between the two periods. Therefore, the aggregate estimates of trade flows in this section are estimated with data covering the period 1989-1996. This sample is consistent with the sample period used to estimate the industry level trade flows.

Table C-5 below reports the final model results used to characterize each of the four aggregate bilateral trade flows. A simple error-correction model was specified and the residuals were tested for the appropriate characteristics. Serial correlation was found in each of the models, so the final specifications are based on estimations that follow a second-order polynomial distributed lag (PDL) for each of the independent variables.<sup>43</sup> For space purposes, results in table C-5 only report the sum of the PDL coefficients that were estimated in the final model. Again, the AIC criteria was used to determine the final lag structure for each model.

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<sup>43</sup> Second-order PDL models were selected by minimizing the Akaike Information Criteria (AIC) to chose between second- and third-order PDL models.



These parameter estimates do not directly correspond to the percentage changes in imports and exports, as reported in chapter 4. Instead, the shifts in import and export growth rates are derived from the binary variable coefficients for each of the years. The estimated trade flows are estimated on month-to-month differences in logarithmic levels, which are approximately equal to the percentage change in the transformed variable. Converting the estimated coefficients into annualized growth rate changes requires a conversion of the semi-log estimation to the appropriate form<sup>44</sup> which is then transformed to an annualized rate to obtain the estimates in chapter 4.

**Table C-5: Results of aggregate bilateral import demand specifications**

	U.S. imports from Mexico	U.S. exports to Mexico	U.S. imports from Canada	U.S. exports to Canada
Constant	-9.96 <sup>1</sup> (-2.56)	8.02 (1.21)	-13.16 <sup>1</sup> (-3.38)	-6.67 <sup>1</sup> (-3.32)
Import price	-2.19 (-0.90)	-3.67 (-0.55)	-9.275 <sup>1</sup> (-3.68)	-6.86 <sup>1</sup> (-2.49)
Domestic price	6.34 <sup>2</sup> (1.73)	2.56 (1.62)	0.78 (0.27)	-2.32 (-0.69)
Domestic income	-0.916 (-0.23)	2.43 <sup>1</sup> (3.25)	1.36 (0.67)	8.82 <sup>1</sup> (4.21)
Exchange rate	1.25 <sup>1</sup> (3.35)	0.76 <sup>1</sup> (2.43)	-0.36 (-0.44)	4.21 <sup>1</sup> (2.59)
Year 1994	0.070 <sup>2</sup> (1.80)	0.118 <sup>1</sup> (3.72)	-0.052 (-1.36)	-0.031 (-1.07)
Year 1995	0.346 <sup>1</sup> (4.23)	0.305 <sup>1</sup> (2.50)	-0.104 (-1.50)	-0.097 (-1.61)
Year 1996	0.378 <sup>1</sup> (4.04)	0.261 <sup>2</sup> (2.12)	-0.142 (-1.62)	-0.14 <sup>1</sup> (-2.02)
Adjusted R <sup>2</sup>	0.76	0.62	0.84	0.88
Mean dep. var.	.01136	0.00879	.00767	0.00703
Number observations	95	95	95	95
D.F. test on residuals	-3.63	-3.28	-3.80	-3.99
Ljung-Box Q (6)	14.29	8.63	3.32	14.03

Numbers in parentheses represent t-statistics on the coefficient estimate.

<sup>1</sup> Indicates the coefficient was statistically different from zero at a 95-percent confidence level.

<sup>2</sup> Indicates the coefficient was statistically different from zero at a 90-percent confidence level.

Source: Estimated by the staff of the United States International Trade Commission.

<sup>44</sup> Peter Kennedy, (1992) *A Guide to Econometrics*, p. 223. The correct expression of the percentage impact of the coefficient on the binary variable is  $e^{\delta} - 1$ .

## Labor

### *Studies of Trade and Employment*

Dickens<sup>45</sup> provides a fairly comprehensive survey of research on the effects of trade on employment, and provides a summary of the results. Among the conclusions are that: (1) the research tells us nothing about the long-run level of employment; (2) the research does provide conclusions on the composition of employment in the United States, with trade leading to job gains in “. . . chemicals, plastics, engines, turbines, generators, construction and mining machinery, office and computing machinery, aircraft parts, and scientific instruments,” and to losses in “. . . apparel, furniture and fixtures, leather products, screws and stamping, and radio and televisions;” (3) even tariff reductions of 50 percent or more, for imports from all countries, will probably cause far fewer than 200,000 job losses; and (4) short run job losses due to imports in the early 1980s probably contributed to the depth of the 1982 recession and the subsequent slow recovery of employment,<sup>46</sup> and most of these trade effects were likely due to increased imports from Japan and Asia.

Ana Revenga<sup>47</sup> has estimated the effects of imports on employment and earnings. Her work is not explicitly related to NAFTA, covering the years 1977 to 1987 and looking at the effects of imports from all countries rather than from a specific partner. Nevertheless, since it analyzes the effects of trade on labor markets in specific industries, it provides interesting insights. Her results are discussed in chapter 4 and her methodology provides significant guidance to the analysis performed here.

### *Estimation of NAFTA Effects*

As described in the introduction to this report, and more completely in chapter 5, a sample of industries was selected for analysis, based on the changes in the levels of trade between the United States and its NAFTA partners between 1993 and 1996. For the analysis of labor market effects, a total of 120 industries, classified at the 4-digit SIC level, were selected by this criterion and by availability of data on the labor force. This represents a subset of all industries analyzed in the trade analysis and in chapter 4. Several industries were excluded because of lack of data on earnings and hours worked, including all agricultural sectors and many for which BLS did not collect individual sector labor data. Several more sectors were excluded because of lack of data on trade flows, including all service sectors.

For each of these industries an econometric analysis was performed in an attempt to isolate the effects of NAFTA on the industry's earnings (as measured by average hourly earnings of production workers as reported by the BLS) and employment levels (as measured by average hours worked per week by all production workers, equal to length of the average work week for production workers in a given month, multiplied by the average number of production workers that month).

### *Employment and Earnings Specifications*

The effects of NAFTA on employment and earnings are transmitted by import price changes which are in turn induced by NAFTA policy changes. The functional form is largely that suggested by

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<sup>45</sup> W.T. Dickens, “The Effects of Trade on Employment: Techniques and Evidence” in L.D. Tyson, W.T. Dickens, and J. Zysman, eds., *The Dynamics of Trade and Employment* (Chicago: The University of Chicago Press, 1988) pp. 41-85.

<sup>46</sup> Dickens, p. 43.

<sup>47</sup> A.L. Revenga, “Exporting Jobs? The Impact of Import Competition on Employment and Wages in U.S. Manufacturing”, *Quarterly Journal of Economics*, Feb. 1992, pp. 255-284.

Revenga<sup>48</sup>, with additional variables to account for NAFTA and the peso devaluation, to the extent that their effects are not captured by other variables.

Earnings or Employment Level =  $f(\text{economic activity, prices, alternative wages, unemployment level, NAFTA, Peso Crisis})$

$$E \text{ or } H = \beta_0 + \beta_1 Y + \beta_2 PM + \beta_3 PC + \beta_4 PR + \beta_5 PD + \beta_6 W + \beta_7 U + \beta_8 \text{ NAFTA} + \beta_9 \text{ PESO} + \mu \quad \text{C-3}$$

where:

E (or H) is the Earnings (or Hours worked) in the given industry. Data are average hourly earnings and average weekly hours for production workers in the industry. Earnings are deflated by the CPI.

Y is economic activity in the United States, expressed as real GDP.

PM, PC, and PR are prices of sector imports from Mexico, Canada, and the rest of the world to the United States, expressed as unit values of imports.

PD is the domestic U.S. price of the industry's output.

W is an alternative wage, the average wage of all private employees (deflated by CPI).

U is total civilian unemployment

In equation C-3 above, NAFTA represents a binary variable to account for the implementation of the NAFTA, equal to 1 for the years 1994-1996, and PESO represents a binary variable for the peso crisis of December 1994, equal to 1 for the years 1995-1996. The binary variables, as well as the variables Y, W, and U (for GDP, alternative wage, and unemployment) are the same for all industries. The variables E (earnings), H (hours), PM (price of Mexican imports), PC (price of Canadian imports), PR (price of imports from the rest of the world), and PD (price of domestic output) are specific to each industry.

Data are monthly observations, from January 1989 through October 1996 (94 observations). All data are entered in logarithmic form. Trade and employment effects of NAFTA were estimated in two ways. Data from a subsample of nine industries were tested for stationarity, and the null hypothesis of nonstationarity universally failed to be rejected. This subsample of industries was tested for cointegration, with ambiguous results. Variables were entered in log first-difference form, with lagged values of the log levels of the independent variables added to recapture the transient variation lost by use of the differences. As an alternative, a simple iterative maximum likelihood procedure<sup>49</sup> to correct for first-order serial correlation was also used (referred to as the "autoregression model"). For a discussion of this procedure, see C.M. Beach and J.G. MacKinnon, "A Maximum Likelihood Procedure for Regression with Autocorrelated Errors," *Econometrica*, 46, 1978, pp. 1035-1056. The two approaches were highly consistent with each other, identifying NAFTA and price effects of the same sign in almost all those cases tested (where "NAFTA effects" are the coefficients of the binary variable "NAFTA" defined above). The autoregression procedure found coefficients of the "NAFTA/PESO" binary variables to be significant

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<sup>48</sup> A.L. Revenga, "Exporting Jobs? The Impact of Import Competition on Employment and Wages in U.S. Manufacturing," *Quarterly Journal of Economics*, Feb. 1992, pp. 255-284.

<sup>49</sup> See C.M. Beach and J.G. MacKinnon, "A Maximum Likelihood Procedure for Regression with Autocorrelated Errors," *Econometrica*, 46, 1978, pp. 51-58.

at the 5 percent level for more industry sectors. An appropriate modeling response to the existence of cointegrated variables, as discussed in the trade analysis section, is an error-correction model.

In general, if the disturbance term of the regression equation is correlated with one of the independent variables, the estimated parameters will be biased. In the model specifications tested here, it seems likely that import price variables may be correlated in this fashion. Particularly in the context of NAFTA, a change in the import price due to the Agreement may be correlated with other changes to the labor market not effectively captured by the binary variables. In order to correct for this, an instrumental variable procedure was applied, following the suggestion of Revenga. Instrumental variables essentially purge the independent variable of the “undesirable” correlation with the residual, leaving the “desirable” correlation with the dependant variable. Thus an appropriate instrument would be one that is correlated with the import price, but not with the unobserved components of earnings and hours worked. A candidate for this role is the exchange rate, since it is related to import prices but would not seem to be related to transitory labor market influences. Therefore the instruments chosen were indices of the exchange rate of the dollar with the Mexican peso, the Canadian dollar, and the rest of the world. Specifically, we used the index of the trade-weighted value of the dollar as calculated by the Federal Reserve Bank of Dallas. The Mexican and Canadian components were used for the Mexican and Canadian indices, and were removed from the global index to provide an index of the dollar’s value with the rest (non-North American part ) of the world. For each industry these indices were weighted by the share of U.S. imports in that industry originating in Mexico, Canada, and the rest of the world. These instruments were incorporated in a variation of the autoregression procedure described above, and will be referred to from this point as the “autoregression with instruments” (or “with instrumental variables”) procedure.

In the models, NAFTA is assumed to make itself felt through the dummy variables and more directly through the effect of the Agreement on the price of imports from Mexico. (There were almost no cases of significant effect of changes in Canadian import prices, and the effect of these imports will not be discussed here.) If NAFTA-related changes in duties result in a decrease in the price of Mexican imports of a particular product, this may cause domestic U.S. employment and wages to fall in the U.S. industry that produces a competing product. On the other hand, if imports of a particular product are complementary to domestic products in the same SIC classification, or if import pressure causes increased productivity in the U.S. industry (either due to increased investment, or to layoffs or downsizing, or to job relocation or production rationalization), observed wages and in some cases employment may rise. Thus the import price variable may be either positively or negatively related to U.S. employment and earnings. Note that the import price variable is not explicitly a tariff or tariff reduction variable. Within the scope of this study it was not possible to isolate on a monthly basis the net change in duties collected due to NAFTA from those due to the tariff concessions associated with the World Trade Organization, changes in the structure of joint production arrangements (“Maquiladora” trade), or other factors. Nor was it possible to determine the extent to which changes in tariffs were actually passed through as price reductions. Furthermore, the import price variable and the corresponding instrumental variable, the value of the dollar against the peso, will also reflect changes in the exchange rate, particularly the major devaluation of the peso.

#### *Interpretation of Coefficients on Binary Variables*

To the extent that NAFTA has other effects besides the reduction of import prices, the dummy variable specifications are expected to capture them. As explained elsewhere, the NAFTA variable actually measures, on average, the proportional difference between earnings (or hours) in the NAFTA years and those in the pre-NAFTA years, after accounting for the effects of all the other variables in the model. If NAFTA lowered non-tariff barriers, induced productivity-enhancing investment flows, or created more secure and profitable trade through the enforcement of intellectual property rights, the

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effects of these changes should be seen in the coefficient of the NAFTA variable. And if any other changes to the trading environment occur simultaneously, such as a sudden change in exchange rates or a change in the political environment, the effects of these changes will also be picked up by the NAFTA variable. The PESO variable is used to further isolate the effects of the NAFTA coefficient from at least some of the confounding effects of concurrent events, to the extent that these changes are not contained in the price and exchange rate measures. In addition, the PESO variable may help isolate the NAFTA effect from effects on the U.S. labor market that may be due to devaluation-related changes in U.S. exports to Mexico. Where the trade analysis in the preceding section looks at NAFTA's relation to imports and exports separately, the analysis of effects on the labor market can only look at the net effect, and the absence of timely data on Mexican demand and price conditions has precluded a more complete examination of the export effects. It therefore seemed appropriate, for largely heuristic reasons, to specify NAFTA and PESO variables here rather than the three variables Y94, Y95, and Y96 used to pick up NAFTA effects in the trade analysis.<sup>50</sup>

The way in which the NAFTA and PESO variables are entered, in principle, requires their effects to be interpreted jointly, since it is possible for the PESO variable to cancel out the effect of the NAFTA variable during the second and third years of NAFTA. In this analysis, however, there were no cases in which an equation contained significant NAFTA and PESO variables of opposite signs.

The NAFTA variable and the PESO variable also pick up, at least partially, some effects which are related to prices. For example, price changes can in principle make themselves felt in apparently unrelated industries; a reduction in the prices of imported cement or steel can lead to an increase in employment in construction and manufacturing industries. The present analysis has not attempted to capture these cross-industry complementarity effects.

Table C-6 presents a summary of significant findings from the labor market analysis. It shows all 4-digit SIC classification industries for which a significant "NAFTA" or "Mexican import price elasticity" coefficient was found, for either the equation estimating effects on hours worked or the effects on average hourly earnings. If a significant "PESO" coefficient occurs in conjunction with a significant "NAFTA" coefficient, that is also reported. For the significant binary variables only the sign is reported, following the presentation of table C-1. The value of significant coefficients on the Mexican import price is reported, as is the adjusted R-squared statistic for each reported equation. The significance level (or confidence level) for all reported coefficients is 95 percent.

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<sup>50</sup> Estimations were also performed using the the three annual variables, with no appreciable differences from those of the estimates reported here. C-31

**Table C-6: Summary of Significance for Hours and Earnings Estimations.**

ITC Group and SIC Industry	Dependent Variable	NAFTA	PESO	Mexican Import Price	Adjusted R <sup>2</sup>
Group 6--Meats and livestock SIC 2011--Meat packing plants	Earnings	-			.91
Group 15--Malt beverages SIC 2082--Malt beverages	Hours			-0.94	.81
Group 17--Misc. food prepar. SIC 2099--Food products, nsfp	Hours			0.06	.71
Group 18--Textile mill products SIC 2295--Coated fabrics, not rubberized	Earnings	-			.89
Group 19--Apparel and other finished textile goods SIC 2325--Men's and boys' separate trousers and slacks SIC 2331--Women's, misses', and juniors' blouses and shirts	Earnings Earnings	+		0.12	.72 .26
Group 22--Paper products SIC 2621--Paper mills SIC 2653--Corrugated and solid fiber boxes SIC 2676--Sanitary paper	Hours Earnings Hours Earnings			0.10 -0.02 0.03	.97 .82 .90 .90
Group 25--Industrial inorganic chemicals SIC 2819--Industrial inorganic chemicals	Earnings	-			.75
Group 28--Soaps, detergents, and toiletries SIC 2841--Soaps and cleansers SIC 2843--Surface active agents	Hours Hours	- -			.95 .95
Group 33--Plastic and rubber products SIC 3052--Rubber and plastics hoses and belting SIC 3069--Fabricated rubber products, nec	Hours Earnings Hours	+	+	-0.06	.90 .66 .78

Table C-6: Summary of Significance for Hours and Earnings Estimations.					
ITC Group and SIC Industry	Dependent Variable	NAFTA	PESO	Mexican Import Price	Adjusted R <sup>2</sup>
Group 34--Leather and leather footwear SIC 3111--Leather tanning and finishing	Earnings	+	+		.77
Group 36--Flat glass and glassware SIC 3229--Pressed and blown glass and glassware, nec	Earnings	+		0.01	.50
Group 38--Vitreous china plumbing fixtures SIC 3261--Vitreous china plumbing fixtures	Earnings	-			.89
Group 41--Steel products SIC 3321--Gray and ductile iron foundries	Hours	+	+		.75
Group 43--Nonferrous metals, wrought SIC 3351--Rolling, drawing, and extruding of copper SIC 3353--Aluminum sheet, plate, and foil	Hours Hours	+		0.12	.86 .96
Group 44--Fabricated metal products SIC 3443--Fabricated plate work (boiler shops) SIC 3452--Bolts, nuts, screws, rivets, washers SIC 3493--Steel springs, except wire	Earnings Hours Earnings	- + +			.70 .94 .71
Group 45--Industrial machinery SIC 3561--Pumps and pumping equipment SIC 3566--Speed changers, drives, and gears SIC 3569--General industrial machinery and equip., nec SIC 3599--Industrial and commercial machinery and equipment, nec	Hours Hours Earnings Hours	 - - +		-0.02	.92 .84 .65 .95

**Table C-6: Summary of Significance for Hours and Earnings Estimations.**

ITC Group and SIC Industry	Dependent Variable	NAFTA	PESO	Mexican Import Price	Adjusted R <sup>2</sup>
Group 47--Heavy electrical equipment SIC 3613--Switchgear and switchboard apparatus SIC 3621--Motors and generators SIC 3625--Relays and industrial controls	Hours Earnings Earnings	- - -		0.08	.97 .99 .91
Group 48--Household appliances SIC 3632--Household refrigerators and freezers	Earnings			-0.06	.93
Group 49--Electrical lighting and wiring equipment SIC 3641--Electric lamp bulbs and tubes SIC 3644--Noncurrent-carrying devices	Hours Hours Earnings	+ - -		-0.09 0.04	.94 .63 .58
Group 50--Radio and television equipment SIC 3651--Household audio and video equipment	Hours			0.28	.94
Group 52--Electronic components and accessories SIC 3674--Semiconductor and related devices SIC 3676--Electronic resistors	Earnings Hours Earnings	- + -		0.04	.79 .95 .62
Group 55--Motor vehicle parts SIC 3714--Motor vehicle parts and accessories	Earnings			0.05	.76
Group 60--Measuring, analyzing, and control instruments SIC 3823--Industrial instruments for measurement, display, and control	Earnings	-			.68
Group 64--Games, toys, and children's vehicles SIC 3944--Games, toys, and children's vehicles, except dolls and bicycles	Earnings	+			.59



<b>Table C-6: Summary of Significance for Hours and Earnings Estimations.</b>					
ITC Group and SIC Industry	Dependent Variable	NAFTA	PESO	Mexican Import Price	Adjusted R <sup>2</sup>
Group 66--Misc. industries SIC 3999-- Manufacturing industries nec	Hours			0.03	.79

Source: Compiled by the staff of the U.S. International Trade Commission.

## Econometric Estimates of Manufacturing Productivity

One of the potential effects posited for the NAFTA was that it would increase industrial productivity in both U.S. and Mexican sectors, as those sectors faced increased competition from imports. The rationale was that as domestic industries faced a larger number of competing firms in the expanded NAFTA market, U.S. firms would be induced to adopt more efficient production methods.<sup>51</sup> That is to say, reducing barriers to trade might increase the competitiveness of a country's firms, thereby increasing domestic productivity. Given the size of the Mexican economy relative to the U.S. economy, however, it is unclear how significant the NAFTA contribution to overall U.S. productivity will be.

Empirical studies examining the determinants of U.S. labor productivity generally find that three interrelated variables: industry growth, R&D intensity, and firm concentration, are the most important factors influencing labor productivity. The effects of imports and trade in general on U.S. productivity have received increased attention from economists, with three recent studies obtaining mixed results about the extent to which trade might induce U.S. domestic industries to become more productive.<sup>52</sup> Two of the studies found statistical support for the hypothesis that import competition and increases in labor productivity are positively related, while the third found no association between trade and productivity.

At the time this analysis was conducted, most of the data used to construct measures of labor productivity, as well as the data for most of the explanatory variables, were only available on an annual basis through 1994. In addition, the findings of this analysis identify changes in import competition that affected productivity in a period before NAFTA implementation.<sup>53</sup> Therefore, these two factors did not allow a direct econometric estimate of the actual effects of the NAFTA on U.S. labor productivity.

As an alternative to estimating the effects of NAFTA-induced import changes on productivity, the analysis focused instead on the general effects of increased import competition from Mexico and Canada on U.S. labor productivity using a cross-sectional analysis. Thus, the estimates obtained in this analysis do not measure the effects of NAFTA on U.S. labor productivity, but rather, provide an indication of the direction and magnitude of its potential effects. The discussion that follows provides an overview of the relevant literature, a description of the analytical framework and, a specification of the regression that was used, and, finally, a summary of the econometric results that were obtained.

### *Overview of Literature*

Studies by Caves and Barton, MacDonald, and Scherer have provided mixed results about the extent to which trade might induce U.S. domestic industries to become more productive. These econometric studies provided the basis for the empirical analysis of productivity in chapter 4 and are summarized below.

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<sup>51</sup> In addition, it was argued that the expanded NAFTA market would enhance productivity by allowing existing firms to exploit economies of scale. For further discussion of these issues, see Gary Hufbauer and Jeffrey Schott, *NAFTA: An Assessment* (Institute for International Economics, Washington, DC: Feb. 1993), p. 23.

<sup>52</sup> Richard Caves and David R. Barton, *Technical Efficiency in U.S. Manufacturing Industries* (Cambridge: The MIT Press, 1990); James M. MacDonald, "Does Import Competition Force Efficient Production?" *Review of Economics and Statistics*, vol. 76, Nov. 1994, pp. 721-27; and F. Michael Scherer, "Lagging Productivity Growth: Measurement, Technology, and Shock Effects," *Empirica*, vol. 20, 1993, pp. 5-24. These analyses are discussed in further detail in the next section.

<sup>53</sup> This finding also implies that import changes induced by NAFTA in 1994 might not affect productivity until later years. C-36

Using data compiled by the International Trade Administration (ITA), Caves and Barton examine the relation between changes in the ratio of imports to domestic supply and the annualized rate of growth of real shipments per employee between 1977 and 1986 for 221 4-digit SIC manufacturing industries. Controlling for the growth in real shipments, they find that contemporaneous increases in import competition have a small, but statistically significant and positive correlation with increases in labor productivity. In addition, the authors examine lagged changes (1972-77) in the value of imports and found that the effect for the lagged variable is also positive and statistically significant, but larger than the effect for the changes in contemporaneous imports.

Scherer examines the association between the growth in U.S. net exports<sup>54</sup> – exports minus imports -- and the growth of labor productivity, finding no statistically significant effect between productivity growth and the contemporaneous change of net exports. His analysis is based on panel data constructed by the National Bureau of Economic Research (NBER) of 447 4-digit SIC manufacturing industries between 1978 and 1988.

MacDonald found that changes in imports had little effect on labor productivity in less concentrated sectors but led to large increases in productivity in highly-concentrated<sup>55</sup> sectors between 1975 and 1987. MacDonald's results are based on a panel of 94 manufacturing industries where import changes are the ratio of sector-level imports to the value of U.S. shipments and productivity changes are calculated from measures of labor productivity (output per man-hour) constructed by the Bureau of Labor Statistics (BLS). The analysis observed four periods, each of 3 years duration: 1975-78, 1978-81, 1981-84, and 1984-1987. The strong effects that imports have on concentrated industries does not occur contemporaneously, but appears with a one-period lag. MacDonald finds that his results are weakened but remain statistically significant when the BLS data set is replaced with the larger NBER data set used by Scherer.

### *Analytical Framework*

A regression model is used in which four variables determine productivity changes in a sector: the growth in industry output, R&D intensity, the level of industry competition as measured by market concentration, and the change in imports.<sup>56</sup> The model is based on the studies described above which find that sectors experiencing higher levels of market concentration and increases in scale economies, technological innovation, and import competition, on average, experience greater increases in labor productivity.

The intuitive explanation for the positive association between productivity and these four variables is generally straightforward. As stated earlier, increases in international competition should induce domestic firms to adopt more efficient production methods and thereby increase productivity.<sup>57</sup> Of

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<sup>54</sup> Scherer's use of net-exports as an explanatory variable was based on the position that net-exports were a better indicator of varying international competition than changes in imports alone. His explanation of this view was that many multinational corporations simultaneously export some of their product lines from the United States and import others from offshore plants.

<sup>55</sup> Highly-concentrated industries are defined as those with a four-firm concentration index of 0.70 or above.

<sup>56</sup> The analyses also examined the effects of contemporaneous changes in import competition. Similar to MacDonald, the analysis in this report found that the effects of import competition did not occur contemporaneously, but appeared with a one-period lag. See MacDonald, "Does Import Competition Force Efficient Production?" for further discussion.

<sup>57</sup> During the first part of the 1990's, many sectors underwent substantial restructuring accompanied by large reductions in their workforce, and indeed, this is one method by which firms increase productivity. The restructuring that occurred during this period was not formally examined in the model that was used in the

(continued...)

the four variables in the model, the intuition underlying the association between innovation and labor productivity is perhaps the most straightforward: higher levels of innovative activity, especially process innovation, typically lead to a more efficient utilization of all inputs, including labor. The rationale for the positive association between productivity and increasing scale economies is based on the efficiency gains that firms realize by spreading costs over expanded production runs.

Finally, the positive association that is posited between productivity and market concentration is less straightforward because high market concentration is typically associated with lower levels of domestic market competition, and consequently, lower productivity.<sup>58</sup> However, numerous empirical studies have identified a positive association between productivity and concentration. One plausible explanation is that sectors experiencing higher productivity rates might become more concentrated as a result of their previous innovative activity.<sup>59</sup>

### *Model Specification*

To examine the effects of import competition on U.S. labor productivity, the Commission staff estimated the following equation using ordinary least squares (OLS) on a cross-section across 455 4-digit SIC manufacturing industries.

$$PR = \beta_0 + \beta_1 ID + \beta_2 CR4 + \beta_3 RS + \beta_4 MD \tag{C-4}$$

where:

- PR = the percentage change of real shipments per man-hour between 1993 and 1994.
- ID = the percentage change of real shipments between 1993 and 1994.<sup>60</sup>
- CR4 = the four firm concentration ratio in 1992.
- RS = the percentage of R&D expenditures to sales in 1993.
- MD = the percentage change in the share of all imports in U.S. domestic consumption between 1992 and 1993

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<sup>57</sup> (...continued)

Commission analysis. However, for the overall data that were analyzed for the period between 1993 and 1994, the correlation between productivity and employment was observed to be negative. In the 141 threshold sectors where imports competition was found to be positively associated with changes in labor productivity, the correlation was also found to be negative. This would tend to suggest that the gains in labor productivity that were found during this period were generally accompanied by reductions in the workforce.

<sup>58</sup> Even though high market concentration in a sector is associated with an imperfectly competitive industry structure, this condition does not imply generally that the market is not competitive. An important factor affecting competition in those markets is the degree of openness to international competition. Import competition tends to result in highly competitive markets, even in sectors where domestic firms are highly concentrated. MacDonald examined the interaction between market concentration and changes in import competition. As noted in the overview, he found that labor productivity in highly concentrated markets showed the largest gains as a result of import competition.

<sup>59</sup> Caves and Barton provide a more detailed discussion on the association between productivity and market concentration. See Caves and Barton, *Technical Efficiency*, ch. 8, for further discussion.

<sup>60</sup> A typical approach in the literature (e.g., Caves and Barton (1990), McDonald (1994), and Douglas F. Greer and Stephen A. Rhoades, "Concentration and Productivity Changes in the Long and Short Run," *Southern Economic Journal*, 43, Oct. 1976, pp. 1031-44) when modeling the association between productivity and scale effects is to regress the change in real shipments per man-hour against the change in real shipments. Generally, one would expect real shipments to increase over time. In contrast, real shipments per man-hour is constant unless there is a change in productivity. Therefore, the relation between the two variables is not reflected by a constant term.

Except for the four firm concentration ratio and R&D activity, data are available on an annual basis through 1994. In addition, data for all of the variables except R&D intensity are available at the 4-digit SIC level.<sup>61</sup> Data for R&D are only available at the more highly aggregated 2- and 3-digit SIC level. Because the data focus on the change in labor productivity that occurs across sectors between 1993 and 1994, the OLS estimates for each of the explanatory variables in equation C-4 reflect average estimates for the overall manufacturing sector.<sup>62</sup> As noted in the intuitive explanation above, the growth or change in output (ID), R&D intensity (RS), the four-firm concentration ratio (CR4), and the change in imports lagged by one year (MD) are all expected to be positively related to productivity changes. The hypotheses tested are that the expected signs on all of the coefficients for these four explanatory variables are positive.

### *Econometric Results*

The estimated results of equation C-4 are presented in table C-7 under case 1.<sup>63</sup> The coefficients for ID and CR4 are positive and statistically significant at the 95 percent confidence level. Neither the coefficients for MD nor RS are statistically significant. The insignificant results for R&D intensity might be partially explained by the fact that the data for RS are more highly aggregated (2- and 3-digit SIC level) than the data for PR (4-digit) and, therefore, incompatible for purposes of measuring R&D variance at the appropriate 4-digit SIC level.

An alternative hypothesis suggested by the literature proposes that imports are not likely to have an impact on productivity until they reach a “critical mass” or threshold level in an individual sector. Domestic firms are less likely to respond to changes in import competition if the degree of competition is relatively very small. Only at the point where the market share of imports begins to affect domestic producers, do firms begin to react. To test the threshold hypothesis, an interaction term identifying this characteristic, MA, was added to the estimation of equation C-4:

$$PR = \beta_0 + \beta_1 ID + \beta_2 CR4 + \beta_3 RS + \beta_4 MD + \beta_5 MA \quad (C-5)$$

where, MA = the interaction term between the percentage change in the share of U.S. domestic consumption for all imports between 1992 and 1993 and a binary variable which is equal to one when the share of imports is at or above the specified threshold level and zero otherwise.

The results for the estimation of equation C-5 are reported under case 2 in table C-7 and suggest that changes in productivity are positively related to changes in total import shares and that some threshold level of total imports must be present—in this case, a 15 percent share—before a sector responds to import competition with increases in productivity. On average, a 1-percent increase in the share of imports in threshold sectors is associated with a 0.16-percent increase in labor productivity. Of the 455 manufacturing sectors examined, 141 of these are sectors where total imports held at least a 15-percent share of U.S. consumption. On average, the share of imports in these threshold sectors increased by 3.1 percent between 1992 and 1993. Applying the estimated effect of the interaction term, MA, this analysis suggests that productivity for the 141 sectors increased, on average, by approximately 0.5 percent during this period as a result of increased import competition.

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<sup>61</sup> R&D data were obtained from databases compiled by the National Science Foundation. All other data were obtained from databases compiled by the Bureau of Census.

<sup>62</sup> Other studies have obtained similar results with respect to R&D intensity. For instance, see Greer and Rhoades for further discussion.

<sup>63</sup> The t-statistics which appear in parentheses are based on standard errors adjusted for heteroskedasticity. C-39

**Table C-7**  
**Econometric estimates of the effects of increased import penetration on U.S. labor productivity**  
 Estimated coefficients and t-Statistics

Explanatory Variable	Case 1	Case 2	Case 3	Case 4
Constant	-.023* (-2.43)	-.023* (-2.50)	-.024* (-2.64)	-.024* (-2.68)
ID	.506 * (9.79)	.503* (9.74)	.507* (9.84)	.504* (9.78)
RS	.237E-02 (0.98)	.224E-02 (0.93)	.244E-02 (1.01)	.221E-02 (.91)
CR4	.576E-03 * (2.63)	.558E-03* (2.54)	.564E-03* (2.57)	.578E-03* (2.65)
MD	-.168E-03 (-0.50)	-.210E-02 (-0.68)	-.186E-02 (-0.58)	-.182E-02 (-0.57)
MA	--	.157* (2.28)	--	--
MN	--	--	.158* (2.02)	--
MM	--	--	--	.209* (2.16)
No. of observations:	455	455	455	455
Adjusted R <sup>2</sup>	.29	.30	.30	.31
F-stat.(zero slopes)	48.47	39.86	39.56	39.81

Note: T-statistics are noted in parentheses. "\*" indicates statistical significance at the 95 percent confidence level. Standard errors are adjusted for heteroskedasticity. Case 1 examines the primary hypothesis that changes in labor productivity are associated with changes in imports. Cases 2 through 4 examine the hypothesis that a minimum threshold of imports must exist before import competition can affect productivity. The interaction term, MA, in case 2 sets the threshold where the share of domestic consumption for all imports is at least 15 percent. Cases 3 and 4 also set the threshold for all imports at 15 percent; however, the interaction term in case 3, MN, only reflects changes in imports in those sectors where both total imports and NAFTA imports increased. The interaction term in case 4, MM, only reflects changes in imports in those sectors where both total imports and Mexican imports increased.

Source: Compiled by USITC staff.

While these results provide support for the hypothesis that there is a positive association between import competition in high-import threshold sectors and U.S. labor productivity, a similar statement cannot be made about import competition from U.S. NAFTA trading partners (Canada and Mexico) or, more specifically, imports from Mexico. The estimates in equation C-5 apply to the total level of imports in each of the sectors and not to imports from only a single country. Even though imports from a single export source might increase, total import penetration in a sector would not change if trade diversion, rather than trade creation, occurred. Changes in total imports give a more accurate indication of changes in import competition.

The Commission analysis subsequently examined the effects of import competition from Canada and Mexico relative to total import competition. This effect was measured by focusing on those sectors where the overall threshold level of imports was at least 15 percent and where both total imports and NAFTA imports simultaneously increased.<sup>64</sup> The import competition from Canadian and Mexican imports was estimated with two separate interaction terms that replaced the term, MA, in equation C-5. These two interaction terms, MN and MM, are described below:

MN = the interaction term between the percentage change in the share of U.S. domestic consumption for all imports between 1992 and 1993, and a binary variable which is equal to 1 when the share of total imports is at or above the 15-percent threshold level and when both total imports and NAFTA- partner imports simultaneously increased. The binary variable is zero otherwise.

MM = the interaction term between the percentage change in the share of U.S. domestic consumption for all imports between 1992 and 1993, and a binary variable which is equal to 1 when the share of total imports is at or above the 15-percent threshold level and when both total imports and Mexican imports simultaneously increased. The binary variable is zero otherwise.

The results for these two interaction terms are reported in table C-7 under cases 3 and 4. The results for MN and MM are both positive and statistically significant at the 95-percent confidence level. Under case 3, the interaction term reflects increases in total import competition for 73 sectors where NAFTA (Canadian and Mexican) imports simultaneously increased. In these sectors, the total share of imports increased on average by 7.3 percent. The estimate of the effect of MN suggests that, for these 73 sectors, labor productivity on average increased by 1.2 percent during this period as a result of increased import competition. Under case 4, the interaction term reflects increases in total import competition for 67 sectors where Mexican imports simultaneously increased. For these sectors, the total share of imports increased on average by 6.9 percent. The estimate of the effect of MM suggests that, for these 67 sectors, labor productivity on average increased by 1.4 percent during this period as a result of import competition. As noted above, the import changes that are measured in cases 3 and 4 are the changes in total imports in the threshold sectors and not solely the changes in imports from Canada and Mexico.

As discussed in chapter 4, the lack of productivity data for 1995 and 1996 did not allow a direct econometric estimate of the actual effects of the NAFTA on U.S. labor productivity. Nonetheless, the results provide some insights on the association between labor productivity and import competition as well as give some indication on the potential effects of NAFTA on labor productivity. To summarize, the results suggest that lagged import competition, and not contemporaneous import competition, affects

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<sup>64</sup> Numerous simulation analyses prior to the NAFTA estimated that, in general, U.S. imports from Mexico would increase as a result of the Agreement. For a summary of these estimates, see USITC, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC publication 2596, Washington, D.C. Jan. 1993. C-41

labor productivity. In addition, imports must account for a relatively substantial share of consumption—in this analysis, 15 percent—before productivity is affected by increases in import competition. Therefore, to the extent that NAFTA induced total imports to increase (i.e., overall trade creation) in threshold sectors over the period 1993 through 1996, the results of this analysis imply that U.S. manufacturing labor productivity likely increased.

### **Data on Foreign Direct Investment**

The discussion of investment in Chapter 3 includes a reference to detailed U.S. foreign direct investment flows into Mexico. These data are contained in the tables that follow.



Table C-8: U.S. Direct Investment Position in Mexico on a Historical-Cost Basis, 1982-95

Year	Manufacturing										Finance (except banking, insurance, and real estate)				
	All industries	Petroleum	Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery, except electrical	Electric and electronic equipment	Transportation equipment	Other manufacturing	Wholesale trade	Banking	Services	Other industries	
1982	5,019	( <sup>1</sup> )	3,921	371	687	322	224	466	763	1,089	339	7	181	78	( <sup>1</sup> )
1983	4,516	75	3,502	300	654	302	396	401	449	1,000	368	( <sup>1</sup> )	187	54	328
1984	4,829	71	3,742	422	737	334	216	486	529	1,019	474	-3	251	24	270
1985	5,417	53	4,178	455	744	324	221	478	854	1,102	587	-1	259	62	280
1986	5,060	55	3,814	337	759	203	170	358	1,021	966	412	( <sup>1</sup> )	250	232	( <sup>1</sup> )
1987	5,434	79	4,088	224	902	220	108	426	1,038	1,170	349	( <sup>1</sup> )	310	271	( <sup>1</sup> )
1988	6,312	76	4,892	298	1,213	248	202	451	1,138	1,343	501	( <sup>1</sup> )	120	342	( <sup>1</sup> )
1989	8,264	76	6,412	618	1,510	305	469	( <sup>1</sup> )	1,577	( <sup>1</sup> )	518	( <sup>1</sup> )	( <sup>1</sup> )	279	461
1990	10,313	( <sup>1</sup> )	7,784	1,119	1,703	345	532	676	1,762	1,648	551	( <sup>1</sup> )	619	291	963
1991	12,501	( <sup>1</sup> )	8,978	1,382	2,004	349	472	632	2,314	1,825	750	( <sup>1</sup> )	670	317	633
1992	13,730	( <sup>1</sup> )	9,546	1,369	2,050	( <sup>1</sup> )	( <sup>1</sup> )	679	2,602	2,085	880	( <sup>1</sup> )	795	335	1,947
1993	15,221	( <sup>1</sup> )	9,235	2,349	2,379	( <sup>1</sup> )	( <sup>1</sup> )	523	914	2,253	895	( <sup>1</sup> )	2,106	233	2,467
1994	15,714	( <sup>1</sup> )	10,001	2,800	1,952	( <sup>1</sup> )	( <sup>1</sup> )	574	1,672	2,164	1,017	( <sup>1</sup> )	2,124	262	2,230
1995	14,037	133	8,856	2,278	1,303	357	489	615	1,621	2,193	842	15	2,008	412	1,772

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.

Table C-9: U.S. Direct Investment Abroad: Capital Outflows to Mexico, 1982-95

Year	(Millions of dollars: inflows (-))													
	Manufacturing					Finance (except banking, insurance, and real estate)								
	All industries	Petroleum	Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery, except electrical	Electric and electronic equipment	Transportation equipment	Other manufacturing	Wholesale trade	Banking	Services	Other industries
1982	107	7	203	18	93	37	-3	37	-74	96	-35	-11	-23	44
1983	491	( <sup>1</sup> )	-427	-58	-21	-56	-141	-56	-59	-51	32	-8	-9	( <sup>1</sup> )
1984	204	3	129	122	131	85	-279	85	48	-10	69	-7	1	-41
1985	226	-31	200	33	55	6	-52	-18	87	89	44	1	31	-20
1986	-339	2	-351	-45	-52	-29	-111	-2	-83	-29	-10	( <sup>1</sup> )	8	( <sup>1</sup> )
1987	393	24	264	-91	120	26	-79	48	5	236	-56	( <sup>1</sup> )	32	( <sup>1</sup> )
1988	750	-4	670	69	190	32	21	27	163	168	171	( <sup>1</sup> )	-183	( <sup>1</sup> )
1989	1,652	( <sup>1</sup> )	1,159	281	289	39	60	( <sup>1</sup> )	250	( <sup>1</sup> )	67	( <sup>1</sup> )	34	123
1990	1,926	( <sup>1</sup> )	1,323	393	173	49	53	( <sup>1</sup> )	257	( <sup>1</sup> )	12	( <sup>1</sup> )	8	479
1991	2,321	( <sup>1</sup> )	1,325	281	262	19	-9	-43	619	196	205	( <sup>1</sup> )	51	673
1992	1,320	( <sup>1</sup> )	720	28	152	( <sup>1</sup> )	( <sup>1</sup> )	-92	404	268	124	( <sup>1</sup> )	148	250
1993	2,516	( <sup>1</sup> )	1,023	952	410	( <sup>1</sup> )	( <sup>1</sup> )	-95	-628	304	9	( <sup>1</sup> )	522	874
1994	3,327	( <sup>1</sup> )	2,235	697	259	( <sup>1</sup> )	( <sup>1</sup> )	127	765	304	288	( <sup>1</sup> )	-60	868
1995	2,113	( <sup>1</sup> )	1,479	170	329	( <sup>1</sup> )	( <sup>1</sup> )	108	132	601	11	( <sup>1</sup> )	-12	359

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.

Table C-10: U.S. Direct Investment Abroad: Equity Capital Outflows to Mexico, 1982-95

Year	(Millions of dollars: inflows (-))													
	Manufacturing					Electric					Finance (except banking, insurance, and real estate)			
	All industries	Petroleum	Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery, except electrical	Electric equipment	Transportation equipment	Other manufacturing	Wholesale trade	Banking	Services	Other industries
1982	296	4	261	( <sup>1</sup> )	27	9	13	( <sup>1</sup> )	( <sup>1</sup> )	9	22	-1	5	1
1983	109	( <sup>1</sup> )	46	5	-1	( <sup>1</sup> )	4	16	( <sup>1</sup> )	53	( <sup>1</sup> )	3	12	-2
1984	152	( <sup>1</sup> )	( <sup>1</sup> )	9	4	( <sup>1</sup> )	19	17	15	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	27	( <sup>1</sup> )
1985	174	( <sup>1</sup> )	71	1	7	( <sup>1</sup> )	7	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	5	( <sup>1</sup> )	-2
1986	112	( <sup>1</sup> )	71	( <sup>1</sup> )	( <sup>1</sup> )	-34	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	6	4	17	-2
1987	246	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	25	( <sup>1</sup> )	16	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	5	-1
1988	-8	( <sup>1</sup> )	-48	8	( <sup>1</sup> )	( <sup>1</sup> )	3	10	-23	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	-21
1989	383	4	83	3	30	2	13	37	17	-18	31	0	187	56
1990	508	1	92	( <sup>1</sup> )	-26	0	-1	( <sup>1</sup> )	3	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
1991	602	( <sup>1</sup> )	2	20	( <sup>1</sup> )	( <sup>1</sup> )	1	-3	( <sup>1</sup> )	-13	( <sup>1</sup> )	( <sup>1</sup> )	3	( <sup>1</sup> )
1992	78	( <sup>1</sup> )	74	91	( <sup>1</sup> )	( <sup>1</sup> )	-10	( <sup>1</sup> )	5	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	-56
1993	1,643	4	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	0	11	14	106	( <sup>1</sup> )	( <sup>1</sup> )	194	( <sup>1</sup> )
1994	967	8	( <sup>1</sup> )	( <sup>1</sup> )	31	9	( <sup>1</sup> )	( <sup>1</sup> )	13	( <sup>1</sup> )	63	( <sup>1</sup> )	106	648
1995	972	( <sup>1</sup> )	400	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	5	119	54	79	( <sup>1</sup> )	137	246

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.

Table C-11: U.S. Direct Investment Abroad: Reinvested Earnings In Mexico, 1982-95

Year	(Millions of dollars; inflows (-))											
	Manufacturing				Electric and electronic equipment			Finance (except banking, insurance, and real estate)				
	All industries	Petroleum	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery, except electrical	Transportation equipment	Other manufacturing	Wholesale trade	Banking	Services	Other industries
1982	-322	9	-254	1	28	-11	8	36	-37	-10	-27	55
1983	-363	-17	-369	-42	2	-147	-16	1	43	( <sup>1</sup> )	-19	( <sup>1</sup> )
1984	117	-12	86	33	150	-149	18	49	84	-13	-23	27
1985	84	-8	109	23	93	-58	3	84	29	-3	-14	-10
1986	-308	-11	-272	29	-32	-99	-29	-21	-13	( <sup>1</sup> )	-13	( <sup>1</sup> )
1987	525	( <sup>1</sup> )	423	9	96	-71	-4	194	47	-2	5	52
1988	921	( <sup>1</sup> )	764	55	211	3	11	223	89	-8	16	42
1989	733	-11	597	164	192	11	( <sup>1</sup> )	152	9	( <sup>1</sup> )	58	67
1990	1,201	4	963	162	193	18	4	335	56	-3	83	93
1991	1,344	9	1,047	220	210	32	8	394	69	( <sup>1</sup> )	97	130
1992	1,645	( <sup>1</sup> )	1,264	185	233	( <sup>1</sup> )	33	554	2	( <sup>1</sup> )	126	229
1993	1,585	9	1,017	257	309	18	26	143	74	1	316	132
1994	1,023	-16	1,075	217	245	51	45	288	( <sup>1</sup> )	( <sup>1</sup> )	-281	169
1995	898	12	751	38	253	38	9	-23	( <sup>1</sup> )	( <sup>1</sup> )	-186	222

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position. Estimates, various years.

Table C-12: U.S. Direct Investment Abroad: Intercompany Debt Outflows to Mexico, 1982-95

Year	(Millions of dollars: inflows (-))												
	Manufacturing			Electric			Other		Finance		Services	Other industries	
All industries	Petroleum	Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery, except electrical	Electric equipment	Transportation equipment	Wholesale trade	Banking			Finance (except banking, insurance, and real estate)
1982	133	-6	196	(1)	38	13	-5	(1)	(1)	51	-24	-2	-12
1983	-237	(1)	-105	-21	-22	(1)	2	-56	(1)	-106	(1)	-1	-28
1984	-66	15	(1)	80	-23	(1)	-149	50	(1)	(1)	(1)	-3	(1)
1985	-31	-24	20	9	-45	(1)	-1	-21	(1)	(1)	-9	(1)	-8
1986	-143	13	-150	(1)	(1)	-4	(1)	(1)	(1)	(1)	2	-5	(1)
1987	-378	(1)	(1)	(1)	-1	(1)	-23	(1)	(1)	(1)	22	(1)	(1)
1988	-163	-3	-47	6	(1)	(1)	14	6	(1)	(1)	(1)	(1)	(1)
1989	536	7	479	113	68	1	36	(1)	192	(1)	(1)	(1)	(1)
1990	217	(1)	269	(1)	6	2	36	(1)	-81	37	-2	2	(1)
1991	376	7	276	40	(1)	(1)	-42	-48	(1)	52	-49	7	(1)
1992	-403	(1)	-617	-249	(1)	(1)	-39	(1)	-156	(1)	23	-13	77
1993	-711	(1)	(1)	(1)	(1)	22	(1)	-132	-785	-27	12	(1)	(1)
1994	1,337	(1)	(1)	(1)	-17	(1)	7	(1)	465	(1)	115	-14	50
1995	244	-17	328	(1)	(1)	11	(1)	95	36	145	37	(1)	-109

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.

Table C-13: U.S. Direct Investment Abroad: Income in Mexico, 1982-95

(Millions of dollars: inflows (-))

Year	Manufacturing										Banking	Finance (Except, banking), insurance, and real estate	Services	Other industries	
	All industries	Petro- leum	Total	Food and kindred products	Chemi- cals and allied products	Primary and fabri- cated metals	Ma- chinery, except elec- trical	Electric and elec- tronic equip- ment	Trans- portation equipment	Other manu- facturing					Wholesale trade
1982	-48	17	-91	34	93	24	( <sup>1</sup> )	22	-346	82	-6	-10	-14	-19	74
1983	-194	-10	-272	-18	29	20	-133	-14	-178	22	61	( <sup>1</sup> )	9	-8	( <sup>1</sup> )
1984	287	-5	204	66	189	24	-138	22	-30	71	95	-13	-5	-20	31
1985	370	( <sup>1</sup> )	334	71	171	47	-51	16	-66	145	54	-3	-5	-7	-2
1986	-75	-10	-102	41	57	13	-87	-26	-120	21	10	( <sup>1</sup> )	8	2	( <sup>1</sup> )
1987	720	1	560	54	133	45	-61	-2	165	226	60	-2	36	10	55
1988	1,290	2	1,077	107	277	66	15	19	299	293	103	-8	41	29	46
1989	1,417	-5	1,159	194	329	59	38	20	256	263	79	( <sup>1</sup> )	87	15	82
1990	1,850	9	1,488	234	293	59	45	27	526	304	135	-3	108	5	108
1991	2,267	17	1,803	352	341	41	69	42	658	300	171	( <sup>1</sup> )	118	( <sup>1</sup> )	165
1992	2,457	( <sup>1</sup> )	1,817	316	376	( <sup>1</sup> )	( <sup>1</sup> )	52	653	338	154	( <sup>1</sup> )	160	40	283
1993	2,525	21	1,647	405	489	46	27	47	270	362	86	2	530	38	199
1994	2,434	1	1,787	388	491	25	65	65	307	446	( <sup>1</sup> )	( <sup>1</sup> )	304	14	191
1995	1,594	13	1,163	137	429	44	54	24	-8	484	( <sup>1</sup> )	( <sup>1</sup> )	-21	2	235

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.

Table C-14: Sales by U.S. Nonbank Affiliates in Mexico, by Industry

(Millions of dollars)

Year	Manufacturing										Finance (Except, banking, insurance, and real estate)	Services	Other industries	
	All industries	Petro- leum	Total	Food and kindred products	Chem- icals and allied products	Primary and fabri- cated metals	Machinery, except electrical	Electric and electronic equipment	Trans- portation equipment	Other manu- facturing				Whole- sale trade
1982	21,298	159	17,021	2,556	3,739	1,803	998	1,405	3,275	3,245	1,379	170	285	2,283
1983	14,833	160	11,611	1,425	2,853	1,592	1,106	917	1,534	2,183	1,022	88	214	1,739
1984	17,733	162	14,945	1,647	3,605	1,514	1,609	1,182	2,500	2,888	1,348	91	191	995
1985	19,312	189	16,300	1,858	3,769	1,238	762	1,295	4,266	3,110	1,522	107	211	984
1986	15,621	140	12,912	1,674	3,221	655	645	955	3,363	2,400	1,001	83	442	1,044
1987	17,777	165	14,841	1,596	3,657	729	644	1,128	4,245	2,842	1,177	124	450	1,020
1988	22,607	178	18,803	2,050	4,486	865	(1)	1,764	5,544	(1)	1,521	282	506	1,317
1989	28,672	(1)	22,706	2,754	5,315	916	1,299	2,048	6,509	3,866	1,289	(1)	294	1,738
1990	32,311	(1)	24,990	3,218	5,462	966	(1)	2,375	7,483	(1)	1,765	472	(1)	1,799
1991	35,997	296	30,709	4,269	6,082	1,008	(1)	2,997	(1)	4,490	2,034	545	(1)	(1)
1992	48,343	390	33,880	4,460	6,185	1,047	1,550	3,471	11,986	5,182	2,686	1,393	(1)	(1)
1993	53,175	399	36,695	6,093	7,011	965	(1)	(1)	(1)	(1)	(1)	1,455	1,071	(1)
1994	62,367	(1)	39,932	6,029	7,682	775	(1)	(1)	(1)	(1)	(1)	1,612	(1)	13,282

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

Source: U.S. Department of commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.

Table C-15: U.S. Exports to U.S. Nonbank Affiliates in Mexico, by Industry

(Millions of dollars)

Year	Manufacturing										Finance (Except, banking, insurance, and real estate	Services	Other industries	
	All industries	Petro- leum	Total	Food and kindred products	Chemi- cals and allied products	Primary and fabri- cated metals	Machinery, except electrical	Electric and electronic equipment	Trans- portation equipment	Other manu- facturing				Whole- sale trade
1982	2,818	( <sup>1</sup> )	2,540	28	231	71	97	812	971	332	177	0	( <sup>1</sup> )	32
1983	2,527	( <sup>1</sup> )	2,368	10	169	58	( <sup>1</sup> )	1,025	550	( <sup>1</sup> )	132	0	5	( <sup>1</sup> )
1984	3,173	4	2,950	9	189	62	( <sup>1</sup> )	1,065	945	( <sup>1</sup> )	211	0	3	6
1985	3,968	4	3,644	11	252	66	92	1,209	1,680	334	310	0	2	7
1986	4,251	3	3,968	12	281	73	101	1,363	1,776	362	212	0	( <sup>1</sup> )	( <sup>1</sup> )
1987	4,937	( <sup>1</sup> )	4,569	32	390	85	95	1,386	2,168	414	271	0	( <sup>1</sup> )	18
1988	5,799	5	5,292	41	478	105	122	1,269	2,835	442	400	0	( <sup>1</sup> )	( <sup>1</sup> )
1989	7,693	21	7,158	52	614	62	399	1,859	3,484	687	366	0	( <sup>2</sup> )	148
1990	8,662	33	8,069	87	524	113	356	2,153	3,949	886	414	0	( <sup>1</sup> )	146
1991	10,831	46	9,994	( <sup>1</sup> )	408	111	401	2,678	5,026	( <sup>1</sup> )	600	0	( <sup>1</sup> )	( <sup>1</sup> )
1992	13,203	( <sup>1</sup> )	12,166	255	478	128	454	( <sup>1</sup> )	6,571	( <sup>1</sup> )	( <sup>1</sup> )	0	( <sup>2</sup> )	( <sup>1</sup> )
1993	14,260	44	12,984	300	731	169	454	( <sup>1</sup> )	6,978	( <sup>1</sup> )	( <sup>1</sup> )	0	2	( <sup>1</sup> )
1994	16,232	57	14,573	155	793	195	697	( <sup>1</sup> )	7,132	( <sup>1</sup> )	1,379	( <sup>2</sup> )	54	170

<sup>1</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>2</sup> Less than \$500,000 (+/-).

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.



Table C-16: U.S. Imports from U.S. Nonbank Affiliates in Mexico, by Industry

(Millions of dollars)

Year	Manufacturing										Finance (Except, banking), insurance, and real estate	Services	Other industries
	All industries	Petro- leum	Food and kindred products	Chem- icals and allied products	Primary and fabri- cated metals	Machinery, except electrical	Electric and electronic equipment	Trans- portation equipment	Other manu- facturing	Whole- sale trade			
1982	1,940	0	13	101	( <sup>1</sup> )	13	( <sup>1</sup> )	470	( <sup>1</sup> )	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1983	2,241	1	18	85	( <sup>1</sup> )	( <sup>1</sup> )	954	491	( <sup>1</sup> )	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1984	3,268	1	24	98	34	( <sup>1</sup> )	1,321	966	( <sup>1</sup> )	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1985	3,720	( <sup>2</sup> )	27	85	8	52	1,453	1,791	262	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1986	4,360	1	19	153	28	61	1,543	2,142	349	24	0	( <sup>1</sup> )	( <sup>1</sup> )
1987	4,971	1	22	183	( <sup>1</sup> )	71	1,258	2,813	( <sup>1</sup> )	( <sup>1</sup> )	0	( <sup>1</sup> )	65
1988	5,887	( <sup>2</sup> )	26	228	( <sup>1</sup> )	153	1,373	3,284	( <sup>1</sup> )	( <sup>1</sup> )	0	( <sup>1</sup> )	110
1989	7,283	( <sup>1</sup> )	67	235	49	366	2,117	3,227	702	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1990	8,046	1	74	152	( <sup>2</sup> )	348	( <sup>1</sup> )	3,914	677	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1991	9,508	1	77	206	52	349	( <sup>1</sup> )	( <sup>1</sup> )	961	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )
1992	11,717	( <sup>1</sup> )	104	223	72	364	( <sup>1</sup> )	( <sup>1</sup> )	1,036	266	0	( <sup>1</sup> )	( <sup>1</sup> )
1993	13,008	2	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	329	( <sup>1</sup> )	( <sup>1</sup> )	859	( <sup>1</sup> )	0	( <sup>1</sup> )	240
1994	16,391	1	( <sup>1</sup> )	430	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	8,261	831	( <sup>1</sup> )	0	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Less than \$500,000 (+/-).

<sup>2</sup> Suppressed to avoid disclosure of data of individual companies.

Source: U.S. Department of commerce, Bureau of Economic Analysis, International Investment Division, U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, various years.



**APPENDIX D**

**HEARING CALENDAR, DOCKET REPORT,  
AND SUMMARIES OF WRITTEN SUBMISSIONS**



## CALENDAR OF PUBLIC HEARINGS

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : THE IMPACT OF THE NORTH AMERICAN  
FREE TRADE AGREEMENT ON THE U.S.  
ECONOMY AND INDUSTRIES: A THREE  
YEAR REVIEW

In. No. : 332-381

Date and Time : May 15th and 16th , 1997 - 9:30 a.m.

Sessions were held in connection with the investigation in the Main Hearing Room 101, 500 E Street, S.W., Washington, D.C.

### Congressional Appearances:

**The Honorable Jim Kolbe, U.S. Congressman, 5th District, State of Arizona**

**The Honorable Robert F. Smith, U.S. Congressman, 2nd District, State of Oregon**

**The Honorable Steve Buyer, U.S. Congressman, 5th District, State of Indiana**

### ORGANIZATION AND WITNESS

#### Panel 1

Commonwealth of Virginia, Richmond, Virginia

**Robert T. Skunda, Secretary of Commerce and Trade,  
Commonwealth of Virginia**

**Christopher D. Lloyd, Assistant Secretary of Commerce  
and Trade, Commonwealth of Virginia**

#### Panel 2

U.S. Filter Corporation, Palm Desert, CA

**Richard J. Heckmann, President and Chief Executive  
Officer, U.S. Filter Corporation**

**ORGANIZATION AND WITNESS-CONT'D**

**Panel 3**

Baylor University, Waco, Texas

**Joseph A. McKinney, Professor of  
Economics, Baylor University**

Center for Strategic & International Studies (CSIS), Washington, D.C.

**Sidney Weintraub, William E. Simon Chair in  
Political Economy, CSIS**

Institute for International Economics, Washington, D.C.

**Jeffrey J. Schott, Senior Fellow, Institute for  
International Economics**

**Gary Hufbauer, Senior Fellow, Institute for  
International Economics**

Federal Reserve Bank of Chicago, Chicago Illinois

**Michael Kouparitsas, Economist, Research Department**

**Panel 4**

American Federation of Labor and  
Congress of Industrial Organizations (AFL and CIO)

**Gregory Woodhead, Ph.D., Economist,  
Public Policy Department, AFL and CIO**

International Union, United Automobile, Aerospace &  
Agricultural Implement Workers of America (UAW),  
Washington, D.C.

**Steve Beckman, International Economist, UAW**

**Panel 4- cont'd**

National Farmers Union, Washington, D.C.

**Lynn McBride, Legislative Representative,  
National Farmers Union**

**Phillip Klutts, President Oklahoma Farmers Union**

Public Citizen, Washington, D.C.

**Lori Wallach, Director, Public Citizen's Global Trade  
Watch**

Panel 5

National Foreign Trade Council (NFTC), Incorporated, Washington, D.C.

**Frank D. Kittredge, President, NFTC**

American Chamber of Commerce of Mexico, Mexico, D.F.

**Shauna Doyle de Brun, President of the American Chamber  
of Commerce of Mexico, and President of Texel, SA de CV**

U.S. Chamber of Commerce, Washington, D.C.

**Willard A. Workman, Vice President of the International  
Division, U.S. Chamber of Commerce**

Border Trade Alliance, San Diego, CA

**Susan Kohn Ross, Member of the Board of Directors**

Panel 6

Fresh Produce Association of the Americas, Nogales, Arizona

**Lee Frankel, President, Fresh Produce Association  
of the Americas**

American Farm Bureau Federation, Washington, D.C.

**David J. Salmons**, Assistant Director, Governmental  
Relations

U.S. Mexico Chamber of Commerce, Washington, D.C.

**Albert C. Zapanta**, President and CEO, USMCOC

**Stuart S. Dye**, Secretary, USMCOC

Kersner and Associates  
Washington, D.C.  
on behalf of

Fabricas Orion  
Procesadora de Ceramica de Ceramica de Mexico, S.A.  
Sanitarios Azteca, S.A.  
Vitromex, S.A.

**Roger Banks**, Associate Attorney, Kersner and Associates

Panel 7

O'Connor & Hannan, LLP  
Washington, D.C.  
on behalf of

Florida Tomato Exchange

**Wayne Hawkins**, Executive Vice President,  
Florida Tomato Exchange

**John M. Himmelberg**—OF COUNSEL

McDermott, Will & Emery  
Washington, D.C.  
on behalf of

Florida Fruit and Vegetable Association



**Reginald L. Brown, Director of Marketing and  
Membership, Florida Fruit and Vegetable Association**

**Jerry C. Hill            )**  
**)--OF COUNSEL**  
**Carolyn Gleason        )**

**Accomack County Farm Bureau, Accomack County, Virginia**

**Lynn Gayle, President, Accomack County  
Farm Bureau**

**Bonita Packing Company, Bonita Springs, Florida**

**Billy Don Grant, President, Bonita Packing Company**

**Florida Farmers & Suppliers Coalition, Incorporated, Lake Worth, Florida  
Taylor & Fulton, Incorporated, Palmetto, Florida**

**R. Jay Taylor, President, Taylor & Fulton, Incorporated**

**DAY 2 - MAY 16, 1997 - NAFTA HEARING CONTINUED**

**Panel 8**

**American Automobile Manufacturers  
Association, (AAMA), Washington, D.C.**

**Andrew H. Card, Jr., President and CEO, AAMA**

**Council of the Americas, Washington, D.C.**

**Ambassador William T. Pryce, Vice President, Washington  
Operations, Council of the Americas**

**Peter Stephens, Director, Government Affairs, Council  
of the Americas**

**Panel 9**

**Farmland Industries, Incorporated, Washington, D.C.**

**Stephen P. Dees, Executive Vice President**

Greater San Diego Chamber of Commerce, San Diego, California

**Gilbert A. Partida, President**

State of New Jersey, Department of Commerce and Economic  
Development, Trenton, New Jersey

**Carlos T. Kearns, Director, International Trade**

Brownsville Economic Development Council,  
Brownsville, Texas

**Rick Luna, Director of Communications & Research,  
Brownsville Economic Development Council**

Panel 10

Washington State Community, Trade and  
Economic Development, Washington, D.C.

**Stephen R. Odom, Managing Director, International  
Trade Division, Washington State Community, Trade  
and Economic Development**

Colombo & Bonacci, P.C., Phoenix, Arizona

**Carol A. Colombo, Governor's Representative  
for NAFTA, Colombo & Bonacci**

Arizona Department of Agriculture, Phoenix Arizona

**John Wake, Assistant Director, Commodities Promotion and  
Development**

Panel 11

Brenco, Incorporated, Midlothian, Virginia

**Howard J. Bush, Vice President, Marketing & Sales,  
Brenco, Incorporated**

Union Pacific Railroad, Washington, D.C.

**Joe Heastie, Products Manager, Mexico Market,  
Union Pacific Railroad**

Celadon Trucking Services, Incorporated, Indianapolis, Indiana

**Michael T. Hodson, Executive Vice President,  
Celadon Trucking Services, Incorporated**

Panel 12

Summit of the Americas Center, Miami, Florida

**Charles Jainarain, Executive Director, Summit  
of the Americas Center**

The Heritage Foundation, Washington, D.C.

**Robert P. O'Quinn, Policy Analyst for  
International Economics and Trade, Asian Studies Center**

Economic Policy Institute, Washington, D.C.

**Robert E. Scott, Economist, Economic Policy Institute**

Citizens for a Sound Economy Foundation, Washington, D.C.

**Anita Sheth, Director, Trade Policy**

Thunderbird, The American Graduate School of  
International Management, Glendale, Arizona

**Dr. Shoshana Tancer, Director, NAFTA Center and  
faculty member, Department of International Studies**

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- 04-25-1997 News Release Filed by Peg O Laughlin, Public Affairs Officer, on behalf of Office of External Relations  
(ITC-Seq# 199704250022 - Public)
- 04-29-1997 Institution of Investigation Filed by Donna R Koehnke, Secretary, on behalf of Commission  
(ITC-Seq# 199704290001 - Public)
- 04-29-1997 Federal Register Notice Filed by Donna R Koehnke, Secretary, on behalf of Commission  
(ITC-Seq# 199704290004 - Public)
- 05-02-1997 Appearance Filed by John M Himmelberg, O Connor and Hannan Llp, on behalf of the Florida Tomato Exchange  
(ITC-Seq# 199705020008 - Public)
- 05-06-1997 Appearance Filed by Jerry C Hill, Mcdermott Will and Emery, on behalf of Florida Fruit and Vegetable Association  
(ITC-Seq# 199705060033 - Public)
- 05-07-1997 Statement Filed by Wayne Hawkins, Executive Vice President, on behalf of Florida Tomato Exchange  
(ITC-Seq# 199705070005 - Public)
- 05-07-1997 Appearance Filed by William T Pryce, Ambassador, on behalf of Council of the Americas  
(ITC-Seq# 199705070010 - Public)
- 05-07-1997 Appearance Filed by John M Himmelberg, Oconnor and Hannan Llp, on behalf of Bonita Packing Company  
(ITC-Seq# 199705070032 - Public)

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- 05-07-1997 Appearance Filed by John M Himmelberg, Oconnor and Hannan Llp, on behalf of Big Red Tomator Packers  
(ITC-Seq# 199705070033 - Public)
- 05-07-1997 Appearance Filed by John M Himmelberg, Oconnor and Hannan Llp, on behalf of Taylor and Fulton Incorporated  
(ITC-Seq# 199705070034 - Public)
- 05-07-1997 Appearance Filed by Gregory Woodhead, Public Policy Department, on behalf of American Federation of Labor and Congress of Industrial Organizations  
(ITC-Seq# 199705070035 - Public)
- 05-07-1997 Appearance Filed by Sidney Weintraub, , on behalf of Center for Strategic and International Studies  
(ITC-Seq# 199705070036 - Public)
- 05-08-1997 Appearance Filed by Joseph a Mckinney, Department of Economics, on behalf of Baylor University  
(ITC-Seq# 199705080002 - Public)
- 05-08-1997 Appearance Filed by David Erickson, President, on behalf of American Soybean Association  
(ITC-Seq# 199705080003 - Public)
- 05-08-1997 Appearance Filed by Gregory Woodhead, Public Policy Department, on behalf of American Federation of Labor and Congress of Industrial Organizations  
(ITC-Seq# 199705080005 - Public)
- 05-08-1997 Appearance Filed by J Luis Rodriguez, Executive Director, on behalf of Florida Farmers and Suppliers Coalition Incorporated  
(ITC-Seq# 199705080007 - Public)

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- 05-08-1997 Submission Filed by J Luis Rodriguez, Executive Director, on behalf of Florida Farmers and Suppliers Coalition Incorporated  
(ITC-Seq# 199705080011 - Public)
- 05-08-1997 Appearance Filed by Andrew Howell, Director Latin American Affairs, on behalf of Us Chamber of Commerce  
(ITC-Seq# 199705080012 - Public)
- 05-08-1997 Appearance Filed by John M Bruton, Executive Vice President, on behalf of American Chamber of Commerce of Mexico Ac  
(ITC-Seq# 199705080013 - Public)
- 05-08-1997 Appearance Filed by Robert T Skunda, Secretary of Commerce and Trade, on behalf of Commonwealth of Virginia  
(ITC-Seq# 199705080014 - Public)
- 05-08-1997 Appearance Filed by William T Pryce, Vice President, on behalf of Council of the Americas  
(ITC-Seq# 199705080019 - Public)
- 05-08-1997 Appearance Filed by Susan Kohn Ross, Sk Ross and Association Pc, on behalf of Border Trade Alliance  
(ITC-Seq# 199705080020 - Public)
- 05-08-1997 Appearance Filed by Jeffrey Bobeck, Senior Congressional Liaison, on behalf of American Automobile Manufacturers Association  
(ITC-Seq# 199705080024 - Public)
- 05-08-1997 Appearance Filed by Leland Swenson, President, on behalf of National Farmers Union

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(ITC-Seq# 199705080026 - Public)

05-08-1997 Appearance Filed by Julius L Katz, President, on behalf of Hills and Company  
(ITC-Seq# 199705080029 - Public)

05-08-1997 Appearance Filed by Richard J Heckmann, Chairman, on behalf of United States  
Filter Corporation  
(ITC-Seq# 199705080030 - Public)

05-08-1997 Submission Filed by Gregory Woodhead Phd, Public Policy Department, on behalf  
of American Federation of Labor and Congress of Industrial Organizations  
(ITC-Seq# 199705080032 - Public)

05-08-1997 Appearance Filed by Jeffrey J Schott, Senior Fellow, on behalf of Institute for  
International Economics  
(ITC-Seq# 199705080034 - Public)

05-08-1997 Appearance Filed by Sidney Weintraub, Center for Strategic and International  
Studies, on behalf of Center for Strategic and International Studies  
(ITC-Seq# 199705080035 - Public)

05-09-1997 Appearance Filed by Howard J Bush, Vice President, on behalf of Brenco  
Incorporated  
(ITC-Seq# 199705090008 - Public)

05-09-1997 Appearance Filed by Steve Beckman, International Economist, on behalf of  
International Union Uaw  
(ITC-Seq# 199705090013 - Public)

05-09-1997 Appearance Filed by T Albert Yamada, Washington Representative, on behalf of

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Fresh Produce Association of the Americas  
(ITC-Seq# 199705090021 - Public)

- 05-09-1997 Appearance Filed by John M Himmelberg, Oconnor and Hannan Llp, on behalf of Accomack County Farm Bureau  
(ITC-Seq# 199705090023 - Public)
- 05-09-1997 Submission Filed by John M Marsh, Department of Agricultural Economics and Economics, on behalf of Montana State University  
(ITC-Seq# 199705090025 - Public)
- 05-09-1997 Appearance Filed by Rick Luna, Director of Communications and Research, on behalf of Brownsville Economic Development Council  
(ITC-Seq# 199705090026 - Public)
- 05-09-1997 Appearance Filed by Robert P Oquinn, Policy Analyst for International Economics and Trade, on behalf of Asian Studies Center  
(ITC-Seq# 199705090028 - Public)
- 05-09-1997 Appearance Filed by Robert E Scott, Economist, on behalf of Economic Policy Institute  
(ITC-Seq# 199705090030 - Public)
- 05-09-1997 Appearance Filed by Michael T Hodson, Executive Vice President, on behalf of Celadon Trucking Services Incorporated  
(ITC-Seq# 199705090031 - Public)
- 05-09-1997 Appearance Filed by Mary E Mcquillife, Vice President, on behalf of Union Pacific Company  
(ITC-Seq# 199705090034 - Public)



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- 05-09-1997 Appearance Filed by Frank D Kittredge, President, on behalf of National Foreign Trade Council Incorporated  
(ITC-Seq# 199705090035 - Public)
- 05-09-1997 Appearance Filed by Carol a Colombo, Colombo and Bonacci, on behalf of Colombo and Bonacci  
(ITC-Seq# 199705090036 - Public)
- 05-09-1997 Appearance Filed by Peter F Young, Enterprise Initiatives Manager, on behalf of Thunderbird  
(ITC-Seq# 199705090037 - Public)
- 05-09-1997 Appearance Filed by Stephen R Odom, Managing Director International Trade Division, on behalf of Washington State Community Trade and Economic Development  
(ITC-Seq# 199705090042 - Public)
- 05-09-1997 Appearance Filed by Stephen P Dees, Executive Vice President, on behalf of Farmland Industries Incorporated  
(ITC-Seq# 199705090045 - Public)
- 05-09-1997 Statement Filed by William C Lane, Washington Director Governmental Affairs, on behalf of Caterpillar Incorporated  
(ITC-Seq# 199705090048 - Public)
- 05-09-1997 Appearance Filed by Richard S Ledford, Senior Vice President, on behalf of Greater San Diego Chamber of Commerce  
(ITC-Seq# 199705090049 - Public)
- 05-12-1997 Appearance Filed by Bob Graham, United States Senator, on behalf of United States Senate

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(ITC-Seq# 199705120003 - Public)

- 05-12-1997 Appearance Filed by Laura Grund, Global Trade Watch, on behalf of Public Citizen  
(ITC-Seq# 199705120004 - Public)
- 05-12-1997 Appearance Filed by Michael Kouparitsas, Economist Research Department, on behalf of Federal Reserve Bank  
(ITC-Seq# 199705120005 - Public)
- 05-12-1997 Appearance Filed by Anita Sheth, Director of Trade Policy, on behalf of Citizens for a Sound Economy Foundation  
(ITC-Seq# 199705120006 - Public)
- 05-12-1997 Appearance Filed by Richard S Ledford, Senior Vice President, on behalf of Greater San Diego Chamber of Commerce  
(ITC-Seq# 199705120009 - Public)
- 05-12-1997 Statement Filed by J Luis Rodriguez, Executive Director, on behalf of Florida Farmers and Suppliers Coalition Inc  
(ITC-Seq# 199705120012 - Public)
- 05-12-1997 Statements Filed by Gary Martin, Farmland Industries Inc, on behalf of Farmland Industries Inc  
(ITC-Seq# 199705120017 - Public)
- 05-12-1997 Testimony Filed by Porter Goss, Congress of the United States, on behalf of Congress of the United States  
(ITC-Seq# 199705120018 - Public)

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- 05-12-1997 Appearance Filed by Andrew Howell, Director Latin American Affairs, on behalf of Us Chamber of Commerce  
(ITC-Seq# 199705120025 - Public)
- 05-12-1997 Appearance Filed by John M Bruton, Executive Vice President, on behalf of American Chamber Mexico  
(ITC-Seq# 199705120026 - Public)
- 05-12-1997 Testimony Filed by Phillip Klutts, President, on behalf of the National Farmers Union  
(ITC-Seq# 199705120029 - Public)
- 05-12-1997 Appearance Filed by Joseph a Mckinney, Baylor University, on behalf of Baylor University  
(ITC-Seq# 199705120031 - Public)
- 05-12-1997 Testimony Filed by William Pryce, Vice President, on behalf of Washington Operations Council of the Americas  
(ITC-Seq# 199705120034 - Public)
- 05-12-1997 Statement Filed by David J Salmonsens, Assistant Director of Governmental Relations, on behalf of American Farm Bureau Federation  
(ITC-Seq# 199705120035 - Public)
- 05-12-1997 Appearance Filed by Roger Banks, Kersner and Associates, on behalf of Fabricas Orion Etal  
(ITC-Seq# 199705120036 - Public)
- 05-12-1997 Pre-hearing Brief Filed by Roger Banks, Kersner and Associates, on behalf of Fabricas Orion Etal  
(ITC-Seq# 199705120037 - Public)

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- 05-12-1997 Appearance Filed by Steve Buyer, Member of Congress, on behalf of Congress of the United States  
(ITC-Seq# 199705120038 - Public)
- 05-12-1997 Appearance Filed by Dennis W Harmon, Director Office of Tourism Trade and Economic Development, on behalf of Office of the Governor  
(ITC-Seq# 199705120039 - Public)
- 05-12-1997 Statement Filed by Steve Beckman, International Economist, on behalf of International Union United Automobile Aerospace and Agricultural Implement Workers of America  
(ITC-Seq# 199705120041 - Public)
- 05-12-1997 Testimony Filed by Reginald L Brown, Director Marketing and Membership, on behalf of Florida Fruit and Vegetable Association  
(ITC-Seq# 199705120044 - Public)
- 05-12-1997 Testimony Filed by Sidney Weintraub, Center for Strategic and International Studies, on behalf of Center for Strategic and International Studies  
(ITC-Seq# 199705120048 - Public)
- 05-12-1997 Testimony Filed by Rick Luna, Director of Communications of Research, on behalf of Brownsville Economic Development Council  
(ITC-Seq# 199705120049 - Public)
- 05-12-1997 Letter Filed by Antonio O Garza, Secretary of State, on behalf of State of Texas  
(ITC-Seq# 199705120061 - Public)
- 05-12-1997 Statement Filed by Joseph a Mckinney, Professor of Economics, on behalf of Baylor University

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(ITC-Seq# 199705120062 - Public)

- 05-12-1997 Appearance Filed by David J Salmonsten, Assistant Director Governmental Relations, on behalf of American Farm Bureau Federation  
(ITC-Seq# 199705120067 - Public)
- 05-12-1997 Testimony Filed by Melinda J Goforth, Program Coordinator, on behalf of Border Trade Alliance  
(ITC-Seq# 199705120068 - Public)
- 05-12-1997 Submission Filed by Sarah Anderson, Institute for Policy Studies, on behalf of Institute for Policy Studies  
(ITC-Seq# 199705120069 - Public)
- 05-12-1997 Appearance Filed by Carlos T Kearns, Department of Commerce and Economic Development, on behalf of State of New Jersey  
(ITC-Seq# 199705120082 - Public)
- 05-13-1997 Appearance Filed by Jim Kolbe, Member of Congress, on behalf of Congress of the United States  
(ITC-Seq# 199705130001 - Public)
- 05-13-1997 Testimony Filed by Robert E Scott, Economic Policy Institute, on behalf of Economic Policy Institute  
(ITC-Seq# 199705130003 - Public)
- 05-13-1997 New Release Filed by Peg O'Laughlin, Public Affairs Officer, on behalf of Office of External Affairs  
(ITC-Seq# 199705130004 - Public)

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- 05-13-1997 Appearance Filed by Rick Luna, Director of Communications of Research, on behalf of Brownsville Economic Development Council  
(ITC-Seq# 199705130005 - Public)
- 05-13-1997 Letter Filed by Terry L Medley, Administrator, on behalf of United States Department of Agriculture  
(ITC-Seq# 199705130006 - Public)
- 05-13-1997 Testimony Filed by Robert P Oquinn, the Heritage Foundation, on behalf of the Heritage Foundation  
(ITC-Seq# 199705130008 - Public)
- 05-13-1997 Appearance Filed by Robert F Smith, Chairman, on behalf of Us House of Representatives  
(ITC-Seq# 199705130009 - Public)
- 05-13-1997 Letter Filed by Keith Kelly, Director, on behalf of Arizona Department of Agriculture  
(ITC-Seq# 199705130010 - Public)
- 05-13-1997 Statement Filed by Wayne Hawkins, Executive Vice President, on behalf of Florida Tomato Exchange  
(ITC-Seq# 199705130012 - Public)
- 05-13-1997 Statement Filed by Lynn P Gayle, Staked Tomato Farmer and Grain Farmer, on behalf of Peerless Virginia Farms  
(ITC-Seq# 199705130013 - Public)
- 05-13-1997 Statement Filed by Mark Berg, First Vice President, on behalf of American Soybean Association  
(ITC-Seq# 199705130015 - Public)

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- 05-13-1997 Testimony Filed by Shauna Doyle De Brun, President and C E O, on behalf of Texel Sa De Cv and the American Chamber of Commerce of Mexico (ITC-Seq# 199705130018 - Public)
- 05-13-1997 Statement Filed by Willard a Workman, Vice President, on behalf of Us Chamber of Commerce (ITC-Seq# 199705130053 - Public)
- 05-13-1997 Testimony Filed by Shauna Doyle De Brun, President and Ceo, on behalf of Texel Sa De Cv (ITC-Seq# 199705130054 - Public)
- 05-14-1997 Appearance Filed by Robert F Smith, Chairman, on behalf of U S House of Representatives (ITC-Seq# 199705140006 - Public)
- 05-14-1997 Appearance Filed by Albert C Zapanta, President, on behalf of U S Mexico Chamber of Commerce (ITC-Seq# 199705140009 - Public)
- 05-15-1997 Appearance Filed by Jim Kolbe, Congress of the United States, on behalf of House of Representatives (ITC-Seq# 199705150001 - Public)
- 05-15-1997 Submission Filed by Tara Barrett, Public Affairs Specialist, on behalf of Federal Reserve Bank of Dallas (ITC-Seq# 199705150002 - Public)
- 05-16-1997 Transcript Filed by Donna R Koehnke Hearing, Secretary, on behalf of Commission

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(ITC-Seq# 199705160013 - Limited)

- 05-16-1997 Statement Filed by Gary Hall, President, on behalf of Kansas Farm Bureau  
(ITC-Seq# 199705160014 - Public)
- 05-16-1997 Statement Filed by Jose F Nino, President and Ceo, on behalf of United States  
Hispanic Chamber of Commerce  
(ITC-Seq# 199705160015 - Public)
- 05-19-1997 Testimony Filed by Antonio O Garza Jr, Secretary of State, on behalf of  
(ITC-Seq# 199705190001 - Public)
- 05-19-1997 Transcript Filed by Donna R Koehnke Hearing, Secretary, on behalf of  
Commission  
(ITC-Seq# 199705190002 - Limited)
- 05-19-1997 Hearing Material Filed by Jacqueline N Hawkins, Chief, on behalf of Hearing and  
Publication Branch  
(ITC-Seq# 199705190004 - Public)
- 05-19-1997 Letter Filed by Patricia Flynn, Director, on behalf of Tower Group International  
(ITC-Seq# 199705190021 - Public)
- 05-19-1997 Submission Filed by Patricia Flynn, Director Professional Advisory Services, on  
behalf of Tower Group International  
(ITC-Seq# 199705190025 - Public)
- 05-19-1997 Letter Filed by Antonio O Garza Jr, Secretary of State, on behalf of State of Texas  
(ITC-Seq# 199705190045 - Public)



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- 05-20-1997 Submission Filed by Robert Kaplan, Executive Director, on behalf of Clothing Manufacturers Association of the Usa  
(ITC-Seq# 199705200009 - Public)
- 05-20-1997 Submission Filed by David Lopez, Associate Professor of Law, on behalf of St Marys University  
(ITC-Seq# 199705200011 - Public)
- 05-20-1997 Comments Filed by Carlos Moore, Executive Vice President, on behalf of American Textile Manufacturers Institute  
(ITC-Seq# 199705200016 - Public)
- 05-20-1997 Letter Filed by David Porras, Chairman of the Board, on behalf of El Paso Hispanic Chamber of Commerce  
(ITC-Seq# 199705200018 - Public)
- 05-21-1997 Submission Filed by Mike Allen, President and Ceo, on behalf of Mcallen Economic Development Corporation  
(ITC-Seq# 199705210003 - Public)
- 05-21-1997 Statement Filed by C James Kruse, General Manager and Port Director, on behalf of Port of Brownsville  
(ITC-Seq# 199705210004 - Public)
- 05-21-1997 Submission Filed by James R Giermanski, Texas a and M International University, on behalf of Texas a and M International University  
(ITC-Seq# 199705210006 - Public)
- 05-21-1997 Submission Filed by John W Skorburg, American Farm Bureau Federation, on behalf of American Farm Bureau Federation  
(ITC-Seq# 199705210015 - Public)

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- 05-21-1997 Submission Filed by Richard W Douglas, Greater Dallas Chamber, on behalf of Greater Dallas Chamber  
(ITC-Seq# 199705210016 - Public)
- 05-21-1997 Submission Filed by Diane C Swonk, First National Bank of Chicago, on behalf of First National Bank of Chicago  
(ITC-Seq# 199705210017 - Public)
- 05-21-1997 Submission Filed by Arne H Carlson, Governor, on behalf of State of Minnesota  
(ITC-Seq# 199705210019 - Public)
- 05-21-1997 Submission Filed by Keith Kelly, Arizona Department of Agriculture, on behalf of Arizona Department of Agriculture  
(ITC-Seq# 199705210021 - Public)
- 05-22-1997 Submission Filed by Charles I Jainarain, Executive Director, on behalf of Summit of the Americas Center  
(ITC-Seq# 199705220001 - Public)
- 05-22-1997 Submission Filed by Dennis W Harmon, Director, on behalf of Office of the Governor - Office of Tourism Trade and Economic Development  
(ITC-Seq# 199705220003 - Public)
- 05-22-1997 Submission Filed by Dan Miller, Congressman, on behalf of Congress of the United States  
(ITC-Seq# 199705220004 - Public)
- 05-22-1997 Statement Filed by American Sheep Industry Association Inc, American Sheep Industry Association Inc, on behalf of American Sheep Industry Association Inc  
(ITC-Seq# 199705220005 - Public)

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- 05-22-1997 Submission Filed by Karl Spilhaus, President, on behalf of Northern Textile Association  
(ITC-Seq# 199705220007 - Public)
- 05-22-1997 Statement Filed by Rick Perry, Texas Commissioner of Agriculture, on behalf of Texas Department of Agriculture  
(ITC-Seq# 199705220008 - Public)
- 05-22-1997 Submission Filed by Jim Edgar, Office of the Governor, on behalf of State of Illinois  
(ITC-Seq# 199705220009 - Public)
- 05-22-1997 Statement Filed by Stephen Lamar, Vice President, on behalf of Jefferson Waterman International  
(ITC-Seq# 199705220011 - Public)
- 05-22-1997 Statement Filed by Stephen Lamar, Jefferson Waterman International, on behalf of Richard L Bernal Ambassador of Jamaica  
(ITC-Seq# 199705220012 - Public)
- 05-22-1997 Comments Filed by Steve Odom, Director Trade and Market Devopment, on behalf of Department of Community Trade and Economic Development  
(ITC-Seq# 199705220013 - Public)
- 05-22-1997 Letter Filed by Andrew G Sharkey, American Iron and Steel Institute, on behalf of American Iron and Steel Institute  
(ITC-Seq# 199705220014 - Public)
- 05-22-1997 Comments Filed by Thomas J Donohue, President and Chief Executive Officer, on behalf of American Trucking Associations Inc

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(ITC-Seq# 199705220017 - Public)

- 05-22-1997 Post-hearing Brief Filed by Roger Banks, Kersner and Associates, on behalf of Fabricas Orion Etal  
(ITC-Seq# 199705220018 - Public)
- 05-22-1997 Comments Filed by Robert H Frenzel, President, on behalf of United Parcel Service  
(ITC-Seq# 199705220019 - Public)
- 05-22-1997 Letter Filed by Richard E Neff, Legal Adviser Latin America, on behalf of Business Software Alliance  
(ITC-Seq# 199705220022 - Public)
- 05-22-1997 Submission Filed by Robert H Frenzel, Vice President, on behalf of United Parcel Service  
(ITC-Seq# 199705220025 - Public)
- 05-22-1997 Letter Filed by Dan Geer, Chairman, on behalf of Glacier County Commissioners  
(ITC-Seq# 199705220026 - Public)
- 05-22-1997 Submission Filed by Jim Leonard, Burlington Industries, on behalf of Burlington Industries  
(ITC-Seq# 199705220028 - Public)
- 05-22-1997 Statement Filed by Bobby F Mckown, Executive Vice President and Ceo, on behalf of Florida Citrus Mutual  
(ITC-Seq# 199705220036 - Public)
- 05-22-1997 Statement Filed by David L Moore, President, on behalf of Western Growers

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Association  
(ITC-Seq# 199705220037 - Public)

- 05-22-1997 Statement Filed by Mike Bozick, California Desert Grape Growers League, on behalf of California Desert Grape Growers League  
(ITC-Seq# 199705220038 - Public)
- 05-22-1997 Statement Filed by Kevin Andrew, Winegrape Growers of America, on behalf of Winegrape Growers of America  
(ITC-Seq# 199705220039 - Public)
- 05-22-1997 Statement Filed by David Marguleas, Senior Vice President Marketing and Corporate Development, on behalf of Sun World International Inc  
(ITC-Seq# 199705220040 - Public)
- 05-22-1997 Statement Filed by Karen Reinecke, President, on behalf of California Pistachio Industry  
(ITC-Seq# 199705220041 - Public)
- 05-22-1997 Statement Filed by Alan Tank, National Pork Producers Council, on behalf of National Pork Producers Council  
(ITC-Seq# 199705220045 - Public)
- 05-22-1997 Comments Filed by Terence P Stewart, Stewart and Stewart, on behalf of Ppg Industries Inc  
(ITC-Seq# 199705220048 - Public)
- 05-22-1997 Submission Filed by Edward J Farrell, Wigman Cohen Leitner and Myers Pc, on behalf of Canadian Cattlemens Association  
(ITC-Seq# 199705220051 - Public)

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- 05-22-1997    **Comments Filed by Carla Dancy, Manager International Trade Issues, on behalf of Office of Government Affairs  
(ITC-Seq# 199705220052 - Public)**
- 05-22-1997    **Letter Filed by Andrew H Card Jr, American Automobile Manufacturers Association, on behalf of American Automobile Manufacturers Association  
(ITC-Seq# 199705220053 - Public)**
- 05-22-1997    **Response Filed by Wallie Hardie, President, on behalf of National Corn Growers Association  
(ITC-Seq# 199705220056 - Public)**
- 05-22-1997    **Submission Filed by William T Pryce, Vice President, on behalf of Council of the Americas  
(ITC-Seq# 199705220059 - Public)**
- 05-22-1997    **Letter Filed by Tommy G Thompson, Governor, on behalf of Office of Federals State Relations  
(ITC-Seq# 199705220061 - Public)**
- 05-22-1997    **Comments Filed by Robert P Koch, Wine Institute, on behalf of Wine Institute  
(ITC-Seq# 199705220063 - Public)**
- 05-22-1997    **Statement Filed by Thomas J Trendl, Howrey and Simon, on behalf of Tile Council of America Incorporated  
(ITC-Seq# 199705220068 - Public)**
- 05-22-1997    **Statement Filed by Edward T Coughlin, National Milk Producers Federation, on behalf of National Milk Producers Federation  
(ITC-Seq# 199705220070 - Public)**

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- 05-22-1997    Comments Filed by Charles F Conner, President, on behalf of Corn Refiners Association  
(ITC-Seq# 199705220071 - Public)
- 05-23-1997    Post-hearing Brief Filed by T Albert Yamada, Washington Representative, on behalf of Fresh Produce Association of the Americas  
(ITC-Seq# 199705230001 - Public)
- 05-23-1997    Letter Filed by Rosemarie Neuman, Western Montana Chapter of Wife, on behalf of Western Montana Chapter of Wife  
(ITC-Seq# 199705230004 - Public)
- 05-23-1997    Comments Filed by Charles F Conner, President, on behalf of Corn Refiners Association  
(ITC-Seq# 199705230006 - Public)
- 05-23-1997    Comments Filed by Mark Armentrout, National Cattlemens Beef Association, on behalf of National Cattlemens Beef Association  
(ITC-Seq# 199705230015 - Public)
- 05-23-1997    Testimony Filed by David E Bonior, Congressman, on behalf of U S Congress  
(ITC-Seq# 199705230017 - Public)
- 05-27-1997    Comments Filed by Daniel a Seligman, Senior Fellow, on behalf of Sierra Club  
(ITC-Seq# 199705270002 - Public)
- 05-27-1997    Statement Filed by Senator Bob Graham, U S Senate, on behalf of  
(ITC-Seq# 199705270005 - Public)
- 05-27-1997    Statement Filed by Bob Crawford, Commissioner of Agriculture-state of Florida,

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on behalf of Florida Department of Agriculture and Consumer Services  
(ITC-Seq# 199705270015 - Public)

- 05-27-1997 Letter Filed by Robert H Frenzel, Vice President Corporate Public Affairs, on behalf of United Parcel Service  
(ITC-Seq# 199705270037 - Public)
- 05-27-1997 Submission Filed by Daniel a Seligman, Senior Fellow Responsible Trade Campaign, on behalf of Sierra Club  
(ITC-Seq# 199705270052 - Public)
- 05-28-1997 Comments Filed by James J O Brien, Port Director, on behalf of Port Everglades  
(ITC-Seq# 199705280005 - Public)
- 05-29-1997 Comments Filed by Jim Edgar, Governor, on behalf of State of Illinois - Office of the Governor  
(ITC-Seq# 199705290006 - Public)
- 05-29-1997 Comments Filed by Bob Crawford, Commissioner of Agriculture, on behalf of State of Florida  
(ITC-Seq# 199705290007 - Public)
- 05-29-1997 Comments Filed by Bobby F Mckown, Executive Vice President, on behalf of Florida Citrus Mutual  
(ITC-Seq# 199705290015 - Public)
- 05-29-1997 Comments Filed by Jack Mohon, , on behalf of  
(ITC-Seq# 199705290016 - Public)
- 05-29-1997 Statement Filed by Bob Graham, Senator, on behalf of U S Senate



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(ITC-Seq# 199705290017 - Public)

- 05-29-1997 Submission Filed by Richard E Neff, Legal Advisor for Latin America, on behalf of Business Software Alliance  
(ITC-Seq# 199705290022 - Public)
- 05-30-1997 Action Jacket Filed by Robert Rogowsky - Ec-97-007, Acting Director, on behalf of Office of Operations  
(ITC-Seq# 199705300051 - Public)
- 05-30-1997 Action Jacket Filed by Robert Rogowsky - Ec-97-006, Director, on behalf of Office of Operations  
(ITC-Seq# 199705300052 - Public)
- 05-30-1997 Comments Filed by Mildred Cardona, Nafta Committee Co-chair, on behalf of National Council on International Trade Development  
(ITC-Seq# 199705300066 - Public)
- 06-02-1997 Letter Filed by Terrance J Ryan, President and Ceo, on behalf of Fort Worth Chamber of Commerce  
(ITC-Seq# 199706020002 - Public)
- 06-03-1997 Comments Filed by Shoshana B Tancer, Director, on behalf of Thunderbird - the American Graduate School  
(ITC-Seq# 199706030009 - Public)
- 06-03-1997 Comments Filed by Ambler Moss, Director, on behalf of North-south Center University of Miami  
(ITC-Seq# 199706030010 - Public)

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06-05-1997 Memorandum Filed by Lynn Bragg Co71-u-003, Vice Chairman, on behalf of  
Commissioner  
(ITC-Seq# 199706050019 - Public)

## Submissions in Alphabetical Order by Group

**AFL-CIO**

Gregory Woodhead, Ph.D., Economist, Public Policy Department

**American Automobile Manufacturers Association (AAMA)**

Andrew H. Card, Jr., President

**American Chamber of Commerce of Mexico**

Shauna Doyle de Brun, President, AmCham of Mexico; President and CEO of Texel SA de CV

**American Farm Bureau Federation**

David J. Salmonsens, Assistant Director of Government Relations

**American Farm Bureau Federation**

John W. Skorburg, Senior Economist

**American Farmers and Ranchers**

The Honorable Robert F. (Bob) Smith, Chairman, Committee On Agriculture

**American Iron and Steel Institute**

Andrew G. Sharkey, III, President and CEO

**American Sheep Industry Association, Inc.**

David Orwick, Director of Government Affairs and CEO

**American Soybean Association**

Mark Berg, First Vice-President

**American Textile Manufacturers Institute**

Carlos Moore, Executive Vice President

**American Trucking Associations, Inc.**

Thomas J. Donohue, President and CEO

**State of Arizona**

The Honorable Jim Kolbe, 5th District, State of Arizona

Carol A. Colombo, Colombo and Bonacci--OF COUNSEL, Governor's representative for NAFTA implementation for the State of Arizona

**Arizona Department of Agriculture**

Keith Kelly, Director

**Association of Western Pulp and Paper Workers**

Elmer R. Laulainen, President of Local 293

**Baylor University**

Joseph McKinney, Ben H. Williams Professor of Economics, Hankamer School of Business

**Bonita Packing Company**

Billy Don Grant, President

**Border Trade Alliance**

Susan K. Ross, Member of the Board of Directors

**Brenco Incorporated**

Howard J. Bush, Vice President, Marketing & Sales

**Broward County Board of County Commissioners**

James J. O'Brien, Director of Port Everglades

Information contained in summaries is taken from written submissions and testimony and has not been verified by the USITC.

**Brownsville Economic Development Council**  
Rick Luna, Director of Communications and Research

**Brownsville Navigation District (The Port of Brownsville)**  
C. James Kruse, General Manager and Port Director

**Burlington Industries**  
Jim Leonard, Manager of Economic Relations and  
Donna Lee McGee, Director of Government Affairs

**Business Software Alliance**  
Richard B. Neff, Legal Advisor for Latin America

**California Pistachio Commission**  
Karen Reinecke, President of the California Pistachio Industry

**Canadian Cattlemen's Association**  
Chris J. Mills, Policy Advisor  
Edward J. Farrell, Wigman, Cohen, Leitner & Myers, P.C.--OF COUNSEL

**Caterpillar, Inc.**  
William C. Lane, Washington Director, Governmental Affairs

**Celadon Trucking Services, Incorporated**  
Michael T. Hodson, Executive Vice President

**Center for Strategic and International Studies**  
Sidney Weintraub, William E. Simon Chair in Political Economy

**Citizens for a Sound Economy (CSE) Foundation**  
Anita Sheth, Director of Trade Policy

**Clothing Manufacturers Association (CMA) of the United States of America**  
Robert A. Kaplan, Executive Director/Secretary

**Corn Refiners Association**  
Charles F. Conner, President

**Council Of The Americas**  
William Pryce, Vice President, Washington Operations

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on California" (April 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Florida" (April 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Illinois" (May 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Indiana" (April 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Kentucky" (April 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Massachusetts" (May 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Michigan" (May 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on New York" (April 1997)**

**"The Council of the Americas Report on the Impact of the North American Free Trade Agreement on North Carolina" (April 1997)**

**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Ohio” (May 1997)**  
**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Pennsylvania” (April 1997)**  
**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Tennessee” (April 1997)**  
**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Texas” (April 1997)**  
**“The Council of Americas Report on the Impact of the North American Free Trade Agreement on West Virginia” (April 1997)**  
**Desert Grape Growers League of California**  
 Mike Bozick, Vice President-General Manager, Richard Bagdasarian, Inc. and President of the Desert Grape Growers League of California  
**Economic Policy Institute**  
 Robert A. Blecker  
 Thea M. Lee  
 Robert E. Scott, Economist  
**EDS**  
 Carla Dancy, Manager, International Trade Issues, Office of Government Affairs  
**El Paso Hispanic Chamber of Commerce**  
 David Porras, Chairman of the Board  
**Fabricas Orion, Procesadora de Ceramica de Mexico, S.A. de C.V., Sanitarios Azteca, S.A., and Vitromex, S.A.**  
 Steven P. Kersner and Roger Banks, Kersner & Associates--OF COUNSEL  
**Farmland Industries, Inc.**  
 Steven P. Dees, Executive Vice President of Corporate Relations, Communications and International Services  
**Federal Reserve Bank of Chicago**  
 Michael Kouparitsas, Economist  
**Federal Reserve Bank of Dallas**  
 David M. Gould, Senior Economist and Policy Advisor  
**First National Bank of Chicago**  
 Diane C. Swonk, First Vice President/Deputy Chief Economist, Economics Group  
**State of Florida**  
 The Honorable Dan Miller, 13th District, State of Florida  
 Bob Crawford, Commissioner of Agriculture, Florida Department of Agriculture and Consumer Services  
 The Honorable Bob Graham, U.S. Senator  
 Dennis W. Harmon, Director of the Office of Tourism, Trade and Economic Development, Executive Office of the Governor  
 The Honorable Porter Goss, 14th District, State of Florida  
**Florida Citrus Mutual**  
 Bobby F. McKown, Executive Vice President and CEO  
**Florida Farmers and Suppliers Coalition, Inc.**  
 R. Jay Taylor, President, Taylor & Fulton, Inc.  
**Florida Fruit & Vegetable Association**  
 Reginald L. Brown, Director of Marketing and Membership

**Florida Tomato Exchange**  
Wayne Hawkins, Executive

**Fluke Corporation**  
Ronald R. Wambolt, Senior Vice President, Worldwide Marketing, Sales & Service

**Fresh Produce Association of the Americas**  
Lee Frankel, President

**Fort Worth Chamber of Commerce**  
Terrance J. Ryan, President and CEO

**Glacier County Commissioners**  
Dan Geer, Chairman

**Greater Dallas Chamber**  
Richard Douglas, President

**Greater San Diego Chamber of Commerce**  
Gilbert A. Partida, President

**The Heritage Foundation**  
Robert P. O'Quinn, Policy Analyst, International Economics and Trade, Asian Studies Center

**State of Illinois**  
The Honorable Jim Edgar, Governor

**State of Indiana**  
The Honorable Steve Buyer, 5th District, State of Indiana

**Institute for International Economics**  
Gary Hufbauer, Senior Fellow, Jeffrey J. Schott, Senior Fellow, and Jacqueline McFayden, Research Assistant

**Institute for Policy Studies**  
Sarah Anderson, John Cavanagh, and David Ranney  
Sarah Anderson, John Cavanagh, and Saul Landau

**International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW)**  
Steve Beckman, International Economist

**Country of Jamaica**  
Dr. Richard L. Bernal, Ambassador to the United States  
Jefferson Stephen Lamar, Vice President, Jefferson Waterman International--OF COUNSEL

**Kansas Farm Bureau**  
Gary Hall, President

**Jack Mahon**  
Jack Mahon

**McAllen Economic Development Corporation**  
Mike Allen, President and CEO

**State of Michigan**  
The Honorable David E. Bonior, 10th District, State of Michigan

**State of Minnesota**  
Arne H. Carlson, Governor

**Montana State University**  
John M. Marsh, Professor, Agricultural Economics and Economics

**National Cattlemen's Association**  
Mark Armentrout, Chairman, International Markets

**National Corn Growers Association**  
Wallie Hardie, President

**The National Council on International Trade Development**  
Mildred Cardona, NAFTA Committee Co-chair

**The National Farmers Union (NFU)**  
Phillip Klutts, President, Oklahoma Farmers Union

**National Foreign Trade Council, Inc.**

**National Milk Producers Federation**  
Edward T. Coughlin, Acting Chief Executive Officer

**National Pork Producers Council**  
Alan Tank, CEO  
Nicholas Giordano, Esq.,

**State of New Jersey**  
Carlos T. Kearns, Director of International Trade, Department of Commerce and Economic Development

**North-South Center, University of Miami**  
Ambler Moss, Director

**Northern Textile Association**  
Karl Spilhaus, President

**State of Oregon**  
The Honorable Robert F. (Bob) Smith, Chairman, Committee On Agriculture

**PPG Industries, Inc.**  
Terence P. Stewart, Stewart and Stewart--OF COUNSEL  
Charles A. St. Charles, Stewart and Stewart--OF COUNSEL

**Peerless Virginia Farms**  
Lynn P. Gayle, President

**Public Citizen**  
Lori Wallach, Director of Global Trade Watch

**St. Mary's University, School of Law**  
David Lopez, Associate Professor of Law

**The Sierra Club**  
Daniel A. Seligman, Senior Fellow, Responsible Trade Campaign

**Summit of the Americas Center**  
Charles I. Jainarain, Executive Director

**Sun World International, Inc.**  
David Marguleas, Senior Vice President

**Texas A&M International University**  
James R. Giermanski

**Texas Department of Agriculture**  
Rick Perry, Commissioner

**Thunderbird, The American Graduate School of International Management**  
Dr. Shoshana B. Tancer, Director of NAFTA Center and Professor, Department of International Studies

**Tile Council of America, Inc.**  
Thomas J. Trendl, Howrey and Simon--OF COUNSEL

**Tower Group International**

Patricia Flynn, Director, Professional Advisory Services

**Union Pacific Railroad**

Joseph Heastie, Products Manager, Mexico Market

**U.S. Chamber of Commerce**

Willard Workman, Vice President of the International Division

**U.S. Filter Corporation**

Richard J. Heckmann, President and Chief Executive Officer

**United Parcel Service of America, Inc.**

Robert Frenzel, Vice President of Corporate Public Affairs

Ana M. Guevara, Public Affairs Manager, and

Alix Apollon, Legal, Americas Region

**United States Hispanic Chamber of Commerce**

José F. Niño, President and CEO

**United States-Mexico Chamber of Commerce**

Albert C. Zapanta, President and CEO

**Virginia Cooperative Extension**

Jim Belote, Extension Agent, Agriculture and Natural Resources

**The Commonwealth of Virginia**

The Honorable Robert Skunda, Secretary of Commerce and Trade

**State of Washington**

Steve Odom, Director of Trade and Market Development, Department of Community Trade and Economic Development

**Western Growers Association**

David L. Moore, President

**Western Montana Chapter of Women Involved In Farm Economics**

Rosemarie Neuman

**Wine Institute**

Robert P. Koch, Wine Institute and

Simon Siegl, American Vintners Association

**Winegrape Growers of America**

Kevin Andrew, Chair

**State of Wisconsin**

Tommy G. Thompson, Governor



## SUBMISSION SUMMARIES IN ALPHABETICAL ORDER BY GROUP

### AFL-CIO

**Gregory Woodhead, Ph.D., Economist, Public Policy Department  
"NAFTAMATH 3 Years Later"**

- Against the Agreement.
- "NAFTA has contributed to the loss of jobs and income for workers, while enriching elites." The results of this integration have been "disastrous."
- The U.S. bilateral trade balance with Mexico hit \$15.4 billion in 1995, and in 1996 the goods deficit increased to \$16.2 billion. During the first 3 years of NAFTA, the trade deficit with Canada increased 113 percent. The combined goods trade deficit with NAFTA partners was \$39 billion in 1996.
- The author argues that "the \$16.2 billion goods trade deficit with Mexico of 1996, compared with the \$1.7 billion surplus from before NAFTA means that 251,000 jobs were lost or not created as a result of the deterioration of the trade balance with Mexico." Likewise, the deficit with Canada resulted in 169,000 lost job opportunities.
- Because of the peso devaluation, "U.S. workers experienced downward pressure on wages, and will see their jobs disappear" as Mexico promotes exports and attracts investment with its cheap labor.
- The Department of Labor has certified 99,497 workers for training after experiencing NAFTA-related unemployment. Four hundred sixteen certifications were based on a shift in production from the United States to Mexico.
- Concerned that any future NAFTA negotiations should place the interests of working families "at the center of trade agreements" as well as address NAFTA's deficiencies.

#### Notable statistics:

- As of January 5, 1997, the Department of Labor had received 1,406 petitions involving dislocated workers in 48 states who believed NAFTA caused their unemployment. Of these, 732 petitions have been certified.

**American Automobile Manufacturers Association (AAMA)**  
**Andrew H. Card, Jr., President**  
**Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- The AAMA testified that before NAFTA, the Mexican Auto Decrees forced U.S. automakers to (1) establish manufacturing plants in Mexico in order to sell in Mexico; (2) export substantially more than they imported and (3) purchase a high percentage of vehicle content from Mexican-owned suppliers which, in many instances, did not meet globally competitive sourcing standards in terms of quality or price.
- Under NAFTA, U.S. automakers no longer have to own Mexican plants in order to sell motor vehicles in the Mexican market.
- The AAMA stated that the growth in U.S. exports is far more significant than the growth in imports, and that, according to the Department of Commerce, automotive employment in the United States has risen by 100,000 jobs since the implementation of NAFTA. The AAMA believes that this performance is particularly significant because it occurred during the period when Mexico suffered serious economic destabilization as a result of the peso devaluation. The Mexican economy also remained open and recovered more quickly because of NAFTA, enabling the U.S. automotive industry to resume the trend of increasing exports to the Mexican market.
- U.S. automotive jobs haven't shifted to Mexico after NAFTA. Since 1992, U.S. employment has risen by almost 17 percent while Mexican employment has fallen by over 8 percent.
- More than two-thirds of all vehicles exported to Mexico from the United States and Canada were assembled in U.S. plants. Moreover, the most popular vehicles assembled in Canada for export to Mexico have a high percentage of U.S. parts content. NAFTA's strong rules of origin have also discouraged non-U.S. manufacturers from building vehicles with low North American content in Mexico for export to the United States.
- According to the AAMA, increased U.S. vehicle imports from Mexico are attributable to the enormous U.S. consumer demand for new cars and trucks made by General Motors, Ford, and Chrysler during the past 3 years. With many facilities in the United States operating at capacity to meet domestic demand, production at Mexican facilities had helped to fill that gap.

**Notable statistics:**

- From 1992 to 1996, U.S. automotive (and automotive parts) employment rose from 348,800 to 399,200 while Mexican employment steadily declined. These trends are also evident in the automotive industries of the United States and Mexico.
- AAMA member exports of cars and trucks to Mexico, which totaled 27 vehicles when NAFTA negotiations began in 1989, rose to nearly 87,000 in 1996.

- Since 1993, U.S. automakers have invested \$40 billion in the United States, as compared with only \$2.7 billion in Mexico.

## American Chamber of Commerce of Mexico

Shauna Doyle de Brun, President, AmCham of Mexico; President and CEO of Texel SA de CV  
Statement to the U.S. International Trade Commission

- Supports NAFTA.
- The American Chamber of Commerce of Mexico represents 2,400 companies which constitute approximately 85 percent of the U.S. foreign direct investment in Mexico. Survey results are from 90 responses to 1,100 mailings to companies. They also state that despite some problems, mechanisms for resolving trade disputes are improving.
- Ms. de Brun reported that the goals of NAFTA were fourfold: to (1)increase trade and investment, (2)facilitate the flow of goods and services across all borders, (3)develop mechanisms to resolve trade disputes, and 4) create a more competitive North American product.
- NAFTA has increased trade: bilateral trade between the United States and Mexico increased by 58 percent during the first year of NAFTA implementation. Mexican imports of U.S. products increased 28 percent between 1993 and 1996. Mexico is now the third largest trading partner of the United States.
- Mexico attracted \$31.5 billion in foreign direct investment between 1994 and 1996. This was second only to China in terms of emerging markets and represents a long-term vote of confidence for Mexico and for NAFTA.
- NAFTA contributed to Mexico's recovery following the peso crisis by opening investment laws.
- With regard to the goal of more competitive North American products, Ms. de Brun discusses her company, Texel. (Texel is a textiles manufacturing company with annual sales of approximately \$75 million. The company's capital is 65 percent Mexican and 35 percent American. Texel imports raw materials from New York, North Carolina, and Houston into Mexico to produce yarns that they export back to the United States. The yarns are then shipped out of American factories as home furnishing products to the Middle East, Australia, South America, and other countries.) Under NAFTA, Texel has seen each of the component sales parts grow. Imports from the United States increased 67 percent (\$12 million in 1992 to \$20 million in 1996). Exports from Mexico increased from \$10 million in 1993 to \$34 million in 1996.

### Notable statistics:

- Of companies responding to a recent survey regarding changes since NAFTA, 60 percent reported establishing new relations with U.S. companies, 34 percent reported establishing new relations with a Mexican enterprise, 57 percent had invested an average of \$6.8 million in new environmental technology, and 63 percent had implemented new health and safety standards.

**American Farm Bureau Federation**

**David J. Salmonsens, Assistant Director of Government Relations**

**“Statement of the American Farm Bureau Federation to the U.S. International Trade Commission Regarding Review of the Status of NAFTA with Canada and Mexico”**

- In favor of the Agreement.
- U.S. agricultural trade with Mexico and Canada has increased since the implementation of NAFTA including a 34 percent increase from 1995 to 1996 (led by bulk commodities).
- Attributes the disappearance of the prior trade surplus the United States had with Mexico to the “peso crisis” of 1994.
- Expects U.S. exports to Mexico to reach \$5.5 billion and the current U.S. agricultural trade surplus with Mexico to continue during 1997.
- Increases in agricultural exports to Mexico in 1996 were “led by increased payments for corn, wheat, soybeans, and cotton” at the same time that imports of Mexican tomatoes hit a new high. The increase in tomato imports led to negotiations between U.S. tomato producers and Mexico. However, the suspension agreement that resulted is not being enforced. Again, this increase in imports from Mexico is attributed to the 1994 peso devaluation as opposed to the non-enforcement of the suspension agreement (or NAFTA).
- Weather conditions are also used to explain trade imbalances. For example, a drought in 1994 in northern Mexico caused a massive importation of cattle into the United States. Weather conditions after this event turned more favorable in Mexico and so cattle imports dropped markedly.
- Argues that Canada is not in compliance with the Uruguay Round by maintaining “very high tariffs on our [U.S.] dairy and poultry commodities.” This is used to explain the small agricultural trade deficit the United States is expected to have with Canada for 1996-1997. Nonetheless, U.S. agricultural exports to Canada have been rising since before the Canadian Free Trade Agreement.
- Expresses concern over “Canada’s high border tariffs” that remain.
- Monitoring and enforcing of these accords needs to continue to make sure the benefits promised to farmers and ranchers are fully realized.

Notable statistics:

- “1993-94 U.S. agricultural trade surplus with Mexico vanished during 1995”; imports of Mexican tomatoes rose 66 percent from 1995 (Oct.-May) to 1996 (Oct.-May); U.S. agricultural exports to Canada reached \$6.0 billion in 1996, and imports from Canada reached \$6.5 billion.

**American Farm Bureau Federation**

**John W. Skorburg, Senior Economist**

**“Is NAFTA Still a Success?”**

- Debate about NAFTA continues because 1) Growth-curbing policies in Mexico caused demand for U.S. agricultural goods to decline, and a peso devaluation has caused demand for Mexican agricultural goods to rise, and 2) There is an ongoing dispute with Canada on the hindering of U.S. dairy and poultry imports from the United States.
- A study of the trade data reveals that strict adherence to NAFTA and continuous monitoring of the pact still make long-run economic sense, once the pain of the initial adjustments start to ease. While trade may be uneven when commodities are compared with each other, a general macro-level benefit is evident for each trading partner.
- In 1994, U.S. agricultural exports to Mexico increased 25 percent from 1993, while agricultural imports from Mexico increased 5 percent. Over the same period, U.S. farm exports to Canada increased 4 percent, and imports from Canada rose 13.2 percent.
- Because of the peso devaluation, exports to Mexico declined and imports from Mexico increased. However, NAFTA “limited the import reducing policy responses Mexico could implement during a recession” (ERS, U.S. Department of Agriculture). In addition, during 1995, exports to Mexico of many commodities, like corn, wheat, and rice, increased.

**Notable statistics:**

- The largest positive trade balance between the United States and Canada occurs in fruits and vegetables, with 1995 U.S. exports totaling \$2.02 billion while imports were \$0.52 billion.

**American Farmers and Ranchers**

**The Honorable Robert F. (Bob) Smith, Chairman, Committee On Agriculture  
The Impact Of The North American Free Trade Agreement On The U.S. Economy and  
Industries: A Three Year Review**

- Supports NAFTA.
- If it weren't for agriculture exports, the U.S. trade deficit would be larger than it currently is. In 1996, U.S. agriculture exports totaled \$60 billion and the agriculture trade surplus exceeded \$26 billion.
- Smith wants to see agricultural exports expand and barriers to those exports decline. To that end, he has led the Committee on trade expansion trips.
- NAFTA has been good for U.S. agricultural trade. The Agreement is not perfect; there are problems with access and barriers that must be resolved.
- In 1996, U.S. agriculture exports to our NAFTA partners increased by 14.2 percent. The 1996, U.S. agriculture trade surplus with Mexico exceeded \$1 billion.
- The United States is the major agriculture and food exporter to Canada.
- Agriculture is an extremely important and essential issue to be considered in all trade negotiations and resolutions of disputes. Agriculture must be a top priority with the Administration. Historically, U.S. agriculture has been a leader in free trade principles. It has also been one of the exports most harmed by the policies of foreign governments.

**American Iron and Steel Institute**

**Andrew G. Sharkey, III, President and CEO**

**Letter to the U.S. Special Trade Representative, Secretary of Commerce and the Chairman of the U.S. International Trade Commission**

- This letter was apparently sent in response to a previous letter from the American Institute for International Steel and comments, for the most part, on dumping in the steel industry.
- Mr. Sharkey states that "surging imports of dumped steel from nonmarket economies (NMEs) are an urgent trade policy concern." He argues that these imports are "being driven to our shores not by market demand, but by excess supply, sold at artificially low prices."
- Insofar as NAFTA is concerned, Canada, Mexico, and the United States all agree that enforcement of national trade laws should be strengthened with respect to NME dumping.



**American Sheep Industry Association, Inc.**

**David Orwick, Director of Government Affairs and CEO  
Statement to the U.S. International Trade Commission**

- Against the Agreement.
- The sheep industry believes that serious trade problems have resulted from NAFTA and must be resolved. The industry believes that NAFTA benefits should accrue to NAFTA signatories rather than serve as a vehicle for non-signatory countries to exploit trade benefits to access the U.S. market.
- While Canada and Mexico are the largest export markets for American lamb and for live sheep, exports to those countries have actually decreased since the implementation of NAFTA.
- Mexico has eliminated its import tariffs on wool for non-NAFTA countries; this allows wool to be processed and shipped to the United States with NAFTA trade benefits. Australia is moving wool to Mexico for processing and then re-exporting to the United States as a NAFTA product.
- The Canadian wool apparel Tariff Preference Level (TPL) has caused significant damage to the domestic wool production and textile industry. Using the TPL, Canada has consumed significant components of some extremely valuable U.S. wool apparel markets such as men's and boy's suits. In 1995, production by the five largest U.S. suppliers of mid-priced men's and boy's wool suits fell by 26 percent, while Canadian market share grew to 25 percent of the U.S. market. Subsequently, U.S. suit manufacturers have had to lay off thousands of American workers.
- Health protocols, particularly with live cattle trade between the United States and Canada, still need to be resolved.

**American Soybean Association**  
**Mark Berg, First Vice-President**

- The American Soybean Association supports NAFTA.
- NAFTA has triggered record U.S. soybean exports to Mexico. Exports of U.S. soybeans and soybean products to Mexico rose to nearly \$869 million in 1996, an increase of 83 percent from the \$474 million sold in 1993.
- Prior to NAFTA, U.S. soybean exports faced a heavy seasonal duty; NAFTA shortened the duty period and reduced the duty. Mexican duties on soybean meal and soybean oil were reduced by nearly half. NAFTA also guaranteed movement of U.S. soybean exports to Mexico during the peso devaluation, precluding Mexico from raising tariffs.
- Under NAFTA, Mexico should become a more reliable and steady customer for U.S. soybeans and soybean products as the Mexican economy stabilizes and grows. U.S. exports of these products to Mexico and Canada combined rose by \$215 million in the past two years.
- With regard to Canada, the volume of U.S. soybean and soybean meal exports has increased, with Canada ranking as the leading market for U.S. soybean meal exports during 1994-96.
- NAFTA has helped lock in market access gains for American soybean farmers, and has contributed to expanded U.S. exports of soybeans and products.

**Notable statistics:**

- The value of soybeans and soybean products sold to Mexico and Canada combined has increased by \$215.4 million in the last two years.
- Combined soybean exports increased by 2.4 percent in 1994/95, and by 40 percent in 1995/96.
- Combined exports of soybean cake and meal increased by 3.8 percent in 1994/95, and 2.2 percent in 1995/96.

**American Textile Manufacturers Institute (ATMI)**

**Carlos Moore, Executive Vice President**

**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- Supports the Agreement.
- Since 1993, U.S. textile exports to Mexico have increased by \$344 million, or 44 percent. The brief and modest decline which was registered during 1995 was solely due to the sudden and dramatic devaluation of the Mexican peso. High inflation in Mexico counteracted the sharp price increase of dollar-based American goods. Textile exports to Mexico increased 27 percent during 1996.
- Exports to Mexico last year totaled over \$2.5 billion. This made Mexico the largest U.S. textile export market.
- CFTA and NAFTA have both been demonstrably beneficial to the American textile industry. Several ATMI members have made significant investments, totaling tens of millions of dollars, to build or acquire manufacturing and distribution facilities in Mexico; but not at the expense of current U.S. production. Industry members are reporting marked increases in exports to Mexico. Several textile manufacturers are extending capacity for the sole purpose of exporting to NAFTA partners.
- The author complains about the "enormous Tariff Preference Levels (TPLs) granted [to] Canada in the CFTA and later expanded under NAFTA." The wool apparel TPL (that was granted in 1988) is equal to all the wool that Canada exported to the United States in 1987; and the non-wool apparel TPL (again, from 1988) is greater than Canada's 1987 exports. These levels were all increased under NAFTA. "A fragile but important segment of the U.S. textile-apparel complex has been grievously injured by this misfeasance." During NAFTA negotiations, the United States gave up the right to invoke any kind of safeguard action with respect to products imported under a TPL.

**American Trucking Associations, Inc.**  
**Thomas J. Donohue, President and CEO**  
**Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- When measured by value, trucks move over 85 percent of U.S.-Mexico trade and 67 percent of U.S.-Canada trade. NAFTA offers the promise of more transportation jobs because it establishes the framework for more trade, the vast majority of which moves by truck.
- NAFTA is working and will continue to grow, benefiting the American worker and consumer. However, the U.S. Government delay in implementing the essential cross-border trucking provisions of NAFTA has “arbitrarily denied all three countries the full benefits of NAFTA.” In order to meet the escalating demand that will accompany trade growth, the implementation of NAFTA's trucking provisions will prove crucial.
- Implementation of NAFTA's trucking provisions will eliminate a cumbersome, outdated and costly system of moving freight across borders, and replace it with an efficient, transparent and safe cross-border trucking process.

**State of Arizona**

**The Honorable Jim Kolbe, 5th District, State of Arizona  
Statement to the U.S. International Trade Commission**

- Congressman Kolbe supports NAFTA.
- NAFTA helped Mexico recover from the “peso crisis” of 1995 by preventing the Mexican government from resorting to market-closing strategies to deal with the economic crisis.
- The shift in the bilateral trade balance between the United States and Mexico from a surplus to a deficit is a result of the “peso crisis” rather than a result of NAFTA.
- Increases in two-way trade have resulted in specialization which will lead to long-term maximization of resources.
- Claims of NAFTA job losses are unfounded as Arizona unemployment is at a 25-year low with many economists predicting that we are at or near full employment

**Notable statistics:**

- The unemployment rate hit 4.9 percent in 1996, the lowest rate in 25 years.
- U.S. imports accounted for a 76-percent share of the Mexican import market by June 1996.

## State of Arizona

### Carol A. Colombo, Colombo and Bonacci--OF COUNSEL, Governor's representative for NAFTA implementation for the State of Arizona Statement to the U.S. International Trade Commission

- Supports the Agreement.
- Ms. Colombo points out that NAFTA is not about drugs, immigration, or creating an integrated economic community like the EC; rather, NAFTA is about trade.
- “In spite of [the] peso devaluation and the subsequent recession in 1995, Arizona has experienced continually growing exports to Mexico.” From 1993 to 1994, total exports grew by 10.9 percent, 16.4 percent from 1993 to 1995, and 49.2 percent from 1993 to 1996. “Almost every industry in our state has benefited from exports between 1993 to 1996.” The major exceptions to this growth are forestry, lumber, and coal, and “also where peso devaluation at the end of 1994 dramatically impacted the Mexican consumer's ability to purchase.... food and consumer goods.”
- “Statistics documenting Arizona's experience are very positive, especially when considering the economic situation in Mexico during this time. If the sale of Arizona services to Mexico were included, the economic impact on Arizona's economy would be much greater.” To this particular issue, Ms. Colombo read from select letters that the Arizona Department of Commerce had received from various businesses:
  - *Tostino's (Tucson, Arizona)*: “Is NAFTA a benefit to [our] company?... Yes. NAFTA opened up an industry that was closed solid to foreign competition.... We would be very disappointed if the people in Congress do away with something that has only been a benefit to us.”
  - *American Eagle Beverages (Tempe, Arizona)*: “Since the passage of NAFTA, our business has increased by 36 percent.... we show an increase in jobs at the farm, plant and transportation areas.”
  - *Kitchell (Phoenix, Arizona)*: “Our growth into the Mexican marketplace has increased Kitchell's employment by ten full-time construction professionals.”
  - *The City of Phoenix*: “This important legislation has not only increased international trade opportunities for the state, but has also significantly impacted the development of non-stop international air service between Phoenix Sky Harbor and key markets in Mexico and Canada.”
  - *America West Airlines (Phoenix, Arizona)*: “We believe that the treaty has been a factor in our success in [Mexico and Canada].”
  - *Sundt Corporation (Tucson, Arizona)*: “The passage of NAFTA has greatly facilitated Sundt's ability to work in Mexico.”
- On the Border Environmental Cooperation Commission and North American Development Bank, Ms. Colombo said: “we believe that they have pretty much worked out the kinks and are now moving towards a more effective use of the promise that they actually had when they were created.”
- “As a state, we are pleased with the success of the agreement to date, and we would respectfully request Congress to move forward with the implementation of all the provision[s] of the agreement, including the truck provisions.”

**Arizona Department of Agriculture**

**Keith Kelly, Director**

**The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review**

- Mr. Kelly and the Arizona Department of Agriculture support NAFTA.
- Arizona believes that by establishing close ties with Mexico, they will have a competitive advantage in world trade.
- Arizona is the third largest state in overall U.S. vegetable and citrus fruit production. The state also has a cooperative arrangement with Sonora, Mexico to train Sonoran agricultural professionals in the proper handling of pesticides.
- The cattle industries in Arizona and Sonora interact extensively with one another, with Arizona importing young feeder cattle and exporting fat steers and beef to Sonora. To ensure this relationship thrives, the governors of both Arizona and Sonora signed the Arizona-Sonora Animal Health Agreement in 1992. This agreement calls for sharing information and personnel to facilitate the eradication of bovine tuberculosis and brucellosis in Sonora.
- On May 17, 1997, both governors, Mr. Kelly, and the Secretary of the Sonoran Department of Livestock, Luis Colosio signed a joint letter in support of a pilot program to promote further trade between both states.
- Arizona has found that several states in Mexico have hindered the state's exports of beef cuts packed in boxes (referred to as "boxed beef") and dairy products by state grading and other regulations. Arizona believes this to be contrary to NAFTA and that the federal government needs to address this issue.

**Association of Western Pulp and Paper Workers**

**Elmer R. Laulainen, President of Local 293**

**Letter to the Office of the Special Trade Representative - plus 2 attachments**

- Mr. Laulainen has been trying for the past 16 months to be certified in order to qualify under the Trade Adjustment Assistance. To date, certification has not occurred.
- The author tells of the moving of paper manufacturing equipment from the United States to Mexico. The vast majority of product from this equipment is intended to be exported back to the United States.
- The author wonders about the President's report to Congress underestimating NAFTA's impacts, when NAFTA benefits are not granted to displaced workers under the Trade Adjustment Assistance.



**Baylor University**

**Joseph McKinney, Ben H. Williams Professor of Economics, Hankamer School of Business  
Statement before the U.S. International Trade Commission**

- Supports the Agreement.
- “Despite the economic difficulties encountered by Mexico, the effects of NAFTA thus far on the U.S. economy have been on balance positive and relatively modest. Significant potential gains remain to be realized.”
- While merchandise trade deficits with Mexico and Canada totaled almost \$40 billion last year, more than one-third was offset by a sizable U.S. trade surplus in services.
- “The [United States] would no doubt be better off with a higher savings rate, and less dissaving on the part of the government. However, the savings rate and the size of government budget deficits are affected little, if at all, by NAFTA.”
- “Trade deficits are not necessarily undesirable, and they reflect basic macroeconomic conditions of the countries involved rather than the levels of trade barriers.”
- Dr. McKinney attributes recent U.S. trade deficits with Mexico to the “peso crisis” and therefore judges them as temporary.
- The author states that there is no correlation between unemployment and trade deficits. Although increased trade with Canada and Mexico has required “labor adjustments in certain industries,” careful empirical analysis has shown that the widening gap between unskilled and skilled workers is due to technological change rather than trade. The author suggests a solution to this disparity is “providing skills for unskilled workers.” While the increased international trade has affected the “composition of employment,” unemployment has actually decreased.
- The 1995 “peso crisis” was not caused by NAFTA; rather, Mexico’s recovery was aided by NAFTA. The author points out that during the “peso crisis,” NAFTA members were exempt from Mexican trade restrictions.
- Concerned about the level of Mexico’s external debt (\$170 billion), the author supports the continuation of NAFTA so that Mexico can have access to the U.S. market. Such access would aid Mexico’s growth, which would in turn be important to the U.S. economy.
- While U.S. direct investment in Mexico is expected to increase with time, such an outflow would have a negligible effect on the U.S. economy.

**Notable statistics:**

- Since the implementation of NAFTA, there has been a net increase in U.S. jobs of over 8 million.

**Bonita Packing Company**

**Billy Don Grant, President**

**Testimony before the U.S. International Trade Commission**

*no written submission provided*

- Mr. Grant believes NAFTA "...needs some revamping done now."
- Mr. Grant, a tomato grower and packer, reported that he entered the tomato business in 1988. After three good years (1990-92), Mr. Grant claims the business deteriorated.
- Mr. Grant stated that his packing plant and two other tomato growers employed 1,700 people with a payroll close to \$15 million in 1992. Since then, employment has fallen to 850 people, with an expected payroll of about \$8 million. Mr. Grant expected employment to fall to 400 people next year.
- Mr. Grant implied, but did not state, that NAFTA was responsible for the situation.

**Border Trade Alliance**

**Susan K. Ross, Member of the Board of Directors**

**Statement to the U.S. International Trade Commission**

- Supports NAFTA.
- Trade levels between the United States and Mexico, which were over \$140 billion in 1996 (the third year of NAFTA implementation) are at their highest levels ever.
- Long-term barriers in industries not specifically addressed by NAFTA, such as telecommunications and natural resources, are being lifted, and American firms like AT&T and the Arizona Public Service Company (a natural gas distributor) are moving into Mexico.
- California exports approximately \$20 billion to NAFTA countries, which corresponds to 280,000 jobs.
- The maquiladora industry benefits the United States as well as Mexico. San Diego CA, for example, after losing several important industries and seeing its employment level rise to almost 10 percent in the late 1980s and early 1990s, has benefited from foreign direct investment since implementation of NAFTA. The region has become a center for television production, and Sony now employs 3,000 people on the U.S. side and 7,000 on the Mexican side. The current unemployment rate in San Diego, CA is around 4.5 percent, and the unemployment rate in Tijuana, Mexico is approximately 1 percent.
- U.S. consumers should benefit from removal of tariffs on many goods in the agricultural and textile sectors.
- Ms. Ross uses the state of California as an example of how NAFTA is working for the United States. Ms. Ross reported that California exports over \$20 billion to the NAFTA signatory countries, accounting for over 19 percent of the state's total export dollars. This is a net increase of 18.3 percent from 1995 totals. This increase in exports is linked to jobs and the growth in trade has equaled employment for thousands of Californians. Furthermore, exports are booming in Southern California for industries such as biotech, telecom, hi-tech, software, and manufacturing due to the link to trade in the NAFTA countries.
- According to Ms. Ross, industries that have traditionally been protected from import competition are the ones most likely to suffer when a trade agreement removes or reduces that protection: steel, autos, footwear, wearing apparel, and agriculture.

**Brenco Incorporated**

**Howard J. Bush, Vice President, Marketing & Sales**

**Testimony before the U.S. International Trade Commission**

*no written submission provided*

- Brenco expects to export bearings valued at \$17 million in 1997, \$8 million of which will go to Canada and \$1 million to Mexico.
- Brenco states that NAFTA has resulted in increased sales to Mexico. Upon passage of the Agreement, Brenco secured contracts with Mexico's FNM Railroad which have resulted in \$3 million in sales over the last three years. Brenco also reports that its recently signed 10-year agreement with a Mexican company to recondition bearings might not have been possible without NAFTA. Brenco indicates that NAFTA has created 6 to 10 U.S. jobs and a similar number in the company's reconditioning subsidiary in Mexico.
- Prior to NAFTA, Brenco points to tariffs and required letters of credit as impediments to free trade in the bearings industry. Brenco states that these nontariff barriers are being reduced as a result of NAFTA and notes an increased willingness of parties from both countries to enter into business arrangements since passage of the Agreement.
- Brenco states that increased trade stemming from NAFTA, resulting in increased rail traffic, has led to and will continue to afford business and employment opportunities for Brenco. Brenco also indicates that NAFTA facilitated the privatization of FNM which is expected to improve rail traffic and maintenance standards, leading to increased business for Brenco in bearings, replacement components, and reconditioning operations.

**Broward County Board of County Commissioners**  
**James J. O'Brien, Director of Port Everglades**

- Florida seaports' trade growth with Mexico has occurred incrementally over the last three years since NAFTA.
- O'Brien states that there is not enough real data available at this time to support assessing the overall effects of NAFTA because of the short time period since implementation of the accord.
- At Port Everglades, the signing of NAFTA encouraged the establishment of regularly scheduled weekly liner service to Mexican ports by a major U.S. carrier. Based upon container cargo tonnage, in 1996 Mexico was ranked in the top 20 countries for trade, 12th as one of Port Everglades' top export country and 7th in the top import countries.

**Brownsville Economic Development Council**  
**Rick Luna, Director of Communications and Research**  
**Statement to the U.S. International Trade Commission**

- Supports NAFTA.
- Mr. Luna reported that NAFTA has brought more activity, more jobs, and better opportunity to the Brownsville area. Mr. Luna stated that Brownsville has traditionally had double-digit unemployment and a high poverty rate. For example, per capita income was 52 percent of the national average in 1994. According to the 1990 Census, 43.9 percent of all persons live below the poverty line.
- Brownsville's economic performance is linked to the growth in the maquiladora industry in its sister city of Matamoros, Mexico. Mr. Luna stated that Matamoros now has almost 50,000 jobs in the maquiladora sector. Most of the job growth in Brownsville has been in industries supplying goods and services to maquiladora plants, such as injection molding, metal working, trucking, and port facilities.
- Mr. Luna stated that his organization has attracted 17 companies to Brownsville in the past 18 months, generating 3,200 jobs with most of the new companies locating in Brownsville to supply the maquiladora industry. He indicated that some companies, such as Titan Wheel International, are in Brownsville, in part to make inroads into Latin American markets.
- Although Brownsville and Matamoros have always had good relations, things have gotten better since the implementation of NAFTA. Mr. Luna attributed that to better institutions in Matamoros, improved clarity of organization and purpose in those institutions, and more resources enabling them to address a greater number of issues, such as cross-border cooperation regarding emergency response and mutual environmental concerns.

**Brownsville Navigation District (The Port of Brownsville)**  
**C. James Kruse, General Manager and Port Director**  
**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- Supports the Agreement.
- The 1990 Census reported that 44 percent of Cameron County's residents lived below the poverty line. In 1994, the area's per capita income was 52 percent of the national average.
- The Port of Brownsville, its users and tenants are dependant on Mexico for about 90 percent of the business conducted at the Port.
- In the last 5 years, over \$100 million in infrastructure projects have been initiated at the Port. The area has seen "tremendous growth in the manufacturing and transportation sectors." In the last 18 months, 17 new companies and 3,200 new jobs have appeared in Brownsville. Construction activity has "broken all previous records."
- "NAFTA gives us a stable, predictable environment within which we can earn a reasonable return on the community's investment."
- "A good indicator of how trade is doing in our area is the number of trucks crossing the border daily." In 1992, an average of 1,000 trucks crossed to and from Mexico; in 1996, 1,200 trucks crossed daily. Truck traffic has grown "despite the severe problems suffered by the Mexican economy, our primary marketplace."
- Government statistics show that Brownsville has surpassed the nation's rate of job creation in every year this decade, except 1995.

Notable statistics:

- A recent study indicated that a 10-percent increase in the maquila business in Mexico produced a 2-percent increase in jobs on the American side.

## **Burlington Industries**

**Jim Leonard, Manager of Economic Relations and  
Donna Lee McGee, Director of Government Affairs  
Statement to the U.S. International Trade Commission**

- While U.S. textile and apparel producers strongly supported NAFTA enactment, this company's worsted wool division is being seriously disadvantaged and damaged by the wool apparel Tariff Preference Level (TPL).
- Although TPLs are designed to allow NAFTA treatment on goods not commercially available from NAFTA countries, Canada is importing wool fabric from outside countries where those fabrics are readily available from both U.S. and Canadian manufacturers. Canada then uses this imported fabric to make tailored wool apparel for export under the TPL to the United States. "By exporting under the TPL, Canada bypasses the NAFTA rules of origin yet receives the same low, preferential tariff rate as if they had used fabric from one of the NAFTA countries."
- Burlington Industries can account for at least 7,200 jobs lost, yet feel that a formal industry census would reveal a much larger number.
- Despite repeated calls from the industry for action, no resolution has occurred. Damage to the wool market is continuing.



**Business Software Alliance**

**Richard B. Neff, Legal Advisor for Latin America**

**Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- A survey of member companies indicated that NAFTA, despite the Mexican recession in 1995, has had a positive impact on the U.S. software industry.
- Overall, U.S. exports of business application software to Mexico increased 16.4 percent in 1994 from their 1993 levels and, despite the peso crisis, U.S. exporters increased their share of the total Mexican business application software market from 71.5 percent in 1994 to 77.7 percent in 1995.
- In addition to the positive effects on exports, NAFTA had an important impact on the level of intellectual property protection in Mexico. New property and copyright laws have been enacted and enforcement measures have increased.

**California Pistachio Commission**

**Karen Reinecke, President of the California Pistachio Industry  
Statement to the U.S. International Trade Commission**

- This group provided testimony before Congress in support of the Agreement, because it expected the reduced tariff levels to “level the playing field” by allowing more U.S. exports.
- In 1994, shipments of California pistachios increased 337 percent over the 1993 level, to a value of \$2.85 million.
- However, in 1995 exports fell to a value of \$465,000.
- “Although NAFTA opened the door for California pistachio exports, the benefits have been lost because of the peso devaluation and the economic conditions currently prevailing in Mexico.”
- The pistachio industry therefore believes that future free trade agreements must take into account the fiscal policies and the economic health of the potential trading partners.

**Canadian Cattlemen's Association**

**Chris J. Mills, Policy Advisor**

**Edward J. Farrell, Wigman, Cohen, Leitner & Myers, P.C.--OF COUNSEL**

- The impact of NAFTA has been generally positive for both the Canadian and U. S. beef industries. Recent price declines in both Canada and the United States are almost entirely attributable to the cyclical increase in production that began in 1991 and now appears almost at its peak. U.S. beef production went from 23 billion pounds in 1992 to 25 billion pounds in 1995 and is predicted to peak in 1997 at a record 26.1 billion pounds.
- In addition to expanding production, profit margins in both countries have been further squeezed by increasing grain prices. U.S. corn prices at Omaha went from \$2.37 per bushel in January 1992 to \$4.92 in March 1996 and have since dropped back to \$2.84. Thus, record high production and high feed costs have had a significant impact on both slaughter and feeder cattle prices and returns.
- NAFTA provides for a process that is intended to harmonize and possibly eliminate plant and product inspections on meat moving between the two countries. However, U.S. producers, especially in those areas where there are significant imports of Canadian product, continue to question the efficacy of the Canadian inspection system and the re-inspection process applied by United States authorities. As a result, despite the fact that there is no evidence to indicate any inadequacies in the Canadian system, the United States recently introduced more stringent rules governing the re-inspection of Canadian product entering the country.
- In January 1992, Canada's grading system for high quality beef grades was amended, so that it was virtually equivalent to that used in the United States. However, lack of a grading equivalency agreement between the two countries means that U.S. boxed product sold into Canada must be sold as "USDA" or "Ungraded" product, and that Canadian boxed product moving into the United States must be sold as "no-roll" product and take the appropriate discount. This lack of grade equivalency is discouraging beef trade between the two countries and is contributing to the continuing sale of live cattle and carcass beef out of Western Canada to packing plants in the Northwestern United States.

Data sources/methodology: Data were obtained from Canadian Government sources.

**Caterpillar, Inc.**

**William C. Lane, Washington Director, Governmental Affairs**

- Supports NAFTA.
- Mr. Lane reported that NAFTA has been a success for Caterpillar. During the 3 years of NAFTA (1994-96), Caterpillar's U.S. exports to Canada and Mexico increased by \$807 million over the previous 3-year period (1991-93). At the same time, Caterpillar's imports from Canada and Mexico went up \$117 million.
- Mr. Lane reported that Caterpillar's factories have experienced increased efficiencies (as a result of lower U.S. tariffs on North American-produced raw material and components) that have allowed the company to better compete throughout the world.
- Mr. Lane also stated that the company believes that the Mexican economic recovery has been quicker and stronger than would have been possible if the flow of trade had been cut off.

**Celadon Trucking Services, Incorporated**  
**Michael T. Hodson, Executive Vice President**  
**Testimony before the U.S. International Trade Commission**  
*no written submission provided*

- Celadon is a \$165 million truckload carrier specializing in transporting truckloads of freight between the United States, Canada, and Mexico. It started serving Mexico in 1985 and today is the nation's largest truckload provider to Mexico.
- The company estimates that NAFTA has created 40,000 to 50,000 trucking related jobs in the United States over the past 3 years. In 1994, Celadon was hauling 55 percent of its business to Mexico, now it hauls 65 percent to Mexico. The company itself has grown 50 percent in the past 3 years. This growth has created 500 new truck driving jobs and 100 administrative jobs. A Celadon truck driver earns between \$32,000 and \$40,000 per year. The average salary of an administrative job at Celadon is between \$25,000 and \$30,000 per year.
- Mr. Hodson pointed out that Chrysler, Celadon's largest customer, has grown significantly due to NAFTA. Specifically in 1995, Chrysler reopened its St. Louis car plant, which had been closed in 1991. Chrysler has also invested in Wisconsin, Michigan, and Indiana (where a new \$1.9 billion transmission plant is being constructed). Celadon believes so many manufacturers are investing in American production because: (1) Improvements in all NAFTA countries will create demands for U.S. products and services, (2) Mexico and Canada represent economic allies—Mr. Hodson points out the shorter time it takes to transport goods between NAFTA countries than from Asia, (3) logistics velocity allows many parts to be produced in the United States and assembled in Mexico, as well as encouraging the use of Mexican parts in U.S. production.
- Celadon is frustrated by the delays in implementing NAFTA—particularly the trucking provisions. The current Mexican restriction that 48-foot trucks have to be used instead of 53-foot trucks leads to a 10 percent efficiency loss in terms of carrying capacity. There is also inefficiency at the Laredo border where drayage companies can dray only export shipments but must return empty. This increases costs and congestion and a need for more bridges.
- “We believe that NAFTA has contributed to the consistent economic expansion of our country that it has enjoyed over the past several years and the relatively consistent full employment in the United States” (Transcript, vol. 2, p. 505).

**Center for Strategic and International Studies**  
**Sidney Weintraub, William E. Simon Chair in Political Economy**  
**Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- Argues that NAFTA was not responsible for the “peso crisis” of 1995; nor was it the main cause for growth in U.S. imports. These changes were due to Mexico’s attempts to hold down inflation, an overvalued peso, steady growth in the U.S. economy, and an appreciating dollar. He summarizes above arguments by saying that the 1995 “peso crisis” and increased U.S. imports were due to each country’s macroeconomics, not NAFTA. The author points out that “NAFTA does not deal with macroeconomic policies of member countries.”
- Dr. Weintraub reports that during the 3-plus years that NAFTA has been in effect, U.S. job creation has averaged about 2.5 million a year, and that the United States is at full employment. The author further states that if the U.S. economy is at full employment, then extra imports are not creating overall job losses, but rather adding to consumer choice. (Although, the author states that this does not mean that individuals in affected industries and communities are not losing jobs.)
- Dr. Weintraub also reported that the number of persons certified as having been adversely affected by increased investment in and imports from Canada and Mexico was about 120,000 in the 3 years of NAFTA. This number equates to about 2 weeks of U.S. job creation. Therefore, even if this number is understated, job losses as a result of NAFTA are very small relative to the millions of job turnovers from domestic restructuring. The central job issue, however, is the kinds of jobs that are being created. For example, export jobs pay from 12 to 13 percent more than non-export jobs. Therefore, import protection would mean saving poor jobs and sacrificing better jobs.
- Dr. Weintraub further states that total trade has increased under NAFTA. Bilateral trade between the United States and Canada is greater than that between any other two nations and has been increasing since the U.S.-Canada Free Trade Agreement went into effect. Similarly, trade between the United States and Mexico increased from \$81.5 billion in 1993 to almost \$130 billion last year and should exceed \$150 billion this year.
- Tests of NAFTA include: (1) Specialization: “An examination of U.S.-Mexico trade shows that this specialization is taking place, as it did earlier in Canada [with the U.S.-Canada Free Trade Agreement],” (2) The fact that Mexico did not respond to its 1995 crisis by imposing import controls on U.S. products as it had done previously, (3) Total welfare has increased for all member countries, and (4) The creation of “numerous public and private institutional alliances... essential to smooth and prosperous relations.”

**Citizens for a Sound Economy (CSE) Foundation**  
**Anita Sheth, Director of Trade Policy**  
**Statement to the U.S. International Trade Commission**

- The CSE Foundation supports NAFTA, believing that it has brought positive benefits to the economy.
- Manufacturing jobs have no apparent relationship with the existence or relative size of the trade deficit as many protectionists have insisted.
- The U.S. auto industry has seen significant increases in both sales in Mexico and U.S. employment.
- Trade deficits show no correlation with decreased family income as protectionists have argued.
- Personal income has risen at a steady rate since the implementation of NAFTA.
- International trade is critical part of a “healthy and growing” economy, as well as a means to improve our standard of living and preserve economic strength.

**Notable Statistics:**

- 8 million more Americans are employed today than before NAFTA, including 181,000 added to the manufacturing ranks. (Paul Blustein, “NAFTA: Free Trade Bought and Oversold,” *The Washington Post*, Sept. 30, 1996)
- Autoworkers’ jobs increased from 833,000 in the year before NAFTA to 950,000 today. (U.S. Department of Labor)
- The United States has increased its exports at an average rate of 10 percent per year for the last six years.

**Clothing Manufacturers Association (CMA) of the United States of America**  
**Robert A. Kaplan, Executive Director/Secretary**  
**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- The CMA has strongly opposed the concept of loopholes to rule of origin requirements under free trade agreements, such as Tariff Preference Levels (TPLs).
- This specific problem has resulted in considerable damage to the U.S. tailored wool apparel industry.
- Today, Canada is completely filling the wool TPL, and as a result is flooding the U.S. market with finished apparel that is made from low-priced non-NAFTA fabrics sourced from China, Turkey, and Korea. The same fabrics are available from manufacturers in both the United States and Canada. Since there is no safeguard under NAFTA to address this issue, the United States is denied the right to reduce the size of the overall TPL, regardless of its effect on the U.S. market.
- Canadian textile exports have surged, and the U.S. manufacturing base "has been severely crippled." Bankruptcies and plant closings have been commonplace in the United States. If the Canadian wool apparel TPL problem is not rectified, thousands of additional U.S. jobs could be lost.

Notable statistics:

- Canadian exports of men's and boys' wool suits in the years prior to the CFTA accounted for less than 5 percent of the total U.S. imports of this product. During the period covered by the CFTA and NAFTA, Canadian shipments of these goods have increased ten-fold; and a full 21 percent in 1995 over 1994 levels.
- Translated from U.S. Department of Commerce data, American wool suit production has fallen from 3.2 million suits produced in 1994 to about 2.8 million suits in 1995 .



**Corn Refiners Association**

**Charles F. Conner, President**

**Submission to the U.S. International Trade Commission**

- The Corn Refiners Association (CRA) is a strong supporter of NAFTA. CRA believes that continued trade liberalization is of utmost importance to U.S. agricultural producers and processors. They also believe that the negotiation of regional free trade agreements, such as NAFTA, can serve as a springboard to press for even further liberalization of agricultural trade at the global level. Finally, the CRA sees substantial new business opportunities arising from NAFTA.
- In both the United States and Canada, the market for processed corn products is reasonably mature. While there is some cross-border trade in refined corn products with Canada, they are particularly interested in the new opportunities for exports and investments in Mexico which have been highlighted by NAFTA.
- In 1992, before completion of the NAFTA negotiations, the United States exported approximately \$87 million of primary processed corn and starch products to Mexico. In 1996, these same commodities accounted for approximately \$145 million of exports. While not all of the growth can be directly attributed to tariff reductions under NAFTA, the CRA believes that the agreement was responsible for a new interest in increasing cross-border trade.
- While there have been problems with NAFTA, CRA believes that these problems should not be used as excuses on either side to pull back from the agreement's overall commitment to greater and freer trade, which both governments have adopted.

Data was obtained from various U.S. Government sources.

## **Council Of The Americas**

**William Pryce, Vice President, Washington Operations  
Statement to the U.S. International Trade Commission**

- The Council of Americas is a strong proponent of both NAFTA and the Free Trade Association of the Americas (FTAA).
- From 1993 to 1996, exports were up 34.1 percent overall, with a 36.5 percent increase in exports to Mexico and a 33.1 percent increase to Canada.
- The Council recently commissioned a series of studies on the impacts of NAFTA on 21 U.S. states. 11 studies were submitted for the record. Abstracts have been done and are attached with the submission.
- Several states have benefited from NAFTA in ways other than the growth associated with increased exports.
- Approximately 100,000 people who lost their jobs between 1994 and 1996 were certified by the U.S. Department of Labor for the NAFTA Trade Adjustment Assistance program.
- Clearly, some of the growth in U.S. exports to Canada and Mexico mentioned above and in the individual state studies would have occurred without NAFTA, but officials from many companies, business organizations, and state governments across the country indicated that much of this expansion in trade can be directly attributed to NAFTA.
- Business organizations and state governments have indicated that much of the recent trade expansion can be directly attributed to NAFTA. Companies have indicated that lower tariffs and transportation costs have made their products less expensive than European and Asian competitors' products.
- Four positive effects of the Agreement on trade and investment between the member countries:
  - 1) U.S. companies' competitive edge over non-member countries have led to increased sales;
  - 2) NAFTA has created new interest in member countries' markets - this has induced more businesses to export goods;
  - 3) NAFTA has enabled many U.S. industries to reorganize production strategies to improve efficiency, e.g., automobile industry;
  - 4) NAFTA protected U.S. exports to Mexico from facing high tariffs imposed by Mexico under its safeguard laws in reaction to the "peso crisis."

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on California” (April 1997)**

- Supports the Agreement.
- California’s border region has experienced growth under NAFTA due to the increased trade and investment between Mexico and California. Exports to Canada and Mexico have grown over 40 percent between 1993 and 1996; these exports accounted for 19.3 percent of California’s total 1996 exports.
- Over 47 percent of California’s exports to Mexico are made up of electronic and electrical equipment and parts, and industrial machinery (including computers). Similarly, these two categories represent over 55 percent of California’s exports to Canada.
- According to the California Department of Agriculture, NAFTA partners account for 29 percent of total California agricultural trade, with Mexico alone taking 9 percent. According to Rafael Patron, adviser to the California Trade and Commerce Agency, “[California] should have a large competitive advantage over most products in the Mexican market.” Canada consistently ranks as California’s second-largest market for agricultural exports.
- At least 95,900 jobs in California were directly related to NAFTA exports in 1996 (U.S. Department of Commerce). This number would be much higher if jobs in transportation, banking, and other sectors were included. Of those jobs that have been lost due to NAFTA, prospects of re-employment are good. The number of jobs lost due to NAFTA is small compared to the number of workers who have benefited from NAFTA. Workers have seen export-related jobs pay higher wages than manufacturing jobs, on average. Thousand of jobs statewide are created because of maquiladoras.
- California industries have benefited from the intellectual property rights provisions in NAFTA although progress in this area has been “slow and halting.”
- Opportunities for improvement are:
  - 1) local, state, and federal funding could be provided for border infrastructure improvements so that California can better realize economic benefits from its geographic location;
  - 2) implementation and enforcement of transportation-related provisions of NAFTA should be harmonized – especially trucking provisions;
  - 3) better information to workers that may have been harmed by imports due to NAFTA on assistance that is available through the Trade Adjustment Assistance.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Florida” (April 1997)**

- Supports the Agreement.
- During the first year of NAFTA (1994), Florida’s exports to Mexico increased by nearly 11.8 percent over their 1993 levels. The 1994-95 decline in Florida’s exports to Mexico, caused by devaluation of Mexico’s peso, was nearly recovered by 1996. Florida’s exports to Mexico in 1996 increased by 31.7 percent over their 1995 levels. Florida’s exports to Canada, between 1993 and 1996, increased by 10.7 percent under NAFTA. In 1996, Canada and Mexico were Florida’s second and eighth most important export markets, respectively.
- Florida companies have increased exports to member countries because of the cost savings from lower tariff rates and the reduced barriers to trade. Other companies, such as those in the packaging and distribution industries, have also profited from the liberalization of Mexico’s foreign investment laws.
- In 1996, 3,570 Florida jobs directly benefited from the state’s exports to Mexico; an additional 8,530 jobs were directly linked to Florida’s exports to Canada, for a total of 12,100 (U.S. Department of Commerce). The actual number of jobs benefiting from trade with NAFTA partners is much higher, once related jobs in transportation, wholesaling, warehousing, finance, insurance, banking and other sectors are added. While some Florida workers have lost their jobs due to competition induced by NAFTA, their numbers are smaller than those who have benefited from NAFTA. The total number of Florida workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance (TAA) is just under 2,300 for the 1994-1995 period.
- Opportunities for improvement are:
  - 1) Florida should take advantage of its geographic location and pursue more export promotion;
  - 2) sectors that feel disadvantaged by any trade agreement, e.g., tomato growers, should work within existing laws and procedures specifically designed to mitigate such disadvantages;
  - 3) better information to workers that may have been harmed by imports due to NAFTA on assistance that is available to them through the Trade Adjustment Assistance.

**Council of the Americas**

**The Trade Partnership**

**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Illinois” (May 1997)**

- Supports the Agreement.
- Illinois’ exports to Mexico and Canada grew by nearly 38 percent between 1993 and 1996. Canada and Mexico together accounted for 35 percent of Illinois’ exports in 1996, which was its fifth most important export market.
- Illinois’ major exports to Mexico and Canada are construction equipment, farm equipment, specialized industrial machinery, pharmaceuticals, telecommunications equipment, and auto parts.
- Agricultural products are Illinois’ fifth most important export to Mexico. These exports increased by 520 percent between 1993 and 1996. Other key exports are corn, soy beans and processed foods.
- In 1996, 6,100 jobs in Illinois directly benefited from the state’s exports to Mexico, and 38,300 were linked to its exports to Canada (U.S. Department of Commerce).

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Indiana” (April 1997)**

- Supports the Agreement.
- Exports to Canada and Mexico have grown over 47.1 percent between 1993 and 1996.
- Exports to Canada and Mexico accounted for half of Indiana’s total 1996 exports. High-value-added manufactured goods led Indiana’s exports to both Mexico and Canada. Over 40 percent of Indiana’s exports to Mexico are made up of industrial machinery and electronic and electrical equipment. Similarly, these two products make up one-quarter of Indiana’s exports to Canada.
- At least 28,420 jobs in Indiana were directly related to NAFTA exports in 1996 (U.S. Department of Commerce). This number would be much higher if jobs in transportation, wholesaling, warehousing, finance, insurance, banking, and other sectors were included. Of those jobs that have been lost due to NAFTA, prospects of re-employment are good. The number of jobs lost due to NAFTA is significantly smaller than the number of workers who have benefited from NAFTA. Workers have seen export-related jobs pay higher wages than manufacturing jobs, on average.
- The Indiana pharmaceutical industry has benefited from the intellectual property rights provisions in NAFTA.
- Opportunities for improvement are:
  - 1) funding an extension of Interstate 69 from Canada through Indiana to Mexico;
  - 2) that customs and agricultural officials from the member countries could meet regularly to find ways to ensure that paperwork and standards requirements do not interfere with trade opportunities;
  - 3) to provide better information to workers that may have been harmed by imports due to NAFTA on assistance that is available to them through the Trade Adjustment Assistance.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Kentucky” (April 1997)**

- Supports the Agreement.
- Kentucky’s exports to Canada and Mexico have grown over 75 percent between 1993 and 1996. In 1996, Canada and Mexico were Kentucky’s leading and seventh most important export markets. Exports to these countries accounted for 40.5 percent of Kentucky’s total exports in 1996.
- High-value-added manufactured goods lead the state’s exports to Mexico and Canada, including computers and peripherals, audio equipment and chemicals. In addition, automobile exports “grew substantially between 1993 and 1994 due to NAFTA’s automotive provisions;” and the farm sector benefited from NAFTA’s agricultural provisions.
- NAFTA’s provisions on foreign investment led to an opening of a “number of new Mexican markets to Kentucky health care providers, among others.” These provisions have allowed Kentucky companies the ability to expand exports to Mexico” since many American direct investors in Mexico depend heavily on U.S. products.”
- At least 13,250 jobs in Kentucky were directly related to NAFTA exports in 1996 (U.S. Department of Commerce). This number would be much higher if jobs in transportation, wholesaling, warehousing, finance, banking, insurance, and other sectors were included. Of the jobs that have been lost due to NAFTA, prospects of re-employment are good.
- While some Kentucky workers have lost jobs due to competition induced by NAFTA, their numbers are significantly smaller than those who have benefited from NAFTA. The total number of workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance (TAA) is just over 860 for the 1994-1996 period. State officials believe that Mexico will be an important market for Kentucky products in the future.
- Opportunities for improvement are:
  - 1) NAFTA customs officials should reduce the amount of paperwork associated with NAFTA trade;
  - 2) better information should be provided to workers that may have been harmed by imports due to NAFTA on assistance that is available to them through the Trade Adjustment Assistance.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Massachusetts” (May 1997)**

- Massachusetts’ exports to Canada and Mexico have grown strongly under NAFTA, up over 31 percent between 1993 and 1996. The 1994-95 decline in Massachusetts’ exports to Mexico (caused by the devaluation of the peso) was recovered by export growth during 1996.
- Canada and Mexico are Massachusetts’ leading and twelfth most important export markets. High-value added manufactured goods lead Massachusetts’ exports to both Mexico and Canada. These products include computer equipment and software, pharmaceuticals, telecommunications equipment, medical equipment and aerospace equipment. Massachusetts’ agricultural sector and service industries have also benefitted from NAFTA.
- Massachusetts’ production of goods for export to Canada and Mexico supports thousands of high-paying manufacturing, transportation, services, finance and other jobs.
- Numerous Massachusetts companies across a wide range of sectors avail themselves of NAFTA and remain optimistic about its prospects for increasing business for Massachusetts companies.



**Council of the Americas**

**The Trade Partnership**

**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Michigan” (May 1997)**

- Supports the Agreement.
- Michigan’s exports to Canada and Mexico grew by more than 10 percent between 1993 and 1996. Canada and Mexico together accounted for 70 percent of Michigan’s exports in 1996.
- Because of NAFTA’s extensive automobile provisions, transportation equipment ranks as Michigan’s leading export to both Canada and Mexico and accounts for approximately 60 percent of Michigan’s exports to Canada and Mexico.
- Michigan’s other major exports to Canada and Mexico include engines, machine tools, metal stampings, chemicals, computers, and household appliances.
- Michigan’s farm sector benefits from NAFTA’s agricultural provisions. Michigan’s major agricultural exports to Canada and Mexico are dried beans, blueberries, organic food products, snack products, onions, processed asparagus, turkeys, flour, and pork products.
- In 1996, 15,180 jobs in Michigan directly benefited from the state’s exports to Mexico, and 82,750 jobs were directly linked to the state’s exports to Canada (U.S. Department of Commerce).
- Opportunities for improvement are:
  - 1) resolving Canadian over-quota tariffs on U.S. exports of dairy, poultry, and egg products through NAFTA dispute settlement procedures, and
  - 2) refraining from providing special protection to U.S. industries that may be threatened with competition from Mexican or Canadian imports. For example, U.S. protection for corn broom producers invoked Mexican retaliation in the form of 20 percent tariffs on office furniture, which was one of Michigan’s important exports.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on New York” (April 1997)**

- Supports the Agreement.
- New York’s exports to Canada and Mexico have increased by nearly 30 percent between 1993 and 1996. Specifically, New York’s exports to Mexico, between 1993 and 1996, increased by 8.4 percent and New York’s exports to Canada during this same time period increased by 31.7 percent under NAFTA. In 1996, Canada and Mexico were New York’s leading and twelfth largest export markets, respectively. Exports to these two countries accounted for 29.1 percent of total New York exports in 1996.
- Over 38 percent of New York’s exports to Mexico are made up of high-technology instruments and chemical products. Three additional high-tech sectors -- transportation equipment, electronic and electrical equipment, and industrial machinery and computers -- make up 43 percent of New York’s exports to Canada.
- New York’s agricultural sector has also benefited from the agricultural provisions of NAFTA. According to the New York Department of Agriculture, although Mexico is not yet a major market for New York agricultural exports, it has the potential to become one of the state’s most important markets. Canada is the second most important market for exports of New York apples.
- New York’s large service sector expanded into the Mexican market following the implementation of NAFTA. Since 1994, 10 U.S. banks have opened Mexican subsidiaries. Leading New York banks that have established Mexican operations include J.P. Morgan, Chemical Bank, Republic National Bank of New York, and Chase Manhattan Bank.
- In 1996, 4,430 jobs in New York directly benefited from the state’s exports to Mexico; an additional 49,150 jobs were directly linked to New York’s exports to Canada for a total of 53, 580 (U.S. Department of Commerce). The actual number of jobs benefiting from trade with NAFTA partners is much higher, once related jobs in transportation, wholesaling, warehousing, finance, insurance, banking and other sectors are added. While some New York workers have lost jobs to competition induced by NAFTA, their numbers are smaller than those who have benefited from NAFTA. The total number of workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance (TAA) is just under 9,400 for the 1994-1996 period.
- It is suggested that the Administration do more to inform American workers potentially harmed by imports about the Trade Adjustment Assistance available to them.

**Council of the Americas**

**The Trade Partnership**

**“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on North Carolina” (April 1997)**

- Supports the Agreement.
- North Carolina’s exports to both Mexico and Canada have increased by over 63 percent between 1993 and 1996. Specifically, North Carolina’s exports to Mexico, between 1993 and 1996, have increased by 93 percent and during this same period, North Carolina’s exports to Canada have increased by 57.7 percent under NAFTA. In 1996, Canada and Mexico were North Carolina’s leading and fourth most important export markets, respectively.
- Over 44 percent of North Carolina’s exports to Mexico are made up of textile and apparel products. These two categories represent over 11 percent of North Carolina’s exports to Canada. Fourteen percent of North Carolina’s exports to Mexico are made up of industrial machinery and equipment (including computer equipment and parts). This sector represents 24 percent of North Carolina’s exports to Canada.
- In 1996, a total of 24, 650 jobs in North Carolina directly benefited from the states’s exports to Mexico and Canada (U.S. Department of Commerce). The actual number of jobs benefiting from trade with NAFTA partners is much higher, once related jobs in transportation wholesaling, warehousing, finance, insurance, banking and other sectors are added. While some North Carolina workers have lost their jobs to competition induced by NAFTA, their numbers are significantly smaller than those who have benefited from NAFTA. The total number of workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance is just under 5,300 for the 1994-1996 period.
- North Carolina’s large financial-service sector expanded into the Mexican market following the implementation of NAFTA. Since 1994, Charlotte-based NationsBank, the fourth-largest bank in the country, is one of ten U.S. banks to have opened subsidiaries in Mexico, as well as one of nine U.S. companies to operate a brokerage firm in Mexico.
- Problems related to the transportation sector need addressing. It is suggested that the Administration do more to inform American workers potentially harmed by imports about the Trade Adjustment Assistance (TAA) available to them.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Ohio” (May 1997)**

- Ohio has benefited significantly from trade liberalization under NAFTA. Exports from Ohio to Mexico and Canada have grown since the implementation of NAFTA. Mexico is Ohio’s fastest-growing export market. In 1996, Canada and Mexico were Ohio’s leading and sixth most important export markets, respectively. Exports to these two countries accounted for nearly half of total Ohio exports in 1996.
- NAFTA helped offset the decline in Ohio’s exports to Mexico due to the peso crisis. NAFTA also allowed for vigorous expansion of exports to Mexico in 1996 that more than made up for any previous losses due to the crisis.
- Cleveland ranked 12th in the total value of U.S. exports to and imports from Mexico in 1996. High-value-added manufactured goods led Ohio’s exports to Mexico and Canada.
- NAFTA has proven to be mutually beneficial to the U.S., Mexican, and Canadian steel industries by encouraging each country to specialize in the steel products in which it is the most competitive; consequently, both the United States and Mexico have enjoyed an increase in steel exports to NAFTA partners since the agreement’s implementation.
- The leading Ohio agricultural exports are soybeans, corn and breeding livestock.
- Of the employees who have lost their jobs due to NAFTA, their prospects for re-employment are good. Moreover, many of these workers see an improvement in earnings from their new jobs. Fifty four percent of re-employed electrical machinery workers find new jobs paying them the same or greater wages. Employees in the export industries that have seen sales growth in Canada and Mexico earn more than the average manufacturing job in Ohio.
- Since protection of one industry comes at the expense of others, the Administration should do more to inform American workers potentially harmed by imports about the Trade Adjustment Assistance available to them, to encourage adjustment to import competition, rather than protection from it.

#### **Notable statistics:**

- Ohio’s exports to Canada and Mexico have increased 34.7 percent between 1993 and 1996.
- During the first year of NAFTA, Ohio’s exports increased 30.9 percent between 1993 and 1996.
- Transportation equipment ranks as Ohio’s leading export to Canada, accounting for 41.6 percent of total Ohio exports to Canada in 1996.
- In 1996, 3,600 jobs in Ohio directly benefited from the state’s exports to Mexico; an additional 54,700 jobs were directly linked to Ohio’s exports to Canada (U.S. Department of Commerce). By contrast, the total number of Ohio workers certified by the U.S. Department of Labor for TAA was just over 2,900 for the 1994-96 period.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Pennsylvania” (April 1997)**

- Exports from Pennsylvania to Canada increased by 34.2 percent between 1993 and 1996. Pennsylvania’s exports to Mexico increased by 26.5 percent during this same period. In 1996, Canada and Mexico were Pennsylvania’s leading and fourth most important markets, respectively. These two countries accounted for 38.1 percent of total Pennsylvania exports in 1996.
- High-value-added manufactured goods dominate Pennsylvania’s exports to both Mexico and Canada. Over three-quarters of Pennsylvania’s exports to Mexico are made up of primary metal products, electronic and electrical equipment, industrial machinery and equipment, and chemicals and related products. Exports to Canada are more diversified, with the four top categories of manufactured goods representing 46.9 percent of the state’s total exports to Canada.
- Pennsylvania’s auto and auto-parts sector benefits from the increased integration of the North American auto industry that has resulted from NAFTA. Transportation equipment is Pennsylvania’s fourth-largest export to Canada. Pennsylvania’s agricultural sector has also benefited from the agricultural provisions of NAFTA. Canada is the leading destination for Pennsylvania’s agricultural products, accounting for 34 percent of total agricultural exports in 1995.
- Pennsylvania state government officials plan to promote Pennsylvania products, tourism and investment more widely in both Mexico and Canada, further increasing trade and investment opportunities -- and related jobs -- in the state.
- In 1996, 3,940 jobs in Pennsylvania directly benefited from the state’s exports to Mexico; an additional 25,260 jobs were directly linked to Pennsylvania’s exports to Canada for a total of 29,200 (U.S. Department of Commerce). The actual number of jobs benefiting from trade with NAFTA partners is much higher, once related jobs in transportation, wholesaling, warehousing, finance, insurance, banking and other sectors are added. While some Pennsylvania workers have lost jobs to competition induced by NAFTA, their numbers are significantly smaller than those that have benefited from NAFTA. The total number of workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance (TAA) is just over 7,200 for the 1994-1996 period.
- It is suggested that customs officials do more to reduce the amount of paperwork associated with NAFTA trade and that the Administration do more to inform U.S. workers potentially harmed by imports about the Trade Adjustment Assistance available to them.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Tennessee” (April 1997)**

- Supports the Agreement.
- Tennessee’s exports to Canada and Mexico have grown strongly under NAFTA, increasing by 40 percent between 1993 and 1996. Industries that have benefited include: automotive, agricultural, paper, aluminum products, and transportation services. During this time period, exports to Mexico have grown 39 percent; and exports to Canada have grown 40.3 percent. Tennessee’s exports to Canada and Mexico accounted for 40.8 percent of total exports in 1996. Key industries in Tennessee have benefited directly from the Agreement.
- In 1996, 3,100 jobs in Tennessee directly benefited from the state’s exports to Mexico; an additional 14,180 jobs were directly linked to Tennessee’s exports to Canada for a total of 17,280 (U.S. Department of Commerce). The actual number of jobs benefiting from trade with NAFTA partners is much higher, once jobs in transportation, wholesaling, warehousing, finance, insurance, banking, and other sectors are added. While some Tennessee workers have lost jobs due to competition induced by NAFTA, their numbers are significantly smaller than those who have benefited from NAFTA. The total number of Tennessee workers certified by the U.S. Dept. of Labor for NAFTA Trade Adjustment Assistance (TAA) is just over 3,500 for the 1994-96 period.
- Many Tennessee firms remain optimistic about NAFTA’s “prospects for increasing business for Tennessee companies.” NAFTA has made member countries’ industries, such as paper and chemicals, more aware of each other.
- Opportunities for improvement are:
  - 1) funding an extension of Interstate 69 from Canada through Tennessee all the way to Mexico;
  - 2) need to harmonize standards and enforcement of transportation-related provisions of the Agreement;
  - 3) the Administration should refrain from providing special provisions to U.S. industries that feel threatened by Mexican or Canadian imports, lest retaliation result from member countries;
  - 4) better information to workers that may have been harmed by imports due to NAFTA on assistance that is available to them through the Trade Adjustment Assistance.

## **Council of the Americas**

### **The Trade Partnership**

#### **“The Council of the Americas Report on the Impact of the North American Free Trade Agreement on Texas” (April 1997)**

- Supports the Agreement.
- Texas’ exports to Mexico and Canada have increased by over 41 percent between 1993 and 1996. Specifically, Texas’ exports to Mexico, between 1993 and 1996, have increased by 34.3 percent and during this same period, Texas’ exports to Canada have increased by 73.2 percent under NAFTA. In 1996, Mexico and Canada were Texas’ leading and second most important export markets, respectively. Exports to these two countries accounted for 46.9 percent of total Texas exports in 1996.
- Over 55 percent of Texas’ exports to Mexico are made up of electronic and electrical equipment and parts, transportation equipment, industrial machinery (including computers) and fabricated metal products. The first three categories plus chemicals represent nearly 72 percent of Texas’ exports to Canada. According to the Texas Department of Agriculture, Mexico is by far Texas’ most important agricultural trading partner. Texas maintains a positive trade balance with Mexico and Texas economists expect this trend to continue in the future.
- In 1996, a total of 165,000 jobs in Texas directly benefited from the state’s exports to Mexico and Canada (U.S. Department of Commerce). While some Texas workers have lost their jobs to competition induced by NAFTA, their numbers are significantly smaller than those that have benefited from NAFTA. The total number of Texan workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance (TAA) is just over 9,500 for the 1994-1996 period.
- Texas government officials believe that NAFTA and increased trade and investment with Mexico is essential to the future of the Texas economy. Texas’ economy has profited from an large influx of foreign direct investment since the passage of NAFTA, both by Mexican companies eager to expand into the U.S. market and Asian and other foreign companies trying to gain a foothold in the Mexican market. NAFTA’s Border Environmental Cooperation Commission and North American Development Bank have helped Texas communities promote economic development while improving their drinking water and environment. Texas companies have also profited from the liberalization of Mexico’s foreign investment laws, opening a number of new Mexican markets to Texas transportation, construction, and utility firms, among others. American investment in Mexico has also given some Texas companies the ability to expand exports to the region.
- Problems related to the transportation sector need addressing. Increased state and federal funding for environmental cleanup along the border could be sought. It is suggested that the Administration do more to inform American workers potentially harmed by imports about the TAA available to them.

**Council of the Americas**

**The Trade Partnership**

**“The Council of Americas Report on the Impact of the North American Free Trade Agreement on West Virginia” (April 1997)**

- Supports the Agreement.
- Between 1993 and 1996, West Virginia’s exports to Mexico increased by 13.3 percent, while exports to Canada during this same period increased by 47.1 percent under NAFTA. In 1996, Canada and Mexico were West Virginia’s leading and twenty-third most important export markets, respectively.
- NAFTA offers excellent benefits for ferrous metal exports -- in favor of U.S. exporters to Mexico. Primary metal exports from West Virginia to Mexico have increased since the implementation of NAFTA, up 142 percent between 1993 and 1996. In 1996, primary metals ranked as West Virginia’s second leading export to Mexico. Similarly, primary metals also ranked as West Virginia’s second leading export to Canada following a 53 percent increase between 1993 and 1996.
- Under NAFTA, West Virginia exports of stone, clay and glassware to Mexico increased by 145 percent between 1993 and 1996; exports of the same goods to Canada during this same time frame increased by 245 percent.
- West Virginia’s growing auto-parts sector benefits from the increased integration of the North American auto industry that has resulted from NAFTA. West Virginia saw transportation equipment exports to Mexico increase by more than 1,500 percent between 1993 and 1996 and during this same time frame, West Virginia exports of transportation equipment to Canada increased by over 100 percent.
- In 1996, 130 jobs in West Virginia directly benefited from the state’s exports to Mexico; an additional 1,960 jobs were directly linked to West Virginia’s exports to Canada for a total of 2,090 (U.S. Department of Commerce). The actual number of jobs benefiting from trade with NAFTA partners may be much higher, once related jobs in transportation, wholesaling, warehousing, finance, insurance, banking, and other sectors are added. While some West Virginia workers have lost jobs to competition induced by NAFTA, their numbers are significantly smaller than those who have benefited from NAFTA. The total number of workers certified by the U.S. Department of Labor for NAFTA Trade Adjustment Assistance (TAA) is just over 980 for the 1994-1996 period.
- Opportunities for improvement are:
  - 1) better cooperation between state and export promotion officials to help “take better advantage of the opportunities for co-production that NAFTA presents;” and
  - 2) better information to workers that may have been harmed by imports due to NAFTA on assistance that is available to them through the TAA.



**Desert Grape Growers League of California**

**Mike Bozick, Vice President-General Manager, Richard Bagdasarian, Inc. and President of the Desert Grape League of California**

**Statement to the U.S. International Trade Commission**

- As a result of an “uneven playing field and the devastating devaluation of the Mexican peso, our domestic table grape industry lost an estimated trade value of \$100 million since the implementation of NAFTA.”
- The “uneven playing field” stems from the duty that U.S. grapes face when entering Mexico (and Chile) and the lack of duty that Mexican (and Chilean) grapes face when entering the United States. In addition, Chile and Mexico recently “maintained phytosanitary barriers on imports of table grapes into their markets which were not based on scientific findings.”
- At the beginning of NAFTA implementation, Coachella (California) producers faced a Mexican tariff of 18 percent (as opposed to the pre-NAFTA level of 20 percent), while table grapes from Mexico entered the U.S. market duty free during the April 20 to June 30 period.
- The surge in imports from Mexico since the NAFTA’s implementation is attributed to “a number of macroeconomic and regulatory factors: primarily the devaluation of the peso, the wage differential, the lack of equivalent environmental standards in Mexico, Mexico's unfair phytosanitary restrictions, and the marketing of Mexican table grapes in the United States as an American product.”
- “In the opinion of the California Desert Grape Growers League, the U.S. fresh fruit and vegetable industry was not given the attention that other sectors of the economy received in the negotiation of NAFTA.... [and] believe that all sectors of the economy should receive equal consideration by [the U.S.] government in any trade negotiations..... Unfortunately, this was not the case with NAFTA.”
- The following recommendations have been made:
  - The Executive Branch should establish a firm trade policy that truly protects import-sensitive domestic agricultural crops;
  - A trade policy that provides symmetry for tariffs between nations;
  - A trade policy that requires unreasonable phytosanitary barriers to be removed before the United States enters into trade negotiations;
  - Complete compliance with the U.S. country of origin marking statute, which requires country identification in a conspicuous place on the consumer package.

**Notable statistics:**

- During the period April 20 to June 30:
  - Mexican table grape exports to the United States were 2.5 million boxes in 1987 compared to 8.4 million produced in the United States;
  - In 1994, Mexican exports were 4.0 million boxes;
  - In 1995, Mexican exports were 7.9 million boxes;
  - In 1996, Mexican exports were 5.3 million boxes.

## Economic Policy Institute

Robert A. Blecker

### “NAFTA and the Peso Collapse: Not Just a Coincidence”

- Does not support the Agreement.
- Mr. Blecker disagrees with NAFTA promoters who argue that the peso devaluation and the ensuing depression of the Mexican economy in 1995 resulted solely from failed Mexican macroeconomic and exchange rate policies. While acknowledging that Mexico’s macroeconomic and exchange rate policies were flawed, he argued that the peso had to be devalued in order to implement the export-led strategy for economic growth that NAFTA was intended to promote--a strategy that was pushed on Mexico by the U.S. government and the U.S. corporate interests that stood to profit from this agreement. In his view, Mexico had to devalue the peso in order to attract the direct foreign investment and export-oriented manufacturing that NAFTA was designed to promote. Mr. Blecker estimated that the devaluation of the peso lowered Mexican labor costs by 40 percent in dollar terms between 1994 and 1995.
- In his view, the importance of devaluing the peso can be seen by comparing the impact of devaluation to the small reductions in NAFTA. At the start of the tariff negotiations the average tariffs in the United States were about 3.4 percent for U.S. imports and 10 percent for Mexican imports. In contrast, the peso appreciated by over 75 percent in real terms from 1987 to 1994 and then fell by about 50 percent from 1994 to 1995. Thus, none of the tariff reductions in NAFTA could have made much of a difference if the peso had remained as high as it was in 1993-94. In order for NAFTA to promote Mexican exports as intended, a significant devaluation of the peso was unavoidable.
- Since the devaluation of the peso, the Mexican government has felt obligated to maintain tight fiscal and monetary policies in order to placate nervous investors and to suppress inflation. With these policies most Mexicans are not seeing the gains they were promised from NAFTA and the entire export-led strategy. Some Mexican workers have gotten export jobs, but only at real wages that are 20 percent lower than they were in 1994. Meanwhile, Americans are not seeing the booming export market that they were promised in Mexico. Instead, lower Mexican labor costs are creating a substantial movement of manufacturing jobs to Mexico.
- As an alternative to present policies, Mr. Blecker recommends, among other things, that Mexico should rely less on exports as a source of growth and should diversify its export markets away from an exclusive focus on the United States.

#### Data source/methodology:

Mr. Blecker obtained his tariff rate data from a 1991 study by the U.S. International Trade Commission. His exchange rate data came from the International Monetary Fund and his U.S. and Mexican wage data were obtained from the U.S. Department of Labor.

**Economic Policy Institute**

**Thea M. Lee**

**“False Prophets: The Selling of NAFTA”**

- Does not support the Agreement.
- In the briefing paper prepared in July 1995, Ms. Lee argues that NAFTA is having negative effects on both the United States and Mexico. She estimated that U.S. exports to Mexico would fall sharply in 1995 resulting in a trade deficit of up to \$15 billion for the year and a loss of around 300,000 jobs. Since NAFTA's implementation, 61,000 U.S. workers have been laid off in plants that have filed to receive NAFTA-related adjustment assistance. Of these workers, the Labor Department has certified almost 35,000 to receive assistance. She also had estimated that Mexico would lose 800,000 jobs in 1995 and that the Mexican economy would contract by around 5 percent with an inflation rate as high as 50 percent. While Ms. Lee does not attribute all of Mexico's problems to NAFTA, she does consider NAFTA to be an important contributing factor in the peso devaluation.
- Ms. Lee considers Mexico's economic problems to be a result of policy changes in Mexico that began in the mid-1980s and have continued to the present. These policies included dramatic reductions of trade barriers, privatization of hundreds of state-owned firms, cuts in subsidies, market-oriented land reform, and dismantling of regulations on foreign investment and the financial sector. The author believes that these policies have been implemented too rapidly and thus, have had harmful effects on Mexican farmers and small- and medium-sized Mexican businesses.
- Part of Ms. Lee's work is devoted to a critique of some observers' positive forecasts of NAFTA's first-year of. Some individuals and groups had forecasted large gains in new jobs and higher wages in both the United States and Mexico for 1995. While noting that these benefits had not materialized, the author also acknowledges that the full long-term impact of NAFTA (which is being phased in over a 10- to 15-year period) could not yet be gauged.
- Ms. Lee argues that the labor and environmental side agreements relating to NAFTA have done little to mitigate NAFTA's harmful effects on workers and the environment. Despite the labor agreement, Mexican companies have continued to harass or fire workers who attempt to organize independent unions, with minimal interference from the government. She also argues that the environmental side agreement has failed to slow the environmental degradation along the border. She says that the North American Development Bank, which was set up to fund environmental clean-up and other development on a matching basis, has not funded a single project, largely because Mexican communities trying to fund projects were not able to come up with their matching shares.

**Data source/methodology:**

Forecasts of job losses, inflation and contraction in the Mexican economy were provided by the Mexican embassy. Forecasts of the job loss in the United States were obtained by using an employment multiplier also used by Hufbauer and Schott (1993). This multiplier allows for a change of about 19,000 jobs for every \$1 billion change in net exports.

**Economic Policy Institute**

**Robert E. Scott, Economist**

**“The Impact of NAFTA on Workers and Wages in the United States”**

- Does not support NAFTA.
- NAFTA has led to a deterioration of the U.S. trade balance with both Mexico and Canada. The bilateral surplus with Mexico in 1993 of \$1.7 billion became a deficit of \$16.2 billion in 1996, and the U.S. deficit with Canada grew from \$10.7 billion in 1993 to \$22.8 billion in 1996.
- NAFTA contributed to the Mexican peso devaluation and the surge of foreign direct investment in Mexico.
- Because of the increased trade deficit with NAFTA partners, the United States has lost at least 251,000 jobs to Mexico and 169,000 jobs to Canada. The largest losses were in the area of vehicles and parts. He estimated that approximately 27 percent of the job losses with Canada fell into this category while about 64 percent of the losses with Mexico were in vehicles and parts.
- Increased trade with low-wage countries such as Mexico have led to a decline in the wages of blue-collar workers relative to white-collar workers.

**Notable Statistics:**

The job loss figures were calculated by multiplying the change in the trade balance with Canada and Mexico between 1993 and 1996 by 14,000 jobs per billion dollars of change. The 14,000-jobs-lost figure was based on a U.S. Department of Commerce estimate which stated that on average 14,197 jobs were needed to produce each billion dollars of exported goods. In applying a figure to the trade balance that was developed for exports only, they state that the net trade balance is more relevant than exports alone because increased imports displace U.S. jobs. The authors claim that the Mexican and U.S. governments maintained the value of the peso artificially high in 1993 and 1994 to ensure passage of NAFTA by the U.S. Congress and reelection of the PRI party in Mexico. After these events, Mexico devalued the peso to attract foreign direct investment.

**Economic Policy Institute**

**Robert E. Scott, Economist**

**“North American Trade after NAFTA: Rising Deficits, Disappearing Jobs”**

- Does not support NAFTA.
- In his briefing paper presented in July 1996, Mr. Scott stated that since NAFTA was implemented on January 1, 1994, U.S. trade balances with Mexico and Canada have steadily worsened, resulting in significant job losses. He estimated that the increase in the net export deficit with Mexico has resulted in the loss of 284,000 jobs (or job opportunities) since 1993 and that the increase in the net export deficit with Canada has resulted in the loss of 200,000 jobs.
- Mr. Scott estimated that the largest job losses resulting from trade with Mexico in 1995 were in transportation equipment (77,311 jobs) and electrical equipment (30,611 jobs). Principal industries in these sectors included motor vehicles and parts, radio and TV sets, and communications equipment. Large job losses were also recorded in computers, fruits, and vegetables. Job gains were estimated for electronic components.
- In the case of Canada, the largest job losses in 1995 occurred in paper products (48,576 jobs). Other sectors experiencing major job losses included transportation equipment and primary metals. Gains were registered in electronic equipment and lumber and wood products.
- Mr. Scott disputes arguments presented by some analysts that the United States has benefited from NAFTA because exports have grown to both countries. He says that it makes little sense to consider only the employment-creating consequences of exports while ignoring the employment-displacing effects of imports. Many imported goods, such as automobiles imported from Mexican assembly plants, replace goods that were made in U.S. factories that have closed or downsized. In addition, some of the new exports to NAFTA partners consist of parts and other inputs that previously supplied assembly lines in the United States.

**Data source/methodology:**

International trade statistics used were obtained from the U.S. Department of Commerce. In estimating the employment effects of trade, an employment multiplier is used that allows for 15,382 jobs to be created for every \$1 billion of exports.

**EDS**

**Carla Dancy, Manager, International Trade Issues, Office of Government Affairs  
Statement to the U.S. International Trade Commission**

- EDS is very optimistic about the growth potential in the Mexican information technology market. The implementation of NAFTA has brought more competition to previously protected Mexican industries and this forces Mexico to invest in more current processes and technology to keep pace with these new market forces.
- As the world becomes a truly global economy, companies develop a need to become more efficient in order to compete and sell on a worldwide basis. This need, which has been stimulated by NAFTA, offers opportunities for EDS to provide business process re-engineering to existing customers who are now venturing outside the Mexican borders.
- NAFTA has created jobs. In the three years prior to NAFTA (1990-93), EDS employment in Mexico increased by 34 percent. During the three years since NAFTA's implementation (1993-96), employment increased by an additional 45 percent.
- In Canada, EDS employment increased by 30 percent during the NAFTA period. These were new jobs, not replacements of lost U.S. jobs.

**El Paso Hispanic Chamber of Commerce**

**David Porras, Chairman of the Board**

**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- Supports the Agreement.
- Since the implementation of NAFTA, Mexico has become the largest market worldwide for export products classified under the Harmonized Tariff Schedule.
- The strong growth in U.S. exports to Mexico under NAFTA has been geographically broad-based. 44 U.S. states experienced growth in export sales to Mexico in 1996.
- NAFTA joins its member countries to create new opportunities for business growth and higher-paying export-related jobs in all three markets.
- New supplier bases will continue to develop, and trade opportunities will continue to expand.

**Notable statistics:**

- Mexico now accounts for 10 percent of worldwide U.S. agricultural exports; 23 percent of U.S. apparel and other textile products; 21 percent of rubber and plastic products; 17 percent of fabricated metal products; and 13 percent of electronic and electrical equipment.

**Fabricas Orion, Procesadora de Ceramica de Mexico, S.A. de C.V., Sanitarios Azteca, S.A., and Vitromex, S.A.**

**Steven P. Kersner and Roger Banks, Kersner & Associates--OF COUNSEL**

**An Analysis of the Effects of the North American Free Trade Agreement on the U.S. Sanitary Ware Industry - a pre-hearing brief**

- Three general types of sanitary ware end-users exist in the United States: (1) high-end residential; (2) non-residential, commercial; and (3) functional, low-priced sanitary ware. Sanitary ware produced in Mexico and other countries, generally supplies the latter market, which is less discriminating and price sensitive. The majority of the U.S. industry's domestic sales are to the high-end residential and the non-residential commercial markets. Growth in the home construction and home remodeling industries has helped boost demand for sanitary ware of all price ranges. An increase in domestic demand was a contributing factor to the growth of U.S. imports from Mexico.
- The benefits of NAFTA to the sanitary ware industry include: (1) reducing the advantages of non-NAFTA sanitary ware producers; (2) reducing the disadvantage of Mexican sanitary ware in the U.S. market (vis-a-vis other sanitary ware exports with duty-free treatment under other U.S. preferential programs); (3) facilitating the U.S. sanitary ware industry's improvement of quality, design and productivity; increasing the industry's competitiveness in the global market and benefitting the consumer; (4) expanding the ability of the U.S. industry to market products in Mexico and displace non-NAFTA exports; averting domination of the Mexican market by large non-NAFTA competitors under Mexico's trade liberalization laws and free trade agreements; and (5) furthering the central purposes of NAFTA, as Mexican imports displace low-end imports from non-NAFTA countries.
- The following effects have not occurred (and will not occur) as a result of NAFTA: (1) imports from Mexico have not increased; (2) any increase in low-end Mexican imports will not harm the U.S. industry, which sells overwhelmingly to mid- and upper-range segments; (3) the Mexican industry will not gain competitive advantages over the United States from labor cost differences, because the U.S. industry is increasing automation and moving away from labor intensive production techniques; (4) neither will the Mexican industry gain competitive advantages from differences in environmental controls, in view of the Mexican industry's state-of-the-art environmentally safe production facilities.
- Predictions of continued growth and profitability in the U.S. sanitary ware industry are based on favorable trends. The existence of free trade between Mexico and the U.S. will contribute to the Mexican industry's ability to continue modernization of sanitary ware plants.
- Mexican producers note that the decline in U.S. exports to Mexico of sanitary ware products was mainly a result of the peso devaluation. Without the incentives of NAFTA, exports to Mexico would likely have fallen further. The producers contend that demand for U.S. building products, including sanitary ware, will increase as the Mexican economy strengthens.

**Notable Statistics:**

- Sixteen pages of statistics on imports, exports, shipments, and housing starts, based largely on Census data are included.



**Fabricas Orion, Procesadora de Ceramica de Mexico, S.A. de C.V., Sanitarios Azteca, S.A., and Vitromex, S.A.**

**Steven P. Kersner and Roger Banks of Kersner & Associates--OF COUNSEL  
Analysis of the Effects of the North American Free Trade Agreement on the U.S. Sanitary Ware Industry and the U.S. Economy - a post-hearing addendum (May 22, 1997)**

- Supports the Agreement.
- Comparing the 1995 peso devaluation to the Mexican financial crisis of 1982: "In 1995... instead of reacting to the crisis by restricting U.S. exports, Mexico continued to reduce [trade barriers] in accordance with its obligations under NAFTA. At the same time, Mexico placed additional restrictions on imports from non-NAFTA countries." This resulted in an increase of the U.S. share of Mexico's total import market while exports from Western Europe, Japan, and Korea to Mexico fell.
- "The quick recovery from the 1994 peso crisis, when compared to the years of recovery required after the 1982 crisis, demonstrates yet another beneficial effect of NAFTA on both the United States and Mexican economies."
- The large change in the U.S.-Mexico trade balance between 1994 and 1995 is attributed to the "peso crisis" and severe recession. The peso devaluation is not attributed to NAFTA. Instead, NAFTA helped reduce the negative effects of the crisis. These arguments are supported by a Federal Reserve Bank of Dallas article, and a citation from the USTR.
- "We believe that NAFTA has provided significant benefits to the U.S. economy as a whole, and the U.S. sanitary ware industry in particular. As the remaining impediments to free trade are gradually removed under NAFTA, these early promises of growth will mature into even greater economic benefits for all three NAFTA economies."

Notable statistics:

- U.S. jobs supported by export of goods pay 13 to 16 percent more than U.S. jobs overall (USTR).

**Farmland Industries, Inc.**

**Steven P. Dees, Executive Vice President of Corporate Relations, Communications and International Services**  
**Hearing Statement before the U.S. International Trade Commission**

- Strongly supports NAFTA.
- Farmland industries, Inc. is a farmer-owned cooperative with over 1,400 local members in 22 Midwestern states, Mexico, and Canada. Over 13,000 livestock producers are also members. Farmland sells inputs to members and assists them in processing and marketing.
- In 1993, Farmland's grain sales amounted to just 300,000 metric tons. During its 1996 fiscal year, Farmland's sales to Mexico were 1.9 million metric tons and are expected to substantially exceed 2 million tons in the current fiscal year.
- Sales of its subsidiary beef packing company increased from \$14 million prior to NAFTA to \$28 million in 1996. Also its pork operations increased Mexican sales from \$1.7 million in 1993 to \$3.5 million in 1996.
- Overall, Farmland increased its sales in Mexico from less than \$50 million in 1992 to nearly \$450 million in 1996. Increasing farm exports to Mexico depend upon Mexico's economic well being. NAFTA has enabled Mexico to recover and expand trade with the United States and Canada.
- The protein consumption of the average Mexican is far below the levels for the United States. Mr. Dees believes that as the economic condition of the Mexican consumer improves, these consumers will spend more money on meat, eggs, and dairy products. As Mexico comes out of its crisis, he sees nothing but increasing opportunities for its members.
- Since the United States ratified NAFTA, new regional and bilateral free trade agreements have been aggressively pursued by U.S. neighbors. Mr. Dees believes that the most important new agreements are the Canada/Chile, the South American Southern Cone (MERCOSUR) and Association of South East Asian Nations (ASEAN) agreement. Equal access to these growing markets is important to the future of U.S. agricultural trade. He is concerned that the United States may not be adequately represented at the negotiating table on new agreements since "fast-track" expired with the approval of NAFTA.

**Federal Reserve Bank of Chicago**  
**Michael Kouparitsas, Economist**  
**Testimony before the U.S. International Trade Commission**  
*no written submission provided*

- Dr. Kouparitsas summarized his research from “A dynamic macroeconomic analysis of NAFTA” *Economic Perspectives* (Jan./Feb. 1997).
- Kouparitsas stated that “although NAFTA has been in place for over 3 years, it is still too early to measure the long run impact ... from available data sources.” He further states that it is “difficult to measure the short run impact of NAFTA from casual observation of trade, expenditure and output data. Since accurate measurement of NAFTA’s short run effects requires disentangling cyclical features not directly related to NAFTA from those that are driven by NAFTA.”
- Kouparitsas recommends simulation analysis involving computable general equilibrium (CGE) models be used to study the short and long run impact of the Agreement, and discussed his research on the effects of NAFTA using his dynamic CGE model.
- Two primary findings: First, NAFTA will lead to an increase in output or welfare for all signatories, with the largest gains occurring to Mexico. Specifically, the author finds that U.S. GDP is predicted to expand by one-fourth percent point while Canadian GDP is expected to increase by about one-tenth of a percentage point. In the long run, Mexico is predicted to experience a permanent increase in GDP of about 3 and one-fourth percent.
- The second finding is that the transition to the new liberalized environment will be characterized by an expansion of all sectors in the United States and Mexico.

**Federal Reserve Bank of Dallas**

**David M. Gould, Senior Economist and Policy Advisor  
Statement to the U.S. International Trade Commission**

- “I have no political agenda nor personal economic interest in the trade accord, so perhaps I can give an unbiased assessment of NAFTA.”
- NAFTA has had a statistically significant and important positive effect on trade flows between the United States and Mexico since NAFTA’s implementation. However, NAFTA’s effect on U.S.-Canada trade is not significant most likely because of the already low tariffs due to the U.S.-Canada FTA.
- Both exports and imports between Mexico and the United States are 20 percent higher than they would have been if NAFTA had not been ratified.
- In distinguishing the Mexican peso crisis from NAFTA, U.S. exports to Mexico would have increased by 13 percent in 1995, rather than decline by 11 percent, if the peso crisis had not occurred. U.S. imports were not significantly affected by the peso crisis because the United States was not experiencing a recession at that time.
- In other research, the author has found that overall unemployment is unrelated to increasing total U.S. trade flows.

**First National Bank of Chicago**

**Diane C. Swonk, First Vice President/Deputy Chief Economist, Economics Group**

**“Payoffs to the North American Free Trade Agreement for Manufacturing Industries in the Midwest” (May 1997)**

- Supports the Agreement.
- Canada and Mexico are two of the United States’ largest purchasers of durable goods. For example, U.S. exports of light vehicles to Mexico increased by 30 percent in 1996.
- Prospects for growth in both Canada and Mexico are good, especially when compared to Japan and Europe. Projected growth of gross domestic product ranges from 3.3 to 5.0 percent for Canada and Mexico for 1997 and 1998 while projected growth rates for Western Europe and Japan range from 1.6 to 2.7 percent.
- Trade with Mexico is a step towards increasing trade with other Latin American countries. Caterpillar, which exports roughly 40 percent of its production, ships mainly to Latin America. Case, another large equipment producer, exports approximately 20 percent of its production to Latin America.
- Japanese companies have invested heavily in plants in the United States, Canada, and Mexico. Unless these plants increase their North American content, however, they will be precluded from the benefits of NAFTA. This could help to alleviate the pressure created by the dollar’s recent appreciation to import from Japan.

## **State of Florida**

**The Honorable Dan Miller, 13th District, State of Florida**

**The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review**

- Supports NAFTA.
- Congressman Miller's district is the second largest tomato-producing region in Florida.
- Congressman Miller believes that the "volume-based snapback provision," "the automatic price monitoring," and the "expedited import relief" mechanisms have failed. It was these measures that the President stated in his letter dated November 16, 1993, to Representative Tom Lewis, that were supposed to provide Florida's fresh fruit and vegetable growers with a 10-year phase-in period to a free market. However, due to the peso crisis and the desire of the Mexicans to acquire U.S. dollars, the U.S. market was flooded with Mexican tomatoes that were priced below the cost of production. This led to many tomato growers losing their farms in Florida. The ITC found in favor of the U.S. tomato growers, that dumping had occurred. A five-year suspension agreement with Mexican producers was negotiated by the U.S. Department of Commerce. The fact that the United States had to resort to such measures underscores the failures of some of NAFTA's enforcement provisions.
- Congressman Miller believes that the ITC and Congress should address the snapback provision, the price monitoring, and the expedited import mechanisms before any consideration for extending NAFTA to other countries is carried out.
- Congressman Miller suggests the ITC include in its review of NAFTA an examination of Mexican regulatory practices in the agricultural sector. He also recommends that Congress pass a good country of origin labeling law so that consumers can make informed choices in the grocery store.

**State of Florida**

**Bob Crawford, Commissioner of Agriculture, Florida Department of Agriculture and Consumer Services  
Submission to the U.S. International Trade Commission**

- Does not support the Agreement.
- To demonstrate the importance of Florida in the agricultural industry, Mr. Crawford stated that Florida is the nation's second largest producer of fresh vegetables in terms of value. Florida agriculture is described as highly competitive in international markets with \$1.2 billion in exports.
- The author states that "competitiveness of the industry is dependent upon the fairness and consistency of rules governing international trade."
- Crawford asserts that the needs of seasonal and perishable agriculture is different than other goods and that NAFTA has failed to meet these needs. Specifically, the safeguard provisions have proven inadequate when tested (especially with respect to fresh chilled tomatoes and peppers). According to Crawford, the law does not recognize the fact that severe and irreparable injury can occur to one part of the nation as a result of increased imports.
- The author stated that his concerns include the need for (1) an effective price based safeguard mechanism for sensitive perishable commodities, (2) enforcement of food safety requirements, (3) adequate rules on sanitary and phytosanitary issues, (4) harmonization of pesticide and environmental regulations, (5) open market access and (6) consistency or equivalency in labor and worker safety requirements.

**State of Florida**

**The Honorable Bob Graham, U.S. Senator**

**Statement before the U.S. International Trade Commission**

- The effects of Mexican tomatoes being dumped on the market had a huge impact on the Florida tomato industry. In the 1992-93 growing season, the Florida tomato industry made up 56.4 percent of the market share compared to 28 percent for the Mexican tomato producers. In the most recent growing season (1995-96), Mexican growers had increased their share of the market to 49.5 percent while the Florida producer's share dropped to 35.1 percent.
- The suspension agreement with Mexican tomato growers, which prohibits Mexican growers from selling tomatoes below a specific price, has worked relatively well for both the Florida growers and the Mexican growers. However, in his view, the enforcement of this agreement has been problematic.
- Senator Graham questions whether the safeguards provided for in NAFTA are sufficient to allow U.S. industries injured as a result of unfair trade practices to seek effective redress. He also raises the question of whether there are other factors, such as the seasonality of agricultural products, that should be taken into account when the United States is negotiating future trade agreements.
- He believes that these questions are of particular importance as we begin to discuss the accession of China into the WTO, the accession of Brazil into NAFTA, and fast track authority for future trade agreements.



**State of Florida**

**Dennis W. Harmon, Director of the Office of Tourism, Trade and Economic Development,  
Executive Office of the Governor**

- Florida has substantial trade and tourism with Canada and Mexico, although it experienced some fluctuations resulting from post-NAFTA monetary adjustments. Most of Florida's trade with Mexico and Canada travels over land by truck or rail, and thus, is not captured by the port merchandise trade data. Agricultural products are the principal exports to Canada from Florida, followed by industrial machinery, computers, and electric and electronic equipment. Florida's main exports to Mexico in 1996 were industrial machinery and computer equipment.
- The major benefits to Florida from NAFTA are likely to come in the longer term both with expansion of hemisphere free-trade agreements based on NAFTA and with the strengthening of the Canadian and Mexican economies. Florida's geographic position, first rate trading infrastructure, and cultural ties to Central and South America position the state ideally to benefit from increased U. S. commerce with the nations of this region. For example, Brazil is Florida's number one trading partner. Chile, the nation most likely to join NAFTA in the near term, ranked 11th in value of Florida-origin exports in 1996. For this reason, Trade Expansion Authority or the "fast-track" legislation is very important.
- There is evidence of some job losses in Florida's agriculture, food -processing, and apparel industries. It is likely that these contractions are, in part, due to direct competition with Mexico. It is important that work continue in establishing fair, effective remedies for these impacts. Employment in food processing declined by 2 percent during 1993-96 and employment in apparel manufacturing declined by 7 percent during these years.
- Enactment of NAFTA removed most of the regional competitive trading advantages for the Caribbean Basin nations. Florida stands to benefit greatly from a strengthening of the economies in this region. The issue of parity for the Caribbean nations is central to a discussion of the future direction of NAFTA.

**State of Florida**

**The Honorable Porter Goss, 14th District, State of Florida  
Statement to the U.S. International Trade Commission**

- Congressman Goss is a supporter of NAFTA, but as a representative of one of the most prolific vegetable- and fruit- producing areas of Florida, he believes that there are some enforcement issues that need to be addressed before NAFTA can responsibly be expanded.
- The congressman believes that a number of issues should be examined by the U.S. International Trade Commission before a possible expansion of NAFTA. These include the extraordinary length of time it took for effective relief for winter fruit and vegetable growers in crisis, the apparent failure of the resolution process (particularly for seasonal growers), and reported delays in the collection of statistics required to monitor trade and trigger existing safeguard mechanisms.
- Congressman Goss believes that the United States can come to terms with these Mexico-related issues and move forward with the process of opening markets to American goods, services, and products, but first that means ensuring U.S. laws relating to current trade under NAFTA are fully enforced and fully enforceable.
- Other concerns include the availability of trade statistics from Mexico; the enforcement of U.S. health and safety regulations on imported produce; reports of increased drug trafficking with expansion of trade; and safeguarding, monitoring, and resolution process measures.

**Notable statistics:**

- Unfair Mexican trading practices have led to 200 Florida farmers going out of business and \$700 million in economic losses.

**Florida Citrus Mutual**

**Bobby F. McKown, Executive Vice President and CEO**

**Statement before the U.S. International Trade Commission**

- The impact of NAFTA, thus far, should in no way be considered a model of the potential effects of an FTAA (that includes citrus) because the circumstances would be very different. One of the greatest differences is that Brazil has the world's largest citrus industry.
- Under NAFTA, U.S. imports from Mexico of frozen orange juice more than doubled between 1993 and 1994; imports grew by almost 50 percent between 1994 and 1995; and then imports fell somewhat between 1995 and 1996. In all three years, Mexican frozen orange juice imports exceeded the tariff rate quote level.
- In 1996, imports of orange juice from Brazil were 3 times greater than the Mexican level. In addition, Brazil's citrus industry does not face the same irrigation and other infrastructure limitations that exist in Mexico. Brazil's domestic competition for fresh oranges allows it to export a greater proportion of its production than Mexico. Brazil's production capacity is much larger than that of Mexico (during 1995-96, Brazil produced five-and-a-half times as many oranges as Mexico). Lastly, Brazil's citrus industry is highly concentrated—four industries control 80 percent of production—and has been found to engage in both sales at less than fair value and in receipt of countervailing subsidies. The author points out that an antidumping order remains in effect.

**Florida Farmers and Suppliers Coalition, Inc.**  
**R. Jay Taylor, President, Taylor & Fulton, Inc.**  
**“Perspective of U.S. Vegetable Farmer”**

- Does not support NAFTA.
- Mr. Taylor manages a business that produces cucumbers, peppers, and tomatoes on farms in Florida, Georgia, and Virginia.
- Mr. Taylor states that the impact of NAFTA is evident in the small agricultural communities in the states where he manages farms. He asserts that although his business is modern and efficient, it cannot compete with corporate farms in Mexico that do not operate according to the same labor and environmental rules.
- Mr. Taylor reported that he contracted a film company to document agricultural practices in Mexico. He has footage depicting young children working with adults in the field, reckless use of pesticides, use of contaminated water for irrigation and consumption, and other unsanitary practices.

**Florida Fruit & Vegetable Association**  
**Reginald L. Brown, Director of Marketing and Membership**  
**Statement to the U.S. International Trade Commission**

- Does not support the Agreement.
- Florida's vegetable industry has experienced greatly increased competition from Mexican imports since 1994. This is attributed to the implementation of NAFTA and the 1995 peso devaluation.
- Since the implementation of NAFTA, "considerable investment capital has flowed into the Mexican industry from non-traditional sources." In addition, changes in Mexican technology have "dramatically increased yields, which has both increased Mexico's volume and reduced their per-unit costs." The productivity gains and lower value of the peso have combined to enhance Mexico's position in the marketplace.
- The impact on Florida's tomato industry has been the most dramatic. Florida's share of the U.S. tomato market has declined from 56.4 percent in the 1992-93 season to 35.1 percent in the most recent season. Mexico's share of the U.S. tomato market increased from 28 percent in 1992-93 to 49.5 percent in 1995-96. Other Florida commodities have also been affected. Mexican shipments of bell peppers, cucumbers, squash, eggplant, beans, and sweet corn increased substantially during the period, particularly in the 1995-96 season.
- While Florida's tomato acreage, shipments, crop value, and market share have all declined, an antidumping petition by the U.S. tomato industry (March 1996) regarding Mexican predatory pricing led to a suspension agreement that established a floor price for Mexican tomatoes.
- "Inadequacies of NAFTA's safeguard mechanisms, combined with serious deficiencies in the application of U.S. trade laws, place Florida's import-sensitive fruit and vegetable growers in serious jeopardy." Examples include the volume-based tariff rate quota mechanism, Section 201/202 and monitoring provisions in NAFTA.
- Contrary to the Sanitary and Phytosanitary Pact, Mexico has stalled access for many U.S. fruits and vegetables by refusing to adopt relevant standards or work plans.
- "Virtually all of the pre-NAFTA impact predictions on Florida agriculture grossly underestimated the damage suffered by the industry in a very short time."

**Florida Tomato Exchange**  
**Wayne Hawkins, Executive Vice President**  
**Statement to the U.S. International Trade Commission**

- Does not support the Agreement
- Mr. Hawkins expresses concern about illegal drug trafficking. The top producing area of Mexican tomatoes is also, according to the FDA, the “number one assembly point for illegal drugs shipped to the United States.”
- Original estimates of harm that would occur to the Florida Perishable Agricultural Industry were lower than actual outcome due to the 1995 peso devaluation. This is because the devaluation “erased any advantage of NAFTA for America and forced Mexico to increase exports.”
- Mr. Hawkins believes that numerous laws passed by the U.S. government to regulate Florida growers have not been applied to Mexican imports. These laws include those relating to grade, size, quality or maturity of products. He also believes that other provisions relating to country of origin labeling and fertilizer and pesticide use are not being fairly applied.
- Mr. Hawkins argues that the government promised that the Florida tomato industry would be protected and that there would be safeguard provisions in NAFTA when it would go into effect. However, in his view the promises were not kept and the safeguard provisions were tried but did not provide any relief. He said that the industry has suffered losses of hundreds of millions of dollars and that thousands of workers have been displaced.
- The author cites U.S. Department of Commerce data that the U.S. trade deficit has increased in each year of NAFTA. In addition, the author points out that while trade has increased in both directions between the United States and Mexico, an “enormous trade deficit with Mexico which was not present prior to NAFTA” has developed.
- Mr. Hawkins argues that “good paying jobs will be replaced by minimum wage jobs and the standard of living ... lowered.”

**Notable statistics:**

- According to the *Los Angeles Times*: “Boosters, including the President, predicted that NAFTA would create 200,000 high-paying jobs for American workers. Instead, using the Commerce Department’s formula, as many as 600,000 jobs may have been destroyed as U.S. factories fled to Mexico.”

**Fluke Corporation**

**Ronald R. Wambolt, Senior Vice President, Worldwide Marketing, Sales & Service  
Letter to the Office of The Special Trade Representative**

- Supports the Agreement.
- Lower import duties has allowed the company to lower its prices, thus allowing customers "to buy a little more."
- A major benefit from NAFTA has been "the great stimulant to... sales to Mexico caused by Mexico's much stronger economy as a result of NAFTA."
- Fiscal 1997 sales to Mexico have increased by 96 percent over the previous fiscal year.
- More sales to Mexico have increased the company's demand for labor– "probably 15 to 20 jobs."
- "We are not aware of any negative impact on our U.S. sales because of NAFTA."

## **Fresh Produce Association of the Americas**

**Lee Frankel, President**

**Oral Testimony before the U.S. International Trade Commission**

*no written submission provided*

- The Fresh Produce Association of the Americas is a trade association of U.S. firms that market and distribute fresh produce, primarily from Mexico, and also export U.S. agricultural inputs and services to growers in Mexico. Association members also export and ship produce to other regions of the world, including Europe, Asia, and Canada. The association was founded over 50 years ago with headquarters in Nogales, Arizona. This year the association is estimating that its members will handle about \$1.2 billion of sales of produce from Mexico.
- According to Mr. Frankel, the view of the Florida tomato industry is that a good Mexican tomato is one that is rotting on the vine in Sinaloa. The Fresh Produce Association of the Americas (the Association) does not share the antagonistic views of the Florida growers because the production areas, Mexico and Florida, complement each other. Neither could adequately supply the U.S. market by itself. According to the Association, Florida's insistence on this bitter rivalry been both destructive to the industry, as well as self-defeating.
- Consumers are now turning more and more to new sources of tomatoes, such as greenhouse and hydroponic product. Mexico's share of the import market fell last year because of increased shipments from other competitors, such as The Netherlands and Canada.
- The main reason for increased imports is the improvement of produce quality from Mexico, allowing distributors to sell and retailers to carry the right produce for consumers. With a few exceptions, imports of fresh fruits and vegetables from Mexico have not significantly been affected by NAFTA tariff reductions. This is because of the tariff reductions or the low tariffs in place before the NAFTA. For many items there are additional tariff rate quotas and long phase-outs of up to 15 years.
- Mr. Frankel also stated that one area that NAFTA has had a very favorable effect on is the business climate that has now been established between the United States and Mexico. U.S. businesses can now make the investments, plan ahead, increase the inventories, increase the employment, and set up long-range business patterns, knowing that the legal and economic foundations have been codified through NAFTA.
- NAFTA makes possible the combining of U.S. marketing expertise and capital with the Mexican farm management and ideal climate necessary to grow many of these winter vegetables. The combination of these factors create globally competitive firms that market and export throughout the world.



**Fort Worth Chamber of Commerce**  
**Terrance J. Ryan, President and CEO**  
**Statement to the U.S. International Trade Commission**

- Fort Worth Chamber of Commerce unanimously endorses NAFTA.
- NAFTA has given Fort Worth area companies increased access to a huge single [North American] market.
- Texas exports more goods and services to Mexico than any other state. As a result, export-related jobs in Texas have increased by 8.97 percent in 1996 since 1994, and by 20.4 percent from 1995 to 1996.
- Canada is Texas' second largest trading partner (after Mexico), and 1996 exports are 7.4 percent greater than 1995 totals.

**Glacier County Commissioners**  
**Dan Geer, Chairman**  
**Letter to the U.S. International Trade Commission**

- The author expresses concern over the importation of livestock and grain into the United States.
- “The flow of Canadian livestock and grain coming south [from Canada] has certainly had a negative effect on our local markets.”
- The author states that he finds “it especially discouraging that other foreign countries can import through [Canada and Mexico] by just relabeling the meat.”
- Mr. Geer points out that when the United States tries to export cattle to Canada, it experiences difficulty from the required tests and quarantine time.
- The author argues that when trade is liberated between countries with disparate standards of living, the country with the highest standard of living will experience a decline in its own standard of living.

**Greater Dallas Chamber**

**Richard Douglas, President**

**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- Supports the Agreement.
- Wholesale/retail trade comprises 25 percent of the local economy and is the second largest employment sector.
- According to a recent study by the Federal Reserve Bank of Dallas, trade with Mexico comprises a bigger share of Texas' economy than oil and gas extraction. The state's merchandise exports account for more than 15 percent of the state's GDP (more than any other border state).
- Dallas/Fort Worth's total trade with Mexico equaled \$618 million in 1995, an increase of 46.3 percent over the past 4 years. Dallas/Fort Worth's exports to Canada in 1995 totaled over \$149 million—a 27 percent increase over the past 4 years.
- Furthering international trade opportunities leads to overall job growth and an enhanced quality of jobs.

**Greater San Diego Chamber of Commerce**

**Gilbert A. Partida, President**

**“The Impact of the North American Free Trade Agreement On The San Diego Economy”**

- Supports NAFTA.
- International trade currently accounts for one-third of San Diego’s manufacturing industry. Manufacturing remains San Diego’s largest economic sector in dollars generated.
- San Diego is the largest border community in the United States. The San Diego/Tijuana region is the busiest border in the world.
- In 1993, the year before NAFTA, San Diego’s economy was still in a recession, and its unemployment rate reached 8.4 percent. San Diego’s unemployment rate is 4.3 percent. In the three years that NAFTA has been in effect, San Diego’s gross regional product has increased by a total of 20.7 percent, including growth of approximately 9 percent in 1996.
- San Diego exports to Mexico have increased by 66 percent during the last three years. Over 42 percent of everything San Diego exports goes to Mexico. This makes Mexico more important to San Diego’s economy than its next ten most important export markets combined.
- Seventy percent of San Diego businesses polled feel that NAFTA has benefited their local economy, while 7 percent feel negatively.
- Existing barriers to trade need to be addressed during the upcoming NAFTA review period. Adequate infrastructure to facilitate a smooth flow of goods across the border is one of the most pressing needs as far as NAFTA implementation is concerned. Implementation of the NAFTA trucking provisions is needed to facilitate cross-border trucking.

**The Heritage Foundation**

**Robert P. O'Quinn, Policy Analyst for International Economics and Trade, Asian Studies Center**

**Statement to the U.S. International Trade Commission**

- Supports NAFTA.
- Under NAFTA, two-way trade with both Canada and Mexico has expanded, climbing from \$293 billion in 1993 to \$420 in 1996, a gain of \$127 billion or 43 percent. Because of NAFTA average Mexican tariffs on U.S. goods exports have fallen from 10 percent in 1993 to less than 6 percent in 1996. As a result, U.S. exports to Mexico grew substantially. Exports to Canada also increased greatly during this period.
- Because of NAFTA, average Mexican tariffs on U.S. goods exports have fallen from 10 percent in 1993 to less than 6 percent in 1996.
- The combined U.S. trade deficit with Canada and Mexico increased during the first three years of NAFTA implementation from \$9 billion in 1992 to \$40 billion in 1996. Nevertheless, the U.S. economy has created 12 million new jobs since 1992. The overall unemployment rate declined from 7.5 percent in 1992 to 5.3 percent in 1996.
- NAFTA has boosted U.S. high technology exports to Mexico. NAFTA has encouraged firms to relocate low-skill, low-wage, labor-intensive clothing and footwear factories from East and Southeast Asia to Mexico. This production shift benefits American manufacturers and their workers because Mexican factories are more likely to acquire their capital goods and production inputs from the United States than from factories located in Asia.
- A comparison of the average annual growth rate of real per capita gross domestic product, real disposable personal income, and real personal consumption expenditures in the three years before NAFTA with the following two years, shows a dramatic improvement in the living standards of U.S. workers. For example the average annual real per capita GDP growth rate accelerated from 0.23 percent in 1990-93 to 1.79 percent in 1994-95.

**State of Illinois**

**Jim Edgar, Governor**

**Statement to the U.S. International Trade Commission**

- Supports NAFTA.
- Governor Edgar believes Illinois is one of the biggest beneficiaries from NAFTA. Illinois' exports have increased, as has state economic growth, and most importantly, jobs have been created.
- Exports to Mexico have increased by 35 percent since 1993. Exports to Canada have increased by 36.8 percent since 1993; Canada continues to be Illinois' largest trading partner.
- The Governor believes in expanding NAFTA to other countries. Illinois exports to Chile over the last three years have increased by over 12 percent.
- 1996 figures show that over 145,000 Illinois jobs are supported by exports to NAFTA countries. A recent University of Illinois study concluded that one out of every five manufacturing jobs in Illinois is directly tied to the production and distribution of exports. The study also concluded that trade with Mexico is expected to add over 10,000 more jobs over the next 10 years.
- The governor believes NAFTA is extremely important to the continued strength and growth of the Illinois economy. NAFTA works for Illinois.

**State of Indiana**

**The Honorable Steve Buyer, 5th District, State of Indiana  
Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- There has been some job displacement, “but much of that would have occurred had there been no NAFTA.”
- Complains about the Clinton administration’s unilateral delay of key provisions of the Agreement, and how these delays have a risk of undermining the integrity of the Agreement. A specific example is a provision on commercial truck border crossings.
- The author points out that NAFTA does not lessen any member nation’s safety standards. Pursuing his example of commercial trucking, Mexican trucks should not enter the United States unless they meet all U.S. safety standards, and vice versa for U.S. trucks entering Mexico. To deal with this, “the national organization representing commercial vehicle law enforcement officials has looked into this whole question and has helped design a strong enforcement system in the border region.”
- Based on the cited provision, specific orders were placed for construction of new trucking equipment. However, when the Clinton administration backed out of the agreement, orders were canceled and jobs were lost.
- The author argues that when “the United States doesn’t stand by its commitments, American families pay the price.” This can be seen by the retaliation Mexican authorities began when the United States backed out of the commercial trucking provision.
- As a consequence of the U.S. action in this example, the author argues that U.S. truckers have lost jobs since they needed to transfer loads at the U.S.-Mexico border. This raised the cost of shipment, which raised the cost of the final good, “ultimately costing the consumer.”

**Institute for International Economics**

**Gary Hufbauer, Senior Fellow, Jeffrey J. Schott, Senior Fellow, and Jacqueline McFayden,  
Research Assistant**

**“NAFTA and the U.S. Economy: A Brief Comment”**

- The authors support NAFTA.
- U.S. merchandise exports to Mexico have increased significantly faster than U.S. exports to the rest of the world (the same can be said for U.S. imports from Mexico, compared to the rest of the world).
- The numbers of jobs lost or created are not reflective of NAFTA’s success or failure; trade agreements can, at best, be considered on the microeconomic level of the composition of jobs, not the macro level of overall employment.
- Intra-industry trade has significantly grown between United States and Mexican firms leading to a sorting out of industries along competitive strengths.
- NAFTA facilitated the recovery of Mexico after the peso crisis, as U.S. investment coupled with a new flexible Mexican economic policy led to a painful, but short recovery period.
- As is true of all trade agreements, NAFTA has led to further bilateral integration and negotiations outside of the agreement, as well as providing an “insurance policy” against protectionist sentiment in either nation.

**Notable Statistics:**

- Workers directly or indirectly involved in the export sector have earned 12 to 15 percent higher wages since the passage of NAFTA [U.S. Department of Commerce (1996), Richardson and Rindal (1996)].
- Since 1994, the number of overall U.S. jobs has increased by 6.7 million as unemployment has fallen by 1.4 million.



**Institute for Policy Studies**

**Sarah Anderson, John Cavanagh, and David Ranney**  
**“NAFTA’s First Two Years: The Myths and the Realities”**

- Does not support NAFTA.

(Myths stated by the Institute are in italics.)

- *NAFTA had nothing to do with the Mexican crisis.* Under NAFTA, problems associated with Mexico’s trade deficit became more severe. NAFTA rules exacerbated the crisis by preventing Mexico from restricting trade to save scarce foreign exchange.
- *Increased exports equal increased jobs.* The U.S. Department of Commerce uses a crude formula to estimate jobs created by trade, but the formula ignores jobs lost due to increased imports. Many U.S. firms that are successful exporters have eliminated thousands of U.S. jobs.
- *NAFTA will create not only more, but better jobs.* Employers have threatened to shift production to Mexico to force employees to accept lower wages. Lawmakers are attempting to reduce worker benefits under the guise of improving competitiveness. Displaced workers face a market in which 20 percent of all new jobs are temporary and do not pay benefits. Many new jobs are part-time, and there is a shortage of full-time entry level positions.
- *The NAFTA labor agreement has teeth.* The North American Agreement on Labor Cooperation (the labor side agreement to NAFTA) is weak, overly procedural, and has not benefited any workers to date.
- *NAFTA will improve the environment.* Since the NAFTA enactment, illegal dumping of toxic waste along the U.S.-Mexican border has increased ; the incidence of water-borne disease is three times the national average in this area. NAFTA-related environmental institutions, such as the North American Commission for Environmental Cooperation; the North American Development Bank, and the Border Environment Cooperation Commission have been ineffective in addressing and rectifying environmental concerns.
- *NAFTA will decrease immigration and improve North American relations.* The number of Mexicans apprehended in attempted border crossings increased 43 percent between 1994 and 1995. Immigrant rights have been eroded without addressing the root causes of immigration.
- *NAFTA will improve food security by enabling countries to import food cheaply on the world market.* Cutting subsidies and import restrictions will deter efforts to ensure food security.
- *Economic relations should be left to government and corporations.* Many citizen action groups are countering actions by corporations and government bureaucrats that adversely affect their well being.

**Institute for Policy Studies**

**Sarah Anderson, John Cavanagh, and Saul Landau**

**“Foreign Policy in Focus: North American Free Trade Agreement”**

- Does not support NAFTA.
- NAFTA has made it easier to transfer capital and thus jobs throughout North America. Corporations have used this power to decrease wages and lower environmental standards in Canada and the United States.
- Although more than 90,000 U.S. workers qualified for a NAFTA retraining program (due to employer moving production to Canada or Mexico or lost revenues due to increased imports from these countries), the actual number of jobs lost is far greater because many laid-off workers are unaware of the retraining program or do not qualify.

**Notable Statistics:**

- The source of information on the current job market is not identified. Environmental information is from “NAFTA’s Broken Promises” in *Public Citizen*, Jan. 1996 and comments by Harry Browne of the Interhemispheric Resource Center in New Mexico. Border crossings data are from “Mexicans Flood In, Fueling U.S. Debate,” *Wall Street Journal*, Mar. 1, 1996.

**International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW)**

**Steve Beckman, International Economist  
Statement to the U.S. International Trade Commission**

- UAW claims that NAFTA has caused the following problems: (1) the United States suffers growing trade deficits with Canada and Mexico, (2) Mexico faces widespread unemployment, and (3) Mexico faces a decline in the buying power of wages of more than 25 percent.
- UAW points to changes in trade flows between the United States and the other NAFTA countries as a way to judge the impact of NAFTA on the United States. UAW reported that prior to NAFTA, the United States ran a trade surplus of \$5.4 billion with Mexico and a deficit of \$8.0 billion with Canada (a combined deficit of \$2.6 billion). UAW reported that this deficit worsened under NAFTA. In 1993, the (combined) deficit with Mexico and Canada was \$9.1 billion. In NAFTA's first year of implementation the combined deficit was \$12.7 billion. This combined deficit was \$33.5 billion in 1995 and \$39 billion in 1996.
- UAW also states that the trade deficit for the auto industry (which accounts for one quarter of all NAFTA trade) also worsened under NAFTA. UAW reported that in 1993 (pre-NAFTA), the United States ran a \$9.1 billion deficit with Mexico and Canada. By 1995, the combined auto trade deficit with Canada and Mexico had worsened to \$23 billion.
- UAW further states that workers in the three countries have lost jobs and income as a result of NAFTA. UAW reports that the U.S. Department of Labor has certified more than 120,000 workers as eligible for NAFTA trade adjustment assistance (TAA). However, UAW states that this number of certified workers only "scrapes the surface" of worker dislocation resulting from NAFTA, as some of the eligible workers are unaware of the benefits available and never apply.
- UAW also states that NAFTA has also added downward pressure on worker's wages. According to UAW, it is commonplace for companies to threaten to move work to Mexico in order to undermine the efforts of workers to improve their wages, benefits and working conditions through collective bargaining, in contract negotiations or union organizing campaigns.
- UAW also reports that environmental organizations have been disappointed with the supplemental agreement on the environment.

**Notable Statistics:**

- UAW provided two pages of data. One page consists of "Automotive Trade with Mexico and Canada, 1993-1996" (Source: U.S. Department of Commerce, Office of Automotive). The other page contains data on "Total Trade with Mexico and Canada, 1992-1996," (Source: U.S. Department of Commerce, Bureau of the Census).

## **Country of Jamaica**

**Dr. Richard L. Bernal, Jamaican Ambassador to the United States**

**Jefferson Stephen Lamar, Vice President, Jefferson Waterman International--OF COUNSEL**

**"The Slanted View of Trade"**

- Supports the Agreement.
- Points out that not all jobs qualifying for TAA (Trade Adjustment Assistance) do so directly as a result of NAFTA.
- Programs such as TAA highlight the job-diverting aspects of trade, and can be used to cast a normal comparative advantage driven reorientation of the economy as a negative effect of freer trade.
- The claim that increased exports increase jobs cannot necessarily be turned around to argue against increased imports, because imports from one country, such as Mexico, may be displacing imports from other countries, not necessarily American products.
- Calls for a program to certify job-creating effects of trade liberalization to balance out the negative statistics generated by the TAA. "By developing an incentive to report the creation of new export-related jobs, the government can more accurately record trade-related employment statistics--both the losses and the gains--nationwide."
- Suggests the initiation of a program to provide training to employees in new exporting firms, or block grants to support the export promotional effects of states that can certify trade-related job growth."

**Kansas Farm Bureau**

**Gary Hall, President**

**“Statement to the U.S. International Trade Commission on the impact of NAFTA on the economy and industries”**

- Supports the Agreement.
- Free trade should not be tied to social reforms or labor or environmental standards of other countries.
- This group recommends the continuous monitoring of NAFTA to be sure the terms of the original agreement and the side agreements are fulfilled.
- The Agreement will make long-term economic growth possible in the member countries.
- “With a more stable peso in Mexico, we’re again running trade surpluses with that country. The surplus is expected to continue during 1997.”
- The United States ran a trade deficit in agricultural goods because Canada maintains “very high tariffs on our dairy and poultry commodities limiting exports.”
- Principal gainers in 1996 were due to larger payments made for corn, wheat, soybeans, and cotton.

**Jack Mahon**

**Jack Mahon**

**Statement to the U.S. International Trade Commission**

- Does not support the Agreement.
- Mr. Mahon cites that NAFTA has cost a terrible loss of U.S. jobs and has hurt small and medium size firms. The author further states that the Agreement is hurting the U.S. balance of trade. He states that Canadians are abusing it in the agricultural and lumber industries, and that the Mexican lower classes are being tragically hurt by multinational firms.

**McAllen Economic Development Corporation**

**Mike Allen, President and CEO**

**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- Supports the Agreement.
- Many companies are locating offices near the Northern and Southern borders of the United States to take advantage of potential benefits from NAFTA.
- Mexican companies will move manufacturing facilities north to cater to United States and Canadian consumers. In addition, U.S. manufacturers can expand by manufacturing near the U.S. borders with Canada and Mexico. Some of the primary reasons for this are the minimization of risks and reduced transportation costs.
- Along the U.S.-Mexico border, the devaluation of the peso caused Mexican wages to decrease in relation to the United States dollar. So products manufactured in Mexico through the maquiladora program and returning for sale in the United States can benefit from even more cost-efficient Mexican labor than before. It should be noted that jobs in the Maquiladora program are some of the highest paying jobs in Mexico.
- McAllen/Reynosa was recently named by *Forbes Magazine* as the 9th fastest growing area in the nation with a 24 percent increase in jobs during the past five years.

**Notable Statistics:**

- Since the passage of NAFTA, the McAllen Economic Development Corporation has assisted companies to locate in the U.S.-Mexico border area. In the United States, 1,737 new jobs were created, and 13,398 new jobs created in Mexico.

**State of Michigan**

**The Honorable David E. Bonior, 10th District, State of Michigan**

**Testimony before the U.S. International Trade Commission on “The Impact of NAFTA”**

- Against the Agreement.
- An unreleased study by Cornell University for the U.S. Department of Labor found that 62 percent of American companies use Mexico and other low-wage nations to bargain down wages and worker benefits. This study states: “The fact that the post-election plant closing rate has more than doubled since NAFTA was ratified suggests that NAFTA has both increased the credibility and effectiveness of the plant closing threat for employers and emboldened increasing numbers of employers to act upon that threat.”
- The trade deficit with Mexico is at a record \$16 billion. Using a narrow definition by the U.S. Department of Labor, more than 120,000 Americans have lost their jobs to NAFTA, and using a formula of the NAFTA proponents, 600,000 American jobs have been lost.
- Public Citizen examined the record of companies that had promised to create jobs if NAFTA were passed and found that 90 percent of these companies broke their promises.
- Although corporate profits have improved as a result of NAFTA, workers' rights on both sides of the border and the environment have suffered. Before expanding NAFTA, these deficiencies need to be corrected.



**State of Minnesota**

**Arne H. Carlson, Governor**

**Letter to the U.S. International Trade Commission**

- Supports the Agreement.
- The Governor states that Minnesota's manufactured exports to Canada and Mexico have exceeded \$2.6 billion in 1996, which represents 30 percent of the state's overall exports.
- Canada is Minnesota's largest export market, accounting for over \$2.4 billion in 1996. Between 1992 and 1995, Minnesota's exports to Canada increased by 54.5 percent.
- Minnesota's overall export to Mexico have declined since the peso devaluation, although some Minnesota industries have reported growth between 1994 and 1996.
- During the period 1994 and 1996, the Minnesota Department of Trade and Economic Development has reported that the Agreement has had no negative impact on job creation.
- The Governor is very optimistic about the long-term prospects for growth and the economic benefits that NAFTA can offer. The Governor concludes by saying that NAFTA has significantly contributed to the strength and competitiveness of the Minnesota economy and he and the state of Minnesota look forward to continued economic growth, creation of more jobs, and new opportunities in the future through free trade.

**Montana State University**

**John M. Marsh, Professor, Agricultural Economics and Economics**

**“The Effects of NAFTA on U.S. Cattle Prices”**

- Prior to NAFTA, the Canadian-U.S. Free Trade Agreement virtually eliminated tariffs and quotas relating to live cattle and meat.
- After NAFTA, the United States suspended tariffs of 2.2 cents per kilo on Mexican live cattle imports and 4.4 cents per kilogram on fresh, chilled, and frozen imports from Mexico. Mexico suspended a 15 percent tariff on live U.S. cattle imports, a 20 percent tariff on chilled beef and a 25 percent tariff on frozen beef.
- Canadian trade reduced the U.S. feeder price by \$3.88 per carcass weight ton (cwt) or \$0.49 per cwt per year, and Mexican trade reduced U.S. feeder prices by \$1.70 per cwt on \$0.21 per cwt per year. Price effects are small as U.S. live cattle imports did not constitute more than 4 to 7 percent of domestic beef production from 1988 to 1996.
- Prices of U.S. beef exports to Canada were virtually unchanged with the advent of NAFTA while those to Mexico increased by \$2.27 cwt, or \$0.28 cwt per year.
- Summing up the U.S. net cattle import and net beef export price effects for Canada and Mexico reveal a \$0.30 per cwt increase in feeder prices prior to NAFTA and a \$1.78 per cwt decrease after NAFTA.

These effects were estimated by dynamic multipliers from a structural supply and demand model. Beef prices were affected by increasing inventories of red meat and poultry in 1994, red meat's decreasing share of the meat market, higher feed grain prices and higher packer margins. Imports from Mexico were influenced by devaluation of the peso and drought conditions in 1995 that forced some herd liquidation. Cattle movement from Canada increased due to delays in planned meat packer expansion. It is difficult to isolate these effects from NAFTA's impact, and more years of data are needed to draw a firm conclusion.

**National Cattlemen's Association**

**Mark Armentrout, Chairman, International Markets  
Statement to the U.S. International Trade Commission**

- The National Cattlemen's Beef Association (NCBA) believes that the international market is the future growth market for U.S. agricultural products, including beef. Only 4 percent of the world's population lives within U.S. borders. Population demographics indicate that the U.S. agricultural industry will increasingly market products in countries having younger, faster growing populations with increasing disposable incomes.
- NCBA supported NAFTA and continues to support initiatives to improve the agreement. Canada is a major market for beef, second only to Japan. During the past several years, Mexico has vied with Korea and frequently traded places as the third or fourth largest export market for U.S. beef.
- NAFTA was designed to open markets, reduce tariffs, eliminate barriers to trade, and increase the economic strength of the United States, Mexico, and Canada. While the Agreement has generally been favorable for agricultural trade, it is not perfect and there are problems with access and barriers that need to be resolved.
- Mr. Armentrout gave examples of some of these problems. He said that during 1995, Canadian cattle feeders had a cost advantage over U.S. cattle feeders due to Canadian Wheat Board intervention in North American feed grain trade. The author also said that a technical trade barrier has been adopted by three states in Mexico, who have imposed their own grading systems on beef. These grading systems appear to be purposely designed to restrict imports of boxed beef from the United States.

**National Corn Growers Association**  
**Wallie Hardie, President**  
**Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- NAFTA has removed the import-licensing system that was previously restricting U.S. access to the Mexican corn market.
- The National Corn Growers Association (NCGA) believes that NAFTA helped minimize damage done by the “peso crisis” to U.S. exports of corn.
- NAFTA should lead to an increase in both U.S. exports and domestic production in Mexico. Also anticipated are new investments in corn processing facilities in Mexico.
- The United States should push for more rational Mexican phytosanitary restrictions on corn imports.
- The United States should honor its commitment to free trade. Measures like the protection of the broom corn industry lead to retaliation in other industries. “We cannot afford to protect one domestic industry at the expense of others.”

**The National Council on International Trade Development  
Mildred Cardona, NAFTA Committee Co-chair  
Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- Cardona stated that one committee member's firm has experienced an increase of \$807 million in exports to Canada and Mexico during the first three years of NAFTA (1994-1996) over the previous three year period (1991-1993). At the same time, this same firm's imports from Canada and Mexico have increased by \$117 million.
- The Agreement's benefits have been "clouded by the administrative burdens, costs and complexity of the NAFTA regulations. Companies have incurred significant costs in order to comply with NAFTA regulations."
- The foremost impediment has been the NAFTA regulations themselves because they are "too complex and onerous for the trade community to administer."
- Another major issue has been that the harmonized tariff schedule among the three countries is not consistent or uniform. For example, the same product may have three different classifications in each of the three NAFTA countries.

**The National Farmers Union (NFU)**

**Phillip Klutts, President, Oklahoma Farmers Union**

**Submission for the U.S. International Trade Commission**

- Mr. Klutts addresses four areas where NFU believes NAFTA needs to be improved: dispute resolution, currency fluctuations, reporting of agricultural exports and imports, and food safety issues.
- Dispute resolution--Mr. Klutts states that NAFTA has increased trade but as a result, the large influx of agricultural products into the United States have had a devastating impact on U.S. producers. Mr. Klutts cites industries such as tomatoes, peppers, wheat, and barley, which have been affected by imports; however, dispute resolution has not helped.
- Currency fluctuation--Mr. Klutt states that until there is the establishment of a common measure of currency, we will never have fair trade agreements. Mr. Klutt believes that the establishment of a common measure of currency will prevent unstable, dramatic fluctuations of currency.
- Reporting--Mr. Klutt suggests that there be more uniformity in reporting that allows all producers to have access in the same standardized format.
- Food Safety--A recent General Accounting Office report concluded that fewer than 1 percent of every 3.3 million trucks entering the United States are inspected. Food and other raw commodities now travel across our borders largely unchecked. Farmers and food processors in the United States must comply with complicated and extensive regulations when they grow or transport food, yet these same standards either do not exist, or are not enforced in other countries.
- Farmers Union supports "the NAFTA Accountability Act" introduced by Rep. Marcy Kaptur (D-OH), which sets clear and measurable performance standards by which the United States can assess the impact of the agreement. The bill requires the United States to evaluate the effects of NAFTA on various sectors of the national economy and requires the President either to certify that the agreement is working as promised or provide for renegotiation of the terms so it operates in the United States' interests.

**National Foreign Trade Council, Inc.**  
**“NAFTA-The Right Track for U.S. Trade Policy”**

- The National Foreign Trade Council supports NAFTA.
- By eliminating pre-NAFTA tariffs and barriers to trade, NAFTA has leveled the playing field for trade between Mexico and the United States.
- United States exports to Mexico have significantly increased as the United States asserted its dominance of the Mexican market.
- NAFTA helped keep Mexican markets open to U.S. exports despite the peso crisis of 1995 as well as aiding the recovery of the Mexican economy.
- NAFTA has provided the impetus for bilateral relations in other areas such as the environment, human rights, immigration, and crime.

**Notable Statistics:**

- By June 1996, seventy six percent of goods imported into Mexico came from the United States.
- Increases in exports to Mexico and Canada have resulted in the creation of 310,000 jobs (United States Trade Representative).

**National Milk Producers Federation**

**Edward T. Coughlin, Acting Chief Executive Officer  
Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- Due to decreases in domestic price supports, international trade is increasingly important to the dairy industry.
- U.S. dairy industry supported NAFTA based on understanding that it would lead to barrier-free trade for North America. Canada still imposes high tariffs on US dairy imports.
- NAFTA has provided for the elimination of tariffs and non-tariff barriers in Mexico, and has reinforced the already increasing sales to Mexico.
- The Federation also feels that NAFTA helped cushion U.S. dairy exports from full effects of the peso crisis.
- The Mexican state enterprise CONASUPO's monopoly control over SMP (skim milk powder) imports requires the United States to subsidize exports. This issue should be addressed in future U.S.-Mexico bilateral talks.

**Notable statistics:**

- Canadian protection causes an estimated \$1 billion in financial harm to U.S. dairy farmers annually.



**National Pork Producers Council**

**Alan Tank, CEO**

**Nicholas Giordano, Esq., Assistant Vice President of Foreign Policy and Trade  
Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- Prior to the liberalizing effects of the Uruguay Round and NAFTA, U.S. pork exports were hampered by foreign trade barriers. Since 1995, U.S. pork exports have increased by approximately 45 percent in volume and 75 percent in value over 1994 levels.
- “If the U.S. Government is (1) aggressive in holding its trading partner to their commitments under trade agreements; and (2) does not exempt pork as a “sensitive” agricultural sector in WTO accession negotiations and/or in new trade agreements, the growth potential of U.S. pork exports is virtually unlimited.”
- Each year since the inception of NAFTA, U.S. pork exports to Canada have increased. In 1996, Canada was the third most significant market for the U.S. pork industry in value terms.
- U.S. imports of Canadian hogs for processing have helped U.S. producers meet growing world demand for pork.
- U.S. pork producers support continued efforts to establish health and safety regulations based on sound science. To this end, producers would like to see the removal of Canadian restrictions on imports of U.S. hogs for slaughter from states free of the pseudorabies virus.

**Notable statistics:**

- The U.S. pork industry supports an estimated 600,000 domestic jobs and generates more than \$64 billion in total economic activity annually.
- Pork represents 44 percent of the world’s daily meat protein intake.

**State of New Jersey**

**Carlos T. Kearns, Director of International Trade, Department of Commerce and  
Economic Development  
Statement before the U.S. International Trade Commission**

- Reducing tariff barriers between the United States and its trading partners in Canada and Mexico has resulted in an increase in the state's exports to these markets and continues to provide significant employment to its citizens.
- Mexico now ranks as New Jersey's 8th largest export market, responsible for almost 10,000 jobs for working men and women.
- NAFTA partners contribute over \$4 billion of New Jersey's total exports of \$20 billion—20 percent of all international sales.
- “Our failure to extend this agreement is only an opportunity for our trade competitors in Europe and the Pacific Rim to take advantage of something we have in our grasp; to be the leading trading partner in the Western Hemisphere.”

**Northern Textile Association**

**Karl Spilhaus, President**

**The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review**

- Karl Spilhaus and the Northern Textile Association (NTA) are in favor of NAFTA but have reservations with regards to certain issues that they believe need to be resolved.
- The NTA is an industry trade association made up of 192 companies. Their member companies, together with the rest of the textile industry employ approximately 600,000 U.S. workers. Textile imports continue to outpace exports, thus a trade deficit exists and represents a huge loss of potential markets for American textiles. NTA is very interested in American trade policies that can be implemented in ways that promote American exports. NTA also strongly urges the ITC to examine certain aspects of NAFTA that have resulted in producers from non-member countries gaining benefits since the implementation of NAFTA.
- NTA supported NAFTA prior to its implementation and continues to support the idea of free trade. North American markets now account for about half of all U.S. exports of textiles. NTA has also observed U.S. imports of apparel items shift from sources in East Asia toward more sourcing from North American countries.
- NTA believes on the whole, that NAFTA has been generally beneficial and has functioned largely as predicted, but some areas where inequities exist, need to be addressed. Members of NTA consider the bra exemption an arbitrary circumvention of the NAFTA rules of origin and recommend that the consultation provision in the agreement be invoked and the exemption repealed. NTA also believes that there has been abuse of the wool apparel TPL which gives NAFTA benefits to non-North American countries. NTA believes it is unfortunate that loopholes in NAFTA have been abused so that non-North American producers have gained a unilateral benefit, to the harm of North American producers.

## State of Oregon

### **The Honorable Robert F. (Bob) Smith, Chairman, Committee On Agriculture “The Impact Of The North American Free Trade Agreement On The U.S. Economy and Industries: A Three Year Review”**

- “If it weren’t for agriculture exports, the U.S. trade deficit would be larger than it currently is. In 1996, U.S. agriculture exports totaled \$60 billion and the agriculture trade surplus exceeded \$26 billion.”
- The Honorable Mr. Smith wants to see agricultural exports expand and barriers to those exports decline. “One way that I have chosen to accomplish that goal is to lead the Committee on trade expansion trips.” Several trips that have been conducted were successful.
- “NAFTA has been good for U.S. agricultural trade. It is not perfect, there are problems with access and barriers that must be resolved.”
- In 1996, U.S. agriculture exports to our NAFTA partners increased by 14.2 percent. The 1996, U.S. agriculture trade surplus with Mexico exceeded \$1 billion.
- The United States is the major agriculture and food exporter to Canada.
- “Agriculture is an extremely important and essential issue to be considered in all trade negotiations and resolutions of disputes. Agriculture must be a top priority with the Administration. Historically, U.S. agriculture has been a leader in free trade principles. It has also been one of the exports most harmed by the policies of foreign governments.”
- The Honorable Mr. Smith supports free and fair trade agreements. “The goal should be to secure fair treatment for American commodities through NAFTA.”

**PPG Industries, Inc.**

**Terence P. Stewart, Stewart and Stewart--OF COUNSEL**

**Charles A. St. Charles, Stewart and Stewart--OF COUNSEL**

**Statement on behalf of PPG Industries, Inc. to the U.S. International Trade Commission**

- PPG produces flat glass and fiberglass, chemical, coating and resin products.
- Exports of all products other than flat glass were already covered under existing FTA agreements with Canada.
- PPG initially supported the Agreement based on promises that Mexico would reduce existing high tariffs on flat glass within 120 days after effective date of the Agreement. Four years later, tariffs have not only failed to decline but have increased. Mexico has reneged on this promise.
- Due to Mexico's ability to disregard prior commitments to freer trade, PPG has concluded that, "if tariff/non-tariff parity and elimination of trade distortive measures are not achieved up front during actual treaty negotiations, they are not likely to be accomplished any time soon thereafter."
- PPG feels that the U.S. bailout of Mexico during the peso crisis was, "a wasted opportunity which ... most other nations would not have hesitated to exploit had the situation been reversed."

**Peerless Virginia Farms**

**Lynn P. Gayle, President, Accomack County Farm Bureau  
Testimony before the U.S. International Trade Commission**

- NAFTA has adversely affected the tomato industry in Florida and Virginia's Eastern Shore tomato industry.
- The author states that 1995 saw the lowest per package cost (as a result of the most efficient crop ever grown) and still tomato prices were low due to the influx of tomatoes from Mexico. Mexico has now captured about 50 percent of the U.S. tomato market.
- The Eastern Shore Economic Development Commission provided the author with figures indicating the losses of three farms as a result of imported Mexican tomatoes. The two terminated farms represent 925 lost jobs and over \$8 million in operational expenses removed from the economy due to the malaise of the farms. The other farm operation wavering on the brink of disaster will be operating at a greatly reduced level and represents over 500 more lost jobs and several million dollars in lost revenue.

**Public Citizen**

**Lori Wallach, Director of Global Trade Watch**

**Testimony before the U.S. International Trade Commission**

- Public Citizen is opposed to NAFTA on the grounds it has not fulfilled its promises and does not provide a good model for how trade should be conducted.
- NAFTA has led to a significant loss of jobs, not the increase predicted.
- NAFTA has led to a decline in real wages and has led to a decrease in the quality and wage earning potential of U.S. jobs.
- NAFTA has turned a trade surplus with Mexico in 1993 into a trade deficit in 1996 as imports from Mexico flow into the United States.
- The Mexican economy has been in a crisis state since the implementation of NAFTA that has led to a severely weakened economy as well as political and social instability.
- Environmental and health conditions have deteriorated since the implementation of NAFTA especially in border towns.

**Notable Statistics:**

- The United States has lost about 500,000 jobs to NAFTA trade (no source specified).
- The U.S. trade surplus with Mexico in 1993 of \$1.7 billion is now a deficit projected to stand at around \$16 billion in 1997.
- Over 28,000 small and medium-sized businesses in Mexico have been wiped out since NAFTA (no source specified).

**St. Mary's University, School of Law**

**David Lopez, Associate Professor of Law**

**"Dispute Resolution Under NAFTA: Lessons from the Early Experience"**

- NAFTA supporter, the agreement's ability to set up procedures for settling disputes is essential to its success.
- Dispute resolution mechanism structure defined by NAFTA, Chapter 20, Section B, which covers controversies concerning the interpretation, application, or breach of the agreement; and Chapter 19 which covers anti-dumping and countervailing duty disputes.
- Chapter 20 which consists of a three-stage process (consultation, a meeting of the Commission, and non-binding arbitration) has been invoked eight times since implementation. It has been successful in resolving just one of those conflicts (a Canadian-U.S. dispute over uranium).
- Chapter 19 claims are resolved through the use of an arbitral panel. Of 24 disputes brought under this provision, 22 have been resolved either directly or indirectly as a result of the provision
- The Environmental Side Agreement created the Commission for Environmental Cooperation to handle environmental disputes. While six cases have been brought before the commission on charges of not "effectively enforcing" environmental law (Articles 14 and 15 of the agreement) and one case has been reviewed by the Secretariat (Article 13), no country is yet to charge another with a "persistent pattern of failure to enforce environmental laws" (Article 22).
- The Labor Side Agreement created a dispute resolution mechanism that consisted of initial consultations, ministerial consultations, expert evaluations, and possible nonbinding arbitration.
- Mr. Lopez points out five lessons derived from NAFTA's dispute resolution structure: (1) there has been mixed success in terms of conclusive results or outcomes, (2) NAFTA parties will abide by rulings even if they are not beneficial, (3) time limits for dispute resolution are often ignored, (4) mechanisms for resolution will "bend to political necessity," and (5) the merit of the resolution mechanism is dependent on the nature of the dispute and will vary with time.



**The Sierra Club**

**Daniel A. Seligman, Senior Fellow, Responsible Trade Campaign  
Statement to the U.S. International Trade Commission**

- Since NAFTA took effect, hundreds of U.S. companies have moved plants across the border to Mexico's maquiladora assembly plant zone in search of cheap labor. Despite assurances that NAFTA would render the maquiladoras obsolete, the number of such factories has grown 20 percent and employment is up 50 percent since NAFTA took effect. With the sharp increase in industrial activity, air, water, and solid waste pollution have also increased.
- The North American Development Bank (NADB), established as part of NAFTA to fund environmental projects on the border, has failed. The NADB has so far generated a meager 1 percent of the promised \$2 billion in clean-up funds. As a result, workers earning \$6 a day in some of the world's most technologically advanced factories go home to neighborhoods of cardboard shacks without running water, sewers, paved streets or trash pickup.
- One hundred-fifty children in Michigan were recently stricken with hepatitis A after eating frozen strawberries grown in Mexico and shipped to school lunch programs in fifteen states. Lack of sanitation facilities for workers in Mexico's fields make Mexico the likely origin of the contamination. However, the real culprit is NAFTA rules which weakened U. S. food safety inspections at the border. Under NAFTA's terms, the United States agreed to accept Mexico's food safety inspections as "equivalent" to its own. Given sanitation conditions in the fields, Mexico's food safety system faces enormous challenges, yet little has been done to bring Mexico's system up to United States' levels.
- U. S. farm workers are feeling a competitive squeeze because health, safety, and labor conditions are deteriorating for Mexican farm workers. In the Calycine Valley in the state of Sinaloa, Mexican growers contract with U.S. agri-business companies to supply nearly half the winter fresh fruits and vegetables consumed in the United States. Many of these buyers look the other way as the valley's 250,000 farm workers slather the fields with pesticides that are often prohibited in the United States without benefit of safety equipment, clean water, or sanitation facilities. Due to lack of adequate housing, many of the workers are forced to camp in the fields and bathe in pesticide-contaminated drainage ditches.

**Summit of the Americas Center**

**Charles I. Jainarain, Executive Director**

**Statement to the U.S. International Trade Commission**

- Mr. Jainarain believes that in the long term, NAFTA is beneficial to the United States and to Florida. He considers NAFTA instrumental in furthering the deepening and widening of economic and political reform in Latin America and the Caribbean, thus fostering trade with businesses in Florida.
- Overall, 60 percent of Florida's trade is with Latin America and the Caribbean. As a state, Florida is the key U.S. trading partner with every country in Latin America, except for Mexico. Strong trade growth has been decisive in Miami International Airport's growth—becoming the leading international cargo airport in the United States.
- This growth has also benefited Florida's cruise ports, which account for more international passengers than any other area in the world. These infra structural elements generate jobs, both directly and indirectly, for the United States.
- Creation of the Free Trade Area of the Americas, as proposed at the Summit of the Americas held in December 1994, enjoys strong and widespread support by Florida businesses. No other state in the United States has as much at stake with Latin America's and the Caribbean's well-being as Florida.

**Sun World International, Inc.**

**David Marguleas, Senior Vice President**

**Statement before the U.S. International Trade Commission**

- This group states that effective trade agreements must include equal protection to industries, in particular intellectual property rights.
- This statement recounts an example of an intellectual property rights issue: One of Sun World's patented grapevines had been stolen in the late 1970's and was later found in Mexico. The lack of plant patent protection law in Mexico prevented the grapevine's legitimate owner from suing. Neither were there "trade relations" under which protection could be filed for.
- To meet its international trade commitments, Mexico has recently signed a law on plant breeders' rights, but this is not retroactive. Mexico has also expressed an interest in becoming a member of the International Union for the Protection of New Varieties of Plants (UPOV)—but only in signing the 1978 Convention which is "far weaker than the 1991 or the 1995 Conventions."
- If agricultural industries are to thrive and the U.S. economy to grow through expanded trade, the United States "must insist that other countries grant [U.S. industries] the same patent protections we accord them ... To date, NAFTA is woefully short of this goal."

**Texas A&M International University**

**James R. Giermanski**

**NAFTA and the South Texas Border, Is the Border Fit to Compete: An Analysis**

- Mr. Giermanski discusses the negative impact of NAFTA on the border regions of South Texas
- The economy of the South Texas border region is inextricably linked to trade with Mexico. Many of the high wage jobs in the area were government jobs focused on patrolling the border and collecting tariffs. Many of these jobs are likely to be phased out under NAFTA.
- Mexican consumers had traveled to South Texas border towns to shop for U.S. goods that were not subject to the tariffs they would be if bought in Mexico. Thus Mexicans contributed to the prosperity of the retail industry in the area. The elimination of tariffs under NAFTA makes it just as easy for Mexicans to stay home and buy the goods at competitive prices, hurting business for U.S. shops on the border.
- New transportation provisions will allow the free flow of goods across borders, diminishing the importance of ICC commercial zones which formerly restricted the movement of goods.
- Labor-intensive, low skill manufacturing and agriculture are likely to become less competitive along the U.S. border, costing South Texans much-needed jobs.
- Reforms in customs procedures such as the North American Trade Automation Prototype (NATAP) as well as the construction of superhighways across the border will facilitate the flow of goods through the border and hurt regions along the border dependent upon the revenue from those who now must regularly stop there.
- “Perhaps it is time to recognize that this region is unfit to compete without a sound strategy for educating its workforce, developing efficient and effective business practices, and diversifying its economy.”

**Texas Department of Agriculture**  
**Rick Perry, Commissioner**  
**Impact of the North American Free Trade Agreement**

- Supports NAFTA.
- Commissioner Perry believes NAFTA and other similar free-trade agreements are important, particularly to agriculture, because growing and developing countries have an increased demand for a variety of foods.
- As a result of NAFTA, Texas has had both gains and losses, but Texas expects clear benefits to all NAFTA partners in the long run.
- Prior to NAFTA, Mexico was Texas' largest trading partner. Since 1992, overall trade between Texas and Mexico has increased by 44 percent. Texas accounts for nearly half of all U.S. exports to Mexico.
- NAFTA has provided a forum to work out disputes.
- Cattle are the most important income generator in Texas agriculture, accounting for about half of all of Texas' agricultural income. Between 1995 and 1996, live cattle exports to Mexico almost doubled.
- Texas vegetable industry officials have reported that the outlook is promising for distributing and processing of Mexican fruits and vegetables.
- With or without NAFTA, Texas and Mexico would continue to trade with one another, but the trade relationship between them would not be as prosperous or harmonious without NAFTA. Because NAFTA has established rules and regulations regarding trade, the trade relationship between Texas and Mexico is becoming even stronger.

**Thunderbird, The American Graduate School of International Management**

**Dr. Shoshana B. Tancer, Director of NAFTA Center and Professor, Department of International Studies**

**“An Evaluation of The North American Free Trade Agreement”**

- The NAFTA Center, which is partially funded by the U.S. Department of Education, has been in existence since the Fall of 1994. The purpose of the Center is to assist small and medium-sized businesses who wish to work in or with nations of one or the other NAFTA nations by providing information and feasibility studies for them.
- Dr. Tancer discussed the progress of NAFTA over the last three years addressing: (1) elimination of barriers to trade and facilitating cross-border movement of goods and services; (2) promoting conditions for fair competition in the free trade area; (3) increasing substantially the investment opportunities in the territories of the Parties; (4) adequate and effective protection and enforcement of intellectual property rights; (5) creating effective procedures for the implementation and application of the Agreement; and (6) establishing a framework for further trilateral, regional and multilateral cooperation.
- The author discussed the goals of NAFTA with regards to each members individual objectives for signing the Agreement.

**Tile Council of America, Inc.**

**Thomas J. Trendl, Howrey and Simon--OF COUNSEL  
Statement to the U.S. International Trade Commission**

- Although the Tile Council did not oppose NAFTA when it was being considered, it was important to the highly import-sensitive and import-impacted U.S. ceramic tile industry that NAFTA not serve to injure U. S. ceramic tile producers. The Tile Council believes that after three years of experience, NAFTA has had an extremely negative impact on the U.S. ceramic tile industry in the form of a dramatic increase in imports of low-priced ceramic tile from Mexico.
- Imports of ceramic tile from Mexico increased dramatically after the implementation of NAFTA, from an average of 107,506,000 square feet in the three years prior to NAFTA (1991-93) to an average of 181,245,000 square feet in the three years after NAFTA (1994-96).
- Mexico's share of U.S. consumption of tile increased from an average of approximately 10 percent in 1991-93 to an average of 13 percent in 1994-96. Mexico had record 1996 exports of 221,596,000 square feet and 14.6 percent of U.S. consumption.
- The severe impact of NAFTA is especially evident in a comparison of the percentage increase in Mexican imports and domestic shipments. In 1994, Mexican imports increased 14.63 percent, while domestic shipments only increased 1.14 percent. Similar increases occurred in 1995 and 1996.

Trade data were obtained from the U.S. Department of Commerce.

**Tower Group International**  
**Patricia Flynn, Director, Professional Advisory Services**  
**Letter to the U.S. International Trade Commission Regarding NAFTA's Economic Effects**

- Supports the Agreement.
- This group is an international trade services provider that has seen its own business rise as well as the number of its competitors and clients.
- The scope of this company's service has expanded from "a couple of core services" to "over a dozen... NAFTA-related services and products."
- The number of workers employed by this company has increased from 2 to 24 since early 1994. This does not include temporary/contract workers.
- This company's clients have grown "as a result of NAFTA." Such companies are in the automotive, textile, chemical, high-technology, and agricultural industries.
- International operations have benefited from NAFTA in terms of: savings in duty, transportation, and operating costs.
- Domestic operations have benefited from NAFTA in terms of: ease of doing business; product quality and increased efficiency; and lower costs, risks, and liabilities associated with insurance, banking, and financial transactions.



**Union Pacific Railroad**

**Joseph Heastie, Products Manager, Mexico Market  
Statement to the U.S. International Trade Commission**

- Union Pacific strongly supports NAFTA.
- Revenue from business with Mexico increased significantly between 1993 and 1996. "The key revenue drivers for this business were auto parts, finished vehicles, agricultural products and industrial products of all types."
- NAFTA has led to increases in business for Union Pacific suppliers.
- The success of business with Mexico led to capital improvements to Union Pacific's rails and equipment servicing Mexico.
- Union Pacific Railroad asserts that its business with Mexico grew because of a change in tariffs and trade regulations on the goods that traveled by rail, rather than from any change in the railroad industry.
- Despite losses in revenue due to the peso devaluation of 1995, northbound movement of goods on Union Pacific rail increased.

**Notable Statistics:**

- Union Pacific revenue increased from \$504 million in 1993 to \$733 million in 1996 despite a decline due to the peso crisis in 1995 (Union Pacific). [USTIC Note: the 1996 revenue number may be misleading, as it represents the combined earnings of Union Pacific and Southern Pacific Railroad, which was purchased by Union Pacific in 1996. Therefore, earnings from 1996 are not directly comparable to 1993-1995.]
- Union Pacific spends between \$280 and \$300 million on service and industrial purchases as a direct result of business with Mexico.

**U.S. Chamber of Commerce**

**Willard Workman, Vice President of the International Division  
Statement before the U.S. International Trade Commission**

- Supports NAFTA.
- Mr. Workman stated that NAFTA has resulted in increased exports to both Canada and Mexico. Last year the combined exports to these two countries reached \$190 billion, a 9 percent increase over 1995 exports of \$173.5 billion.
- Mr. Workman cited the auto industry as a significant beneficiary of NAFTA. In 1994, the first year of NAFTA, the auto industry exported just 57,500 units. By 1996, these exports had increased to 86,000 units.
- NAFTA has given U.S. firms an advantage over Asian and European competitors trying to export into the growing Mexican market. As an example, in a recent effort to raise revenue, the Mexican government looked at its international trade policy and found that it could raise tariffs on European and Asian exporters. However, due to its NAFTA obligations, Mexico could not unilaterally increase tariffs on U.S. goods. As a result, U.S. exports to Mexico did not fall nearly as dramatically as those from Europe and Asia; instead, NAFTA worked to protect over 700,000 U.S. jobs.
- Mr. Workman also believes that NAFTA helped accelerate Mexico's recovery from its recent economic crisis. Because Mexico maintained its commitment to open markets, the country's economy grew 4.5 percent last year. As a result, U.S. exports increased 23 percent last year, a \$10 billion increase in sales, while U.S. imports from Mexico grew 18 percent in 1996.

## **U.S. Filter Corporation**

**Richard J. Heckmann, President and Chief Executive Officer**  
**Testimony before the U.S. International Trade Commission**  
*no written submission provided*

- NAFTA has helped U.S. Filter Corporation, the largest U.S. manufacturer of water treatment equipment, expand its business in Mexico. U.S. Filter sales to Mexico rising from virtually zero in 1993 to \$50 million in 1996. The Mexican filter market for water treatment products consists of both governments (federal, state, and municipal) and companies that need water treatment facilities. U.S. Filter builds, owns, and operates the water treatment facilities for companies and builds, owns, operates on a concession basis two water treatment plants for municipalities where after 15 years, ownership will revert to the municipality.
- NAFTA has changed attitudes about doing business in Mexico. From the U.S. perspective, companies are more willing to invest in Mexico since there are legal protections for U.S. investment under NAFTA. As a result, U.S. Filter has made long term agreements in Mexico and “trusts that the commitments made to us by the state and federal governments in Mexico will also be kept” (Transcript, vol.1, p. 35). U.S. companies have also benefitted from a change in Mexican attitudes toward U.S. companies. Since NAFTA, U.S. Filter has noticed that Mexican entities have encouraged U.S. Filter to invest in Mexico. According to U.S. Filter, there were not many Mexican tariff and other trade barriers hindering U.S. exports of water treatment products to Mexico.
- Many of the environmental issues in Mexico require financing, which will have to be obtained from companies and governments outside Mexico. Thus, NAFTA provides guarantees for such investments from sources outside of Mexico. Mr. Heckmann noted that the U.S. Export- Import Bank and the North American Development Bank (created as a result of NAFTA) work at a slow pace and require complicated paperwork that puts U.S. Filter Corporation at a competitive disadvantage in Mexico compared with its Japanese and European competitors. Since the implementation of NAFTA, Benobras (a Mexican development bank) has begun to guarantee some of the financing for water treatment plants in Mexico; this has been helpful to U.S. Filter.
- NAFTA provides a subtle advantage to U.S. firms in Mexico over third country competitors. U.S. Filter Corporation notes that the advantage that NAFTA provides is that “new treaty partners and new trade partners ... tend to go out of their way to do business with each other” (Transcript, vol.1, p. 46). U.S. Filter noticed this trend with Mexican entities after the passage of NAFTA.
- U.S. Filter exports equipment and technology to Mexico principally from factories in California, Illinois, Massachusetts, and Texas. In April 1997, U.S. Filter acquired a company in Pennsylvania that supports many of U.S. Filter's Mexican projects. U.S. Filter estimates that 400 to 500 of its U.S. employees are working on business related to Mexico.

**United Parcel Service of America, Inc.**

**Robert Frenzel, Vice President of Corporate Public Affairs**

**Ana M. Guevara, Public Affairs Manager, and**

**Alix Apollon, Legal, Americas Region**

**Response to Request for Views before the U.S. International Trade Commission**

- Supports the Agreement.
- The company argues that free trade "is the right policy," in that it benefits consumers as well as the world's businesses. New markets open; opportunities for investment expand; business alliances emerge; and increased competition spurs technology growth. In particular, free trade benefits transportation and logistics companies, such as United Parcel Service (UPS).
- The company raises the issue of the Mexican government's constraints placed on the package express business.
- The failure of Mexico to live up to its commitments with respect to package express services and the failure of the Chapter 20 process and the best efforts of the U.S. government to achieve a timely and equitable resolution of the issue have undermined the credibility of NAFTA and, by inference, the credibility of other current and prospective trade agreements.
- Other arguments against the Mexican government's constraints include: such constraints hinder development of the industry; foreign-owned package express operators are at a competitive disadvantage versus domestic operators; and, "continued uncertainty and restrictions will send the wrong message to U.S. investors in Mexico, making them reluctant to invest in Mexican operations."
- "The full potential of NAFTA and the obligations undertaken by the Government of Mexico with respect to package express service has not been realized. In this sense, NAFTA has been disappointing and has failed to live up to its promise." As UPS continues to evaluate the effectiveness of its investment in Mexico, the ability and willingness of the Mexican government "to live up to its commitments under NAFTA will be a significant factor in influencing UPS decisions regarding... investments, growth of that market, and growth in jobs in Mexico and... in the United States."

**United States Hispanic Chamber of Commerce**  
**José F. Niño, President and CEO**  
**Statement to the U.S. International Trade Commission**

- Supports the Agreement.
- Since the implementation of NAFTA, this group has been able to establish an office of representation in Mexico that has allowed it to assist nearly 200 companies with joint ventures, investments, and exports. The organization's presence in Mexico has helped increase the overall number of Hispanic firms that have benefited from the organization's services.
- "NAFTA provides countless opportunities for the United States with Mexico and Canada."

**Notable statistics:**

- Trade between the United States and Mexico has increased over 400 percent since 1986, faster than any other U.S. bilateral trade relationship.
- Foreign direct investment by the United States in Mexico has risen to 52.7 percent from 1994 to June 1996.
- Forty four out of the 50 U.S. states export to Mexico under NAFTA.
- Since the implementation of NAFTA, Mexico has become the largest market worldwide for 1,154 U.S. products.
- Canada, the United States, and Mexico issued a joint statement on March 30, 1997, that trade under NAFTA has increased 45 percent since 1994.

**United States-Mexico Chamber of Commerce**  
**Albert C. Zapanta, President and CEO**  
**Statement before the U.S. International Trade Commission**

- Supports the Agreement.
- NAFTA goes beyond tariff reduction by opening previously protected sectors in agriculture, energy, textiles, and automotive trade. The Agreement (1) opened up the U.S.-Mexico border to trade in services with specific rules in financial, transportation, and telecommunication services; (2) set rules on government procurement and intellectual property rights; (3) set specific safeguards including how to deal with subsidies and unfair practices; (4) created procedures for dealing with private commercial or agricultural disputes; and (5) set up a process for dealing with NAFTA implementation concerns.
- The large number of predicted job losses or gains have not materialized.
- NAFTA has had almost no impact on overall employment levels in the United States. However, the jobs that have been created by U.S.-Mexico trade have higher wages than the jobs that have left the United States. New jobs in the United States were mostly due to the continued expansion of the U.S. economy.
- The fall in the Mexican economy due to the peso crisis was “muted and its recovery accelerated because of NAFTA.”
- A prosperous Mexico will lead to lower illegal immigration and a healthier environment in Mexico; and a “vibrant Mexico will be better able to deal with the illegal drug activities.”
- The United States and Mexico have made progress over the past three years addressing the decades of deteriorating environmental conditions along their shared border.
- Canada and Mexico are reaching out to other countries in the hemisphere and signing bilateral trade agreements. These bilateral agreements put U.S. firms “at a competitive disadvantage compared with their Canadian and Mexican counterparts.”

**Notable statistics:**

- It is estimated that 31,000 new jobs were created and 28,000 jobs were lost due to NAFTA.

**Virginia Cooperative Extension**

**Jim Belote, Extension Agent, Agriculture and Natural Resources**

**"The Potential Economic Effects of Farm Industry Loss on the Eastern Shore of Virginia in 1997"**

- Against the Agreement.
- 1996 was an economic disaster for most vegetable producers: farms are closing down or reorganizing under bankruptcy; and over 1,900 jobs have been lost.
- By converting from high-income vegetable crops to low-income crops, such as soybeans and small grains, a potential farm gate loss in acreage value is estimated at \$28.7 million annually (a 33.4 percent single-year loss in farm gate value).
- Because the Eastern Shore employs many seasonal migrant workers, the estimated withdrawal of migrants from that area would "have a significant impact on the economy of the Eastern Shore."
- If migrant workers were no longer available to Eastern Shore agricultural producers, employee income would decline.

**Notable statistics:**

- If fruit and vegetable production was replaced with less labor-intensive soybean and grain acreage following withdrawal of migrants, then total annual output would fall by \$42.9 million, employee income would fall by \$6.0 million, and 349 full-time permanent jobs would be lost (*Economic Impact of Migrant Farmworkers on Virginia's Eastern Shore*, Virginia Tech, Dept. of Agricultural Economics).

**The Commonwealth of Virginia**

**The Honorable Robert Skunda, Secretary of Commerce and Trade  
Statement before the U.S. International Trade Commission**

- Virginia has benefited from NAFTA and supports it.
- Virginia's ports have seen significant benefits from increased trade leading to increased employment at port facilities (Hampton Roads, a deep water port in Virginia, is the second busiest port on the East Coast).
- Virginia has seen a marked increase in its overall exports to Canada and Mexico since the passage of NAFTA.
- Facilitated by NAFTA's provisions, Governor Allen of Virginia visited Mexico securing contracts for firms based in Virginia.
- While there have been jobs lost, they have been offset by job increases in other sectors

**Notable Statistics:**

- Exports from Virginia to Canada and Mexico increased by \$112 million, over 7 percent since Jan. 1, 1994.
- The value of cargo passing through Virginia's ports increased by 75 percent between 1994 and 1995 as well as increasing in volume by 10 percent.



## State of Washington

**Steve Odom, Director of Trade and Market Development, Department of Community Trade and Economic Development**  
**Comments on the Impact of the North American Free Trade Agreement on the U.S. Economy and Industries**

- Supports the Agreement.
- In 1995, almost one-fourth of all jobs in Washington State were supported by exports. It has been forecast that by the year 2005, one out of every three jobs in the state will be supported by exports. Using the U.S. Department of Commerce's formula (of 19,100 jobs per \$1 billion of exports), about 44,000 jobs in the state supported North American exports in 1993. In 1996, 57,000 jobs were related to North American exports. This is compared to the state's statistics on worldwide exports that show no increase.
- Since NAFTA's implementation, Washington's exports to Canada have increased by 38 percent, in spite of a strong U.S. dollar and a soft consumer market. The state's exports to Mexico have dropped almost 18 percent since implementation of NAFTA; this is attributed to the Mexican economic crisis of 1995 that dramatically reduced Mexican demand for imported goods. However, Washington's 1996 exports to Mexico increased by nearly 40 percent over the 1995 level and are expected to continue to grow. In 1996, Mexico became Washington's sixth most important export market in terms of the number of business exporting there.
- It is pointed out that if the Agreement had not been in effect, the 1995 economic crisis in Mexico might have been more severe and lasted longer, with more serious consequences for the state's Mexican exports and supporting employment.
- Washington has run a "huge trade surplus with Mexico for as long as we have had statistics and this surplus has grown considerably since the implementation of NAFTA."
- Small businesses in Washington State are benefitting from the removal of barriers to market entry such as tariffs and lack of regulatory transparency brought about by NAFTA, as demonstrated by the high proportion of small exporters selling to Mexico and Canada.

### Notable Statistics:

- In 1995, Washington State exported over \$28 billion in goods and service, which translated into \$5,182 per capita, compared to \$3,063 for the nation per capita.
- Exports to NAFTA partners increased 31 percent between 1993 and 1996.
- Washington's fastest growing industries in terms of exports to Canada accounted for almost three quarters of the states total exports to Canada in 1996. The fastest growing industries in terms of exports to Mexico accounted for almost three-fifths of exports to Mexico in 1996.

**Western Growers Association**

**David L. Moore, President**

**Statement of Economic Effect of the North American Free Trade Agreement**

- Supports Agreement, but feels that more should be done in subsequent agreements to obtain greater market access for U.S. firms.
- Association represents over 3,000 firms who collectively account for 90 percent of fresh vegetables and 60 percent of fresh fruits grown, packed, and shipped in Arizona and California.
- Feels that NAFTA, through tariff reduction and regulation standardization, has improved access to Mexican markets.
- The Association feels that further measures to increase market access should be pursued aggressively with both Mexico and Canada.

**Western Montana Chapter of Women Involved In Farm Economics**  
**Rosemarie Neuman**  
**Letter to the U.S. International Trade Commission**

- The Western Montana Chapter of Women Involved In Farm Economics is strongly against the renewal efforts for NAFTA.
- The Western Montana Chapter of Women Involved In Farm Economics believes that the U.S. economy has suffered since the implementation of NAFTA, that U.S. jobs have gone overseas, and that imports have damaged U.S. industries.
- Neuman states on behalf of the Western Montana Chapter of Women Involved In Farm Economics that “it is obvious that our cattle prices have been reduced considerably since NAFTA and our costs of production have continued to climb.” There are other issues that need to be addressed. For instance the wheat and grain problem with Canada and the hepatitis outbreak, caused by contaminated school lunches that were provided by government-purchased strawberries from Mexico.
- “We do not support the United Nations (UN) because we do not believe other countries should be making decisions in our country such as the Mandate by the Convention on Biological Diversity, The Wildlands Project, UN and U.S. Man and Biosphere Program, and various UN, U.S. Heritage Programs, and NAFTA.”
- “We already pay 25 percent of the UN Operating Budget.” The author feels that NAFTA is too closely tied to the United Nations.

Data sources/methodology: Exact source of data and methodology were not included with the statement.

## **Wine Institute**

**Robert P. Koch, Wine Institute and  
Simon Siegl, American Vintners Association  
Comments to the U.S. International Trade Commission**

- Does not support the Agreement.
- It is felt that the Agreement puts the U.S. wine industry at a disadvantage.
- The Wine Institute represents over 75 percent of U.S. wine production and 90 percent of U.S. wine exports. The American Vintners Association represents 560 wineries in 42 states.
- The U.S. wine industry has the lowest wine tariffs of any wine-producing country; therefore, U.S. tariff rate should be a benchmark for all others.
- After NAFTA, Mexico reimposed pre-NAFTA tariffs in retaliation for U.S. broom corn protection. Mexicans have not held to promised phase-outs of their tariffs.
- Mexican brandy has zero tariff in United States, while U.S. brandy is still subject to Mexican tariffs; this even though the Mexican brandy industry is almost double the size of the U.S. industry.
- Canada is now the second-largest market for U.S. wine after the United Kingdom.
- The Canadian market is protected through discriminatory mark-ups and restrictions on bottle size, warehousing, pricing, labeling, and delivery systems. These structural impediments erode the U.S. price advantage in the Canadian market.
- Based on NAFTA experience, the Wine Institute feels that, "it would be imprudent to enter into a Free Trade Area of the Americas."

**Winegrape Growers of America**  
**Kevin Andrew, Chair**  
**Statement before the U.S. International Trade Commission**

- Against the Agreement.
- “Mexico has a very strong domestic brandy industry. Historically, Mexico's brandy imports into the United States have been 10 times greater than U.S. exports to Mexico. Under NAFTA, the United States dropped its brandy tariffs to zero immediately while Mexico was allowed a 10-year phaseout of its higher brandy tariffs.”
- The wine industry was caught in the middle of a trade dispute last December when Mexico raised tariffs on U.S. wine and brandy imports in retaliation for the U.S. protection of the corn broom industry.
- “We do not fear competition in the world wine market, but it must be fair. The inequitable treatment of wine and brandy must be corrected by harmonizing the tariff phaseout and elimination.”

Notable statistics:

- Grapes are the eighth largest agricultural crop in the U.S., producing over \$2 billion worth of fruit in 1996.
- Wine production adds value of approximately \$2 for each \$1 of farm gate value.

**State of Wisconsin**

**Tommy G. Thompson, Governor**

- Supports the Agreement.
- “The fastest growing segment of Wisconsin’s economy is exports. Trade agreements like the NAFTA have been instrumental in encouraging growth in the job market.”
- The reduction in U.S. and Mexican tariffs has made Wisconsin goods more competitive in the world and has resulted in a significant increase of Wisconsin exports.
- The decrease in Wisconsin’s exports to Mexico in 1995 is attributed to “economic circumstances unrelated to the NAFTA.”
- The Governor points out that NAFTA prevented the Mexican government from increasing tariffs to pay for “their troubled economy” in 1995. NAFTA thereby served to protect the potential loss of an estimated 2,500 jobs in Wisconsin. “Despite this economic crisis, Wisconsin exports were still \$24 million higher in 1995 than before NAFTA.”
- “Wisconsin, with strong manufacturing and agricultural bases, has always benefited significantly from free trade and investment. By expanding access for goods and services in the markets of two of our top trading partners, NAFTA has helped to strengthen our economy and create new jobs.”

**APPENDIX E**

**TRIP NOTES OF VICE CHAIRMAN BRAGG  
AND  
COMMISSIONER NEWQUIST**





COMMISSIONER



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UNITED STATES INTERNATIONAL TRADE COMMISSION

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WASHINGTON, D.C. 20436

CO71-U-003

CO67-U-011

June 4, 1997

**TO:** Public File, The Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review (Inv. No. 332-381)

**FROM:** Vice Chairman Lynn Bragg *LMB*  
Commissioner Don Newquist *DN/As*

**RE:** Trip Notes

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Between May 18 and May 21, 1997, we travelled to Mexico City and Monterrey, Mexico, and San Antonio, Texas, in connection with the above-referenced investigation. We met with a variety of U.S. and Mexican industry and industry association representatives, as well as a handful of government officials.

Everyone with whom we met indicated that, on balance and by varying degree, NAFTA has been a "success." Significantly, there were several recurring themes to our discussions -- virtually every participant in our various meetings mentioned at least a couple of the following observations.

I.

THE PESO CRISIS

- o Mexico's peso crisis created a "worst case scenario" in which to attempt to assess the impact of NAFTA on the U.S. economy
  - o In order to avert complete economic collapse, Mexico was forced to rely on increased export trade with its NAFTA partners, particularly the U.S.
    - o Absent increased NAFTA-related exports during the crisis, Mexico's gross domestic production ("GDP") decline in 1995 would have been at least twice as severe
  - o At the same time that the peso crisis caused increased Mexican exports, it also prevented Mexico from maintaining a robust level of import trade
- o NAFTA's impact on the U.S. economy should be measured against circumstances unrelated to the Agreement itself, i.e., the peso devaluation
  - o To "control" for distorting effects of the peso crisis, 1994-95 U.S.-Mexico trade data should be compared to 1982-83 data -- the last time Mexico's economy faced a devaluation of a similar magnitude
- o IN SHORT, TO THE EXTENT THAT QUANTITATIVE AND QUALITATIVE DATA INDICATE NAFTA HAS BENEFITTED THE U.S. ECONOMY TO SOME DEGREE, THE PESO CRISIS SIGNIFICANTLY UNDERSTATES THIS BENEFIT
- o THE PESO CRISIS NOTWITHSTANDING, BY THE END OF CALENDAR YEAR 1997, MEXICO WILL LIKELY REPLACE JAPAN AS THE UNITED STATES' SECOND LARGEST TRADING PARTNER

## II. U.S. JOB LOSS

- o Admittedly, there was a loss of some U.S. jobs to Mexico during the period investigated
  - o Increased employment in Mexico directly benefits the U.S. economy: (i) Mexican producers purchase input materials and parts from U.S. manufacturers; and (ii) Mexican workers purchase U.S. manufactured consumer products and services
- o Most of the U.S. jobs lost to Mexico were from sectors that would have experienced a similar level of job loss absent NAFTA, e.g., apparel manufacturing
  - o Without NAFTA, however, these jobs would have shifted not to Mexico but to the closed economies of southeast Asia -- which tend to import only marginal volumes of U.S. produced goods
- o **THUS, JOBS LOST TO MEXICO, IN CONTRAST TO THOSE LOST TO ASIA, DIRECTLY TRANSLATE INTO INCREASED IMPORTS FROM THE U.S., AND THUS CREATION OF U.S. JOBS IN OTHER SECTORS**

## III. REFORMS IN MEXICO

- o NAFTA has forced a series of governmental and economic reforms in Mexico; though there is still much more to be done
  - o Chief among these reforms is increased transparency and reduced bureaucracy
- o **SIGNIFICANTLY, AS A RESULT OF CURRENT AND ONGOING REFORMS, U.S. COMPANIES AND INDIVIDUALS "DOING BUSINESS" IN MEXICO NOW EXPERIENCE A LEVEL OF REGULATORY PREDICTABILITY PREVIOUSLY UNKNOWN**

IV. NORTH AMERICA AS A "SUPPLIER PLATFORM"

- NAFTA lays the foundation for transforming North America into the world's leading supplier of manufactured goods, agriculture products, and services
  - In light of economic and capital integration in other regions of the world, North American countries must join forces to successfully compete against such merged economies
    - No one NAFTA partner alone can challenge the comparative and competitive advantages of the European Union, the ASEAN nations, or similar regional trading blocs
- NAFTA IS THUS A FIRST STEP TOWARD LEVELLING THE PLAYING FIELD AMONG NORTH AMERICAN COUNTRIES AND OTHER WORLD ECONOMIES

V. TRUCKING AGREEMENT

- FAILURE TO IMPLEMENT THE NAFTA TRUCKING AGREEMENT HAS ADVERSELY AFFECTED NAFTA-RELATED TRADE BETWEEN THE U.S. AND MEXICO

## MATERIALS

Several of the groups with whom we met provided us with written materials related to NAFTA and the U.S. economy.

Copies of these materials, listed below, may be obtained from the public file in this investigation. Please contact the Office of the Secretary, (202) 205-2000.

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1. Materials provided by the American Chamber of Commerce -- Mexico
2. Materials provided by the Free Trade Alliance of San Antonio
3. Materials provided by CAINTRA (the Chamber of Industry in Nuevo Leon), based on statistics compiled by SECOFI (Secretariat of Commerce and Industrial Promotion)
4. Materials provided by SECOFI (note: English and Spanish materials are different documents)



**APPENDIX F**

**ADDITIONAL COMMENTS OF COMMISSIONERS**





## ADDITIONAL COMMENTS OF VICE CHAIRMAN BRAGG

In setting forth the results of this study of the effects of NAFTA on the U.S. economy, I believe it is very important to give weight to evidence offered to the Commission by those individuals and organizations most directly affected by the Agreement. This evidence indicates that passage of NAFTA has indeed had a positive, if to date modest, effect on the U.S. economy.

To a large degree, the results presented in this report are based on the results obtained from a variety of complex econometric models. But any economic model is only as good as its underlying assumptions and the quality of the data available to those constructing the model. There is no test available to determine whether any particular assumption is in fact valid in the real world. Moreover, as the staff acknowledges, many of the assumptions employed in the Commission's analysis were purposely designed to be conservative. (See Appendix C-24) With respect to the data used in the model, it is similarly impossible in many cases to determine either the quality or representativeness of the data. In this particular study, the Commission staff's econometric modeling was complicated by macroeconomic events such as the peso crisis, and by an exceptionally short (three year) period of review. Thus in my view, econometric modeling alone rarely permits the comprehensive assessment of long-term changes in economic relationships as complex as those affected by the implementation of NAFTA.

In this investigation the Commission collected qualitative, as well as quantitative data. On May 15-16, 1997, the Commission invited interested parties to present testimony and submissions at a public hearing in order to obtain a better view of the impact of NAFTA. In addition, on May 18-21, 1997, Commissioner Newquist and I traveled to Mexico and to San Antonio to learn more about NAFTA's "real world" impact. In both instances, the consistent message was that in addition to lowering tariffs and eliminating nontariff barriers, NAFTA has also provided a more open and predictable business climate. The benefits of this improved business climate may be impossible to capture as quantifiable numerical results, but may well outweigh any other effects the study has been able to quantify.



## ADDITIONAL COMMENTS OF COMMISSIONER NEWQUIST

Although I do not disagree with most of the "findings" in this Report, for the reasons discussed below, I am concerned that these findings may not adequately reflect the positive, albeit modest, impact of NAFTA on the U.S. economy.

Thus, while I approve of the submission of this Report, I do so with the caution that the data presented herein be viewed as an estimate or approximation, rather than as a definitive quantification of the impact of NAFTA.

### Limitations of Economic Modelling

First, as a general statement, I am skeptical of conclusions drawn from economic models. In my view, economic modelling is essentially an exercise in untested, unverifiable, and often unrealistic theory. At its base level, economic modelling is nothing more than the manipulation of "data" and often vague or unspecific "variables." Underlying the data collection and identification of variables is the individual modeler's prejudices and subjective assumptions.

Thus, individuals measuring the impact of a particular event or occurrence, may employ completely different assumptions and focus on different variables -- to say nothing of "ranges" within the assumptions and variables. Likewise, different modelers are prone to utilize different input data -- whose quality and representativeness vary widely.

In this investigation, many economists and modelers themselves echoed some of my concerns. At least two economist witnesses at the Commission's hearing in connection with this investigation testified that the input data underlying the econometric modelling is complicated by macroeconomic events and by an unduly short period of review.<sup>1</sup>

Similarly, as indicated in this Report, Commission staff could not empirically measure various deviations from certain gross domestic product trends because, on one hand, there were not a sufficient number of data observations, and on the other, because the quality of data observed may have been significantly undermined by the peso crisis.<sup>2</sup>

For a further general discussion of my views regarding economic modelling, particularly its limitations, see, *The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements*, Inv. No. 332-344, USITC Pub. 2900 at XI ("Views of Commissioner Don Newquist") (June 1995); see also, *Potential Impact on the U.S. Economy and Industries of the GATT Uruguay Round Agreements*, Volume I, Inv. No. 332-353, USITC Pub. 2790 at I-7, n.17 (June 1994); *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, Inv. No. 332-337, USITC Pub. 2597 at I-6, n.9 (January 1993).

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<sup>1</sup> See Testimony of Professor Joseph McKinney at hearing transcript, p. 60; Testimony of Dr. Sidney Weintraub at hearing transcript, p. 63.

<sup>2</sup> See Report at "Chapter One: GDP Analysis."

### Assessing Quantitative Data

I am additionally suspicious of qualitative assessment of quantitative data. Although I find such assessment more reliable than econometric modelling, it is, nonetheless, largely a subjective exercise. Conclusions derived from qualitative analysis are only as credible as the underlying quantitative data. Thus, in this investigation, where the data set is for a statistically limited period (three years), and the data are susceptible to a number of significant external variables, qualitative assessment of such data must be ded with a certain level of caution.

Specifically, I am concerned that qualitative analysis may not sufficiently isolate the tremendous impact of the peso crisis, particularly since such crisis existed during roughly half of the period examined. As noted in my joint "Trip Notes" with Vice Chairman Bragg (see Appendix E), the peso crisis distorted the balance of trade between Mexico and the U.S.

I therefore am of the view that although qualitative assessment is helpful, in a static, "laboratory" vacuum, it too may fail to adequately and accurately measure the impact of a dynamic, ongoing event -- NAFTA.

### Assessing Qualitative Data

Finally, I note that it is equally difficult, if not impossible, to quantify subjective, "behavioral" developments caused or influenced by NAFTA.

As indicated in Chapter One of this Report, "[t]he analyses cannot fully distinguish the effects that NAFTA has had on the psychological climate of doing business with NAFTA partners, especially Mexico, due to any real or perceived lowering of business risk brought about by the Agreement."

Similarly, the analysis cannot confidently measure the extent to which the U.S. economy has benefitted by virtue of such improved psychological business climate.

### Conclusion

Thus, in this investigation, I find more probative the real world experiences of those involved in NAFTA-related trade.

At the Commission's hearing, as well as in written submissions, a preponderance of witnesses and commentators indicated that, on balance, NAFTA has had a positive, although modest, impact on the U.S. economy. In this regard, I note that at my joint request with Vice Chairman Bragg, Commission staff has summarized all witness and commentator submissions received in connection with this investigation. These summaries are contained in Appendix D.

I am hopeful that the Congress and the President will base future trade policy decisions more on the experiences of those directly involved with NAFTA, than on "results" generated from economic models, insulated and subjective assessments of empirical data, and unmeasurable qualitative factors.